

Caterpillar Performance Handbook

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CATERPILLAR PERFORMANCE HANDBOOK

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Performance information in this booklet is intended for estimating purposes only. Because of the many variables peculiar to individual jobs (including material characteristics, operator efficiency, underfoot conditions, altitude, etc.), neither Caterpillar Inc. nor its dealers warrant that the machines described will perform as estimated.

NOTE: Always refer to the appropriate Operation and Maintenance Manual for specific product information.

Materials and specifications are subject to change without notice.

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PREFACE

Machine performance must ultimately be measured in unit cost of material moved, a measure that includes both production and costs. Factors bearing directly on productivity include such things as weight to horsepower ratio, capacity, type of transmission, speeds and operating costs. The Performance Handbook considers these factors in detail. There are other less direct machine performance factors for which no tables, charts or graphs are possible. Serviceability, parts availability and operator convenience are examples. In comparing machine performance, all factors should be considered. This Handbook is intended as an aid which, when coupled with experience and a good knowledge of local conditions, can assist in estimating true machine performance.

Many sections of the Handbook include tables or curves showing cycle times or hourly production figures for Cat® machines under certain conditions. Statements of conditions always accompany or precede the curves or tables. Before using any performance information in this Handbook, a complete understanding of the qualifying conditions is essential. The data is based on field testing, computer analysis, laboratory research and experience; and every effort has been made to assure their correctness.

However, all such data is based upon 100% efficiency in operation — a status which cannot be achieved continuously even under ideal conditions. Thus, in using such performance and production data, it is necessary to correct the results indicated in the handbook tables by appropriate factors. This allows for the anticipated actual job efficiency, operator efficiency, material characteristics, haul road conditions, altitude and other factors which may reduce performance or production on a particular job.

Methods for estimating machine owning and operating costs vary widely, depending on locality, industry practices, owner preferences and other factors. One method is suggested in the Handbook section on Owning and Operating Costs. When used with good judgment, it has provided reasonably accurate estimates in the past. Included in the Owning and Operating Section are guidelines, based on working conditions, to assist in estimating consumption of fuel and lubricants, tire life and repair costs for Cat machines. However, what one Handbook user regards as “excellent” conditions, another may consider “severe” or “average”, depending on his own experience and basis of comparison. Therefore, these guidelines should be considered only approximations.

Caterpillar Inc. has made every effort to assure that the information contained in this Handbook is accurate and is a fair statement of the results to be achieved in the circumstances indicated. However, because of the many variables involved in estimating the production or performance of earthmoving machinery, their consumption of fuel and lubricants, tire life and repair costs, and the possibility of inadvertent errors or omissions in assembling this data, Caterpillar cannot and does not imply that all data in this book are complete nor that this level of performance will be achieved on a given job.

Specifications shown in this Handbook were current at time of printing. However, due to Caterpillar’s many machine improvement programs, specifications and materials may change without notice. For current specifications relating to a machine’s performance, please refer to the most recent Cat product specification sheet.

Caterpillar Inc.

OPERATOR AND MACHINE PROTECTION

A well trained operator, working under suitable conditions, utilizing a modern, properly-equipped machine provides a machine-operator team capable of giving maximum production. These factors, along with appropriate job site rules and communication procedures, are essential to coordinate people and machines working together.

Appropriately protected and maintained machines are less likely to suffer premature component failure or damage, and give operators the confidence and assurance they need to carry out their work. Furthermore, training is not complete until the operator reads, understands and agrees to follow the instructions provided in the Operation and Maintenance Manual included with every Cat machine.

Employers have a duty to provide a safe work place for their employees. The purchaser of a Cat machine has a duty to review his/her particular application and job site for the machine to identify potential hazards inherent to that application or job site. Based on the results of this hazard analysis, the appropriate operator and machine protection configuration can be determined.

Caterpillar designs, builds, and tests its products to ensure the safety of operators, maintenance persons, service persons, and bystanders. That means people in, on and around Caterpillar products. Caterpillar provides as standard equipment the appropriate operator and machine protection for most applications. However, particular applications, including the use of some Work Tools, may require additional operator and/or machine protection. Caterpillar offers related options for most such applications. However, there may be very special applications where the Cat dealer or the Purchaser may want to fabricate, or request Caterpillar to provide, custom or special guarding. Your Cat dealer can help you with this hazard analysis and guarding configuration process.

I. Operator Training and Protection Practices

Remember that any kind of machine or mechanical device can be hazardous if not kept in good condition, or if operated by careless or improperly trained operators, or if operated in an irresponsible manner.

Listed below are some recommended basic steps that can be broadly applied to most work environments:

- Train operators for the job they are assigned to do. The length and type of training must comply with governmental and local regulations wherever they apply. As an example, machine operators in mining activities must be trained in accordance with Mine Safety and Health Administration (MSHA) regulations. Where specific regulations do not apply, no operator should be assigned to a job until he or she meets the following minimum requirements:
 - Completes proper training to operate the assigned machine and understands that seat belts must be worn whenever seated in operator's compartment. **SEAT BELTS SAVE LIVES!**
 - Reads and understands the Operation & Maintenance manual for that machine, and knows that a copy of that manual is stored in the operator's compartment.
 - Reads and understands the AEM (Association of Equipment Manufacturers), or any other furnished manual related to rules for safe machine operation and identification of hazards. For example, that includes the Work Tool Operation and Maintenance Manual if a Caterpillar Work Tool is involved in the given application.
 - Has appropriate personal safety equipment and knows how to use it. This includes such things as hard hat, gloves, safety glasses, hearing protection, high-visibility vest, and safety shoes.
 - Knows what the job requirements are, what other machines are working in the area, and is aware of any hazardous conditions that may arise.

- Be sure operators are alert and in proper physical and mental condition to perform their work assignments safely. No machine should be operated by a person who is drowsy, under the affect of medicines or drugs, suffers blackouts, or is suffering from any physical or mental distraction that could contribute to unsafe operation.
- Maintain proper job conditions and working procedures. Check the job for possible hazards, both above and below ground level. Look for all possible sources of danger to the operator and others in the area. When operating in hazardous conditions the door and windows must always be closed. Pay particular attention to conditions which may be hazardous or near the operating limits of the machine: e.g., side slopes, steep grades, potential overloads, etc. Examine the work site for restricted traffic patterns, obstructed views, congestion, underground power or gas lines, etc. If the machine is equipped with a Quick Coupler, always make sure the Work Tool is properly attached by conducting an attachment test as directed in the Quick Coupler Operation and Maintenance Manual. Hazardous work conditions should be corrected wherever possible and adequate warnings should be posted when applicable.
- Provide the correct machine to handle the job and equip it properly for the job to provide the necessary operator protection. Check for compliance with all applicable governmental and local regulations. It is the legal responsibility of the machine owner or employer to see that his equipment complies with, and is operated in accordance with, all such requirements.
- Make sure the machine is properly maintained. The operator at the beginning of each shift should perform a walk-around inspection before the machine is placed in operation. This process is described in the machine and Work Tool Operation and Maintenance Manual. If this inspection reveals any problems that could affect safety, the machine or Work Tool must not be operated until these problems are corrected. Some examples include:
 - Loose, bent or missing grab irons, railings or steps;
 - Worn, cut or missing seat belts (any seat belt over three (3) years old must be replaced regardless of condition);
 - Damaged windows in the operator's compartment;
 - Worn, rubbing or abraded electrical insulation and hydraulic hoses;
 - Material or unwanted debris accumulation;
 - Incompatibility of the component attachments (Quick Couplers);
 - Hydraulic leaks that could impair the lock/secure feature of a Quick Coupler or other securing devices;
 - Any fluid leaks; and
 - Missing or damaged guards.
- Know the limits of your machine and equipment. With certain Work Tool combinations, including Quick Couplers, the Work Tool can hit the cab or the machine. Always check for interference limits when first operating.
- It is the machine owner's or employer's responsibility to ensure the machine is properly maintained. Your Cat dealer will be glad to assist you in selecting and equipping the machine best suited for your job and in providing maintenance for your machines.

II. Machine Modifications

Modifications must not be made to the machine that:

- Interfere with operator visibility;
- Interfere with ingress or egress from the machine;
- Exceed the rated payload or gross combination weight of the machine resulting in overloading the braking and/or steering system or the roll-over protective structure (ROPS) capacity rating (shown on a plate affixed to the ROPS); or
- Place objects in the cab that intrude into the operator's space or that are not firmly fixed into place.
- Are not authorized by Caterpillar.

III. Operator-related Equipment Options

Each job presents unique conditions that must be taken into account. Consider direct dangers to the operator as well as all possible sources of distraction that could reduce operator efficiency and increase the chances of costly and dangerous mistakes. Climate-controlled, sound-suppressed cabs, and special exterior lighting are options available from Caterpillar that can address requirements of special working environments.

"Flexible" machines include hydraulic excavators (track-type, wheel-type, and compact), skid-steer loaders, backhoe loaders and integrated tool-carriers can utilize interchangeable "Work Tools" to accomplish specific tasks. Work Tools or any tool used in hazardous applications like demolition, quarry, logging, stump grinding, scrap handling, milling, and scaling, can create a need for special operator guarding. When flying debris from impact, cutting, shearing or sweeping attachments is present, additional protective devices such as a front screen, Falling Object Guarding System (FOGS, includes top & front guarding), thick polycarbonate windshields or a combination of these is recommended by Caterpillar. The failure to provide proper operator/machine guarding in some of these applications can lead to machine damage, personal injury or death. Contact your Cat dealer for operator guarding options on your machine.

IV. Machine Protection

Check the job for unusually demanding conditions that could cause premature failure or excessive wear of machine components. Additional protective devices such as heavy-duty radiator guards, crankcase guards, engine enclosures, track roller guards and/or brake shields may be needed. Also, consider the use of anti-vandalism devices, such as cap locks and instrument panel guards. The failure to provide proper guarding in some of these applications can lead to machine damage, personal injury or death. Contact your Cat dealer for machine-protection and vandalism-prevention options for your machine.

V. Fire Prevention

Remember that most fluids on your machine are flammable!

To minimize the risk of fire, Caterpillar recommends following these basic steps:

- Always perform the Walk-Around Inspection described in Part I. It can identify many of the fire hazards described below.
- Remove trash (leaves, twigs, papers, etc.) that may accumulate in the engine compartment or around other hot parts on the product.
- Do not operate a machine if leakage of flammable fluids is noticed. Repair leaks before resuming machine operation. Most fluids used in Cat machines should be considered flammable.
- Keep access doors to major machine compartments in working order to permit the use of fire fighting equipment, should a fire occur.
- Avoid attaching electrical wiring to hoses and tubes that contain flammable or combustible fluids. Hydraulic hoses can move during machine operation and abrade wires and other hoses if improperly secured.
- Replace any rubbing, damaged, frayed, kinked or leaking hydraulic hoses or fittings. Use genuine Cat parts or their equivalent, including both pressure and temperature limit capabilities.
- Follow safe fueling practices as described in Caterpillar Operation and Maintenance Manuals, AEM Safety Manuals, and local regulations. Never store flammable fluids in the machine operator's compartment, nor smoke while fueling the machine.
- As an additional safety measure, keep a fire extinguisher on the machine in a location as specified in the Operation and Maintenance Manual.
- Consider installation of an after-market fire-suppression system (FSS) on the equipment if the application and working conditions warrant it.

VI. Safety Regulations

Regulations vary from country to country and often within country. Your Cat dealer can assist you in properly equipping your machine to meet applicable requirements. **Note: The general summaries given below are not substitutes for Owners or Employers reading and being familiar with the appropriate local laws.**

(a) United States (US)

With a few exceptions, all machine operations in the United States are covered by federal and/or state regulations. If the machine is used in mining activities, the regulations are administered by the Mine Safety and Health Administration (MSHA). Other activities, including construction, are under regulations administered by the Occupational Safety and Health Administration (OSHA). These agencies require employers to provide a safe working environment for employees. Caterpillar has the same objective.

OSHA and MSHA have adopted criteria for ROPS, Falling Object Protective Structures (FOPS), seat belts, warning horns, back-up alarms, operator sound levels, steering systems, and braking systems. Additional operator's compartment protection may be required for machines engaged in logging, demolition and other special applications.

(b) European Union (EU)

The EU Machinery Safety Directive applies to Cat machines and most work tools. It requires that the "CE mark" be applied to the product and that a manufacturer's declaration be provided. The "CE mark" indicates that safety issues have been addressed by applying the appropriate safety standards in the design and manufacture of the machine. The objective of the Safety Directive is to protect operators, spectators and maintenance personnel. Caterpillar fully supports this objective. This is especially true if a machine is not equipped with a closed cab. For example if the machine has no cab, or is being operated with the doors or windows opened.

VII. Sound Suppression

Different marketing areas have different noise emission requirements. Noise regulations usually specify limits for operators and spectators.

(a) United States

OSHA and MSHA noise-control regulations set permissible noise-exposure limits for machine operators and employees. Operator protection from machine noise can be achieved by use of factory-built cabs as offered in the Caterpillar Price List. These cabs, when properly maintained and operated with the doors and windows closed, reduce the operator sound level for an eight-hour operating period to meet the OSHA and MSHA noise-exposure limits in effect at the date of manufacture. Variables that may be encountered on the job site, such as other nearby noise sources or noise-reflecting surfaces, may reduce the allowable work hours. If this occurs, ear protective devices may be required. This is especially true if a machine is not equipped with a closed cab. For example if the machine has no cab, or is being operated with the doors or windows opened.

(b) European Union

Operator sound-exposure requirements for machines in Europe are very similar to the OSHA and MSHA regulations mentioned above. In addition to operator sound-exposure requirements, most types of Cat machines are subject to European Commission regulations for exterior sound levels. Caterpillar ensures its products sold in the EU comply with the applicable noise regulations.

VIII. Replacement Parts for your Cat Machine

WARNING

When replacement parts are required for this product, Caterpillar recommends using Caterpillar replacement parts or parts with equivalent specifications including, but not limited to, physical dimensions, type, strength and material. Failure to heed this warning can lead to premature failures, product damage, personal injury or death of persons on, or around, the product.

Nomenclature

THE CAT PRODUCT LINE

TRACK-TYPE TRACTORS

Flywheel power 55 to 634 kW (74 to 850 hp)

*Waste Handling Arrangements (WHA)

available for sanitary landfill applications



D3K XL
D3K LGP



D4K XL
D4K LGP



D5K XL
D5K LGP



D5N XL
D5N LGP



D6K XL
D6K LGP



D6N XL
D6N LGP



D6G Series 2 XL
D6G Series 2 LGP



D6R Series 3*
D6R XL Series 3*
D6R XW Series 3*
D6R LGP Series 3*
D6T*



D7E
D7E LGP



D7G Series 2



D7R Series 2*
D7R XR Series 2*
D7R LGP Series 2*



D8R
D8T*
D8R LGP
D8T LGP



D9R
D9T*



D10T*



D11T
D11T CD

MOTOR GRADERS

Flywheel power 104 to 397 kW (140 to 533 hp)

*All Wheel Drive.



120K



120M Global
120M Global
with AWD* option



12K



12M Global



140K



140M Global
140M Global
with AWD* option



160K



160M Global
160M Global
with AWD* option



14M Global



16M Global



24M Global

SKID STEER LOADERS/MULTI TERRAIN LOADERS/COMPACT TRACK LOADERS

Operating Weight 2600 to 4865 kg (5710 to 10,730 lb)



Skid Steer
216B2
226B2
232B2
242B2
236B2
252B2



Skid Steer
246C
256C
262C
272C



Multi Terrain
247B2
257B2



Multi Terrain
277C
287C
297C

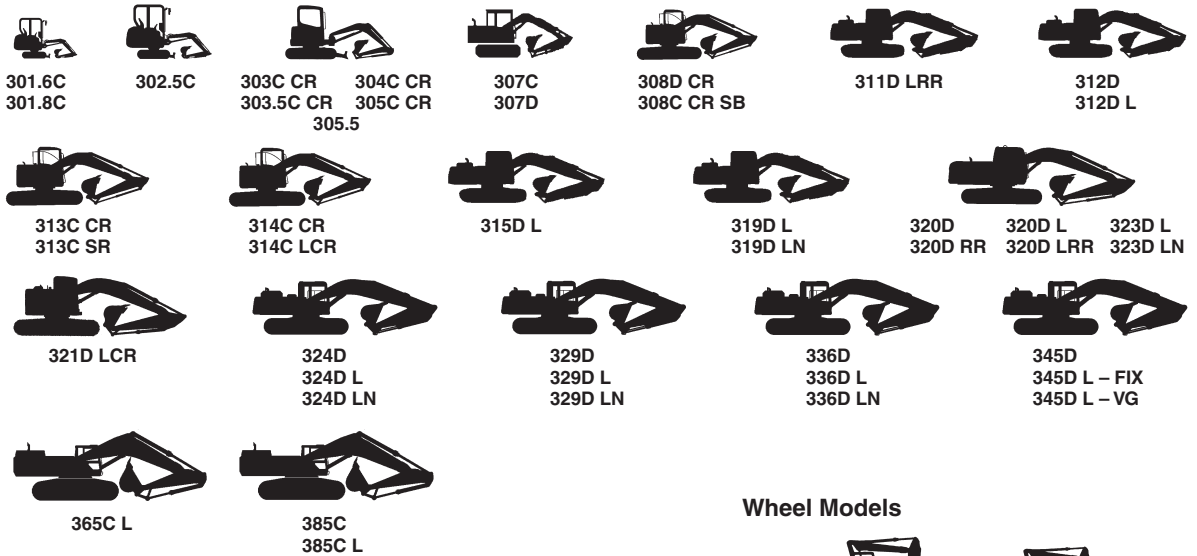


Compact Track
279C/289C
299C

HYDRAULIC EXCAVATORS

Operating Weight 1650 to 316 600 kg (3640 to 698,000 lb)

Track Models

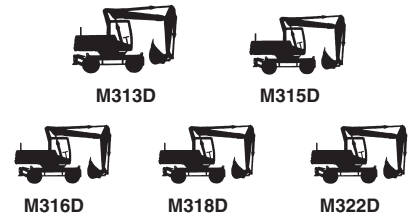


Front Shovels

Operating Weight 74 300 to 318 500 kg (163,803 to 702,000 lb)



Wheel Models



BACKHOE LOADERS

Digging depth 4420 to 6528 mm (14'6" to 21'5")



FOREST PRODUCTS

Wheel Skidders



525C
535C
545C

Track Skidders



517 Cable
527 Cable



517 Grapple
527 Grapple

Forest Machines



320D FM 325D FM
324D FM 330D FM

Wheel Loaders and Integrated Tool Carriers



950H LL 988H LL
966H LL IT62H LL
980H LL

Work Tools

Grapples
Logging Forks
Woodchip Dozers
Scoops
Rakes

Track Harvesters



501 532
501 HD 541
511 551
521 552
522

Wheel Harvester



550

Track Feller Bunchers



511 541
521 551
522 552
532

Wheel Feller Bunchers



553
563
573

Felling Heads

HF 201
HF 221

Forwarders



564
574
534
544
584/584HD

Knuckleboom Loaders



519 519SM
529 519SM/EHC
559B 569SM
569 569SM/EHC
579

PIPELAYERS

Lifting capacity 18 145 to 91 625 kg (40,000 to 202,000 lb)



PL61



572R Series 2



583T



587R/587T

WHEEL TRACTOR-SCRAPERS

Standard Models

Heaped capacity 17 to 26 m³ (22 to 34 yd³)



621G



631G

Tandem Powered Scrapers

Heaped capacity 17 to 33.6 m³ (22 to 44 yd³)



627G*



637G*†



657G*†

Elevating Scrapers

Heaped capacity 8.4 to 17.6 m³ (11 to 23 yd³)



613G



623G

Push-Pull Scrapers

Heaped capacity 17 to 33.6 m³ (22 to 44 yd³)



627G



637G



657G

*Available in auger scraper version.

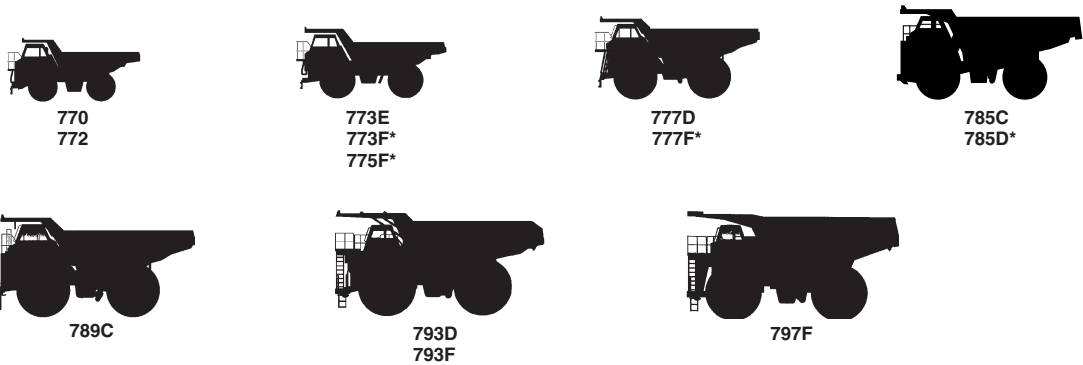
†Available in coal scraper version.

CONSTRUCTION & MINING TRUCKS

Construction & Mining Trucks

Capacity 37 to 363 metric ton — 41 to 400 U.S. tons

*OEM Solutions Group non-dumper for special applications available



ARTICULATED TRUCKS

Capacity 23.6 to 39.5 metric tons (26 to 43.5 U.S. tons)



WHEEL DOZERS

Flywheel power 173 to 597 kW (232 to 801 hp)



LANDFILL COMPACTORS

Flywheel power 173 to 349 kW (232 to 468 hp)



SOIL COMPACTORS

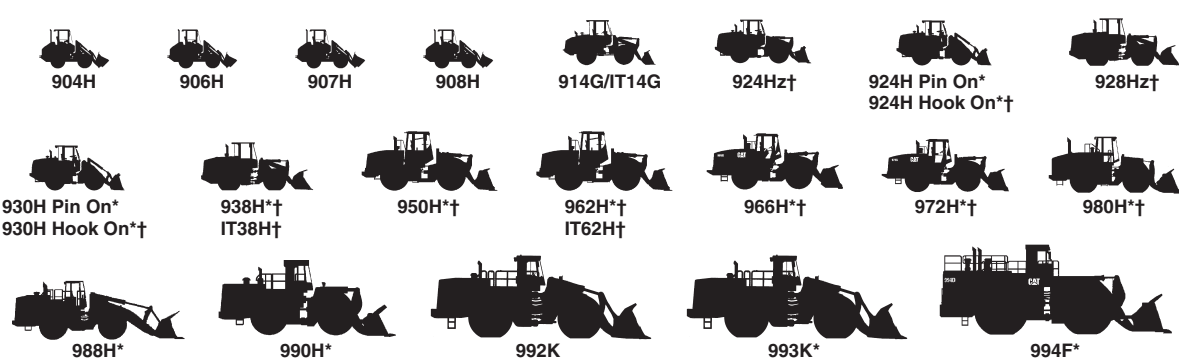
Flywheel power 173 to 264 kW (232 to 354 hp)



WHEEL LOADERS & INTEGRATED TOOLCARRIERS

Bucket Capacity (Heaped) 0.6 to 30 m³ (0.78 to 40 yd³)

* High lift arrangement available.
† Waste handling arrangement available.



TRACK LOADERS

Bucket Capacity (Heaped)* 1.15 to 3.6 m³ (1.5 to 4.2 yd³)

*General Purpose Bucket.

†Waste handling arrangement available.



939C



953D†



963D†



973C†

TELESCOPIC HANDLERS

Non-U.S. Versions



TH255



TH406
TH407
TH336
TH337
TH414
TH417
TH514

U.S. Versions



TH255



TH406
TH407



TL642
TL943
TL1055
TL1255

PAVING PRODUCTS*

*Paving products starting with BG are Barber Greene products.

Cold Planers



PM102



PM200



PM201

Reclaimer/Soil Stabilizers

Flywheel power 250-321 kW (335-430 hp)

Cutting width 2438 mm (8'0")



RM300



RM500

Asphalt Pavers

Paving width 914 to 9754 mm (3 to 32 ft)



AP300



AP600



AP1000D



AP600D



AP655D



AP755



AP1055D



BG600D



BG-260D



BG655D



BG-2455D

PAVING PRODUCTS (Continued)

Vibratory and Pneumatic Tire Compactors

Single Drum Smooth

Drum width 1270 to 2130 mm (4'2" to 7'0")



CS323C



CS423E



CS433E



CS54



CS56



CS64



CS74



CS76



CS76 XT

Single Drum, Padded

Drum width 1270 to 2130 mm (4'2" to 7'0")



CP323C



CP433E



CP54



CP56



CP64



CP74



CP76

Double Drum and Combi

Drum width 1000 to 2130 mm (3'3.4" to 7'0")



CB14



CB14 XW



CB14 Full Flush



CB22



CB24



CC24



CB32



CB434D



CB434D XW



CB54



CB54 XW



CB64

Pneumatic Tire Asphalt Compactors

Wheel loads 1134 to 5000 kg (2500 to 11,020 lb)



PS150C



PS360C

UNDERGROUND MINING

Load-Haul-Dump

Bucket sizes 2.4-11.6 m³ (3.1-15.2 yd³)



R1300G II



R1600G



R1700G



R2900G
R2900G XTRA

Articulated Trucks

30-55 t (33-61 T) capacity



AD30



AD45B



AD55B

HYDROMECHANICAL WORK TOOLS

Hydraulic Hammers

H35D S	H115 S
H45D S	H120C S
H55D S	H130 S
H65D S	H140D S
H70/H70 S	H160D S
H90/H90C S	H180D S
H100/H100 S	

Mobile Scrap and Demolition Shears

S305	S340B
S320B	S365B
S325B	S385B

Multi-Processors

MP15	MP30
MP20	MP40

Contractor's Grapples

G107B	G130B
G112B	G145B
G115B	G165B
G120B	G185B
G125B	

Sorting and Demolition Grapples

G315	G310B
G320	G315B
G330	G320B

Orange Peel Grapples

GSH15B
GSH20B
GSH22B

TRACK-TYPE TRACTORS

Hydraulic Controls

Bulldozers

Rippers and Winches

1

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Track-Type Tractors	Handling Section

TRACK-TYPE TRACTORS

Features:

- **Cat® Diesel Engines** provide the power, high torque rise, reliability and performance you can depend on.
- **HEUI** on D5N and D6T increases fuel efficiency, reduces smoke, improves cold starting and enhances diagnostic capabilities.
- **Electronic Unit Injection (EUI)** on D7R Series 2. The Electronic Control Module (ECM) performs much like a mechanical governor, but has no moving parts. The ECM signals the injectors regulating the fuel supply thus controlling engine speed and power. EUI provides: Reduced exhaust smoke, automatic altitude compensation and cold start protection.
- **Mechanical Electronic Unit Injector (MEUI)** on D8T, D9T, D10T and D11T excels in its ability to control injection pressure over the entire engine operating speed range. It combines the technical advancement of an electronic control system with the simplicity of direct mechanically controlled unit fuel injection. These features allow the engine to have complete control over injection timing, duration, and pressure.

- **Common Rail fuel injection system on D6K and D6N** as well as D3K, D4K and D5K; optimizes performance and fuel consumption, minimizes heat rejection, and lowers emissions.
- **Oil cooled steering clutches and brakes** standard on D5N, D6N, D6N FTC, D9R, D10T and D11T.
- **Finger Tip Controls (FTC)** of transmission, steering clutches and brakes on D5N, D6N FTC, D10T and D11T.
- **Differential steering** allows infinitely variable turning radius. Standard on the D6N (France sourced), D6T, D7R Series 2, D8R and D8T, allows the tractor to make a “power turn” keeping both tracks working for more traction and higher performance.
- **Electronic Hydrostatic Power Train System** on D3K thru D6K allows power turns, stepless speed range, smooth modulation, dynamic hydrostatic braking, superior maneuverability and excellent controllability.
- **Combined hand lever steering** located left of operator provides easier operation on D9R.
- **Standard Tractors** designed for heavy dozing and general grading.
- **XL Tractor D6T** offers higher horsepower and longer roller frames for increased finish grading capability, flotation and productivity.
- **Extra Wide (XW) gauge** on D6T length roller frame provides wider shoes for greater flotation and stability for steep slope grading.
- **Sealed and Lubricated Track** reduces pin and bushing wear for lower undercarriage repair costs. Sealed and lubricated track is standard on the D3K, D4K, and D5K while heavy duty track chain is available on D5N, D6N, D6T and D7R Series 2 improves wear life and reduces pin/bore stretching and cracking.
- **SystemOne Undercarriage** extends undercarriage system life, improves reliability, and reduces owning and operating costs. Standard on D6T (all sources), D6K and D6N, optional on D8T and D8R (East Peoria sourced), D3K, D4K, D5K, D5N.
- **Elevated sprockets** on D5N XL and up (not on D6K) eliminate final drive stress induced by roller frame movement and ground impact loads. Final drives pull chain only. Seals moved up out of dirt, sand and water for longer life. Blade visibility improved because operator sits higher.
- **Resilient mounted bogie undercarriage** on D8R, D8T, D9T, D10T and D11T reduces shock transmitted to tractor. Allows track to conform to rough ground for better traction.
- **Solid mounted undercarriage** standard on D3K through D7R Series 2 (not on D6K and D6N) and optional on the D8R and D8T provides stable platform for low impact, and high abrasion applications. Provides optimum finish grading performance.
- **Oscillating undercarriage** on D6K and D6N decreases ground shock to the machine and provides a smoother, more comfortable ride for the operator.
- **Accessible modular design** on D5N XL and up greatly reduces drive train removal and installation time resulting in reduced repair costs.
- **Tag link** on D7R Series 2 and up; L-shaped push arms on D6N through D6T. Both designs allow closer mounting of dozer blades. This reduces total tractor length, improves maneuverability, balance, blade penetration and pryout.
- **Low ground pressure (LGP)** tractors offer greater flotation in soft, swampy conditions.



MODEL	D3K XL		D3K LGP		D4K XL		D4K LGP	
Flywheel Power	55.2 kW	74 hp	55.2 kW	74 hp	62.6 kW	84 hp	62.6 kW	84 hp
Operating Weight*	7795 kg	17,185 lb	8093 kg	17,842 lb	8147 kg	17,961 lb	8501 kg	18,742 lb
Engine Model	C4.4 ACERT™		C4.4 ACERT		C4.4 ACERT		C4.4 ACERT	
Rated Engine RPM	1900		1900		1900		1900	
No. of Cylinders	4		4		4		4	
Bore	105 mm	4.13"	105 mm	4.13"	105 mm	4.13"	105 mm	4.13"
Stroke	127 mm	5.0"	127 mm	5.0"	127 mm	5.0"	127 mm	5.0"
Displacement	4.4 L	269 in³	4.4 L	269 in³	4.4 L	269 in³	4.4 L	269 in³
Track Rollers (Each Side)	6		6		7		7	
Width of Standard Track Shoe	406 mm	16"	635 mm	25"	460 mm	18"	635 mm	25"
Length of Track on Ground	2095 mm	83"	2095 mm	83"	2248 mm	89"	2248 mm	89"
Ground Contact Area (w/Std.Shoe)	17 011 cm²	2637 in²	26 607 cm²	4124 in²	20 682 cm²	3206 in²	28 550 cm²	4425 in²
Track Gauge	1495 mm	59"	1725 mm	68"	1550 mm	61"	1725 mm	68"
GENERAL DIMENSIONS:								
Height (To Top of ROPS)	2763 mm	108.8"	2763 mm	108.8"	2763 mm	108.8"	2763 mm	108.8"
Overall Length (With P blade)	4266 mm	168"	4255 mm	167.6"	4274 mm	168"	4266 mm	168"
(Without Blade)	3275 mm	128.9"	3275 mm	128.9"	3275 mm	128.9"	3275 mm	128.9"
Width (w/o Trunnion and Blade — Std. Shoe)	1901 mm	74.8"	2360 mm	92.9"	2010 mm	79.1"	2360 mm	92.9"
Ground Clearance	332 mm	13"	332 mm	13"	332 mm	13"	332 mm	13"
Blade Types and Widths:								
VPAT, Straight	2646 mm	104.1"	3149 mm	124.0"	2782 mm	109.5"	3149 mm	124.0"
VPAT, Angled 25°	2417 mm	95.1"	2874 mm	113"	2542 mm	100.1"	2874 mm	113"
Fuel Tank Refill Capacity	195 L	51.5 U.S. gal	195 L	51.5 U.S. gal	195 L	51.5 U.S. gal	195 L	51.5 U.S. gal

*Operating weight includes ROPS canopy, operator, lubricants, coolant, full fuel tank, hydraulic controls and fluids, back-up alarm, seat belts, lights, rigid drawbar, front pull device and standard service crankcase guard.

								
MODEL	D5K XL		D5K LGP		D5N XL†		D5N LGP†	
Flywheel Power:								
Hydrostatic	71.6 kW	96 hp	71.6 kW	96 hp	—	—	—	—
Power Shift	—	—	—	—	90 kW	121 hp	90 kW	121 hp
Operating Weight:*								
Hydrostatic	9408 kg	20,741 lb	9683 kg	21,347 lb	—	—	—	—
Power Shift	—	—	—	—	12 818 kg	28,258 lb	13 665 kg	30,126 lb
Engine Model	C4.4 ACERT		C4.4 ACERT		3126B DITAAC		3126B DITAAC	
Rated Engine RPM	1900		1900		2000		2000	
No. of Cylinders	4		4		6		6	
Bore	105 mm	4.13"	105 mm	4.13"	110 mm	4.33"	110 mm	4.33"
Stroke	127 mm	5.0"	127 mm	5.0"	127 mm	5"	127 mm	5"
Displacement	4.4 L	269 in ³	4.4 L	269 in ³	7.2 L	439 in ³	7.2 L	439 in ³
Track Rollers (Each Side)	7		7		7		8	
Width of Standard Track Shoe	510 mm	20"	660 mm	26"	560 mm	22"	760 mm	30"
Length of Track on Ground	2310 mm	91"	2310 mm	91"	2.39 m	7'10"	2.60 m	8'7"
Ground Contact Area (W/Std. Shoe)	23 562 cm ²	3652 in ²	30 492 cm ²	4726 in ²	2.67 m ²	4144 in ²	3.96 m ²	6135 in ²
Track Gauge	1600 mm	63"	1750 mm	69"	1.77 m	5'10"	2.00 m	6'7"
GENERAL DIMENSIONS:								
Height (Stripped Top)**	—		—		2.26 m	7'5"	2.38 m	7'9"
Height (To Top of ROPS Canopy)	2769 mm	109.0"	2769 mm	109.0"	3.00 m	9'10"	3.04 m	10'0"
Height (To Top of ROPS Cab)	2769 mm	109.0"	2769 mm	109.0"	3.00 m	9'10"	3.04 m	10'0"
Overall Length (With P Blade)***	4321 mm	170.1"	4294 mm	169.1"	4.56 m	15'0"	5.06 m	16'1"
(Without Blade)	3199 mm	125.9"	3265 mm	128.5"	3.54 m	11'8"	3.72 m	12'2"
Width (w/o Trunnion and Blade — Std. Shoe)	2110 mm	83.1"	2410 mm	94.9"	2.33 m	7'8"	2.76 m	9'1"
Ground Clearance	332 mm	13"	332 mm	13"	378 mm	15"	422 mm	17"
Blade Types and Widths:								
VPAT, Straight	2782 mm	109.5"	3220 mm	126.7"	—	—	—	—
VPAT, Angled 25°	2636 mm	103.8"	2940 mm	115.8"	—	—	—	—
VPAT	—	—	—	—	3.08 m	10'1"	3.36 m	11'0"
Fuel Tank Refill Capacity	195 L	51.5 U.S. gal	195 L	51.5 U.S. gal	257 L	67.9 U.S. gal	257 L	67.9 U.S. gal

*Operating weight includes ROPS canopy, operator, lubricants, coolant, full fuel tank, hydraulic controls and fluids, back-up alarm, seat belts, lights, rigid drawbar, front pull device and standard service crankcase guard.

**Height (Stripped Top) — without ROPS, exhaust, seat back or other easily removed encumbrances.

***D5N XL, D5N LGP with VPAT blade (Variable Pitch, Angle and Tilt).

†Sagami sourced, not sold in U.S., Canada or Europe.

								
MODEL	D6K XL		D6K LGP		D6N XL		D6N LGP	
Flywheel Power:	—		—		111.8 kW 150 hp		111.8 kW 150 hp	
Hydrostatic	93.2 kW	125 hp	93.2 kW	125 hp	—		—	
Operating Weight:								
Hydrostatic	12 886 kg	28,409 lb	13 467 kg	29,690 lb	—		—	
Power Shift Differential Steer	—		—		16 668 kg	36,747 lb	17 997 kg	39,712 lb
Engine Model	C6.6 ACERT		C6.6 ACERT		C6.6 ACERT		C6.6 ACERT	
Rated Engine RPM	2100		2100		2200		2200	
No. of Cylinders	6		6		6		6	
Bore	105 mm	4.13"	105 mm	4.13"	105 mm	4.13"	105 mm	4.13"
Stroke	127 mm	5.0"	127 mm	5.0"	127 mm	5.0"	127 mm	5.0"
Displacement	6.6 L	403 in ³	6.6 L	403 in ³	6.6 L	403 in ³	6.6 L	403 in ³
Track Rollers (Each Side)	7		7		7		8	
Width of Standard Track Shoe	560 mm	22"	760 mm	30"	610 mm	24"	840 mm	33"
Length of Track on Ground	2645 mm	104"	2645 mm	104"	2611 mm	103"	3113 mm	123"
Ground Contact Area (W/Std. Shoe)	3.0 m ²	4650 in ²	4.0 m ²	6200 in ²	3.18 m ²	4929 in ²	5.23 m ²	8107 in ²
Track Gauge	1770 mm	70"	2000 mm	79"	1890 mm	74.4"	2160 mm	85"
GENERAL DIMENSIONS:								
Height (To Top of ROPS Canopy)	2958 mm	116.5"	2958 mm	116.5"	3040 mm	119.7"	3144 mm	123.8"
Height (To Top of ROPS Cab)	2958 mm	116.5"	2958 mm	116.5"	3095 mm	121.9"	3200 mm	126"
Overall Length (With VPAT Blade)	4688 mm	185"	4688 mm	185"	4903 mm	193"	5369 mm	211.4"
(Without Blade)	4220 mm	166"	4220 mm	166"	3740 mm	147.2"	4165 mm	164"
(With SU Blade)	—	—	—	—	5157 mm	203"	—	—
Width (Over Trunnion)	—	—	—	—	2630 mm	103.5"	—	—
Width (w/o Trunnion — Std. Shoe)*	—	—	—	—	2500 mm	98.4"	3000 mm	118"
Width (w/o Trunnion and Blade — Std. Shoe)	2330 mm	91.7"	2760 mm	108.7"	—	—	—	—
Ground Clearance	360.4 mm	14.2"	360.4 mm	14.2"	394 mm	15.5"	507 mm	20.0"
Blade Types and Widths:								
Semi-U	—	—	—	—	3154 mm	124"	—	—
VPAT	3077 mm	121.1"	3360 mm	132.3"	3272 mm	128.8"	4080 mm	160.6"
Fuel Tank Refill Capacity	295 L	77.9 U.S. gal	295 L	77.9 U.S. gal	299 L	79 U.S. gal	299 L	79 U.S. gal

*Width (w/o Trunnion — Std. Shoe) is also w/o VPAT Blade.

						
MODEL	D6G***		D6G Series 2 XL		D6G Series 2 LGP	
Flywheel Power	119 kW	160 hp	119 kW	160 hp	119 kW	160 hp
Operating Weight:*						
Power Shift	15 430 kg	34,017 lb	16 880 kg	37,219 lb	17 500 kg	38,588 lb
Engine Model	3306 T		3306 T		3306 T	
Rated Engine RPM: Power Shift	1900		1900		1900	
No. of Cylinders	6		6		6	
Bore	121 mm	4.75"	121 mm	4.75"	121 mm	4.75"
Stroke	152 mm	6"	152 mm	6"	152 mm	6"
Displacement	10.5 L	638 in ³	10.5 L	638 in ³	10.5 L	638 in ³
Track Rollers (Each Side)	7		7		7	
Width of Standard Track Shoe	508 mm	20"	560 mm	22"	927 mm	36.5"
Length of Track on Ground	2.67 m	8'9"	2.67 m	8'9"	2.88 m	9'5"
Ground Contact Area (W/Std. Shoe)	2.72 m ²	4216 in ²	2.99 m ²	4635 in ²	5.34 m ²	8276 in ²
Track Gauge	1.88 m	6'2"	1.88 m	6'2"	2.11 m	6'11"
GENERAL DIMENSIONS:						
Height (Stripped Top)**	2.10 m	6'11"	2.16 m	7'1"	2.18 m	7'2"
Height (To Top of ROPS Canopy)	2.90 m	9'5"	3.14 m	10'4"	3.21 m	10'6"
Height (To Top of ROPS Cab)	3.10 m	10'3"	3.14 m	10'4"	3.21 m	10'6"
Overall Length (Without Blade)	3.94 m	12'9"	3.94 m	12'11"	3.94 m	12'11"
With S Blade	5.00 m	16'4"	5.00 m	16'4"	5.20 m	17'1"
With SU Blade	—		5.30 m	17'4"	—	
With Angle Blade	—		5.15 m	16'11"	—	
Width (Over Trunnion)	—		2.65 m	8'8"	3.24 m	10'8"
Width (w/o Trunnion — Std. Shoe)	2.39 m	7'10"	2.44 m	8'0"	3.03 m	9'11"
Ground Clearance	310 mm	12.2"	310 mm	12.2"	310 mm	12.2"
Blade Types and Widths:						
Straight	3.20 m	10'6"	3.20 m	10'6"	3.70 m	12'2"
Angle Straight	3.90 m	12'9"	3.90 m	12'9"	—	
Semi-U	3.20 m	10'6"	3.10 m	10'2"	—	
Fuel Tank Refill Capacity	300 L	79 U.S. gal	320 L	84 U.S. gal	320 L	84 U.S. gal

*Operating weight includes ROPS canopy, operator, lubricants, coolant, full fuel tank, hydraulic controls and fluids, straight dozer with tilt rigid drawbar, front towing device, engine enclosures and suspension seat.

**Height (Stripped Top) — without ROPS canopy, exhaust, pre-cleaner, seat back or other easily removed encumbrances.

***Not sold in U.S., Canada, Japan or Europe.



MODEL	D6R Series 3		D6R Series 3 XL		D6R Series 3 XW		D6R Series 3 LGP	
Flywheel Power	138 kW	185 hp	149 kW	200 hp	149 kW	200 hp	149 kW	200 hp
Operating Weight:* Power Shift Differential Steer								
SU Blade	18 326 kg	40,400 lb	20 081 kg	44,270 lb	20 672 kg	45,573 lb	21 716 kg	47,874 lb
Engine Model	C9 ACERT		C9 ACERT		C9 ACERT		C9 ACERT	
Rated Engine RPM: Power Shift	1850		1850		1850		1850	
No. of Cylinders	6		6		6		6	
Bore	112 mm	4.4"	112 mm	4.4"	112 mm	4.4"	112 mm	4.4"
Stroke	149 mm	5.9"	149 mm	5.9"	149 mm	5.9"	149 mm	5.9"
Displacement	8.8 L	537 in ³	8.8 L	537 in ³	8.8 L	537 in ³	8.8 L	537 in ³
Track Rollers (Each Side)	6		7		7		8	
Width of Standard Track Shoe	560 mm	22"	560 mm	22"	760 mm	30"	915 mm	36"
VPAT	—	—	560 mm	22"	760 mm	30"	810 mm	32"
Length of Track on Ground	2.67 m	8'9"	2.87 m	9'5"	2.87 m	9'5"	3.28 m	10'9"
Ground Contact Area (W/Std. Shoe)	2.98 m ²	4620 in ²	3.22 m ²	4972 in ²	4.36 m ²	6780 in ²	5.99 m ²	9288 in ²
VPAT	—	—	3.22 m ²	4972 in ²	4.36 m ²	6780 in ²	5.31 m ²	8256 in ²
Track Gauge	1.88 m	74"	1.88 m	74"	2.03 m	80"	2.29 m	90"
VPAT	—	—	2.13 m	84"	2.29 m	90"	2.29 m	90"
GENERAL DIMENSIONS:								
Height (Stripped Top)**	2.38 m	7'10"	2.38 m	7'10"	2.38 m	7'10"	2.43 m	8'0"
Height (To Top of ROPS Canopy)	3.20 m	10'6"	3.20 m	10'6"	3.20 m	10'6"	3.25 m	10'8"
Height (To Top of ROPS Cab)	3.19 m	10'5"	3.20 m	10'6"	3.20 m	10'6"	3.25 m	10'8"
Overall Length (Without Blade)	3.86 m	12'8"	3.86 m	12'8"	3.86 m	12'8"	4.25 m	13'11"
With S Blade	4.90 m	16'1"	—	—	—	—	5.47 m	17'11"
With SU Blade	5.10 m	16'9"	5.33 m	17'6"	5.33 m	17'6"	—	—
With VPAT Blade	—	—	5.27 m	17'4"	5.27 m	17'4"	5.97 m	19'7"
With Angle Blade	5.01 m	16'5"	5.21 m	17'1"	5.21 m	17'1"	—	—
Overall Length (VPAT)	—	—	3.86 m	12'8"	3.86 m	12'8"	4.25 m	13'11"
With S Blade	—	—	—	—	—	—	5.47 m	17'11"
With SU Blade	—	—	5.33 m	17'6"	5.33 m	17'6"	—	—
With VPAT Blade	—	—	5.27 m	17'4"	5.27 m	17'4"	5.97 m	19'7"
With Angle Blade	—	—	5.21 m	17'1"	5.21 m	17'1"	—	—
Width (Over Trunnion)	2.64 m	8'8"	2.64 m	8'8"	2.95 m	9'8"	3.43 m	8'8"
Width (w/o Trunnion — Std. Track)	2.44 m	8'0"	2.44 m	8'0"	2.74 m	9'0"	3.15 m	10'4"
Ground Clearance	383 mm	1'3"	383 mm	1'3"	383 mm	1'3"	433 mm	1'5"
Blade Types and Widths:								
Straight	3.36 m	11'0"	—	—	—	—	4.06 m	13'4"
Angle Straight	4.17 m	13'8"	4.17 m	13'8"	4.20 m	13'9"	—	—
Full 25° Angle	3.78 m	12'5"	3.78 m	12'5"	3.81 m	12'6"	—	—
Semi-U	3.26 m	10'8"	3.26 m	10'8"	3.56 m	11'8"	—	—
VPAT	—	—	—	—	—	—	—	—
Straight	—	—	3.88 m	12'9"	4.16 m	13'8"	4.16 m	13'8"
Full 24° Angle	—	—	3.55 m	11'8"	3.81 m	12'6"	3.81 m	12'6"
Fuel Tank Refill Capacity	382 L	101 U.S. gal	382 L	101 U.S. gal	382 L	101 U.S. gal	382 L	101 U.S. gal

*Operating weight includes ROPS canopy, operator, lubricants, coolant, full fuel tank, hydraulic controls and fluid, SU blade, horn, back-up alarm, retrieval hitch and front pull hook.

**Height (Stripped Top) — without ROPS canopy, exhaust, seat back or other easily removed encumbrances.



MODEL	D6T		D6T XL		D6T XW		D6T LGP	
Flywheel Power	138 kW	185 hp	149 kW	200 hp	149 kW	200 hp	149 kW	200 hp
Operating Weight:*								
Power Shift Differential Steer								
SU Blade	18 393 kg	40,550 lb	20 148 kg	44,420 lb	20 740 kg	45,723 lb	21 783 kg	48,024 lb
Engine Model	C9 ACERT		C9 ACERT		C9 ACERT		C9 ACERT	
Rated Engine RPM: Power Shift	1850		1850		1850		1850	
No. of Cylinders	6		6		6		6	
Bore	112 mm	4.4"	112 mm	4.4"	112 mm	4.4"	112 mm	4.4"
Stroke	149 mm	5.9"	149 mm	5.9"	149 mm	5.9"	149 mm	5.9"
Displacement	8.8 L	537 in ³	8.8 L	537 in ³	8.8 L	537 in ³	8.8 L	537 in ³
Track Rollers (Each Side)	6		7		7		8	
Width of Standard Track Shoe	560 mm	22"	560 mm	22"	760 mm	30"	915 mm	36"
VPAT	—		560 mm	22"	710 mm	28"	785 mm	31"
Length of Track on Ground	2.63 m	8'8"	2.84 m	9'4"	2.84 m	9'4"	3.25 m	10'8"
Ground Contact Area (W/Std. Shoe)	2.94 m ²	4557 in ²	3.18 m ²	4929 in ²	4.31 m ²	6681 in ²	5.95 m ²	9223 in ²
VPAT	—		3.18 m ²	4929 in ²	4.03 m ²	6247 in ²	5.10 m ²	7905 in ²
Track Gauge	1.88 m	74"	1.88 m	74"	2.03 m	80"	2.29 m	90"
VPAT	—		2.13 m	84"	2.29 m	90"	2.29 m	90"
GENERAL DIMENSIONS:								
Height** (Stripped Top)***	2.40 m	7'10"	2.44 m	8'0"	2.44 m	8'0"	2.45 m	8'0"
Height** (To Top of ROPS Canopy)	3.20 m	10'6"	3.20 m	10'6"	3.20 m	10'6"	3.25 m	10'8"
Height** (To Top of ROPS Cab)	3.11 m	10'2"	3.15 m	10'4"	3.15 m	10'4"	3.15 m	10'4"
Overall Length (Without Blade)	3.86 m	12'8"	3.86 m	12'8"	3.86 m	12'8"	4.25 m	13'11"
With S Blade	4.90 m	16'1"	—		—		5.47 m	17'11"
With SU Blade	5.10 m	16'9"	5.33 m	17'6"	5.33 m	17'6"	—	
With VPAT Blade	—		5.27 m	17'4"	5.27 m	17'4"	5.97 m	19'7"
With Angle Blade	5.01 m	16'5"	5.21 m	17'1"	5.21 m	17'1"	5.82 m	19'1"
Width (Over Trunnion)	2.64 m	8'8"	2.64 m	8'8"	2.95 m	9'8"	3.43 m	8'8"
Width (w/o Trunnion — Std. Track)	2.44 m	8'0"	2.44 m	8'0"	2.79 m	9'2"	3.20 m	10'6"
Ground Clearance**	384 mm	1'3"	384 mm	1'3"	384 mm	1'3"	434 mm	1'5"
Blade Types and Widths:								
Straight	3.36 m	11'0"	—		—		4.06 m	13'4"
Angle Straight	4.17 m	13'8"	4.17 m	13'8"	4.50 m	14'9"	5.07 m	16'8"
Full 25° Angle	3.78 m	12'5"	3.78 m	12'5"	3.81 m	12'6"	4.63 m	15'2"
Semi-U	3.26 m	10'8"	3.26 m	10'8"	3.56 m	11'8"	—	
VPAT								
Straight	—		3.88 m	12'9"	4.16 m	13'8"	4.16 m	13'8"
Full 24° Angle	—		3.55 m	11'8"	3.81 m	12'6"	3.81 m	12'6"
Fuel Tank Refill Capacity	425 L	112 U.S. gal	425 L	112 U.S. gal	425 L	112 U.S. gal	425 L	112 U.S. gal

*Operating weight includes cab, operator, lubricants, coolant, full fuel tank, standard track, hydraulic controls and fluid, SU blade, drawbar, and counterweight.

**Dimensions measured from ground line. Add grouser height for total dimension on hard surfaces.

***Height (Stripped Top) — without ROPS canopy, exhaust, seat back or other easily removed encumbrances.



MODEL	D7E		D7E LGP		D7G†	
Flywheel Power	175 kW	235 hp	175 kW	235 hp	150 kW	202 hp
Operating Weight:*						
Power Shift Clutch Brake (FTC)	—		—		20 094 kg	44,300 lb
Electric Drive Differential Steer	25 700 kg	56,669 lb	28 170 kg	62,115 lb	—	
Engine Model	C9.3		C9.3		3306 T	
Rated Engine RPM	1700		1700		2000	
No. of Cylinders	6		6		6	
Bore	115 mm	4.5"	115 mm	4.5"	121 mm	4.75"
Stroke	149 mm	5.9"	149 mm	5.9"	152 mm	6"
Displacement	9.3 L	567 in³	9.3 L	567 in³	10.5 L	638 in³
Track Rollers (Each Side)	6		6		6	
Width of Standard Track Shoe	610 mm	24"	915 mm	36"	508 mm	20"
Length of Track on Ground	3.02 m	9'11"	3.45 m	11'4"	2.72 m	8'11"
Ground Contact Area (W/Std. Shoe)	3.68 m²	5698 in²	6.31 m²	9792 in²	2.76 m²	4280 in²
Track Gauge	1.98 m	6'6"	2.29 m	7'6"	1.98 m	6'6"
GENERAL DIMENSIONS:						
Height** (Stripped Top)***	—		—		2.27 m	7'5"
Height** (To Top of ROPS Canopy)	—		—		3.25 m	10'8"
Height** (To Top of ROPS Cab)	3.39 m	11'2"	3.39 m	11'2"	—	
Overall Length (Without Blade)	4.61 m	15'1"	4.61 m	15'1"	4.19 m	13'9"
With S Blade	5.56 m	18'3"	5.56 m	18'3"	5.28 m	17'4"
With SU Blade	5.79 m	19'0"	—		—	
Width (Over Trunnion)	2.88 m	9'5"	3.42 m	11'3"	—	
Width (w/o Trunnion — Std. Shoe)	2.59 m	8'6"	3.2 m	10'6"	2.55 m	8'5"
Ground Clearance	472 mm	18.6"	472 mm	18.6"	347 mm	13.7"
Blade Types and Widths:						
Straight	3.9 m	12'10"	4.54 m	14'11"	3.66 m	12'0"
Angle Straight	4.5 m	14'9"	—		4.27 m	14'0"
Full 25° Angle	4.12 m	13'6"	—		3.90 m	12'10"
Universal	3.99 m	13'1"	—		—	
Semi-U	3.69 m	12'1"	—		—	
Fuel Tank Refill Capacity	409 L	108 U.S.gal	409 L	108 U.S.gal	435 L	115 U.S. gal

FTC — Fingertip clutch/brake control

*Operating weight includes cab, operator, lubricants, coolant, full fuel tank, standard track, hydraulic controls and fluid, SU blade, drawbar, and counterweight.

— D7G includes ROPS canopy and end track guiding guards.

**Dimensions measured from ground line. Add grouser height for total dimension on hard surfaces.

***Height (Stripped Top) — without ROPS canopy, exhaust, seat back or other easily removed encumbrances.

†Not sold in U.S., Canada, Japan or Europe.



MODEL	D7G Series 2		D7R Series 2		D7R Series 2 XR	
Flywheel Power	150 kW	202 hp	179 kW	240 hp	179 kW	240 hp
Operating Weight:*						
Power Shift Clutch Brake (FTC)	20 580 kg	45,381 lb	—		—	
Power Shift Differential Steer	—		25 455 kg	56,129 lb	27 002 kg	59,540 lb
Engine Model	3306 DITA		3176C SCAC		3176C SCAC	
Rated Engine RPM	2000		2100		2100	
No. of Cylinders	6		6		6	
Bore	121 mm	4.75"	124 mm	4.92"	124 mm	4.92"
Stroke	152 mm	6"	140 mm	5.5"	140 mm	5.5"
Displacement	10.5 L	638 in ³	10.3 L	629 in ³	10.3 L	629 in ³
Track Rollers (Each Side)	6		7		8	
Width of Standard Track Shoe	560 mm	22"	560 mm	22"	610 mm	24"
Length of Track on Ground	2.72 m	8'11"	2.87 m	9'5"	3.05 m	10'0"
Ground Contact Area (W/Std. Shoe)	3.05 m ²	4738 in ²	3.21 m ²	4976 in ²	3.72 m ²	5766 in ²
Track Gauge	1.98 m	6'6"	1.98 m	6'6"	1.98 m	6'6"
GENERAL DIMENSIONS:						
Height** (Stripped Top)***	2.47 m	8'1"	2.58 m	8'6"	2.58 m	8'6"
Height** (To Top of ROPS Canopy)	3.37 m	11'1"	3.29 m	10'9"	3.29 m	10'9"
Height** (To Top of ROPS Cab)	3.37 m	11'1"	3.28 m	10'9"	3.28 m	10'9"
Overall Length (Without Blade)	4.20 m	13'9"	4.73 m	15'6"	4.73 m	15'6"
With S Blade	5.28 m	17'4"	5.81 m	19'1"	5.81 m	19'1"
Width (Over Trunnion)	—		2.88 m	9'5"	2.88 m	9'5"
Width (w/o Trunnion — Std. Shoe)	2.55 m	8'5"	2.54 m	8'4"	2.59 m	8'6"
Ground Clearance	347 mm	13.7"	415 mm	1'4"	415 mm	1'4"
Blade Types and Widths:						
Straight	3.66 m	12'0"	3.52 m	11'7"	3.32 m	11'7"
Angle Straight	4.27 m	14'0"	4.50 m	14'9"	4.50 m	14'9"
Full 25° Angle	3.90 m	12'10"	4.12 m	13'6"	4.12 m	13'6"
Universal	—		3.98 m	13'1"	3.98 m	13'1"
Semi-U	3.45 m	11'4"	3.69 m	12'2"	3.69 m	12'2"
Fuel Tank Refill Capacity	415 L	110 U.S. gal	481 L	127 U.S. gal	481 L	127 U.S. gal

FTC — Fingertip clutch/brake control

*Operating weight includes cab, operator, lubricants, coolant, full fuel tank, standard track, hydraulic controls and fluid, SU blade, drawbar, and counterweight.

**Dimensions measured from ground line. Add grouser height for total dimension on hard surfaces.

***Height (Stripped Top) — without ROPS canopy, exhaust, seat back or other easily removed encumbrances.



MODEL	D7R Series 2 LGP		D8R		D8T	
Flywheel Power	179 kW	240 hp	228 kW	305 hp	231 kW	310 hp
Operating Weight:*						
Power Shift Differential Steer	27 626 kg	60,916 lb	37 580 kg	82,850 lb	38 488 kg	84,850 lb
Engine Model	3176C SCAC		3406C TA		C15 ACERT	
Rated Engine RPM	2100		2100		1850	
No. of Cylinders	6		6		6	
Bore	124 mm	4.92"	137 mm	5.4"	137 mm	5.4"
Stroke	140 mm	5.5"	165 mm	6.5"	172 mm	6.75"
Displacement	10.3 L	629 in ³	14.6 L	893 in ³	15.2 L	928 in ³
Track Rollers (Each Side)	7		8		8	
ERF††	9		—		—	
Width of Standard Track Shoe	914 mm	36"	610 mm	24"	610 mm	24"
Length of Track on Ground	3.16 m	10'5"	3.21 m	10'6"	3.21 m	10'6"
Ground Contact Area (W/Std. Shoe)	5.78 m ²	8960 in ²	3.91 m ²	6062 in ²	3.91 m ²	6062 in ²
Track Gauge	2.24 m	7'4"	2.08 m	6'10"	2.08 m	6'10"
GENERAL DIMENSIONS:						
Height** (Stripped Top)***	2.70 m	8'10"	2.67 m	8'9"	2.67 m	8'9"
Height** (To Top of ROPS Canopy)	3.40 m	11'2"	3.51 m	11'6"	3.46 m	11'4"
Height** (To Top of ROPS Cab)	3.39 m	11'1"	3.45 m	11'3"	3.46 m	11'4"
Overall Length (With SU Blade)†	—	—	6.91 m	22'8"	6.09 m	20'0"
(Without Blade)	—	—	4.93 m	16'2"	4.64 m	15'3"
Overall Length (Without Blade)	4.73 m	15'6"	—	—	—	—
(With S Blade)	5.81 m	19'1"	—	—	—	—
Width (Over Trunnion)	3.37 m	11'1"	3.05 m	10'0"	3.06 m	10'0"
Width (w/o Trunnion — Std. Shoe)	3.15 m	10'4"	2.70 m	8'8"	2.64 m	8'8"
Ground Clearance	495 mm	1'7"	606 mm	1'11"	618 mm	2'4"
Blade Types and Widths:						
Straight	4.55 m	14'11"	—	—	—	—
Angle Straight	—	—	4.99 m	16'4"	4.99 m	16'4"
Full 25° Angle	—	—	4.52 m	14'10"	4.52 m	14'10"
Universal	—	—	4.26 m	14'0"	4.26 m	14'0"
Semi-U	—	—	3.94 m	12'11"	3.94 m	12'11"
Fuel Tank Refill Capacity	481 L	127 U.S. gal	625 L	165 U.S. gal	643 L	170 U.S. gal

*Operating weight includes cab, operator, lubricants, coolant, full fuel tank, standard track, hydraulic controls and fluid, SU blade, drawbar, and counterweight.

— D8R equipped with track guides, ROPS/FOPS cab, single shank ripper and SU blade.

**Dimensions measured from ground line. Add grouser height for total dimension on hard surfaces.

***Height (Stripped Top) — without ROPS canopy, exhaust, seat back or other easily removed encumbrances.

†Includes drawbar.

††ERF — Extended Track Roller Frame. Extends frame 302 mm (11.9"), adds 3 track sections and 2 rollers/side.



MODEL	D8R LGP		D8T LGP		D9R		D9T	
Flywheel Power	228 kW	305 hp	231 kW	310 hp	302 kW	405 hp	306 kW	410 hp
Operating Weight:*	—		—		48 784 kg 107,548 lb		—	
Power Shift Clutch Brake	—		—		—		—	
Power Shift Differential Steer	33 730 kg	74,360 lb	38 488 kg	84,850 lb	—		47 900 kg	105,600 lb
Engine Model	3406C TA		C15 ACERT		3408C SCAC		C18 ACERT	
Rated Engine RPM	2100		1850		1900		1800	
No. of Cylinders	6		6		8		6	
Bore	137 mm	5.4"	137 mm	5.4"	137 mm	5.4"	145 mm	5.7"
Stroke	165 mm	6.5"	172 mm	6.75"	152 mm	6"	183 mm	7.2"
Displacement	14.6 L	893 in ³	15.2 L	928 in ³	18 L	1099 in ³	18.1 L	1104 in ³
Track Rollers (Each Side)	8		8		8		8	
Width of Standard Track Shoe	965 mm	38"	965 mm	38"	610 mm	24"	610 mm	24"
Length of Track on Ground	3.20 m	10'6"	3.20 m	10'6"	3.47 m	11'5"	3.47 m	11'5"
Ground Contact Area (W/Std. Shoe)	6.2 m ²	9576 in ²	6.2 m ²	9576 in ²	4.24 m ²	6569 in ²	4.24 m ²	6569 in ²
Track Gauge	2.34 m	7'8"	2.34 m	7'8"	2.25 m	7'5"	2.25 m	7'5"
GENERAL DIMENSIONS:								
Height** (Stripped Top)***	2.67 m	8'9"	2.67 m	8'9"	3.00 m	9'10"	—	
Height** (To Top of ROPS Canopy)	3.51 m	11'6"	3.45 m	11'4"	3.99 m	13'1"	4.00 m	13'1"
Height** (To Top of ROPS Cab)	3.45 m	11'3"	3.45 m	11'4"	3.82 m	12'6"	3.82 m	12'6"
Overall Length (With SU Blade)†	6.91 m	22'8"	6.09 m	20'0"	6.84 m	22'5"	—	
(Without Blade)	4.93 m	16'2"	4.98 m	16'4"	5.18 m	17'0"	—	
(With SU Blade and Ripper)	—		—		—		6.63 m	21'10"
(Without Blade and Ripper)	—		—		—		4.91 m	16'1"
Width (Over Trunnion)	3.55 m	11'7"	3.06 m	10'0"	3.30 m	10'10"	3.31 m	10'11"
Width (w/o Trunnion — Std. Shoe)	3.30 m	10'10"	2.64 m	8'8"	2.93 m	9'8"	2.87 m	9'5"
Ground Clearance	574 mm	1'11"	609 mm	2'0"	591 mm	1'11"■	596 mm	1'11"
Blade Types and Widths:								
Universal	—		—		4.65 m	15'3"	4.65 m	15'3"
Semi-U	4.40 m	14'5"	4.40 m	14'5"	4.31 m	14'2"	4.31 m	14'2"
Fuel Tank Refill Capacity	625 L	165 U.S. gal	643 L	170 U.S. gal	818 L	216 U.S. gal	889 L	235 U.S. gal

*Operating weight includes ROPS canopy, operator, lubricants, coolant, full fuel tank, hydraulic controls and fluids, semi universal blade with tilt, back-up alarm, seat belts, lights, rigid drawbar and front towing device.

— D8R and D9R equipped with track guides, ROPS/FOPS cab, single shank ripper and SU blade.

**Dimensions measured from ground line. Add grouser height for total dimension on hard surfaces.

***Height (Stripped Top) — without ROPS canopy, exhaust, seat back or other easily removed encumbrances.

†Includes drawbar.

■SAE J1234.

**D10T****D11T****D11T CD**

MODEL	D10T		D11T		D11T CD	
Flywheel Power	433 kW	580 hp	634 kW	850 hp	634 kW	850 hp
Operating Weight:*						
Power Shift Clutch Brake	66 451 kg	146,500 lb	104 600 kg	230,100 lb	113 000 kg	248,600 lb
Engine Model	C27 ACERT		C32 ACERT		C32 ACERT	
Rated Engine RPM	1800		1800		1800	
No. of Cylinders	12		12		12	
Bore	137 mm	5.4"	145 mm	5.71"	145 mm	5.71"
Stroke	152 mm	6"	162 mm	6.38"	162 mm	6.38"
Displacement	27 L	1647.5 in³	32.1 L	1959 in³	32.1 L	1959 in³
Track Rollers (Each Side)	8		8		8	
Width of Standard Track Shoe	610 mm	24"	710 mm	28"	915 mm	36"
Length of Track on Ground (Idler to Idler)	3.88 m	12'9"	4.44 m	14'7"	4.44 m	14'7"
Ground Contact Area (W/Std. Shoe)	4.74 m ²	7347 in²	6.31 m ²	9781 in²	8.1 m ²	12,581 in²
Track Gauge	2.55 m	8'4"	2.89 m	9'6"	2.89 m	9'6"
GENERAL DIMENSIONS:						
Height (Stripped Top)**	3.222 m	10'7"	3.64 m	11'11"	3.64 m	11'11"
Height (To Top of ROPS Canopy)	4.26 m	14'0"	4.60 m	15'1"	4.60 m	15'1"
Height (To Top of ROPS Cab)	4.01 m	13'2"	4.29 m	14'1"	4.29 m	14'1"
Overall Length:						
(With SU Blade and SS Ripper)***	9.16 m	30'1"	10.59 m	34'9"	10.70 m	35'1"
(Without Blade and Ripper)†	5.331 m	17'6"	6.03 m	19'9"	6.03 m	19'9"
Width (Over Trunnion)	3.74 m	12'3"	4.38 m	14'4"	4.38 m	14'4"
Width (w/o Trunnion — Std. Shoe)	3.30 m	10'10"	3.78 m	12'5"	3.81 m	12'6"
Ground Clearance††	571 mm	1'10"	574 mm	1'11"	574 mm	1'11"
Blade Types and Widths:						
CarryDozer	—		—		6.71 m	22'0"
Universal	5.26 m	17'3"	6.36 m	20'10"	—	
Semi-U	4.86 m	15'11"	5.60 m	18'4"	—	
Fuel Tank Refill Capacity	1204 L	318 U.S. gal	1609 L	425 U.S. gal	1609 L	425 U.S. gal
Fuel Tank Refill Capacity (Extra Capacity)	—		1987 L	505 U.S. gal	1987 L	505 U.S. gal

*Operating weight includes operator, lubricants, coolant, full fuel tank, hydraulic controls and fluids, SU blade with tilt, back-up alarm, seat belts, lights, rigid drawbar and front towing device.

**Height (Stripped Top) — without ROPS canopy, cab, exhaust, lift cylinders, seat back or other easily removed encumbrances.

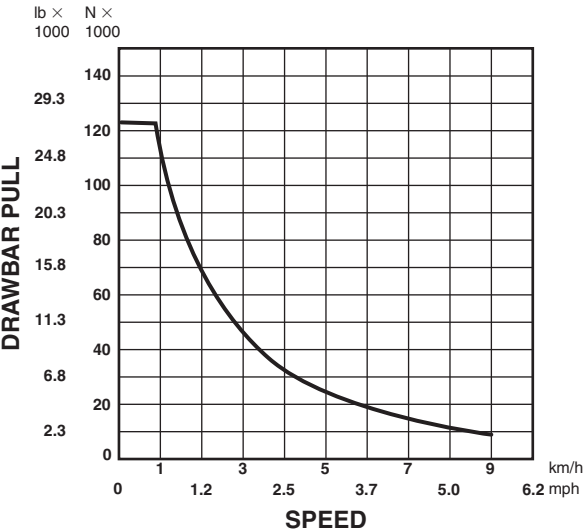
***Overall length of D11T CD includes Straight (CarryDozer) Blade and SS Ripper.

†Overall length of machine from front tag link trunion to rigid drawbar and excludes track grouser height.

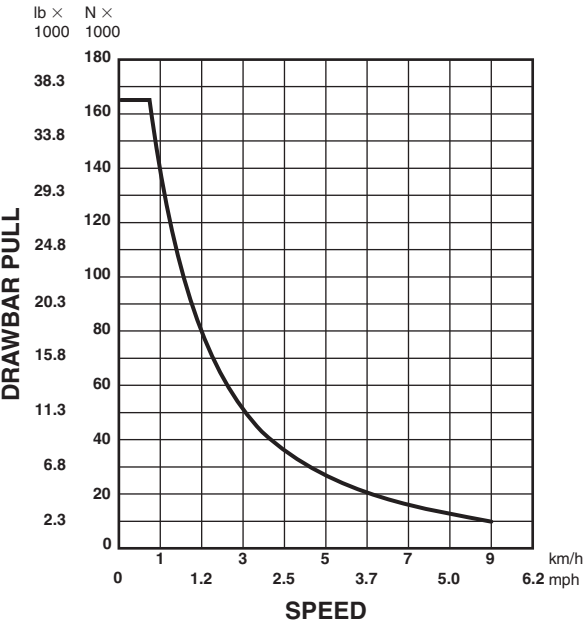
††SAE J1234.

All dimensions are approximate.

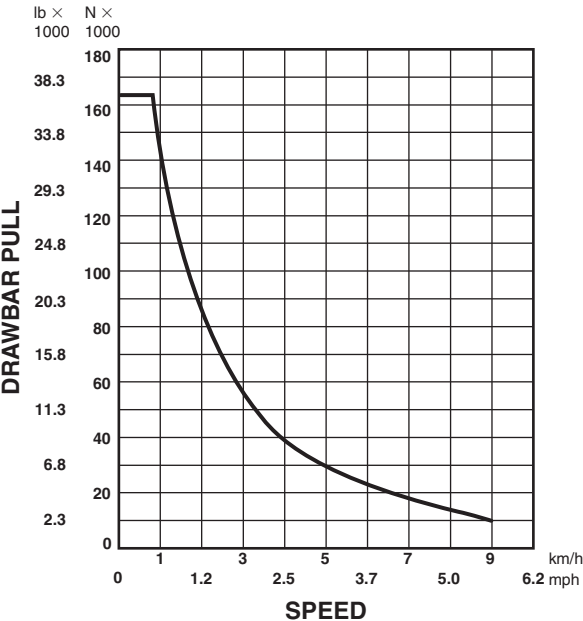
D3K XL
D3K LGP



D4K XL
D4K LGP



D5K XL
D5K LGP



NOTES: Usable pull will depend upon weight and traction of equipped tractor.

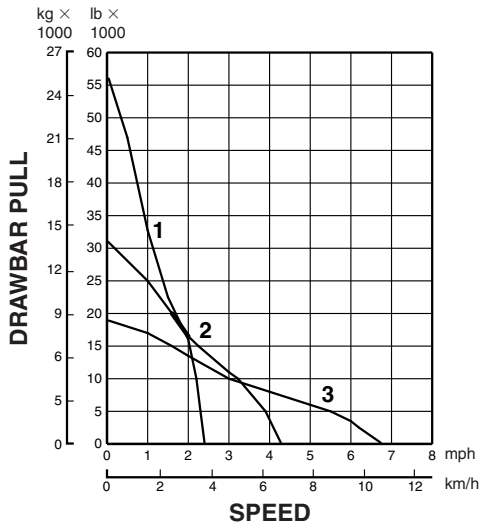
Assumes sufficient machine weight for <5% track slip at POR pressure.

Assumes pumps and motors are broken in.

Assumes nominal engine power and valve settings.

Drawbar pull at track stall will be lower.

D6G/D6G Series 2 XL/D6G Series 2 LGP

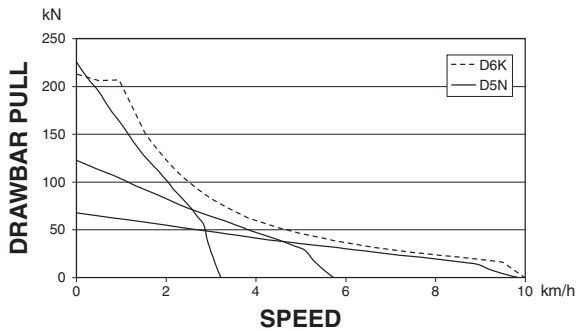


KEY

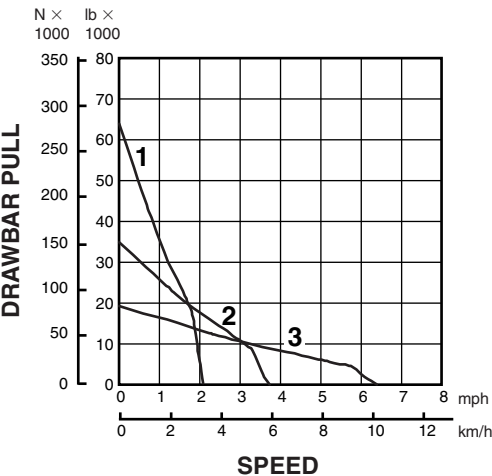
- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear

NOTE: Usable pull will depend upon weight and traction of equipped tractor.

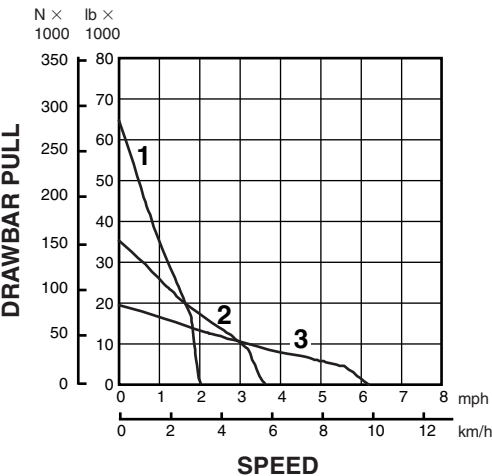
D6K vs. D5N



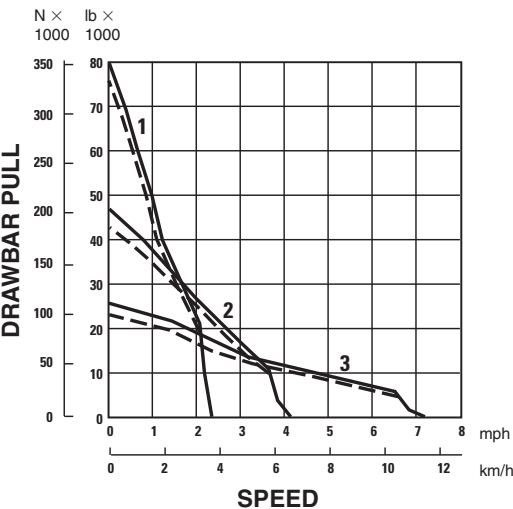
D6N
Steering Clutches and Brakes (FTC)



D6N
Differential Steering (D/S)



D6R Series 3

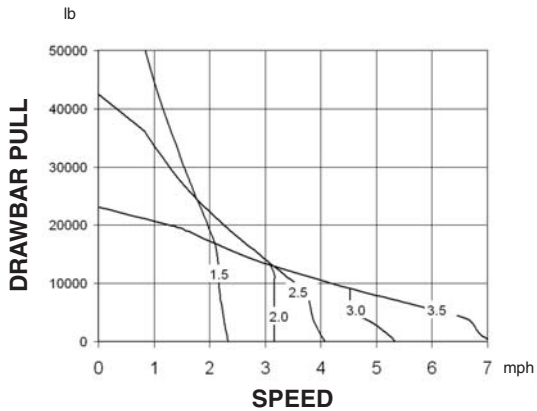


KEY
--- STD
— XL/XW/LGP

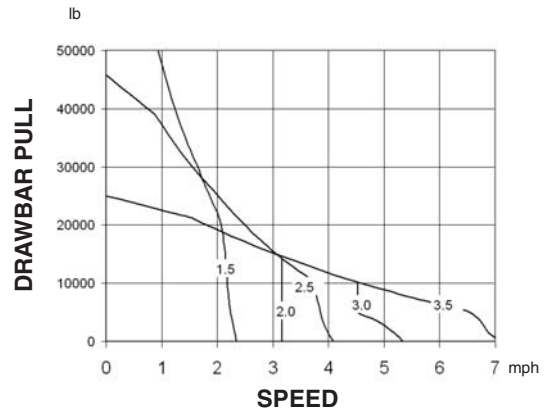
KEY
1 — 1st Gear
2 — 2nd Gear
3 — 3rd Gear

NOTE: Usable pull will depend upon weight and traction of equipped tractor.

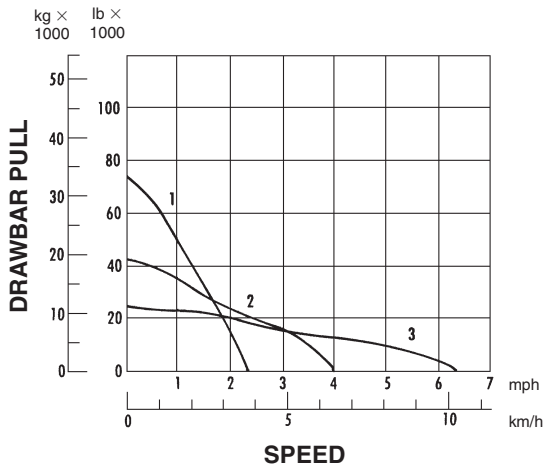
D6T Standard



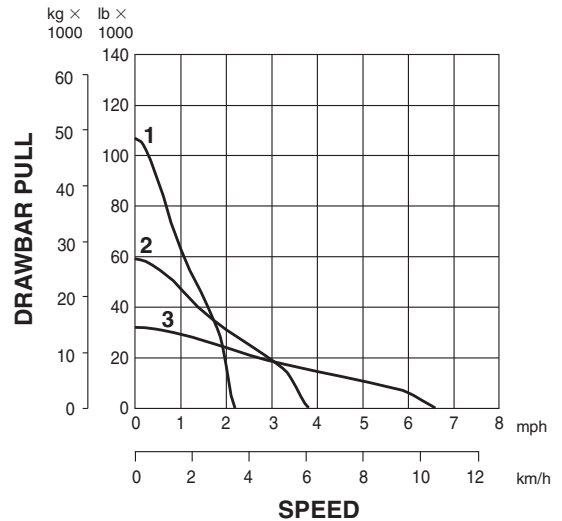
D6T XL/XW/LGP



D7G/D7G Series 2



D7R Series 2 Standard/XR/LGP
Differential Steer

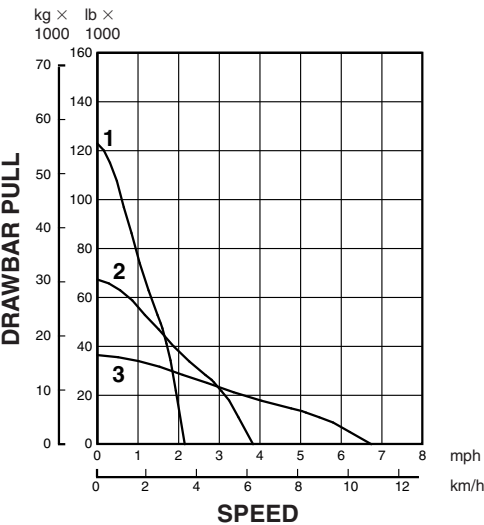


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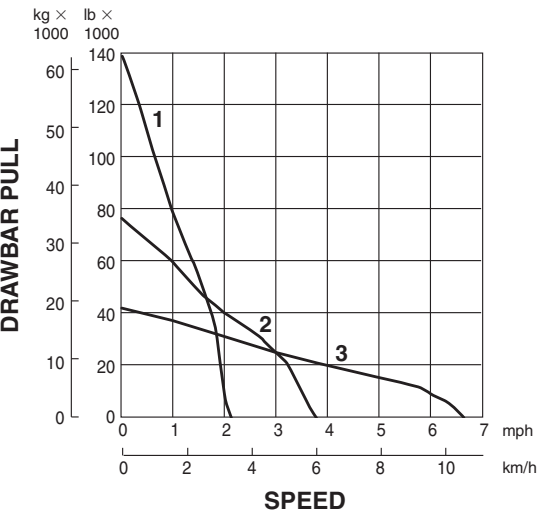
- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear

NOTE: Usable pull will depend upon weight and traction of equipped tractor.

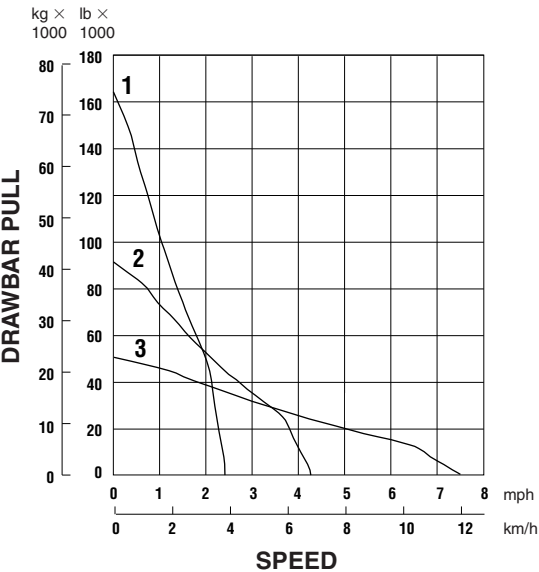
D8R
D8R LGP



D8T
D8T LGP



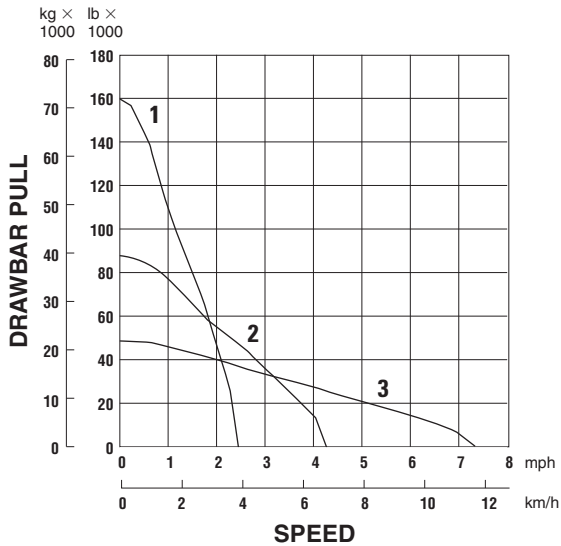
D9R Power Shift with
Steering Clutches and Brakes



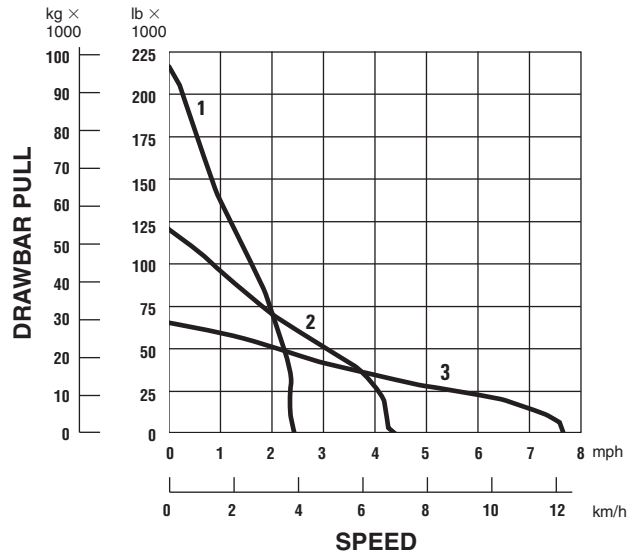
KEY
1 — 1st Gear
2 — 2nd Gear
3 — 3rd Gear

NOTE: Usable pull will depend upon weight and traction of equipped tractor.

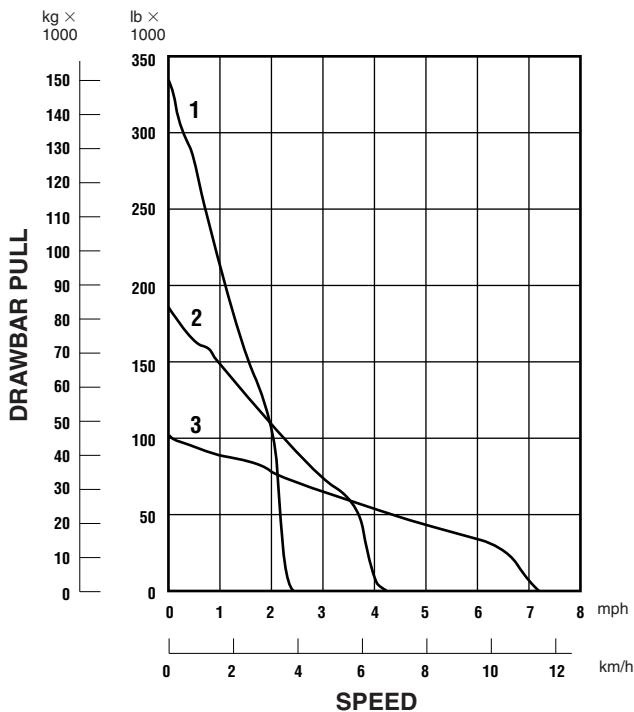
D9T Differential Steering



D10T



D11T/D11T CD



KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear

NOTE: Usable pull will depend upon weight and traction of equipped tractor. Tractors with suspended undercarriage can provide up to 15% more tractive effort than tractors with non-suspended undercarriage.

TRAVEL SPEED

POWER SHIFT MODEL	D3K All Models		D4K All Models		D5K All Models		D5N XL/LGP		D5N LGP* P.S./D.D.		D6K All Models		D6N FTC	
	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph
FORWARD														
1	—	—	—	—	—	—	3.1	1.9	2.8	1.7	—	—	3.1	1.9
2	—	—	—	—	—	—	5.4	3.3	5.0	3.1	—	—	5.7	3.5
3	—	—	—	—	—	—	9.1	5.6	8.7	5.4	—	—	10.0	6.2
REVERSE														
1	—	—	—	—	—	—	3.8	2.3	**		—	—	3.1	1.9
2	—	—	—	—	—	—	6.7	4.1			—	—	6.4	4.0
3	—	—	—	—	—	—	11.3	6.9			—	—	11.6	7.2
HYDROSTATIC														
FORWARD	9.0	5.6	9.0	5.6	9.0	5.6	—	—	—	—	0-10.0	0-6.2	—	—
REVERSE	10.0	6.2	10.0	6.2	10.0	6.2	—	—	—	—	0-10.0	0-6.2	—	—

POWER SHIFT MODEL	D6N D/S		D6G/ D6G Series 2 XL/ D6G Series 2 LGP		Differential Steer D6R Series 3		D6T		D7E		D7E LGP	
	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph
FORWARD												
1	3.4	2.1	4.0	2.5	3.8	2.3	3.8	2.3	—	—	—	—
2	5.9	3.7	6.9	4.3	6.6	4.1	6.6	4.1	—	—	—	—
3	9.9	6.2	10.8	6.7	11.4	7.1	11.4	7.1	—	—	—	—
REVERSE												
1	3.8	2.4	4.8	3.0	4.8	3.0	4.8	3.0	—	—	—	—
2	7.2	4.5	8.4	5.2	8.4	5.2	8.4	5.2	—	—	—	—
3	11.7	7.3	12.9	8.0	14.5	9.0	14.6	9.0	—	—	—	—
ELECTRIC												
FORWARD	—	—	—	—	—	—	—	—	11.3	7.0	11.3	7.0
REVERSE	—	—	—	—	—	—	—	—	11.3	7.0	11.3	7.0

POWER SHIFT MODEL	D7G		D7G Series 2		D7R Series 2	
	km/h	mph	km/h	mph	km/h	mph
FORWARD						
1	3.7	2.3	3.9	2.4	3.5	2.2
2	6.4	4.0	6.9	4.3	6.2	3.8
3	10.0	6.2	9.9	6.1	10.7	6.7
REVERSE						
1	4.5	2.8	4.5	2.8	4.6	2.9
2	7.9	4.9	8.4	5.2	8.0	5.0
3	11.9	7.4	12.7	7.9	13.8	8.6

*Power Shift direct drive transmission available for Japan domestic market only.

**Not available at time of printing.

TRAVEL SPEED

POWER SHIFT MODEL	Differential Steer D8R		D8T		D9R		D9T		D10T		D11T/CD		D11T/CD High Altitude	
FORWARD	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph
1	3.5	2.2	3.4	2.1	3.8	2.4	3.9	2.4	4.0	2.5	3.9	2.4	4.0	2.5
2	6.2	3.9	6.1	3.8	6.8	4.2	6.8	4.2	7.2	4.5	6.8	4.2	7.0	4.4
3	10.8	6.7	10.6	6.6	11.9	7.4	11.7	7.3	12.7	7.9	11.8	7.3	12.0	7.5
REVERSE	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph
1	4.7	2.9	4.5	2.8	4.7	2.9	4.7	2.9	5.2	3.2	4.7	2.9	4.8	3.0
2	8.1	5.0	8.0	5.0	8.4	5.2	8.4	5.2	9.0	5.6	8.2	5.1	8.3	5.2
3	13.9	8.6	14.2	8.8	14.7	9.1	14.3	8.9	15.8	9.8	14.0	8.7	14.9	9.0

DIRECT DRIVE MODEL	D6R Series 3* P.S./D.D.	
FORWARD	km/h	mph
1	3.4	2.1
2	5.9	3.7
3	10.4	6.5
4	—	—
5	—	—
6	—	—
REVERSE	km/h	mph
1	4.3	2.7
2	7.5	4.7
3	13.3	8.3
4	—	—
5	—	—
6	—	—

*Japan only.

GEAR	D6T Powershift with Multi Velocity Program		D6T Powershift with Multi Velocity Program — Sound Suppressed	
	km/h	mph	km/h	mph
FORWARD				
1.5	3.8	2.3	3.2	2.0
2	5.1	3.2	5.1	3.2
2.5	6.6	4.1	6.3	3.9
3	8.5	5.3	8.5	5.3
3.5	11.4	7.1	10.9	6.8
REVERSE				
1.5	4.8	3.0	3.9	2.4
2	6.6	4.1	6.6	4.1
2.5	8.4	5.2	8.0	5.0
3	11.0	6.8	11.0	6.8
3.5	14.6	9.0	13.8	8.6

GROUND PRESSURES

Pressures computed from operating weights given earlier in this section in the specifications tables.

MODEL	SHOE WIDTH		CONTACT AREA		GROUND PRESSURE	
	mm	in	m ²	in ²	kPa	psi
D3K XL	406	16	1.7	2637	44.8	6.50
D3K LGP	635	25	2.7	4124	29.7	4.30
D4K XL	460	18	2.1	3206	38.6	5.60
D4K LGP	635	25	2.9	4425	29.2	4.24
D5K XL	510	20	2.4	3652	39.1	5.67
D5K LGP	660	26	3.0	4726	31.1	4.52
D5N XL	510	20	2.44	3775	51.5	7.49
◀	560	22	2.67	4146	47.1	6.82
D5N LGP	610	24	3.18	4924	42.2	6.12
◀	760	30	3.96	6135	33.9	4.91
	770	30	4.01	6216	33.4	4.85
D6K XL	510	20	2.70	4185	46.7	6.77
(Standard shoe)	560	22	3.00	4650	42.5	6.16
D6K LGP	610	24	3.20	4960	40.7	5.90
(Standard shoe)	760	30	4.00	6200	32.7	4.74
D6N XL (DS)	560	22	2.89	4480	56.2	8.15
(Standard shoe)	610	24	3.15	4880	51.6	7.48
D6N LGP (DS)	865	34	5.39	8358	32.3	4.70
(Standard shoe)	840	33	5.24	8117	33.2	4.80
D6N XL*	560	22	2.86	4427	53.2	7.72
◀	600	24	3.06	4743	49.7	7.20
D6N LGP*	710	28	4.40	6820	39.3	5.70
	840	33	5.21	8078	33.2	4.81
◀	860	34	5.34	8277	32.4	4.70
	865	34	5.37	8324	32.2	4.67
D6G	457	18	2.43	3766	60.0	8.70
◀	508	20	2.71	4200	54.0	7.83
	560	22	2.98	4619	49.0	7.10
	610	24	3.25	5040	45.0	6.54
D6G Series 2 XL	457	18	2.43	3766	68.0	9.86
	508	20	2.71	4200	62.0	8.99
	560	22	2.98	4619	56.0	8.21
	610	24	3.25	5040	52.0	7.53

* Not sold in U.S., Canada or Europe.

◀ Standard Shoe.

DS — Differential Steer

MODEL	SHOE WIDTH		CONTACT AREA		GROUND PRESSURE	
	mm	in	m ²	in ²	kPa	psi
D6G Series 2 LGP	915	36	5.27	8169	33.0	4.79
	927	36.5	5.34	8277	32.7	4.74
D6R Series 3	508	20	2.70	4200	66.6	9.62
	560	22	2.98	4620	60.3	8.74
	610	24	3.25	5040	55.3	8.02
D6R Series 3 XL	508	20	2.92	4520	67.5	9.79
	560	22	3.22	4972	61.4	8.90
	610	24	3.50	5424	56.3	8.16
D6R Series 3 XW	610	24	3.50	5424	57.9	8.40
	760	30	4.36	6780	46.3	6.72
D6R Series 3 LGP	810	32	5.31	8256	40.0	5.80
	915	36	5.99	9288	35.5	5.15
	991	39	6.49	10,062	32.8	4.76
D6T	508	20	2.70	4200	66.6	9.65
	560	22	2.98	4620	60.6	8.78
	610	24	3.25	5040	55.4	8.04
D6T XL	508	20	2.92	4520	67.8	9.83
	560	22	3.22	4972	61.6	8.93
	610	24	3.50	5424	56.5	8.19
D6T XW	508	20	2.92	4520	69.8	10.12
	610	24	3.50	5424	58.1	8.43
	710	28	4.08	6328	49.9	7.23
	760	30	4.36	6780	46.5	6.74

NOTE: Ground contact area = width of track shoe
× length of track on ground × 2.

$$\text{Ground pressure} = \frac{\text{operating weight}}{\text{ground contact area}}$$

GROUND PRESSURES

Pressures computed from operating weights given earlier in this section in the specifications tables.

MODEL	SHOE WIDTH		CONTACT AREA		GROUND PRESSURE	
	mm	in	m ²	in ²	kPa	psi
D6T LGP	610	24	3.99	6192	53.5	7.76
	760	30	4.99	7740	42.8	6.20
	915	36	5.99	9288	35.7	5.17
	991	39	6.49	10,062	32.9	4.77
D7E ¹	560	22	3.37	5231	74.69	10.83
	610	24	3.68	5698	68.62	9.95
	660	26	3.98	6165	63.38	9.19
D7E LGP ¹	915	36	6.31	9792	43.75	6.34
D7G ◀	508	20	2.76	4280	73.0	10.60
	559	22	3.04	4708	66.0	9.60
	610	24	3.31	5136	60.0	8.80
D7G Series 2	508	20	2.76	4280	74.5	10.81
	560	22	3.04	4708	67.7	9.81
	610	24	3.31	5136	62.2	9.01
D7R Series 2 ◀	510	20	2.94	4560	83.4	11.71
	560	22	3.24	5016	76.0	10.69
	610	24	3.53	5472	69.8	9.87
	660	26	3.82	5928	64.0	9.17
D7R Series 2 XR ◀	560	22	3.43	5315	71.5	10.16
	610	24	3.75	5808	65.9	9.37
	660	26	4.06	6282	61.2	8.70
D7R Series 2 LGP	760	30	4.80	7504	55.1	7.74
	915	36	5.82	9029	46.0	6.55
D7R Series 2 LGP ERF*	915	36	6.49	10,060	42.0	6.09

* Extended track roller frame.

◀ Standard shoe.

¹ D7E contact area per ISO 16754:2008.

MODEL	SHOE WIDTH		CONTACT AREA		GROUND PRESSURE	
	mm	in	m ²	in ²	kPa	psi
D8R/D8T ◀	610	24	3.91	6062	94.9	13.76
	660	26	4.23	6559	87.7	12.71
	710	28	4.55	7056	81.5	11.82
D8R LGP/ D8T LGP	965	38	6.20	9746	54.0	7.82
D9R/D9T ◀	560	22	3.89	6031	124.8	18.10
	610	24	4.24	6569	114.6	16.62
	685	27	4.74	7374	102.0	14.80
	760	30	5.28	8185	92.0	13.34
D10T ◀	610	24	4.74	7321	135.7	19.63
	710	28	5.52	8551	116.2	16.86
	800	31.5	6.22	9635	103.1	14.97
D11T ◀	710	28	6.31	9781	162.4	23.57
	810	32	7.20	11,159	142.4	20.66
	915	36	8.13	12,605	126.0	18.29
D11T CD ◀	810	32	7.20	11,159	153.8	22.32
	915	36	8.13	12,594	136.7	19.76

NOTE: Ground contact area = width of track shoe
× length of track on ground × 2.

$$\text{Ground pressure} = \frac{\text{operating weight}}{\text{ground contact area}}$$

EXTREME SLOPE OPERATION

The following table gives the MAXIMUM fore and aft slope on which each tractor will have proper lubrication. Consult Operation & Maintenance Manual (if applicable) for POWER TRAIN fluid level overfill requirements for operation on extreme slopes. Extreme slope operation is anytime the slope exceeds 25° (47%).

The ENGINE should never be overfilled with oil. This may lead to rapid overheating. For extreme slope operation, engine oil should be maintained at the full mark.
NOTE: Both ENGINE and POWER TRAIN fluid levels should be checked on level ground before working sidehills and slopes.

Tractor	D3K	D4K	D5K	D5N	D6K	D6N
Percent Grade	100	100	100	100	100	100
or						
Degrees Slope	45	45	45	45	45	45

Tractor	D6G/ D6G Series 2 XL/ D6G Series 2 LGP/ D6R Series 3/D6T	D7G/ D7G Series 2/ D7R Series 2	D8R/ D8T	D9R/ D9T	D10T	D11T/ D11T CD
Percent Grade	100	100	100	100	100	100
or						
Degrees Slope	45	45*	45	45	45	45

Pipelayer	561M	572R Series 2	583T	587R/587T
Percent Grade	100	100	100	100
or				
Degrees Slope	45	45	45	45

When working sidehills and slopes, consideration should be given to the following important points:

- Speed of travel — At higher speeds, inertia forces tend to make the tractor less stable.
- Roughness of terrain or surface — Ample allowance should be made where the terrain or surface is uneven.
- Mounted equipment — Bulldozers, sidebooms, winches, and other mounted equipment cause the tractor to balance differently.
- Nature of surface — New earthen fills may give way with the weight of the tractor. Rocky surfaces may promote side slipping of tractor.
- Track slippage due to excessive loads — This may cause downhill track to “dig in,” increasing angle of tractor.

- Implements hitched to the drawbar — This may decrease weight on uphill track, e.g., logging arch, two-wheel wagon.
- Height of hitch on tractor — When a high drawbar is used the tractor is less stable than with the standard drawbar.
- Width of shoes — Wide track shoes tend to decrease “digging in”, hence tractor is more stable.
- Operated equipment — Be aware of the stability and other performance features of the equipment operated by the tractor.
- Keep all attachments or pulled loads low to the ground for optimum stability.

*The D7G requires a 23 L (6 gal) transmission overfill for acceptable operation on slopes above 25° (47%).

NOTE: Safe operation on steep slopes may require special machine maintenance as well as excellent operator skill and proper equipment for the specific application. Consult Operation & Maintenance Manual (if applicable) for proper fluid level requirements.

HYDRAULIC CONTROLS

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Features:

- **Designed and built for specific tractor applications.** Valves and components sized for exacting quality and performance.
- **Job requirements matched** through various arrangements.
- **Hydraulic blade and ripper controls:** Mechanical controls on G Series. Electro hydraulic controls on D6N (France sourced) and D6K. Pressure compensated on D6T and D9R. Pilot operated on D5N, D6N (not France sourced), D7R Series 2. Electro hydraulic blade and ripper controls on D8T, D9T, D10T and D11T.
- **Full flow filters***... all oil completely filtered.
- **Dual tilt** — standard on D11T and D11T CD, attachment option on D8R, D8T, D9R, D9T, D10T.

*Exception — D8R 2-pump.

MODEL	D3K		D4K		D5K	
Mounting Point	Fender		Fender		Fender	
Number of Valves	3 or 4		3 or 4		3 or 4	
Flow at 6890 kPa (1000 psi)	73.5 L/min	19.4 gpm	73.5 L/min	19.4 gpm	73.5 L/min	19.4 gpm
	@ 2150 RPM		@ 2150 RPM		@ 2150 RPM	
Tank Capacity (Oil)	59.5 L	15.7 U.S. gal	59.5 L	15.7 U.S. gal	59.5 L	15.7 U.S. gal
Lift Relief Valve Setting	20 600 kPa	2988 psi	20 600 kPa	2988 psi	20 600 kPa	2988 psi
Weight Installed	39 kg	86 lb*	39 kg	86 lb*	39 kg	86 lb*
	(Four Valves)		(Four Valves)		(Four Valves)	

MODEL	D5N		D6K		D6N		D6N**	
Mounting Point	Right Rear Fender		Under Operators Platform		Right Rear Fender		Right Rear Fender	
Number of Valves	3 or 4		3 or 4		3 or 4		3 or 4	
Flow at 6890 kPa (1000 psi)	91 L/min	24 gpm	120 L/min	31.7 gpm	132.5 L/min	35.0 gpm	121 L/min	32 gpm
	@ 2200 RPM		@ 2100 RPM		@ 2300 RPM		@ 2200 RPM	
Tank Capacity (Oil)	29.5 L	7.8 U.S. gal	58 L	15.3 U.S. gal	29.5 L	7.8 U.S. gal	29.5 L	7.8 U.S. gal
Lift Relief Valve Setting XL and LGP	21 000 kPa	3000 psi	26 000 kPa	3771 psi	26 200 kPa	3800 psi	25 000 kPa	3600 psi
Weight Installed: 3 Valve	216 kg	440 lb	30 kg	66 lb	27 kg	59.5 lb	295 kg	** 650 lb
	232 kg	475 lb	37 kg	81.6 lb	32 kg	70.5 lb	314 kg	** 703 lb

MODEL	D6G/ D6G Series 2 XL/ D6G Series 2 LGP		D6R Series 3 (Differential Steer)		D6T		D6T VPAT	
	Fender		Under Operators Platform		Under Operators Platform		Under Operators Platform	
Mounting Point	Fender		Under Operators Platform		Under Operators Platform		Under Operators Platform	
Number of Valves	1, 2 or 3		2, 3, 4 or 5		2, 3 or 4		3, 4 or 5	
Flow at 6890 kPa (1000 psi)	176 L/min	46 gpm	214 L/min	57 gpm	205 L/min	54 gpm	205 L/min	54 gpm
	@ 1900 RPM		@ 2125 RPM (PMP)		@ 2010 RPM		@ 2010 RPM	
Tank Capacity (Oil)	47 L	12 U.S. gal	47.3 L	12.5 U.S. gal	47.3 L	12.5 U.S. gal	47.3 L	12.5 U.S. gal
Lift Relief Valve Setting	16 200 kPa	2349 psi	19 305 kPa	2800 psi	19 300 kPa	2800 psi	21 550 kPa	3125 psi
Weight Installed	318 kg	700 lb	311 kg	686 lb	Included in Std. Tractor	(Two Valves)	Included in Std. Tractor	(Three Valves)
	(Two Valves)		(Two Valves)		(Two Valves)		(Three Valves)	

MODEL	D7E (Differential Steer)		D7G (173B)		D7G Series 2		D7R Series 2 (Differential Steer)	
Mounting Point	Blade Control under Hood; Ripper on Rear		Fender		Fender		Under Operators Platform	
Number of Valves	2 Std., 4 w/ripper		1, 2 or 3		1, 2 or 3		2 or 3	
Flow at 6890 kPa (1000 psi)	204 L/min	54 gpm	227 L/min	60 gpm	245 L/min	65 gpm	289 L/min	76 gpm
	@ 2124 RPM (PMP)		@ 2080 RPM		@ 2080 RPM		@ 2100 RPM	
Tank Capacity (Oil)	76 L	20 U.S. gal	91 L	24 U.S. gal	102 L	27 U.S. gal	54 L	14.3 U.S. gal
Lift Relief Valve Setting	27 600 kPa	4000 psi	15 500 kPa	2250 psi	16 500 kPa	2393 psi	22 750 kPa	3300 psi
Weight Installed	Included in Std. Tractor		458 kg	1010 lb	—	(Two Valves)	358 kg	784 lb
	(Two Valves)		(Two Valves)		(Two Valves)		(Two Valves)	

*Hydraulic tank not included.

**Steering system not included.

NOTE: Weight installed, two valves, includes pump, tank with filters, valves, lines, linkage, oil cooler and control levers.

MODEL	D8R	D8T	D9R	D9T
Mounting Point	Under Operators Platform	At Rear Under Fuel Tank	Under Operators Platform	Under Operators Platform
Number of Valves	2 Std. 4 with Ripper◀ Pilot Control System	2 Std. 4 with Ripper Electro/Hydraulic Control System	4 + Dual Tilt (Attach.) Radiator Guard	4 + Dual Tilt (Attach.) Electro/Hydraulic Control System
Flow at 6890 kPa (1000 psi)	240 L/min 63 gpm @ 2100 RPM (PMP)	270 L/min 71.3 gpm @ 2200 RPM	239 L/min 63 gpm @ 1900 RPM	239 L/min 63 gpm @ 1900 RPM
Tank Capacity (Oil)	72 L 19 U.S. gal	75 L 19.8 U.S. gal	77.2 L 20.4 U.S. gal	89 L 23.5 U.S. gal
Lift Relief Valve Setting	24 200 kPa 3500 psi	24 200 kPa 3500 psi	26 200 kPa 3800 psi	26 200 kPa 3800 psi
Weight Installed	Included in Std. Tractor (Two Valves)	Included in Std. Tractor	Included in Std. Tractor (Two Valves)	Included in Std. Tractor

MODEL	D10T	D11T	D11T CD
Mounting Point	Under Operators Platform	Under Operators Platform	Under Operators Platform
Number of Valves	2 Std. 4 with Ripper At Rear Under Fuel Tank 1◀ + Dual Tilt (Attach.) Radiator Guard	4 At Rear Under Fuel Tank 1◀ + Dual Tilt Standard Radiator Guard	4 At Rear Under Fuel Tank 1◀ Dual Tilt Standard Quick Dump Valve Standard Both on Radiator Guard
Flow at 6890 kPa (1000 psi)	450 L/min 118.7 gpm @ 1800 RPM	620 L/min 164 gpm @ 1890 RPM	670 L/min 177 gpm @ 1890 RPM
Tank Capacity (Oil)	131 L 34.6 U.S. gal	223 L 59 U.S. gal	223 L 59 U.S. gal
Lift Relief Valve Setting	Lift: 18 790 kPa 2725 psi Tilt: 20 340 kPa 2950 psi	22 580 kPa 3275 psi 24 132 kPa 3500 psi	24 476 kPa 3550 psi 25 338 kPa 3675 psi
Weight Installed	Included in Std. Tractor (Two Valves)	Included in Std. Tractor	Included in Std. Tractor

◀Ripper valve.

NOTE: Weight installed, two valves, includes pump, tank with filters, valves, lines, linkage, oil cooler and control levers.

BULLDOZERS

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Features:

- **Straight Bulldozers** — adjustable pitch angle controls blade penetration.
- **Variable cutting edge Power Angle and Tilt (VPAT)** — blade is available on the D3K, D4K, D5K, D5N, D6K, D6N, and D6T. The blade can be mechanically tipped forward for improved penetration or back for more productivity and easier finish grading.
- **Angling Bulldozers** — 25° right/left angling; C-frame allows mounting other tools.
- **Universal Bulldozers** — 25° wings provide increased capacity, less spillage.
- **Semi-Universal Bulldozers** — combines penetration ability of straight blade with increased load capacity provided by short 25° wings.
- **Wheel Dozer blades** are straight design, with hydraulic pitch and tilt control.
- **Box-section construction** on blades adds rigidity and strength.
- **Cutting edges** are heat treated and reversible for extra life.

CAT BLADES

SPECIAL BLADES

MODEL	S	U	SU	A	FS	LFS	VP	CD	RC	WC	CL	HU	LF	TW	CU	CPB	CB	VR	WCB	CS	WCS	W
D3K XL							●															
D3K LGP							●															
D4K XL							●															
D4K LGP							●															
D5K XL							●															
D5K LGP							●															
D5N XL							●															
D5N LGP							●															
D5E				●																		
D6K XL							●															
D6K LGP							●															
D6N XL			●				●							●								
D6N LGP							●							●								
D6R Series 3	●		●	●						●	●		●					●				
D6R Series 3 XL			●	●			●															
D6R Series 3 LGP	●						●			●	●		●					●				
D6R Series 3 XW			●	●			●															
D6T	●		●	●						●	●		●					●				
D6T XL			●	●			●						●									
D6T LGP	●			●			●			●	●		●					●				
D6T XW			●	●			●						●									
D6G	●			●																		
D6G Series 2 XL	●		●	●																		
D6G Series 2 LGP	●																					
D7R Series 2	●	●	●	●						●	●		●	●				●				
D7R Series 2 LGP	●																	●				
D7G	●	●		●										●								
D7G Series 2	●		●	●																		
D8R/D8T		●	●	●					●	●	●		●		●	●		●				
D8R LGP/D8T LGP			●																			
D9R/D9T		●	●						●	●	●		●		●	●	●		●			
D10T		●	●						●	●	●		●		●	●	●					
D11T		●	●						●		●											
D11T CD								●														
814F	●										●	●								●	●	
815F					●																	
816F						●							●									●
824G/824H	●									●	●	●									●	
825G					●																	
826G/826H						●							●									●
834G/834H	●	●								●	●									●	●	
836G/836H													●									●

CAT SUPPLIED

S — Straight
 U — Universal
 SU — Semi-Universal
 A — Angling
 FS — Fill Spreading
 LFS — Landfill Spreading
 VP — Variable Pitch, Lower, Angle and Tilt (VPAT)

SPECIAL SUPPLIED

RC — Reclamation U
 WC — Woodchips
 CL — Coal
 HU — Heavy U
 LF — Landfill
 CD — CarryDozer
 TW — Two-Way Dozer
 CU — Cushion Dozer
 CPB — Cushion Push Block
 CB — Coal Bowladozer
 VR — Variable Radius

WCB — Wood Chip Bowladozer
 CS — Coal Scoop
 WCS — Wood Chip Scoop
 W — W-Blade

NOTE: This chart suggests a range of blade options for Cat built machines. It is not totally inclusive of all blades available. For additional information consult your Cat dealer.

BLADE SELECTION

Properly matching tractor and dozer is a basic requirement for maximizing production. First consider the kind of work the tractor will be doing most of its life. Then evaluate:

- Material to be moved.
- Tractor limitations.

Materials to be moved

Most materials are dozeable. However, dozer performance will vary with material characteristics such as:

Particle Size and Shape — The larger the individual particle size, the harder it is for a cutting edge to penetrate. Particles with sharp edges resist the natural rolling action of a dozer blade. These particles require more horsepower to move than a similar volume of material with rounded edges.

Voids — Few voids or the absence of voids means the individual particles have most or all of their surface area in contact with other particles. This forms a bond which must be broken. A well graded material, which lacks voids, is generally heavy, and will be hard to remove from the bank state.

Water Content — In most materials the lack of moisture increases the bond between particles and makes the material difficult to remove from the bank state. A high moisture content makes dozing difficult because the material is heavy and requires more force to move. Optimum moisture reduces dust and offers the best condition for dozing ease and operator comfort.

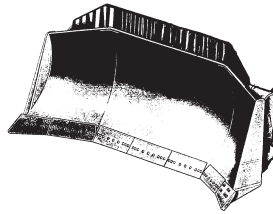
The effect of freezing depends on the moisture content. When frozen, the material's bond strengthens as moisture content increases and temperature decreases. However, freezing a completely dry material does not change its characteristics.

An indication of a blade's ability to penetrate and obtain a blade load is kW per meter (or horsepower per foot) of cutting edge. The higher the kW/meter (HP/foot), the more aggressive the blade. Kilowatt per Lm^3 (horsepower per loose cubic yard) indicates a blade's ability to push material. The higher the kW/ Lm^3 (HP/LCY), the greater the blade's potential capability for carrying material at a greater speed.

Tractor Limitations

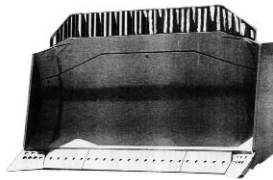
The weight and horsepower of the machine determines its ability to push. No tractor can exert more pounds push than the machine itself weighs and its power train can develop. Various terrain and underfoot conditions on the job limit the tractor's ability to use its weight and horsepower. The "approximate coefficient of traction factors" chart in the Tables Section presents these traction factors for common materials. To use the chart, take the total tractor weight (with attachments) times the factor to arrive at the maximum usable push the dozer can exert.

Production Dozing Tools



"U" — Universal blade — the large wings on this blade include one end bit and at least one section of cutting edge which make it efficient for moving big loads over long distances as in land reclamation, stockpile

work, charging hoppers and trapping for loaders. As this blade has a lower kW/meter (HP/foot) of cutting edge than an "S" or "SU", penetration should not be a prime objective. With a lower kW/ Lm^3 (HP/LCY) than an "S" or "SU", this blade is best for lighter or relatively easily dozed material. If equipped with tilt cylinders the U blade can be used to pry out, level, cut ditches and steer the tractor.



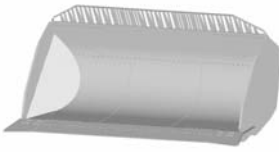
"SU" — The Semi-U blade combines the desirable characteristics of S and U-blades into one package. It has increased capacity by the addition of short wings which include only the dozer end

bits. The wings provide improved load retention capabilities while maintaining the blade's ability to penetrate and load quickly in tightly packed materials and to handle a wide variety of materials in production oriented applications. Tilt cylinder(s) increase both the productivity and versatility of this dozer. Equipped with a push plate, it is effectively used for push loading scrapers.

Bulldozers

Blade Selection

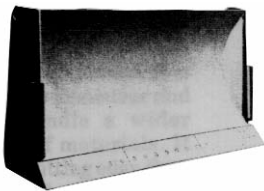
- Production Dozing Tools
- General Purpose Dozing Tools
- Special Attachments “VR Blades”
- Special Application Dozing Tools



“CD” — The CD or CarryDozer Blade is available for the D11T CarryDozer only. It is built to the same high standard of structural integrity as the “U” and “SU” Dozers. The CD Blade has

a unique “bucket” shape that allows it to carry several cubic yards or cubic meters of material in the blade. This acts as a disposable counterweight that allows the CarryDozer to push more material per pass than a standard D11T. The CarryDozer will not be as effective as the “U” or “SU” dozer in tightly packed or poorly shot material. It is also more sensitive to the carry-back in sticky materials.

General Purpose Dozing Tools



“S” — The Straight blade provides excellent versatility. Since it is physically smaller than the SU or U-blade, it is easier to maneuver and can handle a wider range of materials. It has a higher kW/

meter (HP/foot) of cutting edge than the SU or U-blade; consequently, the “S” is more aggressive in penetrating and obtaining a blade load. A tilt cylinder increases both the productivity and versatility of this dozer. With a high kW/Lm³ (HP/LCY), the S-blade can handle heavy material easily.



Power Angle and Tilt blade — Versatility is its key feature with its ability to perform a variety of site development work as well as heavy-

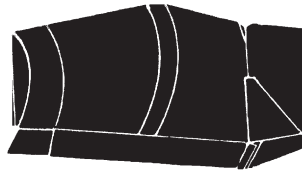
duty applications. Angle and tilt control is with 2 levers on some machines, 1 lever on others.

Variable Power Angle and Tilt (VPAT) blade can be mechanically tipped forward for improved penetration or shedding sticky material and backward for finish grading and improved productivity.

Special Application Dozing Tools

Caterpillar and other blade manufacturers provide specialty bulldozers for specific applications. The blades are designed to increase production while performing certain tasks. However, specialization may reduce the blade versatility. Following are the most popular special applications blades.

“VR Blades” (Variable Radius)



The Variable Radius Semi-U-Blade combines the benefits of a semi-U-blade such as “cutting” ability and ground penetration with U-blade characteristics of better

load retention and less side spill.

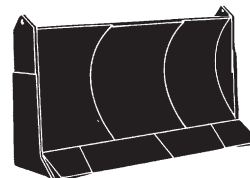
This is achieved with the variable radius moldboard. The variable radius moldboard causes dirt to move to the center of the blade creating more rolling action. The extended side plates retain the load and increase capacities.

The variable radius semi-U-blade is an excellent tool for land improvement, soil conservation and reclamation.



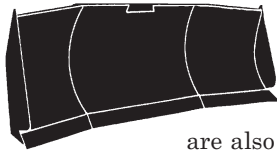
“A” — Or Angling blade can be positioned straight or angled 25 degrees to either side. It is designed for side-casting, pioneering roads, backfilling, cutting

ditches and other similar tasks. It can reduce the amount of maneuvering required to do these jobs. Its “C” frame can be used for attachments such as pushing, land clearing, or snow removal tools. A-blades are not recommended for rock or severe applications.

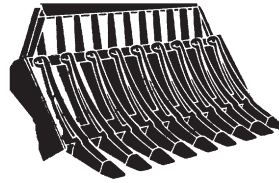


“CU” — The Cushion blade is used for on-the-go push-loading. Rubber cushions allow the dozer to absorb the impact of contacting a scraper push block. When not push-loading, the dozer

can be used for cut maintenance and other general dozing jobs. The narrow width of the C-blade increases machine maneuverability in congested cuts and reduces the possibility of cutting tires associated with SU and U-blades.

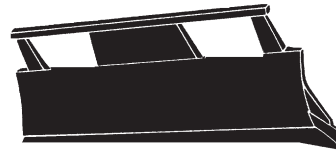


“U-Blades” — Provide high volume movement of light non-cohesive materials such as coal and wood-chips. Heavier U-blades are also offered for production dozing and reclamation work.



“Rakes” — Caterpillar offers a variety of rakes for use in land clearing applications. They handle vegetation up to tree size, and offer good soil penetration for removal of small stumps, rocks and roots. In most cases rake tines are replaceable.

“Landfill” — Designed to handle refuse and cover material. Open trash screen on top of blade allows good visibility and protects radiator. Curved mold-board keeps cover material rolling evenly.



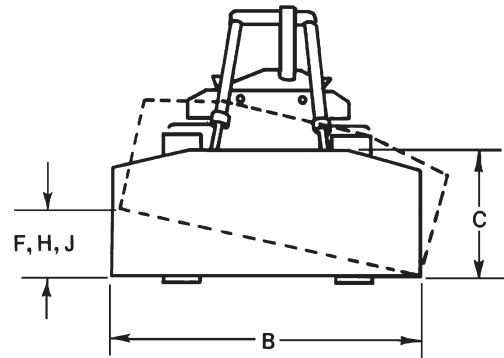
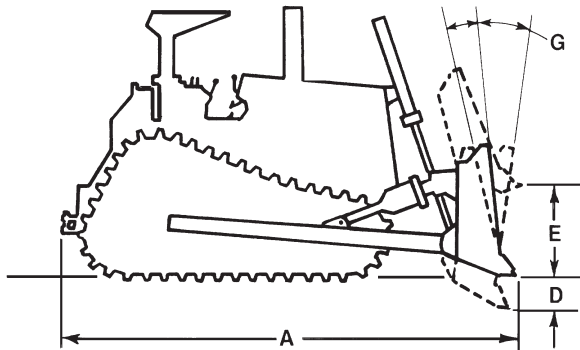
“K/G” — Offered by Rimco and Rome, the K/G-blade is used in many land clearing applications. In addition to cutting trees this versatile blade can pile vegetation, cut v-type drainage ditches and build woods roads and firebreaks.

“Two-Way Dozer” — Designed for use inside ship holds to move cargo such as grain, salt, iron ore, coal and chips. These blades can scrape material off walls and doze to center of hold. They can doze material forward or pull material.

Bulldozers

General Dimensions Key

- Tractor and Blade
- SAE Blade Capacity Definition



KEY

A Length (Blade Straight)

Blade:

B Width (including standard end bits)

C Height

D Maximum Digging Depth

E Ground Clearance @ Full Lift

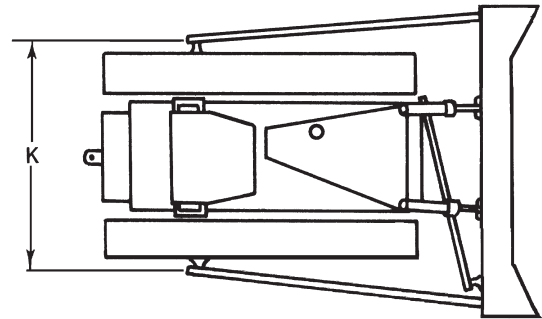
F Maximum Tilt (Manual)

G Maximum Pitch Adjustment

H Maximum Hydraulic Tilt

J Hydraulic Tilt (manual brace centered)

K Push Arm Trunnion Width (to Ball Centers)



Blade capacities on the following pages are as determined by SAE recommended practice J1265. Capacities are defined as:

$$V_s = 0.8 WH^2.$$

$$V_u = ZH (W-Z) \tan X.$$

Where: V_s = Capacity of straight or angling blade.

V_u = Capacity of semi-U or full U-blade.

W = Blade width exclusive of end bits.

H = Effective blade height considering tapered top corners, etc.

Z = Wing length measured parallel to blade width @ ground line of cutting edges.

X = Wing angle.

MODEL	D3K				D4K			
	D3K XL		D3K LGP		D4K XL		D4K LGP	
Type	Variable Power Angling and Tilt		Variable Power Angling and Tilt		Variable Power Angling and Tilt		Variable Power Angling and Tilt	
Blade Capacities*	1.52 m³	1.99 yd³	1.66 m³	2.17 yd³	1.98 m³	2.59 yd³	1.85 m³	2.42 yd³
Weight Shipping** (Dozer)	572 kg	1261 lb	630 kg	1389 lb	642 kg	1415 lb	661 kg	1457 lb
Tractor and Dozer Dimensions:								
A Length (Blade Straight)	4266 mm	168.0"	4255 mm	167.6"	4274 mm	168.3"	4266 mm	168.0"
Length (Blade Angled)	4763 mm	187.5"	4854 mm	191.1"	4795 mm	188.8"	4873 mm	191.8"
Width (Blade Angled)	2417 mm	95.1"	2874 mm	113"	2542 mm	100"	2874 mm	113"
Blade Dimensions:								
B Width (including std. end bits)	2646 mm	104.1"	3149 mm	124.0"	2782 mm	109.5"	3149 mm	124.0"
C Height	910 mm	35.8"	860 mm	33.8"	1010 mm	39.8"	910 mm	35.8"
D Max. Digging Depth	573 mm	22.5"	573 mm	22.5"	572 mm	22.5"	590 mm	23.2"
E Ground Clearance @ Full Lift	730 mm	28.7"	730 mm	28.7"	743 mm	29.3"	708 mm	27.9"
G Pitch Adjustment	52° to 58°		52° to 58°		52° to 58°		52° to 58°	
J Hydraulic Tilt	368 mm	14.4"	438 mm	17.2"	387 mm	15.2"	438 mm	17.2"
Blade Angle	25°		25°		25°		25°	

MODEL	D5K				D5N XL		D5N LGP	
	D5K XL		D5K LGP		5VPAT		5VPAT LGP	
Type	Variable Power Angling and Tilt		Variable Power Angling and Tilt		Variable Pitch Power Angling and Tilt		Variable Pitch Power Angling and Tilt	
Blade Capacities*	2.19 m³	2.86 yd³	2.34 m³	3.06 yd³	2.6 m³	3.4 yd³	2.6 m³	3.4 yd³
Weight Shipping** (Dozer)	706 kg	1556 lb	728 kg	1605 lb	1932 kg	4259 lb	2000 kg	4409 lb
Tractor and Dozer Dimensions:								
A Length (Blade Straight)	4321 mm	170.1"	4294 mm	169.1"	4.56 m	14'11"	5.06 m	16'1"
Length (Blade Angled)	4864 mm	191.5"	4908 mm	193.2"	5.09 m	16'8"	5.50 m	18'0"
Width (Blade Angled)	2636 mm	103.8"	2940 mm	115.8"	2.79 m	9'2"	3.11 m	10'1"
Blade Dimensions:								
B Width (including std. end bits)	2782 mm	109.5"	3220 mm	126.7"	3.08 m	10'1"	3.36 m	11'0"
C Height	1050 mm	41.3"	1010 mm	39.8"	1109 mm	43.7"	1127 mm	35.8"
D Max. Digging Depth	586 mm	23.1"	572 mm	22.5"	430 mm	16.9"	415 mm	13.2"
E Ground Clearance @ Full Lift	767 mm	30.2"	767 mm	30.2"	933 mm	36.7"	1001 mm	39.3"
G Pitch Adjustment	52° to 58°		52° to 58°		+2° to 6°		+2° to 6°	
J Hydraulic Tilt	402 mm	15.8"	448 mm	17.6"	—	—	—	—
Blade Angle	25°		25°		25°		25°	

*Blade capacities as determined by SAE J1265.

**Shipping Weight — Total Bulldozer Arrangement includes: Blade, push arms or C-frame, braces, cylinders, lines, trunnions and lift cylinder mountings.

Bulldozers

Blade Specifications

- D6K XL ● D6K LGP ● D6N XL ● D6N LGP
- D6R Series 3 ● D6R Series 3 XL ● D6R Series 3 XW

MODEL	D6K XL		D6K LGP		D6N XL			
	VPAT XL		VPAT LGP		6SU		6VPAT XL	
Type	Variable Pitch Power Angle and Tilt		Variable Pitch Power Angle and Tilt		Semi-Universal		Variable Pitch Power Angle and Tilt	
Blade Capacities*	2.7 m ³	3.5 yd ³	2.9 m ³	3.8 yd ³	4.28 m ³	5.6 yd ³	3.18 m ³	4.16 yd ³
Weight, Shipping** (Dozer)	2173 kg	4791 lb	2231 kg	4919 lb	2600 kg	5732 lb	2560 kg	5644 lb
Tractor and Dozer Dimensions:								
A Length (Blade Straight)	4980 mm	196"	4980 mm	196"	5157 mm	203"	4903 mm	193"
Length (Blade Angled)	5564 mm	219"	5620 mm	221"	—	—	5527 mm	217.6"
Width (Blade Angled)	2817 mm	111"	3118 mm	123"	—	—	2972 mm	117"
Width (with C-Frame only)	2330 mm	92"	2760 mm	109"	—	—	2500 mm	98.4"
Blade Dimensions:	(inside mounted)		(inside mounted)		(outside mounted)		(inside mounted)	
B Width (including std. end bits)	3077 mm	121"	3360 mm	132"	3154 mm	124.2"	3272 mm	128.8"
C Height	1140 mm	44.9"	1125 mm	44.3"	1244 mm	49"	1195 mm	47.1"
D Max. Digging Depth	473 mm	18.6"	473 mm	18.6"	520 mm	20.5"	538 mm	21.2"
E Ground Clearance @ Full Lift	943 mm	37.1"	943 mm	37.1"	983 mm	38.7"	822 mm	32.4"
G Max. Pitch	55° to 61°		55° to 61°		± 5°		54° to 62°	
H Max. Hydraulic Tilt	466 mm	18.3"	505 mm	19.9"	665 mm	26.2"	497 mm	19.6"
Blade Angle	25°		25°		—		25°	

*Blade capacities as determined by SAE J1265.

**Shipping Weight — Total Bulldozer Arrangement includes: Blade, push arms or C-frame, braces, cylinders, lines, trunnions and lift cylinder mountings.

MODEL	D6N LGP		D6R Series 3, D6R Series 3 XL and D6R Series 3 XW			
	6VPAT LGP		6A		6A XL	
Gauge	—		1880 mm	74"	1880 mm	74"
Type	Variable Pitch Power Angle and Tilt		Angling		Angling	
Blade Capacities*	3.16 m ³	4.13 yd ³	3.93 m ³	5.14 yd ³	3.93 m ³	5.14 yd ³
Weight, Shipping** (Dozer)	2950 kg	6504 lb	3138 kg	6904 lb	3109 kg	6839 lb
Tractor and Dozer Dimensions:						
A Length (Blade Straight)	5369 mm	211.4"	5.22 m	17'1"	5.43 m	17'10"
Length (Blade Angled)	6290 mm	247.6"	6.05 m	19'10"	6.26 m	20'6"
Width (Blade Angled)	3706 mm	146"	3.78 m	12'5"	3.78 m	12'5"
Width (with C-Frame only)	3000 mm	118"	2.91 m	9'7"	2.98 m	9'10"
Blade Dimensions:	(inside mounted)					
B Width (including std. end bits)	4080 mm	160.6"	4.16 m	13'8"	4.16 m	13'8"
C Height	1040 mm	40.9"	1155 mm	3'9.5"	1155 mm	3'9.5"
D Max. Digging Depth	433 mm	17"	506 mm	1'7.9"	524 mm	1'8.6"
E Ground Clearance @ Full Lift	1024 mm	40.3"	1141 mm	3'8.9"	1205 mm	3'11.4"
F Manual Tilt	—		408 mm	16.1"	408 mm	16.1"
G Max. Pitch	54° to 62°		—		—	
H Max. Hydraulic Tilt	598 mm	23.5"	408 mm	16.1"◀	408 mm	16.1"
Blade Angle	25°		25°		25°	

*Blade capacities as determined by SAE J1265. Tractor and dozer dimensions variations due to SystemOne™ undercarriage products are negligible.

Notice that the capacity of the U-blade is the volume carried by a straight blade of the same dimensions plus the volume included in the "cup" of the U-blade. It is intended for **relative comparisons of dozer sizes**, and not for predicting capacities or productivities in actual field conditions.

**Shipping Weight — Total Bulldozer Arrangement includes: Blade, push arms or C-frame, braces, cylinders, lines, trunnions and lift cylinder mountings.

◀Attachment includes two cylinders.

MODEL	D6R Series 3 XL, D6R Series 3 XW and D6R Series 3 LGP							
	6PAT XL		6VPAT XL		6VPAT XW		6VPAT LGP	
Gauge	1880 mm	74"	2134 mm	84"	2286 mm	90"	2286 mm	90"
Type	PAT		PAT		PAT		PAT	
Blade Capacities*	4.84 m³	6.33 yd³	4.2 m³	5.5 yd³	5.08 m³	6.65 yd³	4.2 m³	5.5 yd³
Weight, Shipping** (Dozer)	3246 kg	7150 lb	1615 kg	3560 lb	1656 kg	3650 lb	1642 kg	3620 lb
Tractor and Dozer Dimensions:								
A Length (Blade Straight)	5.44 m	17'10"	5.44 m	17'10"	5.44 m	17'10"	—	
Length (Blade Angled)	5.94 m	19'6"	5.94 m	19'6"	5.94 m	19'6"	—	
Width (Blade Angled)	3.29 m	10'9"	3.75 m	12'4"	3.44 m	11'1"	3.75 m	12'4"
Width (with C-Frame only)	2.49 m	8'2"	—		—		—	
Blade Dimensions:								
B Width (including std. end bits)	3.62 m	11'9"	3.88 m	12'9"	4.16 m	13'8"	4.16 m	13'8"
C Height	1372 mm	54"	1295 mm	51.0"	1295 mm	51.0"	1191 mm	46.9"
D Max. Digging Depth	732 mm	28.7"	737 mm	29.0"	737 mm	29.0"	672 mm	26.5"
E Ground Clearance @ Full Lift	1181 mm	46.5"	1181 mm	46.5"	1181 mm	46.5"	1283 mm	50.5"
F Manual Tilt	—		—		—		—	
G Max. Pitch	—		+0° to -3.8°		+0° to -3.8°		+0° to -4.0°	
H Max. Hydraulic Tilt	440 mm	17.3"	502 mm	19.8"	460 mm	18.1"	502 mm	19.8"
Blade Angle	25°		25°		25°		25°	

MODEL	D6R Series 3, D6R Series 3 XL and D6R Series 3 LGP					
	6S		6SU		6SU XL	
Type	Straight		Semi Universal		Semi Universal	
Blade Capacities*	3.89 m ³	5.09 yd ³	5.61 m ³	7.34 yd ³	5.61 m ³	7.34 yd ³
Weight, Shipping** (Dozer)	2599 kg	5717 lb	2699 kg	5937 lb	2973 kg	6540 lb
Tractor and Dozer Dimensions:						
A Length (Blade Straight)	5.12 m	16'9"	5.31 m	17'5"	5.55 m	18'2"
Blade Dimensions:						
B Width (including std. end bits)	3.36 m	11'0"	3.26 m	10'8"	3.26 m	10'8"
C Height	1257 mm	4'1.5"	1411 mm	4'7.6"	1411 mm	4'7.6"
D Max. Digging Depth	473 mm	18.6"	473 mm	18.6"	459 mm	18.1"
E Ground Clearance @ Full Lift	1104 mm	3'7.5"	1104 mm	3'7.5"	1195 mm	3'11.1"
F Manual Tilt	689 mm	2'3.1"	670 mm	2'2.4"	670 mm	2'2.4"
G Max. Pitch	+5.3° to 4.8°		+5.3° to 4.8°		+5.3° to 4.8°	
H Max. Hydraulic Tilt	764 mm	2'6.1"	743 mm	2'5.3"	743 mm	2'5.3"
J Hydraulic Tilt (Manual Brace Centered)	420 mm	16.5"	408 mm	16.1"	408 mm	16.1"

* Blade capacities as determined by SAE J1265.

Notice that the capacity of the U-blade is the volume carried by a straight blade of the same dimensions plus the volume included in the "cup" of the U-blade. It is intended for **relative comparisons of dozer sizes**, and not for predicting capacities or productivities in actual field conditions.

** Shipping Weight — Total Bulldozer Arrangement includes: Blade, push arms or C-frame, braces, cylinders, lines, trunnions and lift cylinder mountings.

Bulldozers

Blade Specifications

- D6R Series 3
- D6R Series 3 XL
- D6R Series 3 LGP
- D6T

MODEL	D6R Series 3, D6R Series 3 XL and D6R Series 3 LGP					
	6S LGP		6A XW		6SU XW	
Type	Straight		Angling		Semi Universal	
Blade Capacities*	3.70 m ³	4.83 yd ³	4.3 m ³	5.63 yd ³	5.62 m ³	7.4 yd ³
Weight, Shipping** (Dozer)	3050 kg	6725 lb	3260 kg	7180 lb	2950 kg	6500 lb
Tractor and Dozer Dimensions:						
A Length (Blade Straight)	5.47 m	17'11"	5.21 m	17'1"	—	
Length (Blade Angled)	—		5.72 m	18'9"	—	
Blade Dimensions:						
B Width (including std. end bits)	4.04 m	13'3"	4.20 m	13'8"	3.56 m	11'8"
C Height	1101 mm	3'7.3"	1169 mm	3'10"	1412 mm	4'8"
D Max. Digging Depth	655 mm	2'1.2"	500 mm	1'7.7"	459 mm	18.1"
E Ground Clearance @ Full Lift	1083 mm	3'6.6"	1242 mm	4'1"	1195 mm	3'11"
F Manual Tilt	632 mm	2'0.9"	408 mm	16.1"	670 mm	2'2.4"
G Max. Pitch	+5.3° to 4.8°		+5.3° to 4.8°		+5.3° to 4.8°	
H Max. Hydraulic Tilt	701 mm	2'3.6"	408 mm	16.1"	743 mm	2'5.3"
J Hydraulic Tilt (Manual Brace Centered)	385 mm	15.2"	408 mm	16.1"	743 mm	2'5.3"

* Blade capacities as determined by SAE J1265.

Notice that the capacity of the U-blade is the volume carried by a straight blade of the same dimensions plus the volume included in the "cup" of the U-blade. It is intended for **relative comparisons of dozer sizes**, and not for predicting capacities or productivities in actual field conditions.

** Shipping Weight — Total Bulldozer Arrangement includes: Blade, push arms or C-frame, braces, cylinders, lines, trunnions and lift cylinder mountings.

MODEL	D6T					
	6A		6S		6SU	
Gauge	1880 mm	74"	—		—	
Type	Angling		Straight		Semi Universal	
Blade Capacities*	3.93 m³	5.14 yd³	3.89 m³	5.09 yd³	5.61 m³	7.34 yd³
Weight, Shipping** (Dozer)	3138 kg	6904 lb	2599 kg	5717 lb	2699 kg	5937 lb
Tractor and Dozer Dimensions:						
A Length (Blade Straight)	5.22 m	17'1"	5.12 m	16'9"	5.31 m	17'5"
Length (Blade Angled)	6.05 m	19'10"	—		—	
Width (Blade Angled)	3.78 m	12'5"	—		—	
Width (with C-Frame only)	2.91 m	9'7"	—		—	
Blade Dimensions:						
B Width (including std. end bits)	4.16 m	13'8"	3.36 m	11'0"	3.26 m	10'8"
C Height	1155 mm	3'9.5"	1257 mm	4'1.5"	1411 mm	4'7.6"
D Max. Digging Depth	506 mm	1'7.9"	473 mm	1'6.6"	473 mm	1'6.6"
E Ground Clearance @ Full Lift	1141 mm	3'8.9"	1104 mm	3'7.5"	1104 mm	3'7.5"
F Manual Tilt	408 mm	1'4.1"	689 mm	2'3.1"	670 mm	2'2.4"
G Max. Pitch	—		+5.3° to 4.8°		+5.3° to 4.8°	
H Max. Hydraulic Tilt	408 mm	1'4.1"◀	764 mm	2'6.1"	743 mm	2'5.3"
Blade Angle	25°		—		—	
J Hydraulic Tilt (Manual Brace Centered)	—		420 mm	1'4.5"	408 mm	1'4.1"
K Push Arm Trunnion Width (to Ball Centers)	2.64 m	8'8"	2.64 m	8'8"	2.64 m	8'8"

* Blade capacities as determined by SAE J1265. Tractor and dozer dimensions variations due to SystemOne undercarriage products are negligible.

Notice that the capacity of the U-blade is the volume carried by a straight blade of the same dimensions plus the volume included in the "cup" of the U-blade. It is intended for **relative comparisons of dozer sizes**, and not for predicting capacities or productivities in actual field conditions.

** Shipping Weight — Total Bulldozer Arrangement includes: Blade, push arms or C-frame, braces, cylinders, lines, trunnions and lift cylinder mountings.

◀ Attachment includes two cylinders.

MODEL	D6T XL					
	6A XL		6SU XL		6VPAT XL	
Gauge	1880 mm	74"	—		2134 mm	84"
Type	Angling		Semi Universal		PAT	
Blade Capacities*	3.93 m ³	5.14 yd ³	5.31 m ³	6.94 yd ³	4.73 m ³	6.19 yd ³
Weight, Shipping** (Dozer)	3150 kg	6946 lb	2973 kg	6540 lb	1615 kg	3560 lb
Tractor and Dozer Dimensions:						
A Length (Blade Straight)	5.43 m	17'10"	5.5 m	18'2"	5.44 m	17'10"
Length (Blade Angled)	6.26 m	20'6"	—	—	3.54 m	11'7"
Width (Blade Angled)	3.78 m	12'5"	—	—	3.48 m	11'5"
Width (with C-Frame only)	2.98 m	9'10"	—	—	—	—
Blade Dimensions:						
B Width (including std. end bits)	4.16 m	13'8"	3.26 m	10'8"	3.88 m	12'9"
C Height	1155 mm	3'9.5"	1411 mm	4'7.6"	1295 mm	4'3"
D Max. Digging Depth	524 mm	1'8.6"	459 mm	1'6.1"	737 mm	2'5"
E Ground Clearance @ Full Lift	1205 mm	3'11.4"	1195 mm	3'11.1"	1181 mm	3'10.5"
F Manual Tilt	408 mm	1'4.1"	670 mm	2'2.4"	—	—
G Max. Pitch	—	—	+5.3° to 4.8°		+0° to -3.8°	
H Max. Hydraulic Tilt	408 mm	1'4.1"	743 mm	2'5.3"	502 mm	1'7.8"
Tilt Right	—	—	—	—	387 mm	15.2"
Tilt Left	—	—	—	—	423 mm	16.65"
Blade Angle	25°	—	—	—	25°	—
J Hydraulic Tilt (Manual Brace Centered)	—	—	408 mm	1'4.1"	—	—
K Push Arm Trunnion Width (to Ball Centers)	2.64 m	8'8"	2.64 m	8'8"	2.64 m	8'8"

MODEL	D6T XW					
	6A XW		6SU XW		6VPAT XW	
Gauge	—		—		2286 mm	90"
Type	Angling		Semi Universal		PAT	
Blade Capacities*	4.3 m ³	5.63 yd ³	5.05 m ³	6.6 yd ³	5.08 m ³	6.65 yd ³
Weight, Shipping** (Dozer)	3260 kg	7180 lb	2950 kg	6500 lb	1656 kg	3650 lb
Tractor and Dozer Dimensions:						
A Length (Blade Straight)	5.21 m	17'1"	—	—	5.44 m	17'10"
Length (Blade Angled)	5.72 m	18'9"	—	—	5.94 m	19'6"
Width (Blade Angled)	—	—	—	—	3.78 m	12'5"
Blade Dimensions:						
B Width (including std. end bits)	4.50 m	14'9"	3.56 m	11'8"	4.16 m	13'8"
C Height	1169 mm	3'10"	1412 mm	4'8"	1295 mm	4'3"
D Max. Digging Depth	500 mm	1'7.7"	459 mm	1'6.1"	737 mm	2'5"
E Ground Clearance @ Full Lift	1242 mm	4'1"	1195 mm	3'11"	1181 mm	3'10.5"
F Manual Tilt	408 mm	1'4.1"	670 mm	2'2.4"	—	—
G Max. Pitch	+5.3° to 4.8°		+5.3° to 4.8°		+0° to -3.8°	
H Max. Hydraulic Tilt	408 mm	1'4.1"	743 mm	2'5.3"	460 mm	1'6.1"
Blade Angle	—	—	—	—	25°	—
J Hydraulic Tilt (Manual Brace Centered)	408 mm	1'4.1"	743 mm	2'5.3"	—	—
K Push Arm Trunnion Width (to Ball Centers)	2.95 m	9'8"	2.95 m	9'8"	2.95 m	9'8"

* Blade capacities as determined by SAE J1265.

Notice that the capacity of the U-blade is the volume carried by a straight blade of the same dimensions plus the volume included in the "cup" of the U-blade. It is intended for **relative comparisons of dozer sizes**, and not for predicting capacities or productivities in actual field conditions.

** Shipping Weight — Total Bulldozer Arrangement includes: Blade, push arms or C-frame, braces, cylinders, lines, trunnions and lift cylinder mountings.

MODEL	D6T LGP					
	6A LGP		6S LGP		6VPAT LGP	
Gauge	—		—		2286 mm	90"
Type	Straight		Straight		PAT	
Blade Capacities*	5.22 m³	6.82 yd³	3.70 m³	4.83 yd³	4.2 m³	5.5 yd³
Weight, Shipping** (Dozer)	3712 kg	8185 lb	2840 kg	6262 lb	1642 kg	3620 lb
Tractor and Dozer Dimensions:						
A Length (Blade Straight)	5.82 m	19'1"	5.47 m	17'11"	—	
Width (Blade Angled)	4.63 m	15'2"	—		3.78 m	12'5"
Blade Dimensions:						
B Width (including std. end bits)	5.07 m	16'8"	4.04 m	13'3"	4.16 m	13'8"
C Height	1134 mm	3'9"	1101 mm	3'7.3"	1191 mm	3'10.9"
D Max. Digging Depth	828 mm	2'9"	655 mm	2'1.2"	672 mm	2'2.5"
E Ground Clearance @ Full Lift	1088 mm	3'7"	1083 mm	3'6.6"	1283 mm	4'2.5"
F Manual Tilt	476 mm	1'7"	632 mm	2'0.9"	—	
G Max. Pitch	+5.3° to 4.8°		+5.7° to 4.8°		+0° to -4.0°	
H Max. Hydraulic Tilt	476 mm	1'7"	701 mm	2'3.6"	502 mm	1'7.8"
Blade Angle	25°		—		25°	
J Hydraulic Tilt (Manual Brace Centered)	—		385 mm	1'3.2"	—	
K Push Arm Trunnion Width (to Ball Centers)	3.48 m	11'5"	3.48 m	11'5"	—	

* Blade capacities as determined by SAE J1265.

Notice that the capacity of the U-blade is the volume carried by a straight blade of the same dimensions plus the volume included in the "cup" of the U-blade. It is intended for **relative comparisons of dozer sizes**, and not for predicting capacities or productivities in actual field conditions.

** Shipping Weight — Total Bulldozer Arrangement includes: Blade, push arms or C-frame, braces, cylinders, lines, trunnions and lift cylinder mountings.

MODEL	D7R Series 2					
	7A		7S		7SU	
Type	Angling		Straight		Semi Universal	
Blade Capacities*	3.89 m³	5.08 yd³	5.16 m³	6.75 yd³	6.86 m³	8.98 yd³
Weight, Shipping** (Dozer)	3527 kg	7750 lb	3500 kg	7716 lb	3593 kg	7904 lb
Tractor and Dozer Dimensions:						
A Length (Blade Straight)	6.10 m	20'0"	5.81 m	19'1"	6.03 m	19'9"
Length (Blade Angled)	6.98 m	22'11"	—		—	
Width (Blade Angled)	4.12 m	13'6"	—		—	
Width (with C-Frame only)	3.09 m	10'1"	—		—	
Blade Dimensions:						
B Width (including std. end bits)	4.50 m	14'9"	3.90 m	12'10"	3.69 m	12'1"
C Height	1111 mm	3'7.7"	1363 mm	4'5.7"	1524 mm	5'0"
D Max. Digging Depth	669 mm	2'2.3"	527 mm	1'8.7"	527 mm	1'8.7"
E Ground Clearance @ Full Lift	1115 mm	3'7.9"	1145 mm	3'9.1"	1145 mm	3'9.1"
F Manual Tilt	466 mm	18.3"	—		—	
G Max. Pitch Adjustment	—		+3.1° to 3.9°		+3.1° to 3.9°	
Blade Angle (either side)	25°		—		—	
H Max. Hydraulic Tilt	627 mm	2'0.7"◀	845 mm	2'9.3"	799 mm	2'7.4"
J Hydraulic Tilt (Manual Brace Centered)	—		501 mm	1'7.7"	474 mm	18.6"
K Push Arm Trunnion Width (to Ball Centers)	2.87 m	9'5"	2.87 m	9'5"	2.87 m	9'5"

* Blade capacities as determined by SAE J1265.

Notice that the capacity of the U-blade is the volume carried by a straight blade of the same dimensions plus the volume included in the "cup" of the U-blade. It is intended for **relative comparisons of dozer sizes**, and not for predicting capacities or productivities in actual field conditions.

** Shipping Weight — Total Bulldozer Arrangement includes: Blade, push arms or C-frame, braces, cylinders, lines, trunnions and lift cylinder mountings.

◀ Attachment includes two cylinders.

MODEL	D7R Series 2 and D7R Series 2 LGP					
	7U		7S LGP		7S LGP ERF†	
Type	Universal		Straight		Straight	
Blade Capacities*	8.34 m ³	10.91 yd ³	5.89 m ³	7.7 yd ³	5.89 m ³	7.7 yd ³
Weight, Shipping** (Dozer)	3920 kg	8624 lb	3732 kg	8229 lb	3732 kg	8210 lb
Tractor and Dozer Dimensions:						
A Length (Blade Straight)	6.27 m	20'7"	5.81 m	19'1"	5.81 m	19'1"
Blade Dimensions:						
B Width (including std. end bits)	3.98 m	13'1"	4.50 m	14'9"	4.50 m	14'9"
C Height	1553 mm	5'1.1"	1343 mm	4'4.9"	1343 mm	4'4.9"
D Max. Digging Depth	527 mm	1'8.7"	668 mm	2'2.3"	668 mm	2'2.3"
E Ground Clearance @ Full Lift	1145 mm	3'9.1"	1153 mm	3'9.4"	1153 mm	3'9.4"
G Max. Pitch Adjustment	+3.1° to 3.9°		+3.0° to 3.9°		+3.0° to 3.9°	
H Max. Hydraulic Tilt	861 mm	2'9.9"	686 mm	2'3"	686 mm	2'3"
J Hydraulic Tilt (Manual Brace Centered)	511 mm	1'8.1"	426 mm	16.8"	426 mm	16.8"
K Push Arm Trunnion Width (to Ball Centers)						
STD	2.87 m	9'5"	—	—	—	—
LGP	—	—	3.37 m	11'1"	3.37 m	11'1"

* Blade capacities as determined by SAE J1265.

Notice that the capacity of the U-blade is the volume carried by a straight blade of the same dimensions plus the volume included in the "cup" of the U-blade. It is intended for **relative comparisons of dozer sizes**, and not for predicting capacities or productivities in actual field conditions.

** Shipping Weight — Total Bulldozer Arrangement includes: Blade, push arms or C-frame, braces, cylinders, lines, trunnions and lift cylinder mountings.

† Extended track roller frame.

MODEL	D8R/D8T						D9R/D9T			
	8A		8SU		8U		9SU		9U	
Type	Angling		Semi-U		Universal		Semi-U		Universal	
Blade Capacities*	4.7 m ³	6.1 yd ³	8.7 m ³	11.4 yd ³	11.7 m ³	15.3 yd ³	13.5 m ³	17.7 yd ³	16.4 m ³	21.4 yd ³
Weight, Shipping** (Dozer)	5459 kg	12,009 lb	4789 kg	10,557 lb	5352 kg	11,800 lb	6543 kg	14,425 lb	7134 kg	15,727 lb
Tractor and Dozer Dimensions:										
A Length (Blade Straight)	6.57 m	21'7"	6.39 m	21'0"	6.79 m	22'3"	6.84 m	22'5"	7.18 m	23'7"
Length (Blade Angled)	7.62 m	25'0"	—	—	—	—	—	—	—	—
Width (Blade Angled)	4.52 m	14'10"	—	—	—	—	—	—	—	—
Width (with C-Frame only)	3.38 m	11'1"	—	—	—	—	—	—	—	—
Blade Dimensions:										
B Width (including std. end bits)	4.99 m	16'4"	3.94 m	12'11"	4.26 m	14'0"	4.31 m	14'2"	4.65 m	15'3"
C Height	1174 mm	3'10.2"	1690 mm	5'6.5"	1740 mm	5'8.5"	1934 mm	6'4.1"	1934 mm	6'4.1"
D Max. Digging Depth	628 mm	2'0.7"	575 mm	22.6"	575 mm	22.6"	606 mm	1'11.9"	606 mm	1'11.9"
E Ground Clearance @ Full Lift	1308 mm	4'3.5"	1225 mm	48.2"	1225 mm	48.2"	1422 mm	4'8"	1422 mm	4'8"
G Max. Pitch Adjustment	—	—	+3.0° to 2.9°	—	+3.0° to 2.9°	—	+3.4° to 2.9°	—	+3.4° to 2.9°	—
Blade Angle (either side)	25°	—	—	—	—	—	—	—	—	—
H Max. Hydraulic Tilt	729 mm	2'4.7"◀	883 mm	34.8"	954 mm	37.5"	940 mm	3'1"	1014 mm	3'3.9"
J Hydraulic Tilt (Manual Brace Centered)	—	—	596 mm	23"	644 mm	25"	570 mm	1'10.4"	616 mm	2'0.3"
K Push Arm Trunnion Width (to Ball Centers)	2.98 m	9'9"	2.98 m	9'9"	2.98 m	9'9"	3.17 m	10'3"	3.17 m	10'3"
Maximum Track Width Permitted	712 mm	2'4"	711 mm	2'4"	711 mm	2'4"	762 mm	2'6"	762 mm	2'6"
Dual Tilt Option	—	—	—	—	—	—	—	—	—	—
G Dual Pitch Adj.	—	—	±4.6°	—	±4.6°	—	+4.8° to 5.2°	—	+4.8° to 4.9°	—
H Dual Max. Hyd. Tilt	—	—	879 mm	34.5"	950 mm	37.3"	1139 mm	3'8.8"	1231 mm	4'0.5"

* Blade capacities as determined by SAE J1265.

Notice that the capacity of the U-blade is the volume carried by a straight blade of the same dimensions plus the volume included in the "cup" of the U-blade. It is intended for **relative comparisons of dozer sizes**, and not for predicting capacities or productivities in actual field conditions.

** Shipping Weight — Total Bulldozer Arrangement includes: Blade, push arms or C-frame, braces, cylinders, lines, trunnions and lift cylinder mountings.

◀ Attachment includes two cylinders.

	D10T				D11T					
MODEL	10SU		10U		11SU		11U		11 CD	
Type	Semi-U		Universal		Semi-U		Universal		CarryDozer	
Blade Capacities*	18.5 m³	24.2 yd³	22.0 m³	28.7 yd³	27.2 m³	35.5 yd³	34.4 m³	45.0 yd³	43.6 m³	57.0 yd³
Weight, Shipping**										
Standard Dozer	10 229 kg	22,550 lb	10 784 kg	23,775 lb	14 813 kg	32,658 lb	17 296 kg	38,131 lb	23 600 kg	51,920 lb
Abrasion Dozer	11 069 kg	24,403 lb	12 413 kg	27,366 lb	16 192 kg	35,698 lb	18 823 kg	41,498 lb	—	
Tractor and Dozer Dimensions:										
A Length	7.50 m	24'7"	7.75 m	25'5"	8.38 m	27'6"	8.83 m	28'11"	8.34 m	26'8"
Width	4.86 m	15'11"	5.26 m	17'3"	5.60 m	18'4"	6.35 m	20'10"	6.71 m	22'0"
Blade Dimensions:										
B Width (including std. end bits)	4.86 m	15'11"	5.26 m	17'3"	5.60 m	18'4"	6.36 m	20'10"	6.71 m	22'0"
C Height	2.12 m	6'11"	2.12 m	6'11"	2.77 m	9'1"	2.77 m	9'1"	2.74 m***	9'0"****
D Max. Digging Depth	674 mm	2'2.5"	674 mm	2'2.5"	766 mm	2'6.2"	766 mm	2'6.2"	688 mm	2'3"
E Ground Clearance @ Full Lift	1497 mm	4'10.9"	1497 mm	4'10.9"	1533 mm	5'0.4"	1533 mm	5'0.4"	1850 mm	6'1"
G Max. Pitch Adjustment	+1.7° to 2.3°		+1.7° to 2.3°		+2.1° to 2.2°		+2.1° to 2.2°		—	
H Max. Hydraulic Tilt	993 mm	3'3.1"	1074 mm	3'6.3"	1184 mm	3'10.6"	1344 mm	4'4.9"	1800 mm	5'11"
J Hydraulic Tilt (Manual Brace Centered)	722 mm	2'4.4"	782 mm	2'6.8"	886 mm	2'10.9"	1006 mm	3'3.6"	—	
K Push Arm Trunnion Width (to Ball Centers)	3.60 m	11'10"	3.60 m	11'10"	4.18 m	13'9"	4.18 m	13'9"	4.18 m	13'9"
Maximum Track Width Permitted	762 mm	2'6"	762 mm	2'6"	914 mm	3'0"	914 mm	3'0"	914 mm	3'0"
Dual Tilt Option					+7.5° to 7.6° or +0° to 13°		+7.5° to 7.6° or +0° to 13°			
G Dual Pitch Adj.	+5.2° to 5.5°		+5.2° to 5.5°		+0° to 13°		+0° to 13°		+47.8° to 10.4°	
H Dual Max. Hyd. Tilt	1441 mm	4'8.7"	1560 mm	5'1.4"	1706 mm	5'7.2"	1938 mm	6'4.3"	—	

*Blade capacities as determined by SAE J1265.

Notice that the capacity of the U-blade is the volume carried by a straight blade of the same dimensions plus the volume included in the "cup" of the U-blade. It is intended for **relative comparisons of dozer sizes**, and not for predicting capacities or productivities in actual field conditions.

**Shipping Weight — Total Bulldozer Arrangement includes: Blade, push arms or C-frame, braces, cylinders, lines, trunnions and lift cylinder mountings.

***Blade height with cutting edge at 53°.

All dimensions are approximate.

MODEL	D4E SR	
	4A	
Type	Angling	
Blade Capacities	1.28 m ³	1.65 yd ³
Weight, Shipping* (Dozer)	1395 kg	3075 lb
Tractor and Dozer Dimensions:		
A Length (Blade Straight)	3.87 m	12'9"
Length (Blade Angled)	4.50 m	14'9"
Width (Blade Angled)	2.84 m	9'4"
Width (with C-frame only)	2.39 m	7'10"
Blade Dimensions:		
B Width (including std. end bits)	3.12 m	10'3"
C Height	706 mm	2'3.8"
D Max. Digging Depth	240 mm	9.4"
E Ground Clearance @ Full Lift	811 mm	2'7.9"
F Manual Tilt	475 mm	18.7"
Blade Angle (either side)	25°	
H Max. Hydraulic Tilt	330 mm	13"

MODEL	D6G/D6G Series 2 XL		D6G Series 2 XL		D6G Series 2 LGP	
	6A		6S		6SU ▶	
Type	Angling		Straight		Semi-U	
Blade Capacities	2.40 m ³	3.14 yd ³	3.27 m ³	4.28 yd ³	3.80 m ³	4.96 yd ³
Weight, Shipping* (Dozer)	2325 kg	5126 lb	1998 kg	4405 lb	2460 kg	5423 lb
Tractor and Dozer Dimensions:						
A Length (Blade Straight)	5.15 m	16'11"	5.07 m	16'8"	5.13 m	16'10"
Length (Blade Angled)	5.91 m	19'5"	—	—	—	—
Width (Blade Angled)	3.52 m	11'6"	—	—	—	—
Width (with C-frame only)	2.85 m	9'4"	—	—	—	—
Blade Dimensions:						
B Width (including std. end bits)	3.88 m	12'9"	3.23 m	10'7"	3.20 m	10'6"
C Height	924 mm	3'0.4"	1126 mm	3'8.3"	1235 mm	4'0.6"
D Max. Digging Depth	444 mm	17.5"	474 mm	18.7"	472 mm	18.6"
E Ground Clearance @ Full Lift	908 mm	35.7"	907 mm	2'11.7"	915 mm	3'0"
F Manual Tilt	367 mm	14.4"	679 mm	2'2.7"	680 mm	2'2.8"
Blade Angle (either side)	25°		—		—	
H Max. Hydraulic Tilt	—		810 mm	2'8"	810 mm	2'7.9"
J Hydraulic Tilt (Manual Brace Centered)	—		467 mm	18.4"	465 mm	18.3"
			367 mm	14.4"		

*Shipping Weight — Total Bulldozer Arrangement includes: Blade, push arms or C-frame, braces, cylinders, lines, trunnions and lift cylinder mountings.

Notice that the capacity of the SU-blade is the volume carried by a straight blade of the same dimensions plus the volume included in the "cup" of the SU-blade. It is intended for **relative comparisons of dozer sizes**, and not for predicting capacities or productivities in actual field conditions.

► Caterpillar Custom Product.

MODEL	D7G/D7G Series 2				D7G Series 2	
	7A		7S		7SU	
Type	Angling		Straight		Semi-U Blade	
Blade Capacities*	2.9 m ³	3.8 yd³	4.2 m ³	5.5 yd³	5.75 m ³	7.53 yd³
Weight, Shipping** (Dozer)	3227 kg	7115 lb	3475 kg	7660 lb	2293 kg	5054 lb
Tractor and Dozer Dimensions:						
A Length (Blade Straight)	5.49 m	18'0"	5.30 m	17'5"	5.63 m	18'6"
Length (Blade Angled)	6.35 m	20'10"	—	—	—	—
Width (Blade Angled)	3.86 m	12'8"	—	—	—	—
Width (with C-Frame only)	3.12 m	10'3"	—	—	—	—
Blade Dimensions:						
B Width (including std. end bits)	4.26 m	14'0"	3.65 m	12'0"	3.46 m	11'4"
C Height	960 mm	3'1.8"	1274 mm	4'2.1"	1380 mm	4'6"
D Max. Digging Depth	468 mm	18.4"	438 mm	17.2"	438 mm	17.2"
E Ground Clearance @ Full Lift	1206 mm	3'11.5"	1188 mm	3'10.8"	721 mm	2'4.4"
G Max. Pitch Adjustment	—	—	+5.2° to 3.0°		+5.2° to 3.0°	
Blade Angle (either side)	25°		—		—	
H Max. Hydraulic Tilt	300 mm	11.8"◀	721 mm	2'4.4"	721 mm	2'4.4"
J Hydraulic Tilt (Manual Brace Centered)	—		505 mm	1'7.9"	505 mm	1'7.9"

* Blade capacities as determined by SAE J1265.

** Shipping Weight — Total Bulldozer Arrangement includes: Blade, push arms or C-frame, braces, cylinders, lines, trunnions and lift cylinder mountings.

◀ Attachment includes two cylinders.

BULLDOZER PRODUCTION OFF-THE-JOB

You can estimate bulldozer production using the production curves that follow and the correction factors that are applicable. Use this formula:

$$\text{Production (Lm}^3\text{/hr)} = \frac{\text{Maximum production (LCY/hr)}}{\text{Correction factors}} \times \text{Correction factors}$$

The bulldozer production curves give maximum uncorrected production for universal, semi-universal, and straight blades and are based on the following conditions:

1. 100% efficiency (60 minute hour — level cycle).
2. Power shift machines with 0.05 min. fixed times.
3. Machine cuts for 15 m (50 feet), then drifts blade load to dump over a high wall. (Dump time — 0 sec.)
4. Soil density of 1370 kg/Lm³ (2300 lb/LCY).
5. Coefficient of traction:*

 - a. Track machines — 0.5 or better
 - b. Wheel machines — 0.4 or better

6. Hydraulic controlled blades used.
7. Dig 1F**
Carry 2F**
Return 2R**

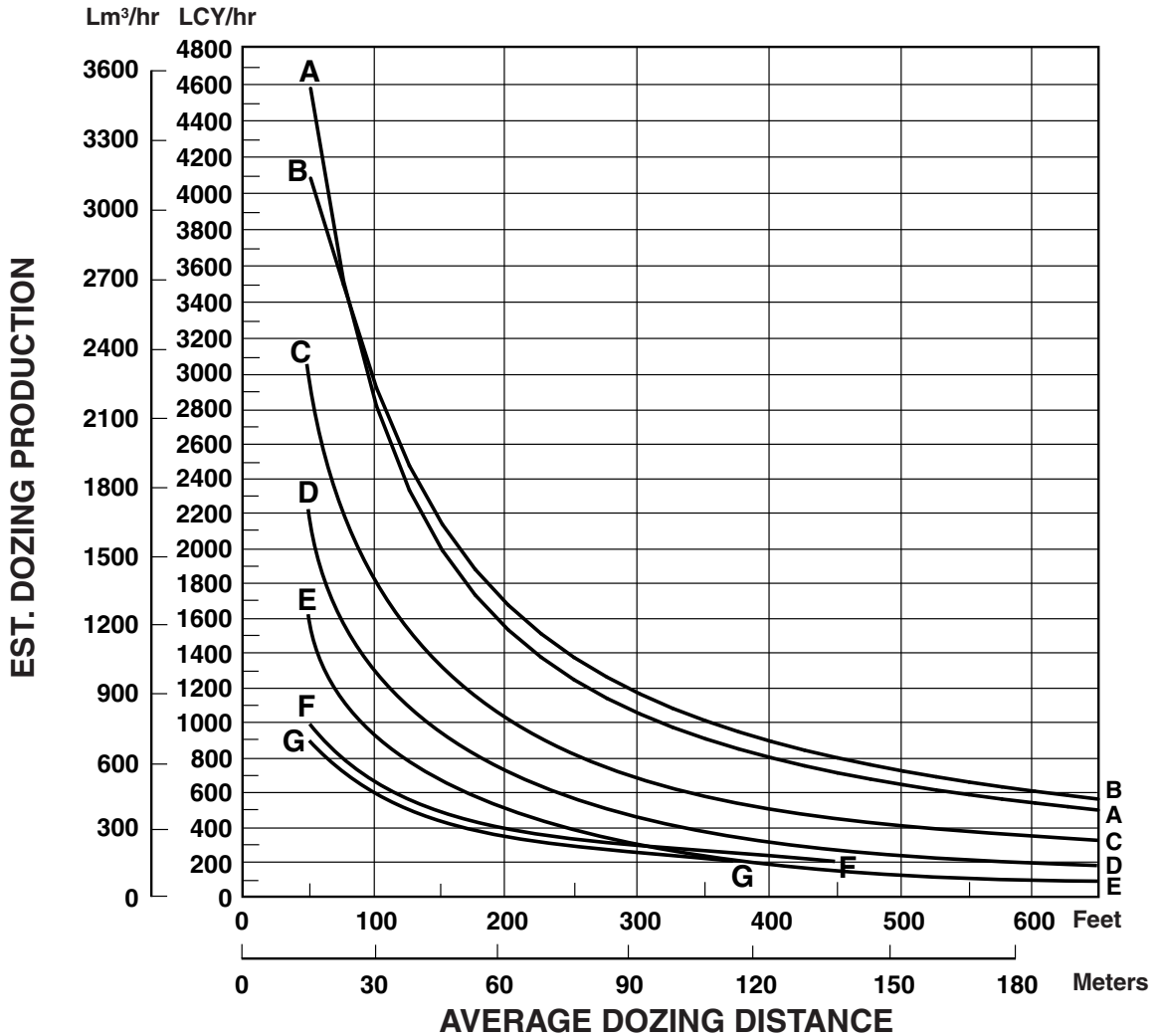
To obtain estimated production in bank cubic meters or bank cubic yards, appropriate load factor from the Tables section should be applied to the corrected production as calculated above.

$$\frac{\text{Production Bm}^3\text{/hr}}{\text{(BCY/h)}} = \frac{\text{Lm}^3\text{/hr} \times \text{LF}}{\text{(LCY/h)} \times \text{LF}}$$

*Coefficient of traction assumed to be at least 0.4. While poor traction affects both track and wheel vehicles, causing them to take smaller blade loads, wheeled units are affected more severely and production falls much more rapidly. While no fixed rules can predict this production loss, a rough rule of thumb is that wheel dozer production falls off 4% for each one-hundredth decrease in coefficient of traction below 0.40. If, for example, coefficient of traction is 0.30, the difference is ten-hundredths (0.10), and production is 60% (10 × 4% = 40% decrease).

**This gear sequence is based on level to downhill terrain, light to medium density material, and no blade extensions such as spill plates, rock guards, etc. Exceeding these conditions may require carry in 1F, but productivity should equal or exceed “standard conditions” due to the larger loads that can be carried in 1F.

ESTIMATED DOZING PRODUCTION • Universal Blades • D7G through D11T

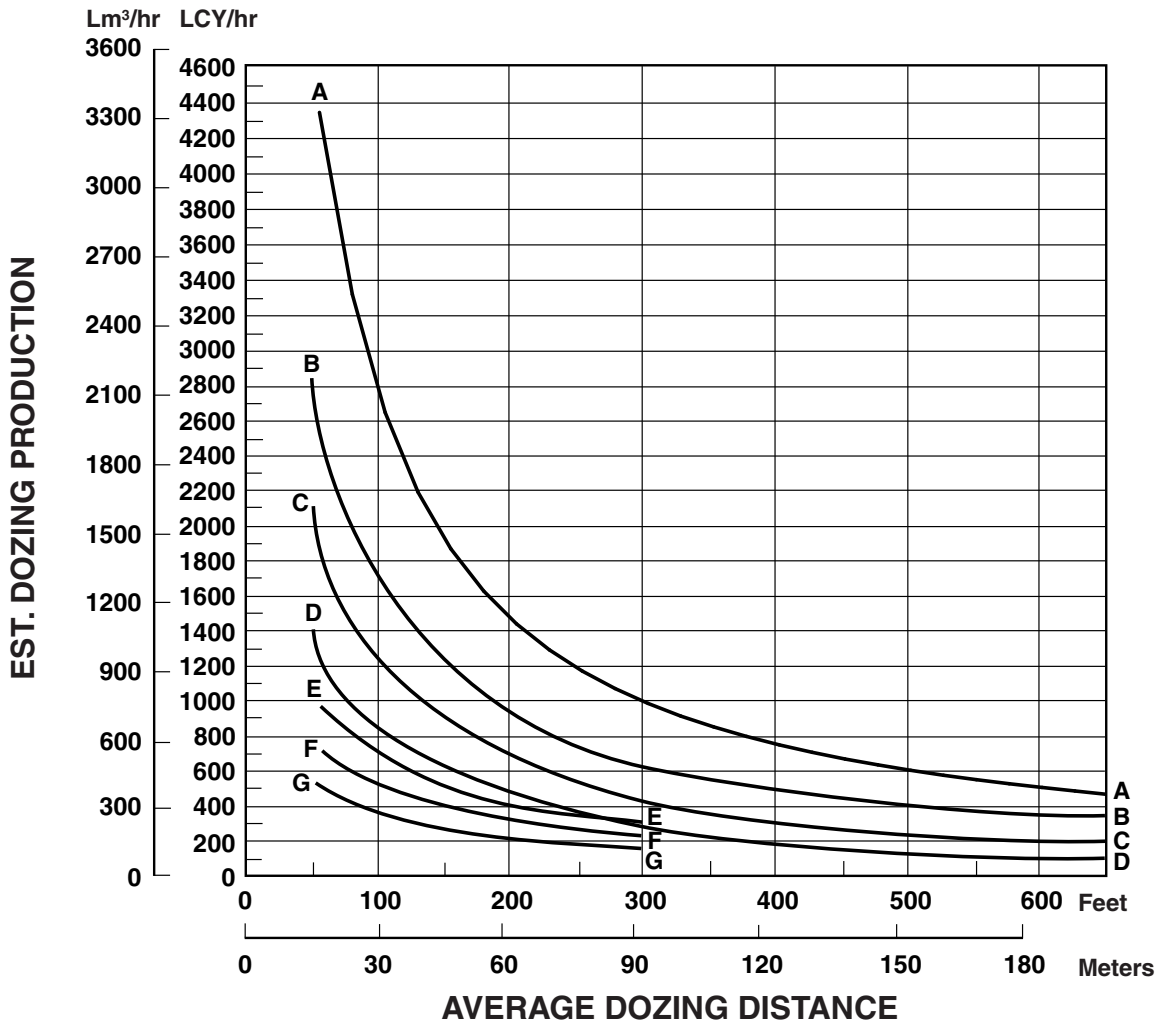


KEY

- A — D11T-11U
- B — D11T CD
- C — D10T-10U
- D — D9R/D9T-9U
- E — D8R/D8T-8U
- F — D7R Series 2-7U
- G — D7G-7U

NOTE: This chart is based on numerous field studies made under varying job conditions. Refer to correction factors following these charts.

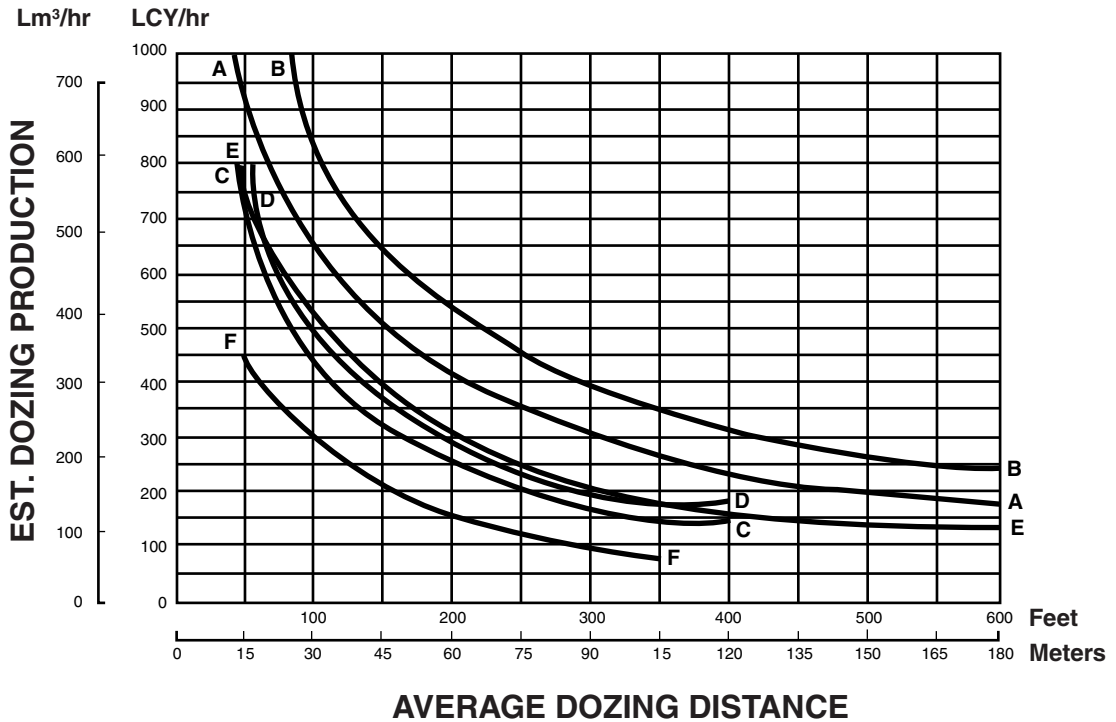
ESTIMATED DOZING PRODUCTION • Semi-Universal Blades • D6N through D11T



- KEY**
- A — D11T-11SU
 - B — D10T-10SU
 - C — D9R/D9T-9SU
 - D — D8R/D8T-8SU
 - E — D7R Series 2-7SU
 - F — D6T/D6R Series 3
 - G — D6N-6SU

NOTE: This chart is based on numerous field studies made under varying job conditions. Refer to correction factors following these charts.

ESTIMATED DOZING PRODUCTION
Straight Blades ● D6, D7, 814, 824, 834



NOTE: This chart is based on numerous field studies made under varying job conditions. Refer to correction factors on the next page.

Estimated production of the 834B with U-blade can be found in the Coal Handling section of this handbook.

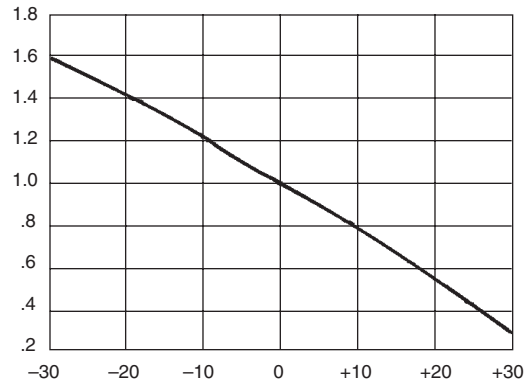
JOB CONDITION CORRECTION FACTORS

	TRACK- TYPE TRACTOR	WHEEL- TYPE TRACTOR
OPERATOR —		
Excellent	1.00	1.00
Average	0.75	0.60
Poor	0.60	0.50
MATERIAL —		
Loose stockpile	1.20	1.20
Hard to cut; frozen —		
with tilt cylinder	0.80	0.75
without tilt cylinder	0.70	—
Hard to drift; “dead” (dry, non-cohesive material) or very sticky material	0.80	0.80
Rock, ripped or blasted	0.60-0.80	—
SLOT DOZING	1.20	1.20
SIDE BY SIDE DOZING	1.15-1.25	1.15-1.25
VISIBILITY —		
Dust, rain, snow, fog or darkness	0.80	0.70
JOB EFFICIENCY —		
50 min/hr	0.83	0.83
40 min/hr	0.67	0.67
BULLDOZER*		
Adjust based on SAE capacity relative to the base blade used in the Estimated Dozing Production graphs.		
GRADES — See following graph.		

*NOTE: Angling blades and cushion blades are not considered production dozing tools. Depending on job conditions, the A-blade and C-blade will average 50-75% of straight blade production.

% Grade vs. Dozing Factor

(-) Downhill
(+) Uphill



ESTIMATING DOZER PRODUCTION OFF-THE-JOB

Example problem:

Determine average hourly production of a D8T/8SU (with tilt cylinder) moving hard-packed clay an average distance of 45 m (150 feet) down a 15% grade, using a slot dozing technique.

Estimated material weight is 1600 kg/Lm³ (2650 lb/LCY). Operator is average. Job efficiency is estimated at 50 min/hr.

Uncorrected Maximum Production — 458 Lm³/h (600 LCY/hr) (example only)

Applicable Correction Factors:

Hard-packed clay is “hard to cut” material -0.80
 Grade correction (from graph)-1.30
 Slot dozing-1.20
 Average operator-0.75
 Job efficiency (50 min/hr)-0.83
 Weight correction(2300/2650)-0.87

Production = Maximum Production × Correction Factors
 = (600 LCY/hr) (0.80) (1.30) (1.20) (0.75) (0.83) (0.87)
 = 405.5 LCY/hr

To obtain production in metric units, the same procedure is used substituting maximum uncorrected production in Lm³.
 = 458 Lm³/h × Factors
 = 309.6 Lm³/h

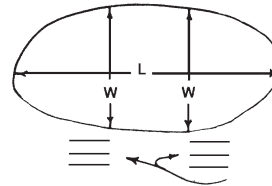
MEASURING PRODUCTION ON-THE-JOB

Three generally accepted methods of measuring bulldozer production are listed below. The third method is empirical, but is the simplest to conduct.

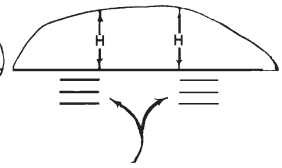
1. Employing Surveying Techniques
 - a. Conduct time study and then cross-section the cut to determine the volume of material removed. (Production in Bm^3 or BCY per unit of time)
 - b. Conduct time study and then cross-section the fill to determine the volume of fill material. (Production in Lm^3 or LCY per unit of time)
2. Weighing Blade Loads

Conduct time study and weigh material moved by bulldozer by weighing the loader bucket loads.
3. Measuring Blade Loads
 - a. Dozer operation
 - (1) Pick up and carry load onto a level area and stop.
 - (2) Raise the blade directly over the pile pulling forward slightly as blade comes up, leaving a nearly symmetrical pile.
 - (3) Reverse to clear the pile.
 - b. Measurements
 - (1) The average *height* (H) of the pile in feet. Hold the tape vertically at the inside edge of each grouser mark. Sight along top of the pile to obtain the correct measurement.

TOP VIEW



SIDE VIEW



GROUSER MARKS

- (2) The average *width* (W) of the pile in feet. Hold the tape horizontally over the pile and sight at the inside edge of each grouser mark and the corresponding opposite side of the pile.
- (3) The greatest *length* (L) of the pile in feet. Hold the tape horizontally over the pile and sight at each end of the pile.
- c. With the above measurements, now compute the blade load.
 - (1) Average the height measurement (H)
 - (2) Average the width measurement (W)
 - (3) Load (Lm^3 or LCY) = $0.0138 \times (HWL)$
 - (4) Load (Bm^3 or BCY) = Lm^3 or $LCY \times LF$
- d. Combine the calculated blade load with time study to figure production.

WORK TOOLS

VARIABLE RADIUS (VR) SEMI-U BLADES

	D6R Series 3/D6T		D7R Series 2		D8R/D8T	
Capacity	5.81 m ³	7.6 yd ³	7.84 m ³	10.25 yd ³	11.28 m ³	14.75 yd ³
Width	3349 mm	11'0"	3912 mm	12'10"	4369 mm	14'4"
Height	1473 mm	4'10"	1626 mm	5'4"	1778 mm	5'10"
Weight	1360 kg	3000 lb	2000 kg	4400 lb	3010 kg	6640 lb

LANDFILL BLADES

	D6R Series 3/D6T		D7R Series 2		D8R/D8T		D9R/D9T	
Capacity	12.5 m ³	16.4 yd ³	18.1 m ³	23.7 yd ³	24.4 m ³	32 yd ³	38.5 m ³	50.3 yd ³
Width	3886 mm	12'9"	4267 mm	14'0"	4928 mm	16'2"	5442 mm	17'10"
Height	1796 mm	5'10.7"	2083 mm	6'10"	2286 mm	7'6"	2178 mm	7'1.75"
Weight	1450 kg	3200 lb	2608 kg	5750 lb	3175 kg	7000 lb	4900 kg	10,800 lb

This list is not all inclusive. Contact your Caterpillar Dealer for special attachment needs.

Bulldozers

Special Attachments

- Coal U-Blades
- Woodchip Dozers
- Reclamation U-Blades
- Cushion Dozers

COAL U-BLADES	D6R Series 3/D6T		D7R Series 2		D8R/D8T		D9R/D9T	
Capacity	9.7 m ³	12.63 yd³	16.1 m ³	21.0 yd³	21.4 m ³	28 yd³	37 m ³	48 yd³
Width	4267 mm	14'0"	4953 mm	16'3"	5537 mm	18'2"	5940 mm	18'10"
Height	1473 mm	4'10"	1829 mm	6'0"	1930 mm	6'4"	2540 mm	8'4"
Weight	1452 kg	3200 lb	2405 kg	5300 lb	3200 kg	7050 lb	4490 kg	9900 lb

COAL U-BLADES	D10T		D11T	
Capacity	46.1 m ³	60.3 yd³	74.9 m ³	98.0 yd³
Width	6191 mm	20'1"	7416 mm	24'4"
Height	2794 mm	9'2"	3330 mm	10'11"
Weight	6670 kg	14,700 lb	11 340 kg	25,000 lb

WOODCHIP DOZERS	D6R Series 3/D6T		D7R Series 2		D8R/D8T		D9R/D9T		D10T
Capacity	15 m ³	20 yd³	19.9 m ³	26 yd³	28.3 m ³	37 yd³	45.9 m ³	60 yd³	72.6 m ³ 95 yd³
Width	4267 mm	14'0"	4826 mm	16'8"	5486 mm	18'0"	5486 mm	18'0"	6300 mm 20'8"
Height	1880 mm	6'2"	2083 mm	6'10"	2337 mm	7'8"	3086 mm	10'1.5"	3480 mm 11'5"
Weight	1724 kg	3800 lb	2765 kg	6100 lb	2903 kg	6400 lb	5080 kg	11,200 lb	7575 kg 16,700 lb

RECLAMATION U-BLADES	D8R/D8T		D9R/D9T		D10T	
Capacity	16.4 m ³	21.5 yd³	20.9 m ³	27.3 yd³	30.6 m ³	40 yd³
Width	4877 mm	16'0"	5182 mm	17'0"	5664 mm	18'7"
Height	1880 mm	6'2"	2032 mm	6'8"	2388 mm	7'10"
Weight	3810 kg	8400 lb	5220 kg	11,500 lb	6440 kg	14,200 lb

CUSHION DOZERS	D8R/D8T		D9R/D9T		D10T		D11T
Width	2889 mm	9'5.75"	3048 mm	10'0"	3505 mm	11'6"	*
Height	1499 mm	4'11"	1575 mm	5'2"	1676 mm	5'6"	
Weight	3185 kg	7020 lb	4310 kg	9500 lb	6440 kg	14,200 lb	
Rear Cushion Push Block	*		2175 kg	4800 lb	3105 kg	6850 lb	*

*Available upon request.

This list is not all inclusive. Contact your Caterpillar Dealer.

RIPPERS

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Features:

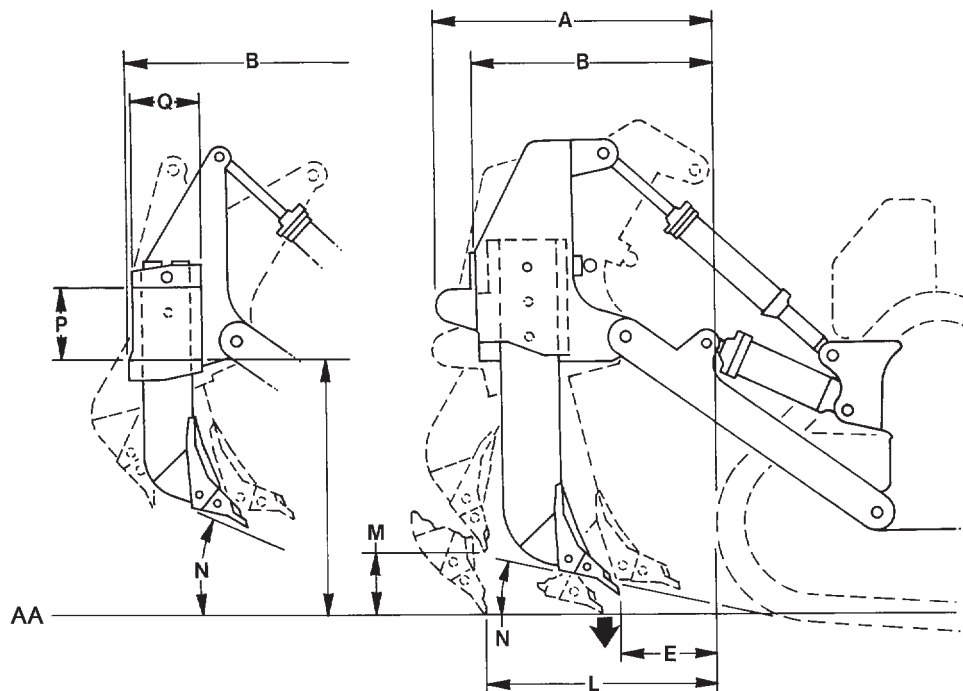
- **Parallelogram linkage with hydraulically variable pitch** on D8R/D8T, D9R/D9T, D10T, D11T and optional on D7R Series 2. Operator can adjust angle of ripper tip to the material for penetration at all ripping depths to increase production.
- **Fixed Parallelogram linkage design** used on D3K, D4K, D5K, D6K, D6N, D6G, D6G Series 2 XL, D6T, D6T XL, D7G, D7G Series 2, D7R Series 2 and D7R Series 2 XR. This design holds tooth angle constant at all ripping depths.
- **Fixed Radial rippers** are Multi-shank with wide beam coverage for utility ripping close to walls, footings and embankments. Ripper tooth angle changes as ripper is raised or lowered. Three shanks available for the D5N.
- **Adjustable Single shank** arrangements available for D8R/D8T, D9R/D9T, D10T and D11T for tough ripping applications and deep ripping requirements.
- **Hydraulically Variable Pitch Multi-shank** arrangements available on D8R/D8T, D9R/D9T, D10T and D11T allow wide-beam coverage in easier-to-rip materials.
- **Counterweighted CarryDozer Ripper single shank** available for D11T and D11T CD, multi-shank available for D11T CD.

DEFINITION OF FORCES SHOWN IN TABLES THAT FOLLOW

“Pryout,” (Breakout) newtons (and pounds) — the maximum sustained upward force, generated by the lift cylinders measured at the ripper tip. Breakout force is measured with the shank in the top hole, shank vertical and ripper full down. Breakout force may be hydraulically or balance limited.

“Penetration force,” kilonewtons (and pounds) — the maximum sustained downward force, generated by the ripper lift cylinders measured at the ripper tip, which is required to raise the back end of the vehicle with the tip on ground and the shank (pinned in the top hole) vertical.

Adjustable Parallelogram Ripper

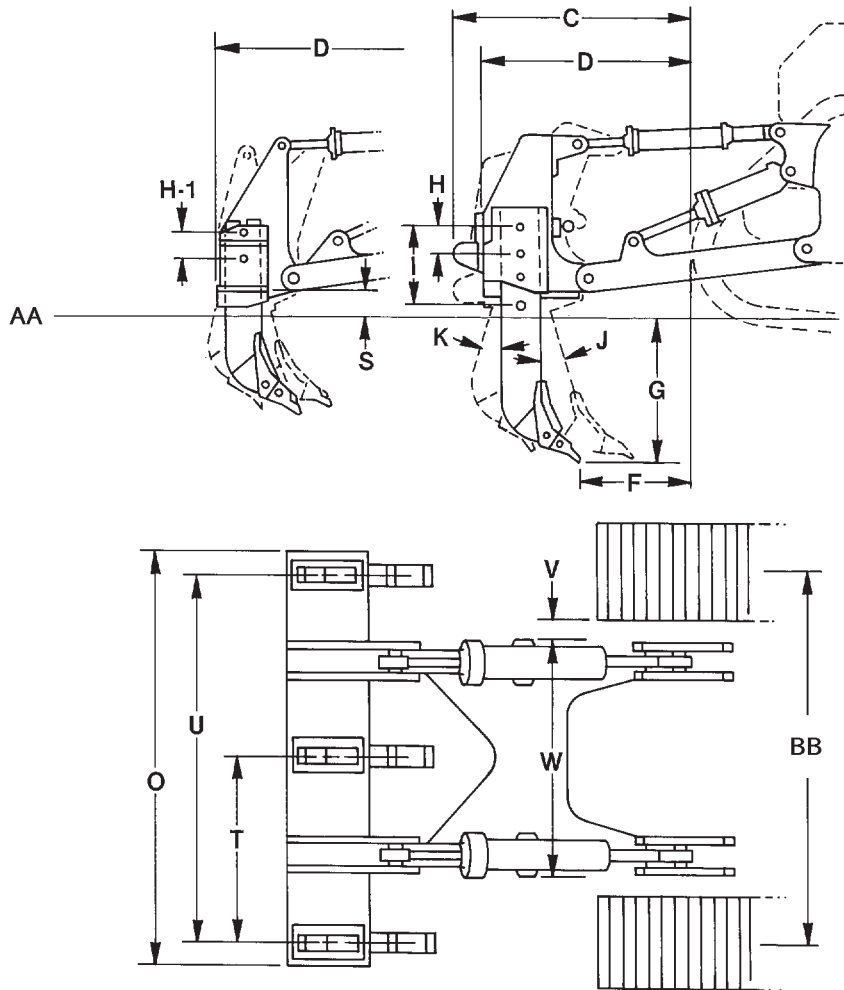


NOTE: Letters correspond to ripper specifications on pages that follow.

KEY

AA — Ground Line

Adjustable Parallelogram Ripper



NOTE: Letters correspond to ripper specifications on pages that follow.

KEY

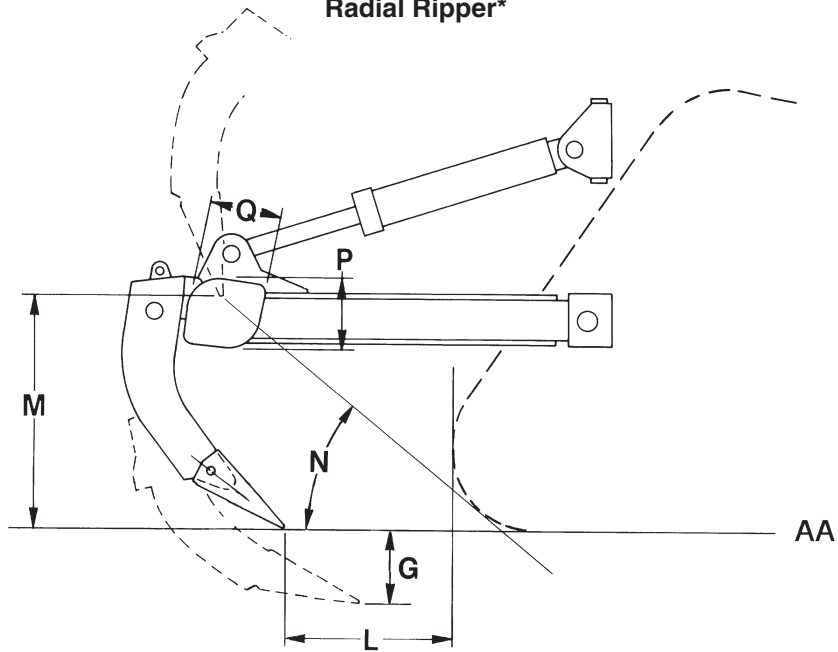
AA — Ground Line
 BB — Track Gauge

Rippers

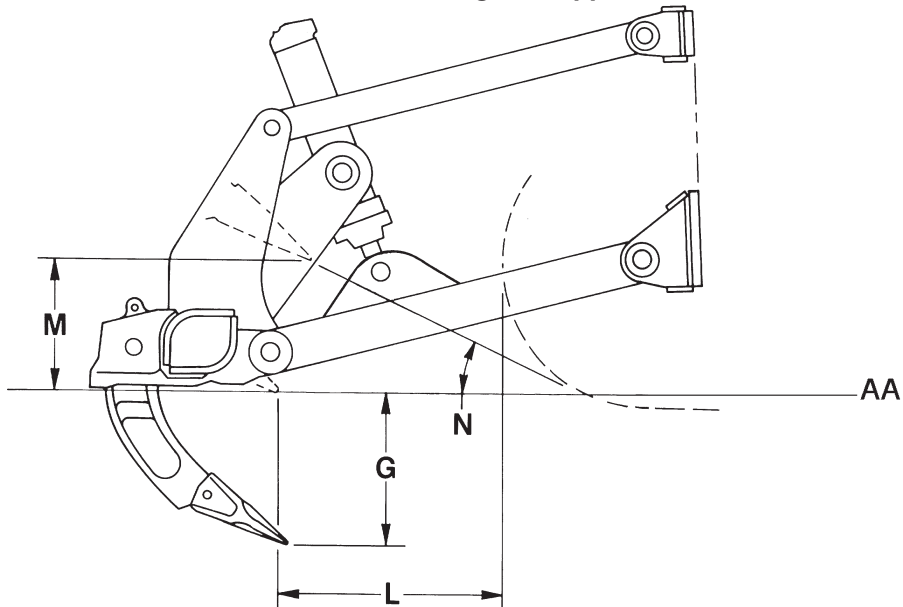
Specification Diagrams

- Radial Ripper
- Fixed Parallelogram Ripper

Radial Ripper*



Fixed Parallelogram Ripper



NOTE: Letters correspond to ripper specifications on pages that follow.

KEY

AA — Ground Line
* — Tip Standard

TRACTOR/RIPPER		D3K		D4K		D5K		D5N XL**	
Ripper Type	Fixed Parallelogram		Fixed Parallelogram		Fixed Parallelogram		Radial		
Dimensions:									
Ripper Shank									
G Maximum digging depth	338 mm	13.3"	338 mm	13.3"	338 mm	13.3"	350 mm	13.8"	
L Maximum reach at ground line	766 mm	30.2"	596 mm	23.5"	555 mm	21.9"	668 mm	2'2.3"	
M Maximum ground clearance under tip (shank pinned in bottom hole)	448 mm	17.6"	448 mm	17.6"	448 mm	17.6"	482 mm	1'7"	
N Maximum ramp angle, ripper up (shank pinned in bottom hole)	27°		32°		33°		25.2°		
Shank section	36 × 76 mm (1.4" × 3")		36 × 76 mm (1.4" × 3")		36 × 76 mm (1.4" × 3")		58 × 139 mm (2.3" × 5.5")		
Ripper Beam									
O Overall width	1710 mm	67.3"	1710 mm	67.3"	1710 mm	67.3"	1.95 m	6'5"	
P Height	165 mm	6.5"	165 mm	6.5"	165 mm	6.5"	165 mm	6.5"	
Q Length	190 mm	7.5"	190 mm	7.5"	190 mm	7.5"	211 mm	8.3"	
Number of Pockets	3		3		3		3		
T Pocket Spacing	775 mm	30.5"	775 mm	30.5"	775 mm	30.5"	896 mm	2'11.3"	
U Shank Gauge	1.55 m	61.0"	1.55 m	61.0"	1.55 m	61.0"	1.79 m	5'10"	
V Track clearance with standard shoe	80 mm	3.2"	80 mm	3.2"	80 mm	3.2"	108 mm	4.3"	
Installed weights:									
Ripper with standard shank	554 kg	1222 lb	554 kg	1222 lb	554 kg	1222 lb	758 kg	1671 lb	
Each additional shank	—		—		—		34 kg	74 lb	
Ripper Forces:*									
Penetration Force	2250 kg	4970 lb	2520 kg	5560 lb	2780 kg	6130 lb	4010 kg	8840 lb	
Pryout Force	44 kN	9900 lb	44 kN	9900 lb	44 kN	9900 lb	188 kN	42,165 lb	

*This value may vary slightly with various vehicle configurations.

**D5N XL Penetration and pryout forces are for machines equipped with VPAT-Blade and Power Shift Transmission.

NOTE: Letters correspond to ripper dimension drawings.

- Specifications
- D5N LGP

● D6K XL

● D6K LGP

● D6N XL

TRACTOR/RIPPER	D5N LGP		D6K XL		D6K LGP		D6N XL	
Ripper Type	Radial		Fixed Parallelogram		Fixed Parallelogram		Parallelogram	
Dimensions:								
Ripper Shank								
G Maximum digging depth	298 mm	11.7"	360 mm	14.2"	360 mm	14.2"	474 mm	18.6"
L Maximum reach at ground line	696 mm	2'3.4"	725 mm	28.5"	725 mm	28.5"	516 mm	1'8.3"
M Maximum ground clearance under tip (shank pinned in bottom hole)	536 mm	1'9.1"	471 mm	18.5"	471 mm	18.5"	392 mm	15.4"
N Maximum ramp angle, ripper up (shank pinned in bottom hole)	25.9°		26°		26°		23.5°	
Shank section	58 × 139 mm (2.3" × 5.5")		58.5 × 138 mm (2.3 × 5.4")		58.5 × 138 mm (2.3 × 5.4")		73 × 176 mm (2.9" × 6.9")	
Ripper Beam								
O Overall width	1.95 m	6'5"	1951 mm	76.8"	1951 mm	76.8"	2.20 m	7'3"
P Height	165 mm	6.5"	165 mm	6.5"	165 mm	6.5"	216 mm	8.5"
Q Length	211 mm	8.3"	211 mm	8.3"	211 mm	8.3"	254 mm	10"
Number of Pockets	3		3		3		3	
T Pocket Spacing	896 mm	2'11.3"	896 mm	35.3"	896 mm	35.3"	1000 mm	3'3.4"
U Shank Gauge	1.79 m	5'10"	1792 mm	70.6"	1792 mm	70.6"	2 m	6'7"
V Track clearance with standard shoe	124 mm	4.9"	81 mm	3.2"	89 mm	3.5"	99 mm	3.9"
Installed weights:								
Ripper with standard shank	758 kg	1671 lb	845 kg	1863 lb	845 kg	1863 lb	1406 kg	3100 lb
Each additional shank	34 kg	74 lb	34 kg	75 lb	34 kg	75 lb	78 kg	172 lb
Ripper Forces:*								
Penetration Force	4669 kg	10,293 lb	4300 kg	9480 lb	4600 kg	10,138 lb	6023 kg	13,278 lb
Pryout Force	19 260 kg	42,461 lb	17 000 kg	37,480 lb	17 000 kg	37,480 lb	12 600 kg	27,778 lb

*This value may vary slightly with various vehicle configurations. D5N LGP equipped with VPAT-blade and Power Shift Transmission.

NOTE: Letters correspond to ripper dimension drawings.

TRACTOR/RIPPER	D6N LGP		D6R Series 3		D6R Series 3 XL	
Ripper Type	Parallelogram		Parallelogram		Parallelogram	
Dimensions:						
Ripper Shank						
G Maximum digging depth	360 mm	14.2"	500 mm	1'7.7"	500 mm	1'7.7"
L Maximum reach at ground line	453 mm	17.8"	729 mm	2'4.7"	729 mm	2'4.7"
M Maximum ground clearance under tip (shank pinned in bottom hole)	506 mm	1'7.3"	520 mm	1'8.5"	520 mm	1'8.5"
N Maximum ramp angle, ripper up (shank pinned in bottom hole)	49.5°		26°		26°	
Shank section	73 × 176 mm (2.9" × 6.9")		74 × 175 mm (2.9" × 6.9")		74 × 175 mm (2.9" × 6.9")	
Ripper Beam						
O Overall width	2.20 m	7'3"	2.20 m	7'3"	2.20 m	7'3"
P Height	216 mm	8.5"	216 mm	8.5"	216 mm	8.5"
Q Length	254 mm	10"	254 mm	10"	254 mm	10"
Number of Pockets	3		3		3	
T Pocket Spacing	1000 mm	3'3.4"	1000 mm	3'3.4"	1000 mm	3'3.4"
U Shank Gauge	2 m	6'7"	2 m	6'7"	2 m	6'7"
V Track clearance with standard shoe	104 mm	4.1"	120 mm	4.7"	120 mm	4.7"
Installed weights:						
Ripper with standard shank	1406 kg	3100 lb	1456 kg	3203 lb	1456 kg	3203 lb
Each additional shank	78 kg	172 lb	70 kg	154 lb	70 kg	154 lb
Ripper Forces:*						
Penetration Force	7198 kg	15,869 lb	6558 kg	14,428 lb	7485 kg	16,505 lb
Pryout Force	12 600 kg	27,778 lb	9155 kg	20,140 lb	9155 kg	20,140 lb

TRACTOR/RIPPER	D6T		D6T XL		D7R Series 2	
Ripper Type	Parallelogram		Parallelogram		Adj. Parallelogram	
Dimensions:						
Ripper Shank						
G Maximum digging depth	500 mm	1'7.7"	500 mm	1'7.7"	748 mm	2'5.4"
L Maximum reach at ground line	729 mm	2'4.7"	729 mm	2'4.7"	1.07 m	3'6.1"
M Maximum ground clearance under tip (shank pinned in bottom hole)	520 mm	1'8.5"	520 mm	1'8.5"	638 mm	2'1.1"
N Maximum ramp angle, ripper up (shank pinned in bottom hole)	26°		26°		26.6°	
Shank section	74 × 175 mm (2.9" × 6.9")		74 × 175 mm (2.9" × 6.9")		72 × 228 mm (2.8" × 6.9")	
Ripper Beam						
O Overall width	2.20 m	7'3"	2.20 m	7'3"	2.21 m	7'3"
P Height	216 mm	8.5"	216 mm	8.5"	279 mm	11"
Q Length	254 mm	10"	254 mm	10"	343 mm	13.5"
Number of Pockets	3		3		3	
T Pocket Spacing	1000 mm	3'3.4"	1000 mm	3'3.4"	991 mm	3'3"
U Shank Gauge	2 m	6'7"	2 m	6'7"	1.98 m	6'6"
V Track clearance with standard shoe	120 mm	4.7"	120 mm	4.7"	95 mm	3.7"
Installed weights:						
Ripper with standard shank	1456 kg	3203 lb	1456 kg	3203 lb	3277 kg	7225 lb
Each additional shank	70 kg	154 lb	70 kg	154 lb	138 kg	305 lb
Ripper Forces:*						
Penetration Force	6651 kg	14,665 lb	7194 kg	15,863 lb	8664 kg	19,104 lb
Pryout Force	9155 kg	20,140 lb	9155 kg	20,140 lb	18 007 kg	39,705 lb

*Tractor equipped with ripper, OROPS, SU dozer and heavy duty track. Values may vary slightly with various configurations. D6N LGP equipped with VPAT-blade and Power Shift Transmission.

NOTE: Letters correspond to ripper dimension drawings.

TRACTOR/RIPPER	D8R/D8T		D9R/D9T	
	Adjustable Parallelogram		Adjustable Parallelogram	
	Single Shank	Multi-shank	Single Shank	Multi-shank
Dimensions:				
Ripper to Track				
Ripper length behind track, shank vertical, ripper up				
A With Pushblock	N/A	N/A	N/A	N/A
B Without Pushblock	1.69 m 5'7"	1.6 m 5'2"	1.57 m 5'2"	1.33 m 4'4"
Ripper length behind track, shank vertical, ripper down				
C With Pushblock	N/A	N/A	N/A	N/A
D Without Pushblock	1.84 m 6'0"	1.71 m 5'7"	1.88 m 6'2"	1.71 m 5'7"
Tip to track distance, shank vertical				
E Ripper Up	694 mm 2'3.3"	640 mm 2'1.2"	689 mm 2'3.2"	510 mm 1'8.1"
F Ripper Down	950 mm 3'1.4"	899 mm 2'11.4"	944 mm 3'1.2"	890 mm 2'11"
Ripper Shank*				
G Maximum digging depth	1130 mm 3'8.5"	780 mm 2'6.7"	1231 mm 4'0.6"	798 mm 2'7.6"
H Dig adjustment per hole	305 mm 12"	250 mm 10"	295 mm 12"	250 mm 10"
I Total dig adjustment	610 mm 2'0"	250 mm 10"	590 mm 1'11.2"	250 mm 10"
Pitch Adjustment, ripper down:				
J Forward	15°	14.9°	10.6°	10°
K Backward	9.9°	10°	15.2°	15.1°
L Maximum reach at ground line	1.32 m 4'3"	1.17 m 3'10"	1.25 m 4'1"	1.16 m 3'10"
M Maximum ground clearance under tooth (shank pinned in bottom hole)	636 mm 2'1"	593 mm 1'11.3"	882 mm 2'10.9"	885 mm 2'10.7"
N Maximum ramp angle, ripper up (shank pinned in bottom hole)	28.2°	28.4°	36.9°	37.5°
Shank Section	75 × 333 mm 2.9" × 13.1"	75 × 333 mm 2.9" × 13.1"	90 × 355 mm 3.5" × 14"	75 × 333 mm 2.9" × 13.1"
Ripper Beam				
O Overall width	N/A	2.46 m 8'1"	N/A	2.64 m 8'8"
P Height	N/A	334 mm 13.1"	N/A	380 mm 15"
Q Length	N/A	457 mm 18"	N/A	457 mm 18"
Clearance under beam, shank vertical				
R Ripper Up	N/A	1.55 m 5'1"	N/A	1.77 m 5'10"
S Ripper Down	N/A	449 mm 17.7"	N/A	378 mm 14.9"
Number of Pockets	1	3	1	3
T Pocket Spacing	N/A	1092 mm 3'7"	N/A	1180 mm 3'10.4"
U Shank Gauge	N/A	2.17 m 7'1"	N/A	2.35 m 7'8"
V Track Clearance with standard shoe	76 mm 3"	76 mm 3"	71 mm 2.8"	71 mm 2.8"
W Width across widest part of lift cylinders	1.37 m 4'5"	1.37 m 4'5"	1.50 m 4'11"	1.50 m 4'11"
Installed Weights:				
Ripper with standard shank	4085 kg 9005 lb	4213 kg 9287 lb	4854 kg 10,700 lb	4885 kg 10,770 lb
Each additional tooth group	N/A	332 kg 730 lb	N/A	332 kg 733 lb
Ripper Forces:**				
Penetration Force, shank vertical	127 400 N 28,620 lb	124 200 N 27,920 lb	153 885 N 34,581 lb	147 958 N 33,249 lb
Pryout Force, shank vertical	222 800 N 50,070 lb	227 900 N 51,230 lb	320 511 N 72,025 lb	324 680 N 74,639 lb

*Deep Ripping Shank is available for D8R/D8T and D9R/D9T single shank rippers. Hydraulic pin puller is standard with deep ripping shank. Deep Ripping Arrangement maximum digging depth is 1.57 m (5'2") for D8R/D8T and 1.66 m (5'5") for D9R/D9T.

**Forces are for a ripper on a tractor equipped with EROPS, U-Dozer and performance track. Forces will vary slightly with other vehicle configurations.

NOTE: Letters correspond to ripper dimension drawings.

TRACTOR/RIPPER

D10T

D11T

D11T

Ripper Type	Adjustable Parallelogram				Adjustable Parallelogram CD Single Shank		CD Multi-shank	
	Single Shank		Multi-shank					
Dimensions:								
Ripper to Track								
Ripper length behind track, shank vertical, ripper up (A)								
A With Pushblock	2.08 m	6'10"	N/A		2.29 m	7'6"	N/A	
B Without Pushblock	1.76 m	5'9"	1.56 m	5'1"	1.97 m	6'6"	2.26 m	7'5"
Ripper length behind track, shank vertical, ripper down (A)								
C With Pushblock	2.48 m	8'2"	N/A		2.71 m	8'11"	N/A	
D Without Pushblock	2.16 m	7'1"	1.96 m	6'5"	2.39 m	7'10"	2.52 m	8'3"
Tip to track distance, shank vertical (A)								
E Ripper Up*	730 mm	2'4.7"	651 mm	2'1.6"	751 mm	2'6"	751 mm	2'6"
F Ripper Down**	1130 mm	3'8.5"	1050 mm	3'5.3"	1174 mm	3'10"	1174 mm	3'10"
Ripper Shank***								
G Maximum digging depth**	1494 mm	4'11"	876 mm	2'10.5"	1590 mm	5'3"	1510 mm	4'11"
H Dig adjustment per hole	355 mm	14"	250 mm	10"	280 mm	11"	280 mm	11"
I Total dig adjustment	710 mm	2'4"	250 mm	10"	840 mm	2'9.1"	840 mm	2'9.1"
Pitch Adjustment, ripper down:								
J Forward	15.4°		18.1°		15°		13°	
K Backward	29.7°		23.2°		31.9°		31.9°	
L Maximum reach at ground line**	1.60 m	5'3"	1.39 m	4'7"	1.87 m	6'2"	1.87 m	6'2"
M Maximum ground clearance under tooth (shank pinned in bottom hole)								
	930 mm	3'1"	1120 mm	3'8"	1150 mm	3'9"	1150 mm	3'9"
N Maximum ramp angle, ripper up (shank pinned in bottom hole)								
	35.7°		50.9°		34.1°		34.1°	
Shank Section								
	100 × 400 mm 4" × 15.75"		90 × 355 mm 3.5" × 14"		110 × 450 mm 4.3" × 17.7"		110 × 450 mm 4.3" × 17.7"	
Ripper Beam								
O Overall width	N/A		2.92 m	9'7"	N/A		N/A	
P Height	N/A		1350 mm	4'5"	N/A		N/A	
Q Length	N/A		990 mm	3'3"	N/A		N/A	
Clearance under beam, shank vertical								
R Ripper Up	N/A		2.03 m	6'8"	N/A		N/A	
S Ripper Down	N/A		380 mm	15"	N/A		N/A	
Number of Pockets								
	1		3		1		1	
T Pocket Spacing	N/A		1320 mm	4'4"	N/A		N/A	
U Shank Gauge	N/A		2.63 m	8'8"	N/A		N/A	
V Track Clearance with standard shoe	97 mm	4"	97 mm	4"	141 mm	5.6"	141 mm	5.6"
W Width across widest part of lift cylinders								
	1.75 m	5'9"	1.75 m	5'9"	1.90 m	6'3"	1.90 m	6'3"
Installed Weights:								
Ripper with standard shank								
	7150 kg	15,763 lb	6919 kg	15,253 lb	9356 kg	20,626 lb	12 733 kg	28,071 lb
Each additional tooth group								
	N/A		524 kg	1155 lb	N/A		N/A	
Ripper Forces:****								
Penetration Force, shank vertical								
	207 882 N	46,715 lb	191 376 N	43,023 lb	288 470 N	84,850 lb	326 326 N	73,361 lb
Pryout Force, shank vertical								
	481 717 N	108,251 lb	484 945 N	109,022 lb	622 733 N	139,998 lb	641 824 N	144,288 lb

*With Standard Shank pinned in the bottom hole.

**With Standard Shank pinned in the top hole.

***Deep Ripping Shank is available for the D10T and D11T single shank rippers. Deep Ripping Arrangement maximum digging depth is 1.80 m (5'11") for the D10T and 2.17 m (7'1") for the D11T.

****Forces are for a ripper on a tractor equipped with an EROPS, U-Dozer and performance track. Forces will vary slightly with other machine configurations. All dimensions are approximate.

TRACTOR/RIPPER	D11T		D11T	
Ripper Type	CD Multi-shank		Multi-shank	
Dimensions:				
Ripper to Track				
Ripper length behind track, shank vertical, ripper up (A)				
A With Pushblock		N/A		N/A
B Without Pushblock	1.71 m	5'8"	1.69 m	5'6"
Ripper length behind track, shank vertical, ripper down (A)				
C With Pushblock		N/A		N/A
D Without Pushblock	2.16 m	7'1"	2.16 m	7'1"
Tip to track distance, shank vertical (A)				
E Ripper Up	0.78 m	2'7"	0.78 m	2'7"
F Ripper Down	1.96 m	6'5"	1.95 m	6'5"
Shank*				
G Maximum digging depth	1.01 m	3'4"	1.01 m	3'4"
H Dig adjustment per hole	280 mm	11"	280 mm	11"
I Total dig adjustment	280 mm	11"	280 mm	11"
Pitch Adjustment, ripper down:				
J Forward		12.2°		12.2°
K Backward		31.8°		31.8°
L Maximum reach at ground line	1.71 m	5'7"	1.71 m	5'7"
M Maximum ground clearance under tooth (shank pinned in bottom hole)	1.14 m	3'9"	1.16 m	3'10"
N Maximum ramp angle, ripper up (shank pinned in bottom hole)		36.4°		36.4°
Shank Section	100 × 400 mm	3.9" × 15.7"	100 × 400 mm	3.9" × 15.7"
Ripper Beam				
O Overall width	3.33 m	10'11"	3.33 m	10'11"
P Height	1.98 m	6'6"	1.98 m	6'6"
Q Length	1.01 m	3'4"	1.01 m	3'4"
Clearance under beam, shank vertical				
R Ripper Up	2.06 m	6'9"	2.06 m	6'9"
S Ripper Down	282 mm	11.1"	282 mm	11.1"
Number of Pockets		3		3
T Pocket Spacing	1500 mm	5'9"	1500 mm	5'9"
U Shank Gauge	2.99 m	9'10"	2.99 m	9'10"
V Track Clearance with standard shoe	166 mm	5.6"	166 mm	5.6"
W Width across widest part of lift cylinders	1.9 m	6'3"	1.9 m	6'3"
Installed Weights:				
Ripper with standard shank	12 026 kg	26,513 lb	9251 kg	20,395 lb
Each additional tooth group	668 kg	1472 lb	668 kg	1472 lb
Ripper Forces:**				
Penetration Force, shank vertical	305 767 N	68,739 lb	277 109 N	62,297 lb
Pryout Force, shank vertical	649 963 N	146,118 lb	646 370 N	145,310 lb

*Hydraulic pin puller is standard with deep ripping shank. Deep Ripping Arrangement maximum digging depth is 2.18 m (7'2").

**Forces are for a ripper on a tractor equipped with an EROPS, U-Dozer and performance track. Forces will vary slightly with other vehicle configurations.

TRACTOR/RIPPER	D6G/D6G Series 2 XL/ No. 6		D7G/D7G Series 2/ No. 7	
Ripper Type	Parallelogram		Parallelogram	
Dimensions:				
Ripper Shank				
G Maximum digging depth	530 mm	1'8.9"	737 mm	2'5"
L Maximum reach at ground line	551 mm	1'9.7"	994 mm	3'3.1"
M Maximum ground clearance under tip (shank pinned in bottom hole)	218 mm	8.6"	462 mm	18.2"
N Maximum ramp angle, ripper up (shank pinned in bottom hole)	16°		21°	
Shank Section	76 × 178 mm 3" × 7"		72 × 228 mm 2.8" × 9"	
Ripper Beam				
O Overall width	2.34 m	7'8"	2.21 m	7'3"
P Height	214 mm	8.4"	279 mm	11"
Q Length	254 mm	10"	343 mm	13.5"
Number of Pockets	5 — D6G 3 — D6G Series 2 XL		3	
T Pocket Spacing	536 mm	1'9.1"	991 mm	3'3"
U Shank Gauge	2.15 m	7'1"	1.98 m	6'6"
V Track clearance with standard shoe	213 mm	8.4"	185 mm	7.3"
Installed weights:				
Ripper with standard shank	1500 kg	3300 lb	2429 kg	5344 lb
Each additional shank	64 kg	141 lb	155 kg	341 lb

NOTE: Letters correspond to ripper dimension drawings.

TIP SELECTION FOR THE D8R/D8T, D9R/D9T, D10T AND D11T RIPPERS

Three tip configurations (short, intermediate and long) in two styles (centerline and penetration) are available for economical operation in a variety of conditions.

RECOMMENDED TIP USAGE

- Short* — Use in high impact conditions where breakage problems occur. The shorter the tip, the more it resists breakage.
- Intermediate* — Most effective in moderate impact conditions where abrasion is not excessive.
- Long* — Use in loose, abrasive materials where breakage is not a problem. Generally offers the most wear material.

Centerline vs Penetration

The materials being ripped and the tractor doing the ripping will both have an effect on which tip will do the best job. High density material requires a “penetration” tip. High impact material requires a “centerline” tip. The following is a general guide to tip application.

Ripping Condition	Tips to use		
	D8R/D8T D9R/D9T	D10T	D11T
Tandem Tractors	Short	Short	Short
Single Shank			
Multi-shank			
Extreme Duty	Int.	Short	Short
Medium Duty	Long	Int.	Int.
Abrasive Duty	Long	Long	Long

Always use the longest tip that will wear without excessive breakage. Different tips should be tried to determine the most economical.

ESTIMATING RIPPING PRODUCTION

Ripping costs must be compared to other methods of loosening the material — usually drilling and blasting — on a cost per ton or bank cubic yard basis. Thus, an accurate estimation of ripper production is needed to determine unit ripping costs.

There are three general methods of estimating ripping production:

1. The best method is to record the time spent ripping, then remove (using scrapers or loaders and trucks) and weigh the ripped material. The total weight divided by the time spent will give hourly production. If the contractor is paid by volume, then a density must be used and the accuracy is only as good as the density used. For payment by volume removed, method 2 may be desirable. Some care will be needed to assure that only ripped material is removed.
2. Another method is to cross-section the area and then record the time spent ripping. After the material has been removed, cross-section the area again to determine the volume of rock removed. The volume divided by the time spent ripping gives the ripping rate per minute or hour.
3. Timing the ripper over a measured distance is the least accurate method, but valuable for quick estimating on the job. An average cycle time should be determined from a number of timed cycles. Turn-around or back-up time must be included. Measure the average rip distance, rip spacing and depth of penetration. This data will give the volume per cycle from which the production in bank cubic yards can be calculated. Experience has shown results obtained from this method are about 10 to 20% higher than the more accurate method of cross-sectioning.

An example of the measured distance method for calculating ripper production is:

Data — D10T — No. 10 with one shank.
910 mm (36 in) between passes.
1.6 km/h (1 mph) average speed (including slip-page and stalls).

Every 91 m (300 ft) requires 0.25 min to raise, pivot, turn, and lower again: 91 m (300 ft) = 1 pass.
610 mm (24 in) penetration.
Full time ripping (no pushing or dozing assignment).

Example of Estimating Production (Metric)

Time per pass:

1.6 km/h = 26.7 m/min. Then $\frac{91 \text{ m}}{26.7 \text{ m/min}} = 3.41 \text{ min};$

3.41 min + 0.25 min (turn time) = 3.66 min/pass.

If the operator works an average of 45 min per h, it is possible to make $= \frac{45}{3.66} = 12.3$ passes per h

Volume ripped: $91 \text{ m} \times 0.9 \text{ m} \times 0.6 \text{ m} = 49.1 \text{ BCM}$ per pass

Production = $49.1 \times 12.3 = 604 \text{ BCM per h}$

Remember the results from this method are usually 10 to 20 per cent higher than the actual production that can be expected on the job.

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Example of Estimating Production (English)

Time per pass:

MPH = 88 fpm. Then $\frac{300 \text{ ft}}{88 \text{ fpm}} = 3.41 \text{ min};$

3.41 min + 0.25 min. (turn time) = 3.66 min/pass.

If the operator works an average of 45 min per h, it is possible to make $\frac{45}{3.66} = 12.3$ passes per h

Volume ripped: $\frac{300 \times 3 \times 2}{27} = 66.7 \text{ BCY per pass}$

Production = $66.7 \times 12.3 = 820 \text{ BCY per hr}$

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NOTE: The demands of heavy ripping will increase the normal owning and operating costs of the tractor.

These costs should be increased no less than 30-40% in heavy ripping applications to estimate rock loosening costs.

There is no ready answer or rule-of-thumb solution to predict ripping production. Even if everything is known about the seismic velocity of the material, its composition, job conditions, equipment and operator, only a "guesstimate" can be given. The final answer must come from a production study obtained on the job site.

Sample problem (Metric)

Determine the loosening costs in the following situation:

Machine	— D10T Tractor with No. 10 Single Shank Ripper
Rip Spacing	— 915 mm
Ripper Penetration	— 610 mm
Rip Distance	— 91 m
Rip Time	— 3.41 minutes
Maneuver Time	— 0.25 minutes
Seismic Velocity	— 1830 meters per second
Assume	60 min. hour

Solution:

- Total Cycle Time = $3.41 + 0.25 = 3.66 \text{ min}$
Cycles/hour = $\frac{60 \text{ min/hr}}{3.66 \text{ min/cycle}} = 16.4$
- Production per cycle = $91 \text{ m} \times 0.9 \text{ m} \times 0.6 \text{ m} = 49.1 \text{ BCM/cycle}$
- Production = $49.1 \text{ BCM/cycle} \times 16.4 \text{ cycles/h} = 805 \text{ BCM/h}$
- Remember results of this method are usually 10 to 20% high.
Actual Production = 80% of 805 BCM/h = 644 BCM/h
Or 90% of 805 BCM/h = 725 BCM/h
- Owning and Operating Costs
A D10T (ripping only) could have a \$115.00/h O & O costs including \$30/h operator.
- Loosening Costs
 $\$115.00/\text{hr} \div 644 \text{ BCM/h} = \$0.179/\text{BCM}$
 $\$115.00/\text{hr} \div 725 \text{ BCM/h} = \$0.159/\text{BCM}$
The loosening cost should range from 15.9¢ to 17.9¢/BCM

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Sample problem (English)

Determine the loosening costs in the following situation:

Machine	— D10T Tractor with No. 10 Single Shank Ripper
Rip Spacing	— 3 feet
Ripper Penetration	— 2 feet
Rip Distance	— 300 feet
Rip Time	— 3.41 minutes
Maneuver Time	— 0.25 minutes
Seismic Velocity	— 6000 feet per second
Assume	60 min. hour

Solution:

1. Total Cycle Time = $3.41 + 0.25 = 3.66$ min
Cycles/hour = $\frac{60 \text{ min/hr}}{3.66 \text{ min/cycle}} = 16.4$
2. Production per cycle = $\frac{300 \times 3 \times 2}{27} = 66.7$ BCY/cycle
3. Production = $66.7 \text{ BCY/cycle} \times 16.4 \text{ cycles/hr} = 1094 \text{ BCY/hour}$
4. Remember results of this method are usually 10 to 20% high.
Actual Production = $80\% \times 1094 = 875 \text{ BCY/hr}$
or $90\% \times 1094 = 984 \text{ BCY/hr}$
5. Owning and Operating Costs
AD10T (ripping only) could have a \$115.00/hr
O & O costs including \$30/hr operator
6. Loosening Costs
 $\$115.00/\text{hr} \div 875 \text{ BCY/hr} = \$0.131/\text{BCY}$
 $\$115.00/\text{hr} \div 984 \text{ BCY/hr} = \$0.117/\text{BCY}$
The loosening cost should range from 11.7¢ to 13.1¢/BCY

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- Low seismic velocities of sedimentaries can indicate probable rippability. However, if the fractures and bedding joints do not allow tooth penetration, the material may not be ripped effectively.
- Pre-blasting or “popping” may induce sufficient fracturing to permit tooth entry, particularly in the caliches, conglomerates and some other rocks; but the economics should be checked carefully when considering popping in the higher grades of sandstones, limestones and granites.

Ripping is still more art than science, and much will depend on operator skill and experience. Ripping for scraper loading may call for different techniques than if the same material is to be dozed away. Cross-ripping requires a change in approach. The number of shanks used, length and depth of shank, tooth angle, direction, throttle position — all must be adjusted according to field conditions. Ripping success may well depend on the operator finding the proper combination for those conditions.

USE OF SEISMIC VELOCITY CHARTS

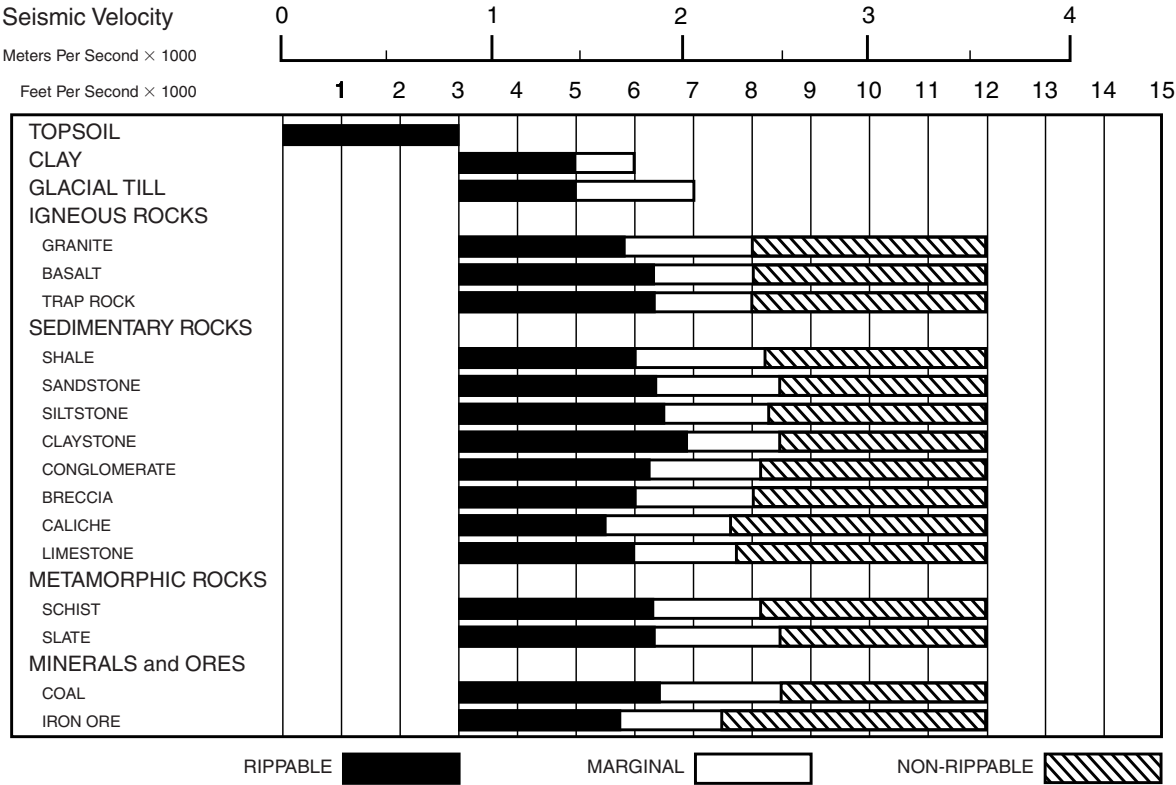
The charts of ripper performance estimated by seismic wave velocities have been developed from field tests conducted in a variety of materials. Considering the extreme variations among materials and even among rocks of a specific classification, the charts must be recognized as being at best only one indicator of rippability.

Accordingly, consider the following precautions when evaluating the feasibility of ripping a given formation:

- Tooth penetration is often the key to ripping success, regardless of seismic velocity. This is particularly true in homogeneous materials such as mudstones and claystones and the fine-grained caliches. It is also true in tightly cemented formations such as conglomerates, some glacial tills and caliches containing rock fragments.

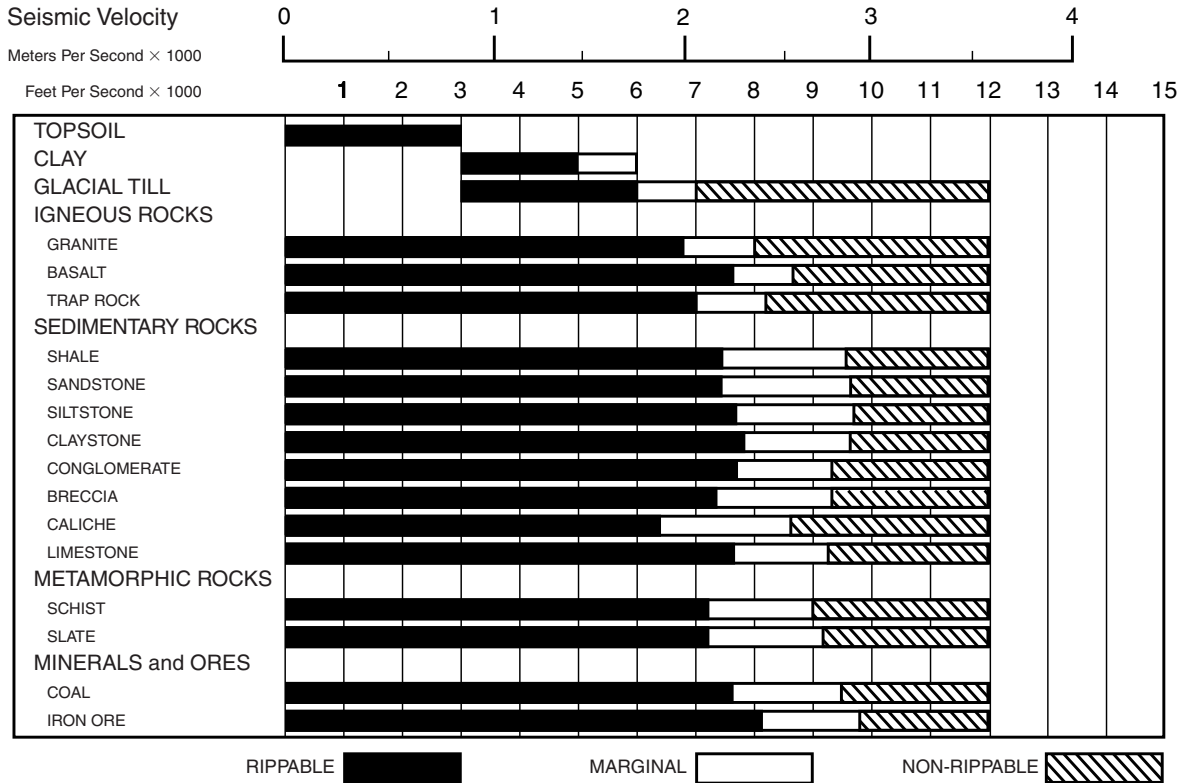
D8R/D8T

- Multi- or Single Shank No. 8 Ripper
- Estimated by Seismic Wave Velocities



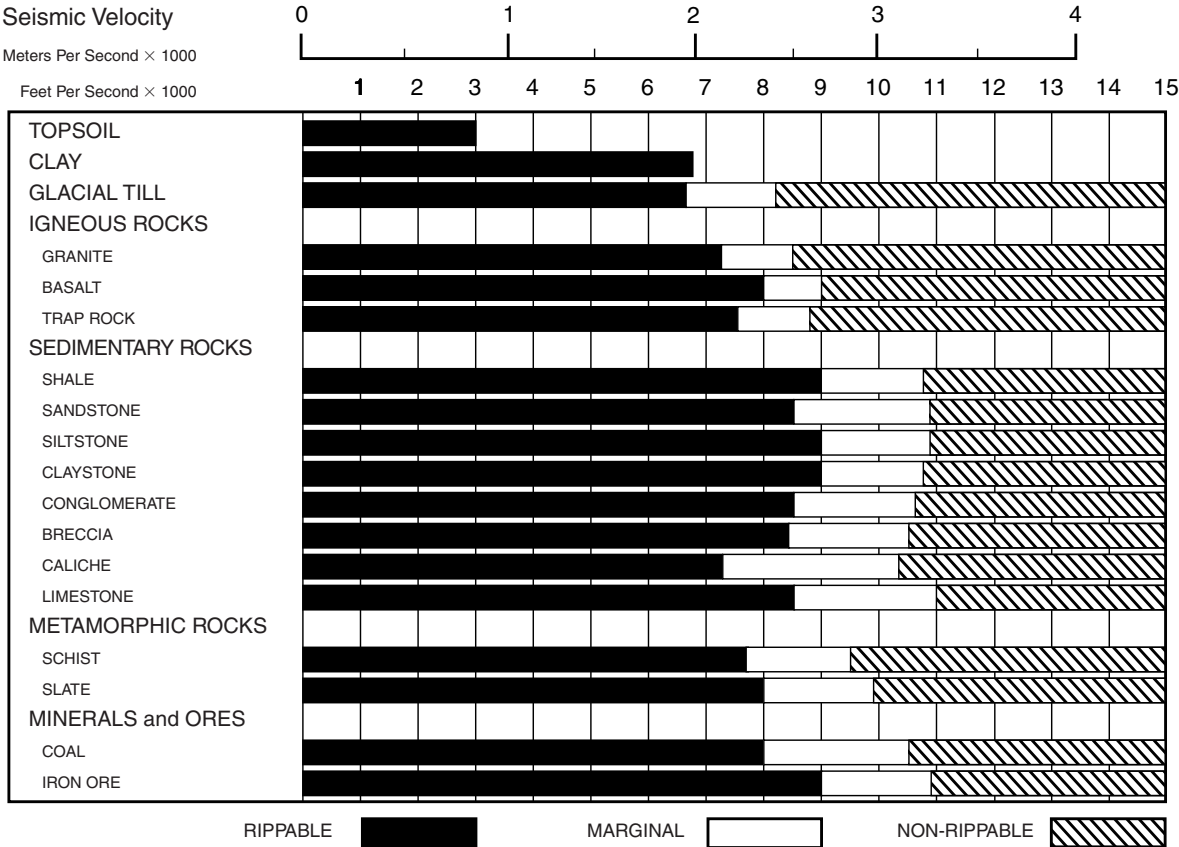
D9R/D9T

- Multi- or Single Shank No. 9 Ripper
- Estimated by Seismic Wave Velocities



D10T

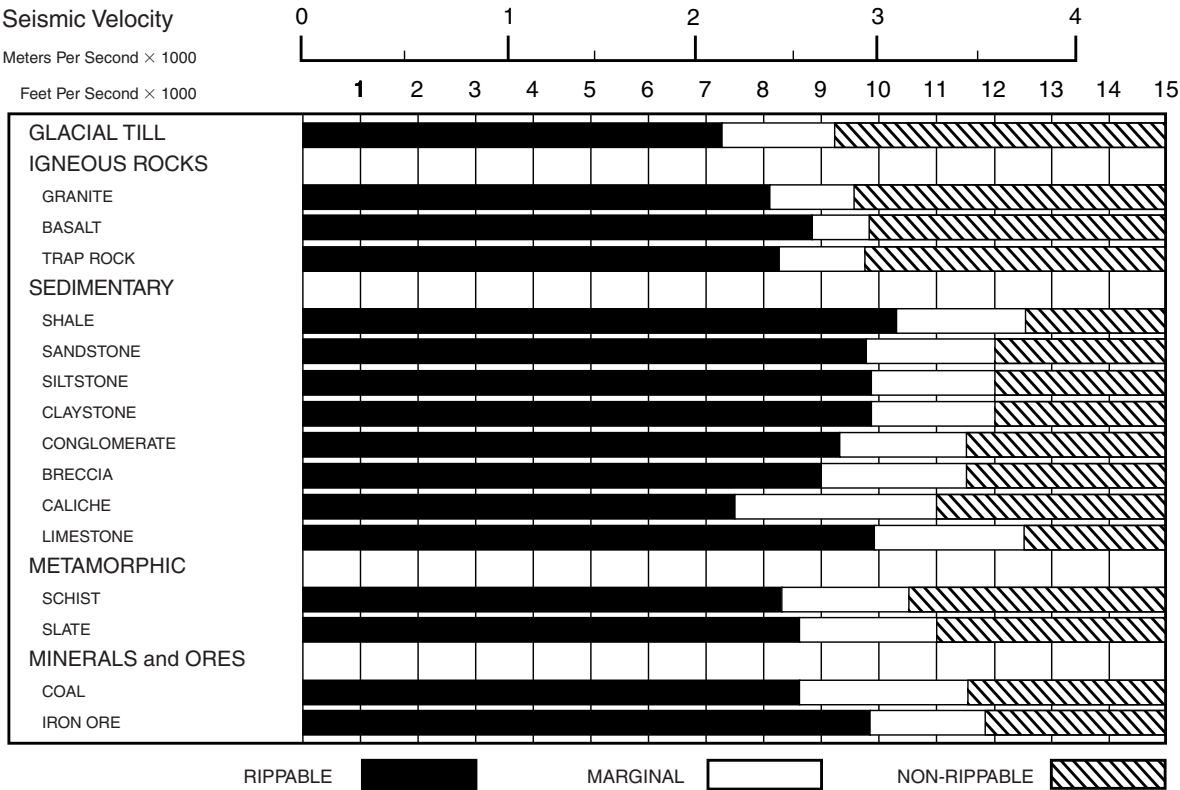
- Multi- or Single Shank No. 10 Ripper
- Estimated by Seismic Wave Velocities



D11T

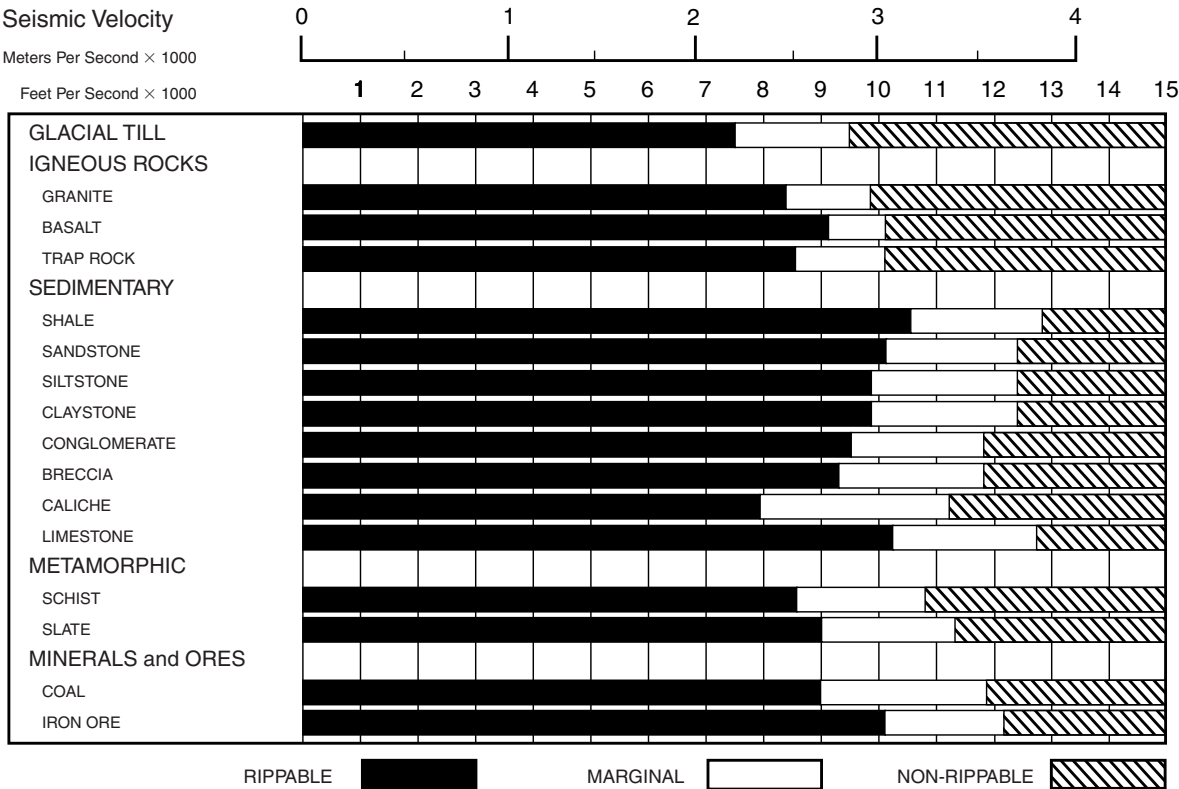
● Multi- or Single Shank No. 11 Ripper

● Estimated by Seismic Wave Velocities



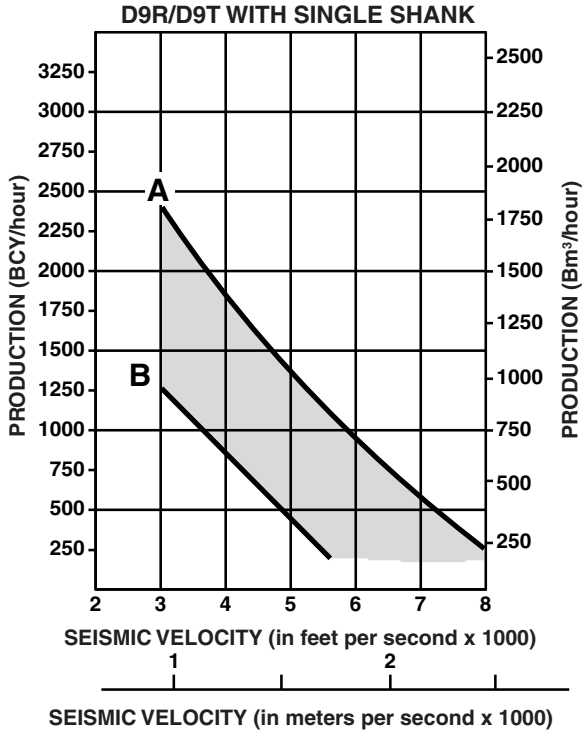
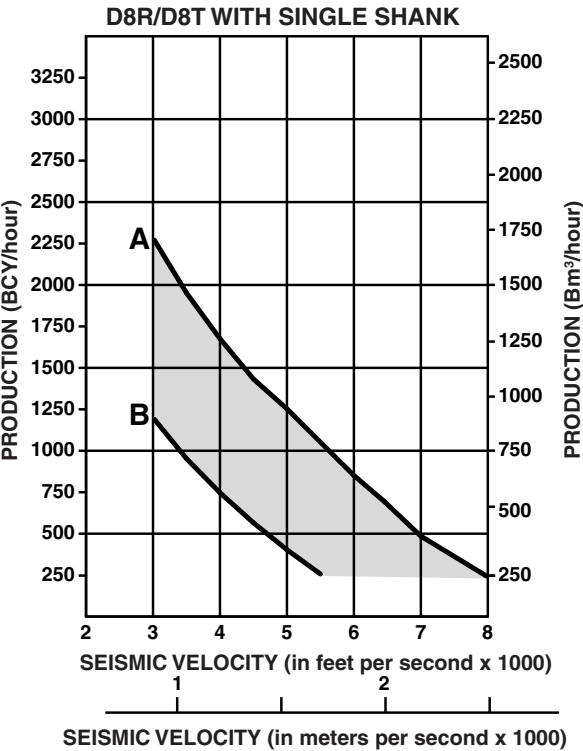
D11T CD

- Single Shank No. 11 Ripper
- Estimated by Seismic Wave Velocities

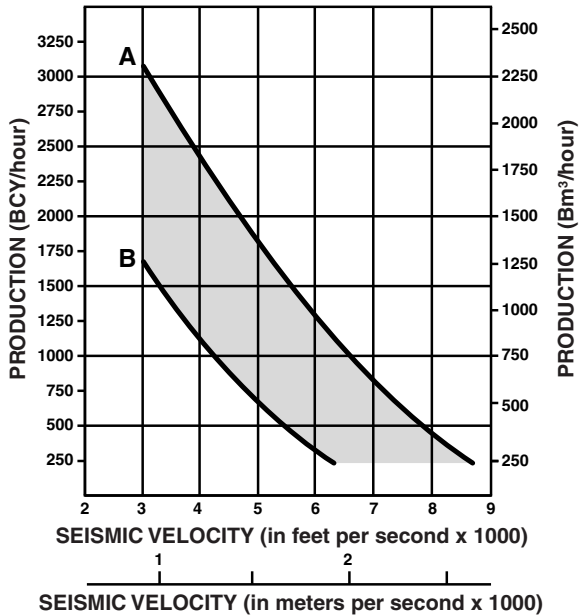


CONSIDERATIONS FOR USING
PRODUCTION ESTIMATED GRAPHS:

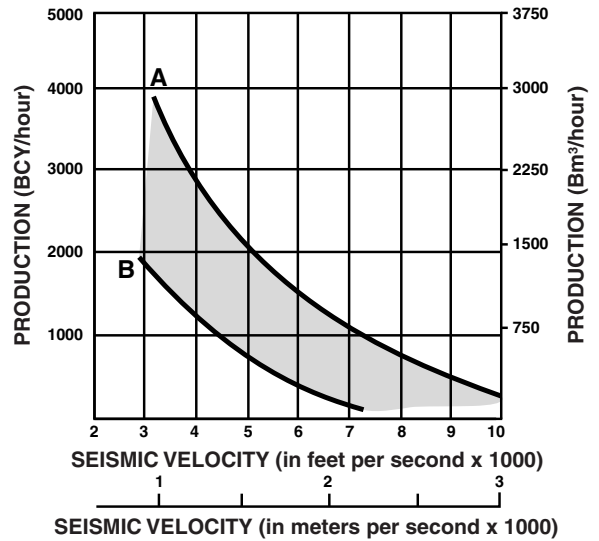
- Machine rips full-time — no dozing.
- Power shift tractors with single shank rippers.
- 100% efficiency (60 min hour).
- Charts are for all classes of material.
- In igneous rock with seismic velocity of 8000 fps (2450 mps) or higher for the D11T, and 6000 fps (1830 mps) or higher for the D10T, D9R/D9T and D8R/D8T, the production figures shown should be reduced by 25%.
- Upper limit of charts reflect ripping under ideal conditions only. If conditions such as thick lamination, vertical lamination or any factor which would adversely affect production are present, the lower limit should be used.



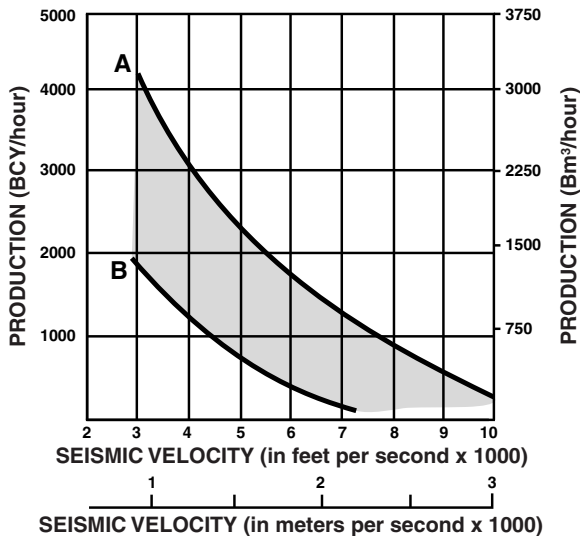
D10T WITH SINGLE SHANK



D11T WITH SINGLE SHANK



D11T CD WITH SINGLE SHANK



KEY

- A — IDEAL
 B — ADVERSE

WINCHES

PACCAR

ALLIED

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PACCAR Features:

PA40 and PA50

- **Closed loop hydrostatic operation** with variable displacement motor and dedicated variable displacement pump for maximum winching power and flexibility.
- **Infinitely variable control** of line speed and line pull including positive inching control at maximum rated line pull.
- **Standard full-function “reel-in” and “reel-out” control.** This is optional on some competitive winches.
- **Standard “drive-away”** to maintain tension on the cable when driving the tractor away from a stationary load.
- **Standard “free spool”** to allow cable to be pulled off the winch by hand.
- **Durable cast winch case** with fairlead mounting lugs, log arch mounting lugs, and heavy duty drawbar.

PA55, PA56 and PA80

- **PTO mechanical winch drive** with full tractor engine power available to the winch.
- **Self-contained internal hydraulic control system** for easy installation.

- **Equal speed gearing in “reel-in” and “reel-out”** to provide smooth and predictable performance.
- **Standard “drive-away”** to maintain tension on the cable when driving the tractor away from a stationary load.
- **Standard “free spool”** to allow cable to be pulled off the winch by hand.
- **Durable cast winch case** with fairlead mounting lugs, log arch mounting lugs, and heavy duty drawbar.

PA90, PA110B and PA140

- **Hydraulically driven winch** for infinitely variable control of line speed and line pull including positive inching control at maximum rated line pull.
- **Optimized “high power” hydraulic control system** including specialized directional control valve for maximum winching power and flexibility.
- **Dual braking system** provides a static brake with sprag clutch to eliminate fall-back and a hydraulic brake valve for dynamic braking.
- **Single lever joystick control** for ease of operation.
- **Fabricated steel winch case** with integral heavy duty drawbar provides excellent durability and easy weldability.
- **Standard three-roller fairlead** for improved wire rope life during side pulls.

- PACCAR
- Allied

PACCAR Features:

H60, H110B and H140

- **Hydraulically driven winch** for infinitely variable control of line speed and line pull including positive inching control at maximum rated line pull.
- **Standard Cat ripper control system** is employed for winch “reel-in” and “reel-out” functions.
- **Winch installation time is reduced by up to 70%** compared to “high power” installations.
- **Easy field interchangeability between winch and ripper.**
- **Dual braking system** provides a static brake with sprag clutch to eliminate fall-back and a hydraulic brake valve for dynamic braking.
- **Durable cast (H60) or fabricated steel (H110B and H140) winch case** with integral heavy duty drawbar.
- **Three-roller fairlead** for improved wire rope life during side pulls is standard on H110B and H140 and optional on H60.
- **“Free spool”** to allow cable to be pulled off the winch by hand is standard on H60.

Allied Features:

- **Over 80 years of reliability on Caterpillar.** Allied winches trace their roots to Hyster winches on Cat tractors since 1929. Hyster winches joined Allied’s family of products in 1990 and continue with the same tradition of engineering excellence. Existing dealer parts inventory continues to be interchangeable to support the thousands of Allied/Hyster winches in the field.
- **Electronic Control** for precise speed control. Simple plug-in connection makes installation easy.
- **“Plug and Play” design.** Winches come complete with all the necessary pump and installation parts for field mounting on any tractor. They do not require “Winch Ready” packages pre-ordered on the tractors. This simplifies dealer inventory planning.
- **Self-Contained Hydraulics (SCH) design.** All hoses, pump and valve are inside the PTO winch frame, totally eliminating external leakage.

● Choice of Power Take-Off (PTO) driven or Hydraulically Driven winches:

- PTO-driven, hydraulically controlled winches for D3 through D10 size tractors, the only full line of PTO winches in the industry. PTO winches excel at delivering full engine power for strong line pull.
- Hydraulically driven, hydraulically controlled winches for tractors without PTO such as D3-4-5K and D6K, or for applications that require slow and precision line speed control.

● Product Features:

- Multiple-disk oil clutches and brake on PTO winches are constantly oil-cooled for long life.
- Freespool with adjustable freespool drag to allow cable to be pulled out easily by hand.
- Drawbar provides an additional hitch for pulling.
- Brake-off (half-brake) keeps cable tight to prevent cable bird-nesting.
- Power reel-in and power reel-out.
- Fabricated steel frame withstands demanding operating conditions. Easy to weld on attachments, and easy to repair.

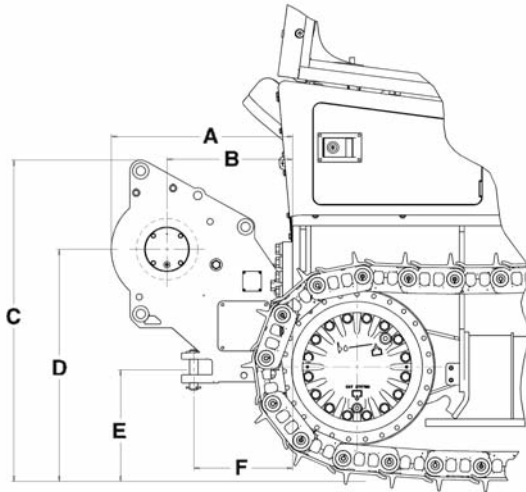
● Optional Equipment:

- Fairlead to handle line pulls from all angles. Strong vertical and horizontal rollers reduce cable wear to extend cable life.
- Arch works like a raised fairlead to lift loads off ground for efficient skidding. Vertical and horizontal rollers extend cable life.
- Choice of standard gear ratio for fast operation in logging, or slow speed gear ratio for fine speed control in pipelaying and construction applications.

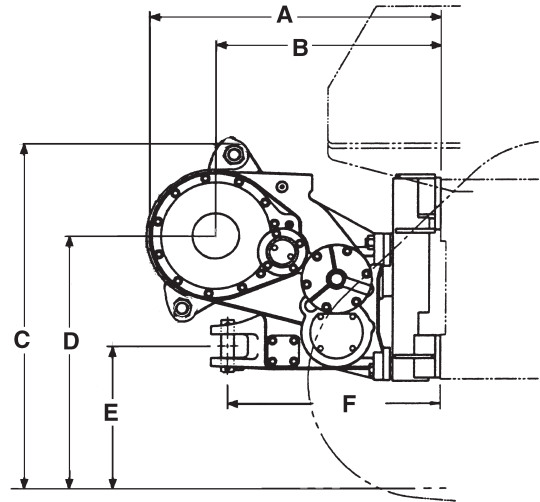
● Choice of two configurations of hydraulic winches:

- **Rescue winches for D3-4-5K, D6K and D6N** designed for equipment rescue. They are powered by tractor ripper circuit for lower cost and easy “plug and play” installation.
- **Hi-P (High-Performance) Hydraulic Winches for D3-4-5K, D6K and D6N** are powered by dedicated high-flow pump for fast line speed and precision line speed control. Winches come complete with pump and mounting parts for “plug and play” installation.

PA40/PA50



PA55



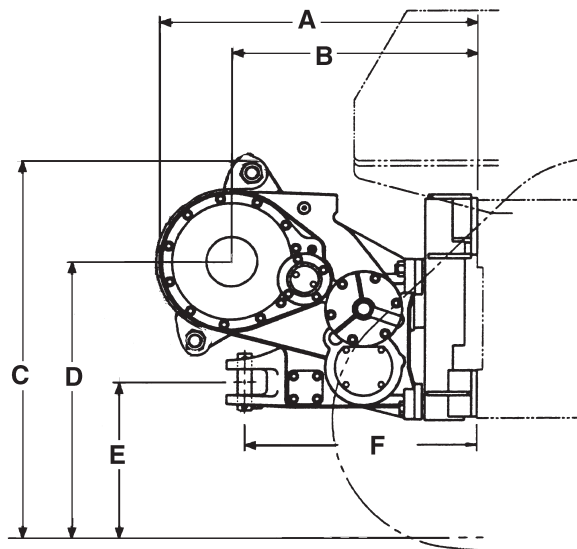
WINCH MODEL	PA40		PA50		PA55	
TRACTOR MODEL	D3K, D4K, D5K		D6K		D6N XL	D6N LGP
Tractor transmission	Hydrostatic		Hydrostatic		Powershift	
Winch drive	Hydrostatic		Hydrostatic		PTO	
A Tractor to rear of winch	751 mm	29.6"	845 mm	33.2"	1145 mm	45.1"
B Tractor to drum centerline	521 mm	20.5"	615 mm	24.2"	890 mm	35.1"
C Ground to top of winch	1327 mm	52.2"	1380 mm	54.4"	1330 mm	52.3"
D Ground to drum centerline	959 mm	37.8"	1010 mm	39.8"	960 mm	37.8"
E Ground to center of hitch	473 mm	18.6"	525 mm	20.7"	525 mm	20.7"
F Tractor to drawbar pin centerline	410 mm	16.1"	505 mm	19.8"	845 mm	33.2"
Winch width (not shown) ¹	740 mm	29.2"	740 mm	29.2"	975 mm	38.3"
Drum diameter (not shown)	255 mm	10.0"	205 mm	8.0"	255 mm	10.0"
Weight ²	610 kg	1345 lb	610 kg	1345 lb	1180 kg	2600 lb
Oil refill capacity	4.3 L	4.5 qt	4.3 L	4.5 qt	74 L	19.5 U.S. gal
Wire rope diameter:						
Recommended	16 mm	0.63"	19 mm	0.75"	19 mm	0.75"
Optional	19 mm	0.75"	22 mm	0.88"	22 mm	0.88"
Maximum theoretical drum capacity: ³						
Recommended rope	114 m	374'	93 m	306'	119 m	391'
Optional rope	80 m	264'	67 m	220'	85 m	281'
Maximum recommended drum capacity: ⁴						
Recommended rope	83 m	272'	62 m	203'	81 m	267'
Optional rope	55 m	180'	56 m	183'	55 m	180'
Wire rope ferrule size (OD)	54 mm	2.13"	54 mm	2.13"	54 mm	2.13"
Wire rope ferrule size (length)	67 mm	2.63"	67 mm	2.63"	67 mm	2.63"

¹ Width does not include mounting brackets/adapters (if any).

² Weight shown is base winch only. Does not include mounting arrangement, control arrangement, oil, or wire rope.

³ Per SAE J1158.

⁴ Per SAE J706 (K=.9).



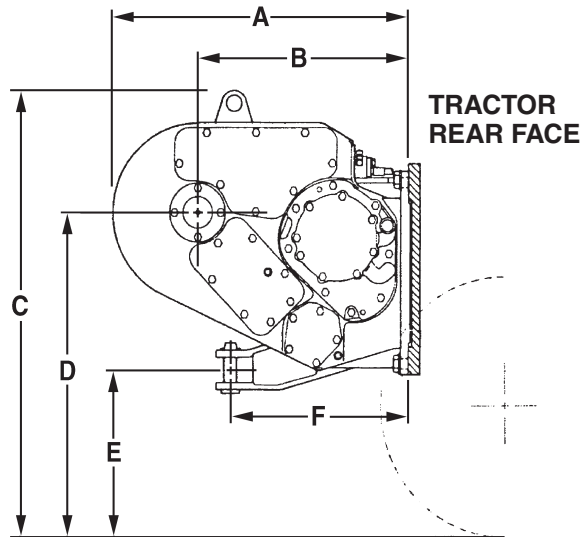
WINCH MODEL	H60				PA56	
TRACTOR MODEL	D6N XL		D6N LGP		D6T	
Tractor transmission	Powershift		Powershift		Powershift	
Winch drive	Hydraulic (ripper)		Hydraulic (ripper)		PTO	
A Tractor to rear of winch	1220 mm	48.1"	1220 mm	48.1"	1210 mm	47.7"
B Tractor to drum centerline	970 mm	38.1"	970 mm	38.1"	945 mm	37.7"
C Ground to top of winch	1330 mm	52.3"	1380 mm	54.3"	1480 mm	58.3"
D Ground to drum centerline	960 mm	37.8"	1010 mm	39.8"	1110 mm	43.7"
E Ground to center of hitch	525 mm	20.7"	575 mm	22.7"	675 mm	26.6"
F Tractor to drawbar pin centerline	920 mm	36.2"	920 mm	36.2"	910 mm	35.8"
Winch width (not shown) ¹	975 mm	38.3"	975 mm	38.3"	975 mm	38.3"
Drum diameter (not shown)	255 mm	10.0"	255 mm	10.0"	255 mm	10.0"
Weight ²	1130 kg	2500 lb	1130 kg	2500 lb	1180 kg	2600 lb
Oil refill capacity	19 L	20 qt	19 L	20 qt	67 L	17.75 U.S. gal
Wire rope diameter:						
Recommended	22 mm	0.88"	22 mm	0.88"	22 mm	0.88"
Optional	26 mm	1"	26 mm	1"	26 mm	1"
Maximum theoretical drum capacity: ³						
Recommended rope	85 m	281'	85 m	281'	85 m	281'
Optional rope	66 m	218'	66 m	218'	66 m	218'
Maximum recommended drum capacity: ⁴						
Recommended rope	55 m	180'	55 m	180'	55 m	180'
Optional rope	50 m	163'	50 m	163'	50 m	163'
Wire rope ferrule size (OD)	54 mm	2.13"	54 mm	2.13"	54 mm	2.13"
Wire rope ferrule size (length)	67 mm	2.63"	67 mm	2.63"	67 mm	2.63"

¹ Width does not include mounting brackets/adapters (if any).

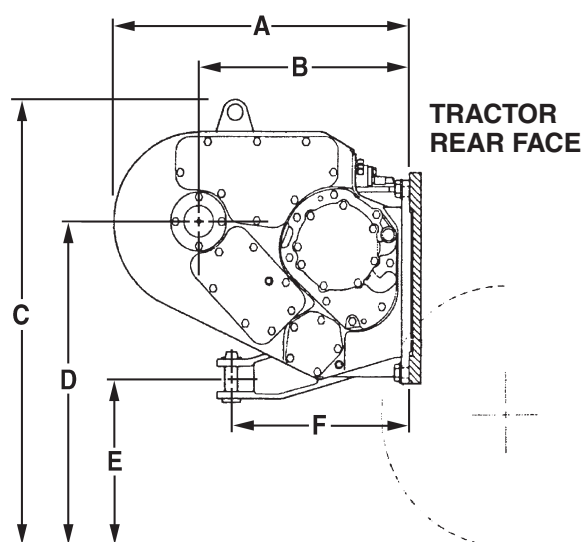
² Weight shown is base winch only. Does not include mounting arrangement, control arrangement, oil, or wire rope.

³ Per SAE J1158.

⁴ Per SAE J706 (K=9).

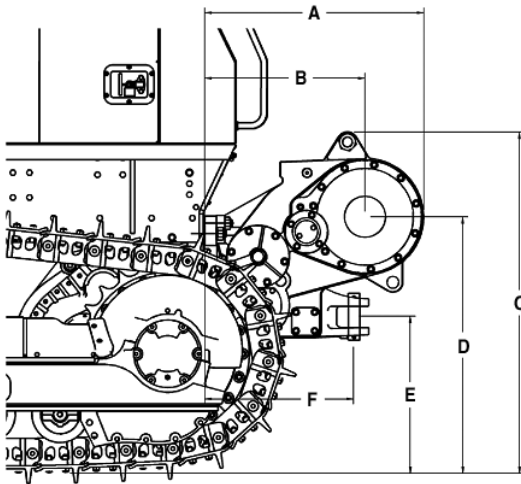


WINCH MODEL	H4AT		H4AH	
TRACTOR MODEL	D3K, D4K, D5K		D3K, D4K, D5K	
Winch drive	Ripper Hydraulics		Allied hi-flow pump	
Winch type	Rescue		Hi-Performance	
A Tractor to rear of winch	813 mm	2'8"	813 mm	2'8"
B Tractor to drum centerline	610 mm	2'0"	610 mm	2'0"
C Ground to top of winch	1143 mm	3'9"	1143 mm	3'9"
D Ground to drum centerline	864 mm	2'10"	864 mm	2'10"
E Ground to center of hitch	610 mm	2'0"	610 mm	2'0"
F Tractor to pin centerline	584 mm	1'11"	584 mm	1'11"
Overall width (not shown)	737 mm	2'5"	737 mm	2'5"
Drum diameter (not shown)	203 mm	8"	203 mm	8"
Weight	657 kg	1460 lb	698 kg	1540 lb
Oil refill capacity (gear train)	19 L	5 U.S. gal.	19 L	5 U.S. gal.
Wire rope diameter:				
Recommended	16 mm	5/8"	16 mm	5/8"
Optional	19 mm	3/4"	19 mm	3/4"
Drum capacity:				
Recommended rope	84 m	277'	84 m	277'
Optional rope	59 m	195'	59 m	195'
Wire rope ferrule size (OD)	38 mm	1½"	38 mm	1½"
Wire rope ferrule size (length)	51 mm	2"	51 mm	2"

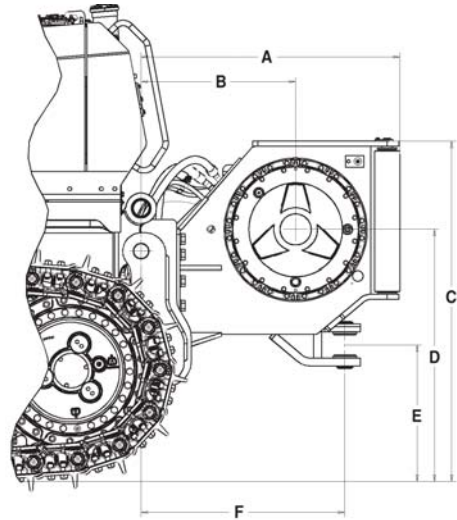


WINCH MODEL	H5CT		H5CH Hi-P	
TRACTOR MODEL	D6K		D6K	
Winch drive	Ripper Hydraulics		Allied hi-flow pump	
Winch type	Rescue		Hi-Performance	
A Tractor to rear of winch	863 mm	2'9"	863 mm	2'10"
B Tractor to drum centerline	635 mm	2'1"	635 mm	2'1"
C Ground to top of winch	1117 mm	3'8"	1117 mm	3'8"
D Ground to drum centerline	784 mm	2'7"	784 mm	2'7"
E Ground to center of hitch	381 mm	1'3"	381 mm	1'3"
F Tractor to pin centerline	559 mm	1'10"	559 mm	1'10"
Overall width (not shown)	813 mm	2'8"	813 mm	2'8"
Drum diameter (not shown)	217 mm	8.56"	217 mm	8.56"
Weight	898 kg	1980 lb	902 kg	2050 lb
Oil refill capacity	8 L	2 U.S. gal.	8 L	2 U.S. gal.
Wire rope diameter:				
Recommended	19 mm	¾"	19 mm	¾"
Optional	22 mm	7⁄8"	22 mm	7⁄8"
Drum capacity:				
Recommended rope	91 m	298'	91 m	298'
Optional rope	66 m	215'	66 m	215'
Wire rope ferrule size (OD)	51 mm	2"	51 mm	2"
Wire rope ferrule size (length)	57 mm	2¼"	57 mm	2¼"

PA56/PA80



PA90



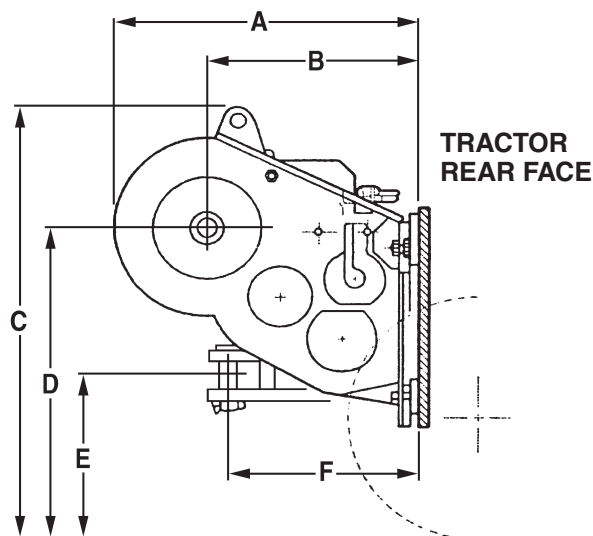
WINCH MODEL	PA56		PA80		PA90	
TRACTOR MODEL	D6G Series 2 XL		D7G Series 2		D7E	
Tractor transmission	Powershift		Powershift		Electric	
Winch drive	PTO		PTO		Hydraulic	
A Tractor to rear of winch	1000 mm	39.4"	950 mm	37.4"	1265 mm	49.8"
B Tractor to drum centerline	745 mm	29.4"	695 mm	27.4"	755 mm	29.7"
C Ground to top of winch	1435 mm	56.5"	1515 mm	59.6"	1665 mm	65.6"
D Ground to drum centerline	1065 mm	41.9"	1145 mm	45.1"	1235 mm	48.5"
E Ground to center of hitch	630 mm	24.8"	710 mm	28.0"	670 mm	26.3"
F Tractor to drawbar pin centerline	700 mm	27.6"	650 mm	25.6"	995 mm	39.2"
Winch width (not shown) ¹	975 mm	38.3"	975 mm	38.3"	1090 mm	43.0"
Drum diameter (not shown)	255 mm	10"	290 mm	11.5"	320 mm	12.5"
Weight ²	1180 kg	2600 lb	1180 kg	2600 lb	1520 kg	3350 lb
Oil refill capacity	74 L	19.5 U.S. gal	74 L	19.5 U.S. gal	12 L	12.5 qt
Wire rope diameter:						
Recommended	22 mm	0.88"	22 mm	0.88"	26 mm	1"
Optional	26 mm	1"	26 mm	1"	28 mm	1.13"
Maximum theoretical drum capacity: ³						
Recommended rope	85 m	281'	76 m	250'	68 m	223'
Optional rope	66 m	218'	59 m	194'	54 m	178'
Maximum recommended drum capacity: ⁴						
Recommended rope	55 m	180'	61 m	200'	56 m	183'
Optional rope	50 m	163'	39 m	127'	38 m	126'
Wire rope ferrule size (OD)	54 mm	2.13"	54 mm	2.13"	60 mm	2.38"
Wire rope ferrule size (length)	67 mm	2.63"	67 mm	2.63"	70 mm	2.75"

¹ Width does not include mounting brackets/adapters (if any).

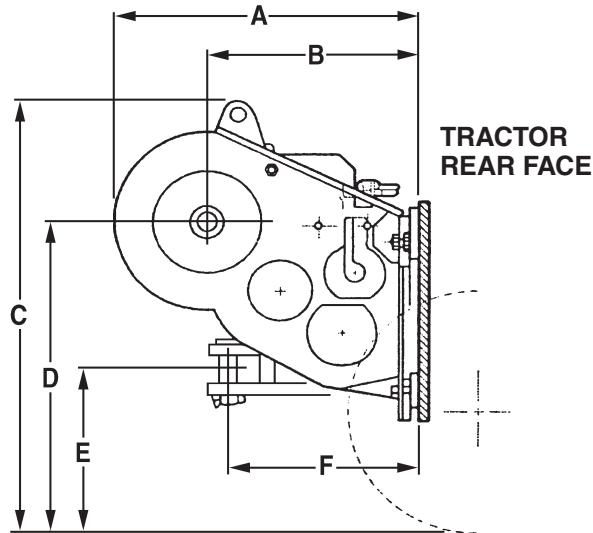
² Weight shown is base winch only. Does not include mounting arrangement, control arrangement, oil, or wire rope.

³ Per SAE J1158.

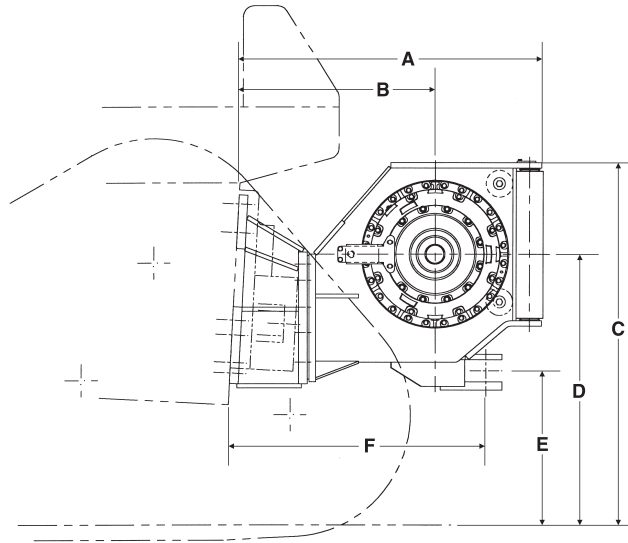
⁴ Per SAE J706 (K=9).



WINCH MODEL	H6GT		H6G		W6F	
TRACTOR MODEL	D6N		D6N		D6G Series II	
Winch drive	Ripper Hydraulics		PTO		PTO	
Winch type	Rescue		Standard		Standard	
A Tractor to rear of winch	1194 mm	3'11"	1194 mm	3'11"	935 mm	3'1"
B Tractor to drum centerline	940 mm	3'1"	940 mm	3'1"	681 mm	2'3"
C Ground to top of winch	1422 mm	4'8"	1422 mm	4'8"	1397 mm	4'7"
D Ground to drum centerline	1066 mm	3'6"	1066 mm	3'6"	1141 mm	3'5"
E Ground to center of hitch	484 mm	1'11"	484 mm	1'11"	558 mm	1'10"
F Tractor to pin centerline	889 mm	2'11"	889 mm	2'11"	655 mm	2'2"
Overall width (not shown)	965 mm	3'2"	965 mm	3'2"	1016 mm	3'4"
Drum diameter (not shown)	254 mm	10"	254 mm	10"	254 mm	10"
Weight	1020 kg	2250 lb	1465 kg	3230 lb	1360 kg	3000 lb
Oil refill capacity	8 L	2 U.S. gal.	72 L	19 U.S. gal.	72 L	19 U.S. gal.
Wire rope diameter:						
Recommended	22 mm	7/8"	22 mm	7/8"	22 mm	7/8"
Optional	25 mm	1"	25 mm	1"	25 mm	1"
Drum capacity:						
Recommended rope	87 m	287'	87 m	287'	87 m	287'
Optional rope	68 m	223'	68 m	223'	68 m	223'
Wire rope ferrule size (OD)	51 mm	2"	51 mm	2"	51 mm	2"
Wire rope ferrule size (length)	57 mm	2 1/4"	57 mm	2 1/4"	57 mm	2 1/4"



WINCH MODEL	W6G		W8L			
TRACTOR MODEL	D6T		D7G Series II		D7R Series II	
Winch drive	PTO		PTO		PTO	
Winch type	Standard		Standard		Standard	
A Tractor to rear of winch	1244 mm	4'1"	864 mm	2'10"	1245 mm	4'1"
B Tractor to drum centerline	965 mm	3'2"	584 mm	1'11"	965 mm	3'2"
C Ground to top of winch	1549 mm	5'1"	1575 mm	5'2"	1600 mm	5'3"
D Ground to drum centerline	1193 mm	4'1"	1194 mm	3'11"	1219 mm	4'0"
E Ground to center of hitch	711 mm	2'4"	559 mm	1'10"	610 mm	2'0"
F Tractor to pin centerline	940 mm	3'1"	686 mm	2'3"	914 mm	3'2"
Overall width (not shown)	965 mm	3'2"	1041 mm	3'5"	1041 mm	3'5"
Drum diameter (not shown)	254 mm	10"	305 mm	12"	305 mm	12"
Weight	1520 kg	3350 lb	1338 kg	2950 lb	1587 kg	3500 lb
Oil refill capacity	72 L	19 U.S. gal.	79 L	21 U.S. gal.	79 L	21 U.S. gal.
Wire rope diameter:						
Recommended	22 mm	7/8"	25 mm	1"	25 mm	1"
Optional	25 mm	1"	28 mm	1 1/8"	28 mm	1 1/8"
Drum capacity:						
Recommended rope	87 m	287'	84 m	275'	84 m	275'
Optional rope	68 m	223'	67 m	220'	67 m	220'
Wire rope ferrule size (OD)	51 mm	2"	57 mm	2 1/4"	57 mm	2 1/4"
Wire rope ferrule size (length)	57 mm	2 1/4"	60 mm	2 3/8"	60 mm	2 3/8"



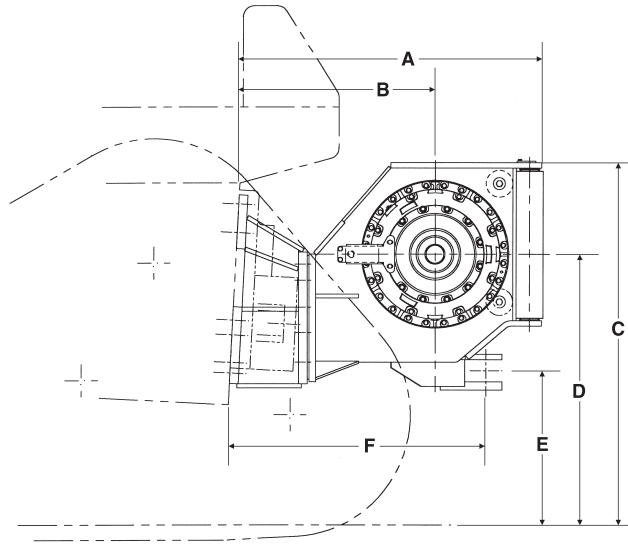
WINCH MODEL	PA90		H110B		PA110B	
TRACTOR MODEL	D6T		D7R Series 2		D7R Series 2	
Tractor transmission	Powershift		Powershift		Powershift	
Winch drive	Hydraulic (High Power)		Hydraulic (Ripper)		Hydraulic (High Power)	
A Tractor to rear of winch	1380 mm	4'6.4"	1585 mm	5'2.4"	1435 mm	4'8.5"
B Tractor to drum centerline	870 mm	2'10.3"	1075 mm	3'6.3"	925 mm	3'0.4"
C Ground to top of winch	1680 mm	5'6.1"	1695 mm	5'6.8"	1695 mm	5'6.8"
D Ground to drum centerline	1235 mm	4'0.6"	1255 mm	4'1.5"	1255 mm	4'1.5"
E Ground to center of hitch	670 mm	2'2.4"	705 mm	2'3.8"	705 mm	2'3.8"
F Tractor to drawbar pin centerline	1160 mm	3'7.7"	1370 mm	4'5.9"	1220 mm	4'0"
Winch width (not shown) ¹	1090 mm	3'7"	1160 mm	3'9.6"	1160 mm	3'9.6"
Drum diameter (not shown)	320 mm	1'0.5"	320 mm	1'0.5"	320 mm	1'0.5"
Weight ²	1500 kg	3300 lb	1790 kg	3950 lb	1790 kg	950 lb
Oil refill capacity	12 L	3.125 U.S. gal	15 L	4 U.S. gal	15 L	4 U.S. gal
Wire rope diameter:						
Recommended	26 mm	1"	28 mm	1.13"	28 mm	1.13"
Optional	28 mm	1.13"	32 mm	1.25"	32 mm	1.25"
Maximum theoretical drum capacity: ³						
Recommended rope	69 m	226'	78 m	257'	78 m	257'
Optional rope	55 m	180'	62 m	204'	62 m	204'
Maximum recommended drum capacity: ⁴						
Recommended rope	57 m	186'	55 m	182'	55 m	182'
Optional rope	39 m	128'	36 m	118'	36 m	118'
Wire rope ferrule size (OD)	60 mm	2.38"	60 mm	2.38"	60 mm	2.38"
Wire rope ferrule size (length)	70 mm	2.75"	70 mm	2.75"	70 mm	2.75"

¹ Width does not include mounting brackets/adapters (if any).

² Weight shown is base winch only. Does not include mounting arrangement, control arrangement, oil, or wire rope.

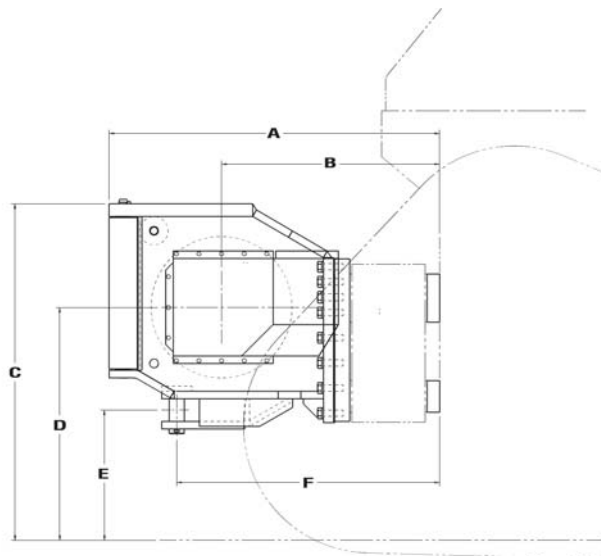
³ Per SAE J1158.

⁴ Per SAE J706 (K=9).



WINCH MODEL	H140		PA140			
TRACTOR MODEL	D8T		D8T		D9T	
Tractor transmission	Powershift		Powershift		Powershift	
Winch drive	Hydraulic (Ripper)		Hydraulic (High Power)		Hydraulic (High Power)	
A Tractor to rear of winch	1585 mm	5'2.4"	1435 mm	4'8.5"	1620 mm	5'3.8"
B Tractor to drum centerline	1075 mm	3'6.3"	925 mm	3'0.4"	1110 mm	3'7.3"
C Ground to top of winch	1715 mm	5'7.5"	1715 mm	5'7.5"	1740 mm	5'8.4"
D Ground to drum centerline	1275 mm	4'2.1"	1275 mm	4'2.1"	1300 mm	4'3.1"
E Ground to center of hitch	725 mm	2'4.5"	725 mm	2'4.5"	750 mm	2'5.5"
F Tractor to drawbar pin centerline	1370 mm	4'5.9"	1220 mm	4'0"	1350 mm	4'5.2"
Winch width (not shown) ¹	1160 mm	3'9.6"	1160 mm	3'9.6"	1160 mm	3'9.6"
Drum diameter (not shown)	320 mm	2'0.5"	320 mm	12.5"	320 mm	12.5"
Weight ²	1790 kg	3950 lb	1790 kg	3950 lb	1790 kg ⁵	3950 lb ⁵
Oil refill capacity	15 L	4 U.S. gal	15 L	4 U.S. gal	15 L	4 U.S. gal
Wire rope diameter:						
Recommended	28 mm	1.13"	28 mm	1.13"	28 mm	1.13"
Optional	32 mm	1.25"	32 mm	1.25"	32 mm	1.25"
Maximum theoretical drum capacity: ³						
Recommended rope	78 m	257'	78 m	257'	78 m	257'
Optional rope	62 m	204'	62 m	204'	62 m	204'
Maximum recommended drum capacity: ⁴						
Recommended rope	55 m	182'	55 m	182'	55 m	182'
Optional rope	36 m	118'	36 m	118'	36 m	118'
Wire rope ferrule size (OD)	60 mm	2.38"	60 mm	2.38"	60 mm	2.38"
Wire rope ferrule size (length)	70 mm	2.75"	70 mm	2.75"	70 mm	2.75"

¹ Width does not include mounting brackets/adapters (if any).² Weight shown is base winch only. Does not include mounting arrangement, control arrangement, oil, or wire rope.³ Per SAE J1158.⁴ Per SAE J706 (K=9).⁵ 3700 kg (8150 lb) with counterweight.



WINCH MODEL	H200			
TRACTOR MODEL	D8T		D9T	
Tractor transmission	Powershift		Powershift	
Winch drive	Hydraulic (High Power)		Hydraulic (High Power)	
A Tractor to rear of winch	1460 mm	57.5"	1645 mm	64.8"
B Tractor to drum centerline	960 mm	37.7"	1075 mm	42.4"
C Ground to top of winch	1760 mm	69.4"	1735 mm	68.3"
D Ground to drum centerline	1240 mm	48.8"	1215 mm	47.9"
E Ground to center of hitch	725 mm	28.5"	700 mm	27.5"
F Tractor to drawbar pin centerline	1170 mm	46.1"	1305 mm	51.3"
Winch width (not shown) ¹	1400 mm	55"	1400 mm	55"
Drum diameter (not shown)	380 mm	15"	380 mm	15"
Weight ²	3180 kg	7015 lb	3180 kg ⁵	7015 lb⁵
Oil refill capacity	16.5 L	4.4 U.S. gal	16.5 L	4.4 U.S. gal
Wire rope diameter:				
Recommended	35 mm	1.38"	35 mm	1.38"
Optional	38 mm	1.5"	38 mm	1.5"
Maximum theoretical drum capacity: ³				
Recommended rope	81 m	266'	81 m	266'
Optional rope	68 m	224'	68 m	224'
Maximum recommended drum capacity: ⁴				
Recommended rope	64 m	211'	64 m	211'
Optional rope	42 m	138'	42 m	138'
Wire rope ferrule size (OD)	71 mm	2.81"	71 mm	2.81"
Wire rope ferrule size (length)	79 mm	3.12"	79 mm	3.12"

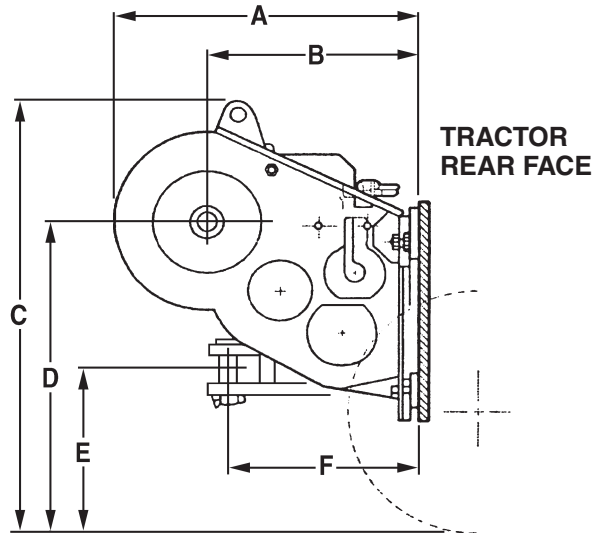
¹ Width does not include mounting brackets/adapters (if any).

² Weight shown is base winch only. Does not include mounting arrangement, control arrangement, oil, or wire rope.

³ Per SAE J1158.

⁴ Per SAE J706 (K=9).

⁵ 5080 kg (**11,200 lb**) with counterweight.



WINCH MODEL	W12E					
TRACTOR MODEL	D8T/583T/587T		D9R/D9T		D10T	
Winch drive	PTO		PTO		PTO	
Winch type	Standard		Standard		Standard	
A Tractor to rear of winch	1473 mm	4'10"	1422 mm	4'8"	1422 mm	4'8"
B Tractor to drum centerline	1143 mm	3'9"	1117 mm	3'8"	1117 mm	3'8"
C Ground to top of winch	1752 mm	5'9"	1675 mm	5'6"	2057 mm	6'9"
D Ground to drum centerline	1346 mm	4'4"	1270 mm	4'2"	1651 mm	5'5"
E Ground to center of hitch	685 mm	2'3"	610 mm	2'0"	991 mm	3'3"
F Tractor to pin centerline	1270 mm	4'2"	1219 mm	4'0"	1219 mm	4'0"
Overall width (not shown)	1219 mm	4'0"	1219 mm	4'0"	1219 mm	4'0"
Drum diameter (not shown)	355 mm	14"	355 mm	14"	355 mm	14"
Weight	2860 kg	6300 lb	2766 kg	6100 lb	3766 kg	8300 lb
Oil refill capacity	114 L	30 U.S. gal.	114 L	30 U.S. gal.	114 L	30 U.S. gal.
Wire rope diameter:						
Recommended	28 mm	1 1/8"	28 mm	1 1/8"	28 mm	1 1/8"
Optional	32 mm	1 1/4"	32 mm	1 1/4"	32 mm	1 1/4"
Drum capacity:						
Recommended rope	69 m	228'	69 m	228'	69 m	228'
Optional rope	55 m	181'	55 m	181'	55 m	181'
Wire rope ferrule size (OD)	57 mm	2 1/4"	57 mm	2 1/4"	57 mm	2 1/4"
Wire rope ferrule size (length)	60 mm	2 3/8"	60 mm	2 3/8"	60 mm	2 3/8"

WINCH MODEL		PA40	PA50
TRACTOR MODEL		D3K, D4K, D5K	D6K
British Units of Measure			
Tractor transmission		Hydrostatic	Hydrostatic
Winch drive		Hydrostatic	Hydrostatic
Bare Drum	Maximum line pull ⁽¹⁾	40,000	50,000
	Rated line speed ⁽²⁾	49	45
	Maximum line speed ⁽³⁾	132	124
Full Drum ⁽⁴⁾	Maximum line pull ⁽¹⁾	25,000	26,000
	Rated line speed ⁽²⁾	78	83
	Maximum line speed ⁽³⁾	207	230
Metric Units of Measure			
Bare Drum	Maximum line pull ⁽¹⁾	18 100	22 700
	Rated line speed ⁽²⁾	15	14
	Maximum line speed ⁽³⁾	40	38
Full Drum ⁽⁴⁾	Maximum line pull ⁽¹⁾	11 300	11 800
	Rated line speed ⁽²⁾	24	25
	Maximum line speed ⁽³⁾	63	70

⁽¹⁾"Maximum line pull" is lesser of winch catalog rating or predicted line pull at maximum tractor hydraulic system pressure.

⁽²⁾"Rated line speed" is actual line speed at maximum line pull.

⁽³⁾"Maximum line speed" is no-load speed at maximum tractor hydraulic system flow.

⁽⁴⁾"Full Drum" as defined in SAE J1158.

WINCH MODEL		H60	PA90	
TRACTOR MODEL		D6N	D6T	D7E
British Units of Measure				
Tractor transmission		Powershift	Powershift	Electric
Winch drive		Hydraulic (Ripper)	Hydraulic (High Power)	Hydraulic (High Power)
Bare Drum	Maximum line pull ⁽¹⁾	60,000	90,000	90,000
	Rated line speed ⁽²⁾	33	35	32
	Maximum line speed ⁽³⁾	99	68	63
Full Drum ⁽⁴⁾	Maximum line pull ⁽¹⁾	35,000	53,600	53,600
	Rated line speed ⁽²⁾	56	59	53
	Maximum line speed ⁽³⁾	170	114	106
Metric Units of Measure				
Bare Drum	Maximum line pull ⁽¹⁾	27 200	40 800	40 800
	Rated line speed ⁽²⁾	10	10	10
	Maximum line speed ⁽³⁾	30	20	19
Full Drum ⁽⁴⁾	Maximum line pull ⁽¹⁾	15 900	24 300	24 300
	Rated line speed ⁽²⁾	17	18	16
	Maximum line speed ⁽³⁾	52	34	32

⁽¹⁾"Maximum line pull" is lesser of winch catalog rating or predicted line pull at maximum tractor hydraulic system pressure.

⁽²⁾"Rated line speed" is actual line speed at maximum line pull.

⁽³⁾"Maximum line speed" is no-load speed at maximum tractor hydraulic system flow.

⁽⁴⁾"Full Drum" as defined in SAE J1158.

WINCH MODEL		H110B	PA110B	H140
TRACTOR MODEL		D7R Series 2	D7R Series 2	D8T
British Units of Measure				
Tractor transmission		Powershift	Powershift D/S	Powershift
Winch drive		Hydraulic (Ripper)	Hydraulic (High Power)	Hydraulic (Ripper)
Bare Drum	Maximum line pull ⁽¹⁾	101,000	110,000	140,000
	Rated line speed ⁽²⁾	24	33	19
	Maximum line speed ⁽³⁾	51	100	38
Full Drum ⁽⁴⁾	Maximum line pull ⁽¹⁾	61,000	66,500	84,600
	Rated line speed ⁽²⁾	39	54	31
	Maximum line speed ⁽³⁾	84	165	63
Metric Units of Measure				
Bare Drum	Maximum line pull ⁽¹⁾	45 800	49 900	63 500
	Rated line speed ⁽²⁾	7	10	6
	Maximum line speed ⁽³⁾	15	30	11
Full Drum ⁽⁴⁾	Maximum line pull ⁽¹⁾	27 600	30 100	38 400
	Rated line speed ⁽²⁾	12	16	9
	Maximum line speed ⁽³⁾	25	50	19

⁽¹⁾"Maximum line pull" is lesser of winch catalog rating or predicted line pull at maximum tractor hydraulic system pressure.

⁽²⁾"Rated line speed" is actual line speed at maximum line pull.

⁽³⁾"Maximum line speed" is no-load speed at maximum tractor hydraulic system flow.

⁽⁴⁾"Full Drum" as defined in SAE J1158.

WINCH MODEL		PA140	
TRACTOR MODEL		D8T	D9T
British Units of Measure			
Tractor transmission		Powershift	Powershift
Winch drive		Hydraulic (High Power)	Hydraulic (High Power)
Bare Drum	Maximum line pull ⁽¹⁾	140,000	140,000
	Rated line speed ⁽²⁾	23	23
	Maximum line speed ⁽³⁾	46	46
Full Drum ⁽⁴⁾	Maximum line pull ⁽¹⁾	84,600	84,600
	Rated line speed ⁽²⁾	38	38
	Maximum line speed ⁽³⁾	76	76
Metric Units of Measure			
Bare Drum	Maximum line pull ⁽¹⁾	63 500	63 500
	Rated line speed ⁽²⁾	7	7
	Maximum line speed ⁽³⁾	14	14
Full Drum ⁽⁴⁾	Maximum line pull ⁽¹⁾	38 400	38 400
	Rated line speed ⁽²⁾	11	11
	Maximum line speed ⁽³⁾	23	23

⁽¹⁾"Maximum line pull" is lesser of winch catalog rating or predicted line pull at maximum tractor hydraulic system pressure.

⁽²⁾"Rated line speed" is actual line speed at maximum line pull.

⁽³⁾"Maximum line speed" is no-load speed at maximum tractor hydraulic system flow.

⁽⁴⁾"Full Drum" as defined in SAE J1158.

WINCH MODEL		PA55	PA56		PA80
TRACTOR MODEL		D6N	D6G Series 2 XL	D6T	D7G Series 2
British Units of Measure					
Tractor transmission		Powershift	Powershift	Powershift	Powershift
Winch drive		PTO	PTO	PTO	PTO
Bare Drum	Rated line pull ⁽¹⁾	36,600	58,700	59,100	45,100
	Maximum line pull ⁽²⁾	69,200	89,800	89,800	86,900
	Rated line speed ⁽³⁾	97	70	80	107
	Maximum line speed ⁽⁴⁾	147	132	130	190
Full Drum ⁽⁵⁾	Rated line pull ⁽¹⁾	20,900	34,200	34,400	29,900
	Maximum line pull ⁽²⁾	54,100	65,400	76,300	57,500
	Rated line speed ⁽³⁾	169	120	136	161
	Maximum line speed ⁽⁴⁾	257	226	224	286
<i>Slow speed gearing</i>					
Bare Drum	Rated line pull ⁽¹⁾	50,000	70,000	70,000	—
	Maximum line pull ⁽²⁾	69,200	89,800	89,800	—
	Rated line speed ⁽³⁾	40	31	35	—
	Maximum line speed ⁽⁴⁾	61	59	58	—
Full Drum ⁽⁵⁾	Rated line pull ⁽¹⁾	50,000	70,000	70,000	—
	Maximum line pull ⁽²⁾	69,200	89,800	89,800	—
	Rated line speed ⁽³⁾	70	56	63	—
	Maximum line speed ⁽⁴⁾	107	104	103	—
Metric Units of Measure					
Bare Drum	Rated line pull ⁽¹⁾	16 600	26 600	26 800	20 450
	Maximum line pull ⁽²⁾	31 400	40 750	40 750	40 750
	Rated line speed ⁽³⁾	30	21	24	33
	Maximum line speed ⁽⁴⁾	45	40	40	58
Full Drum ⁽⁵⁾	Rated line pull ⁽¹⁾	9500	15 500	15 600	13 550
	Maximum line pull ⁽²⁾	24 550	29 650	34 600	26 100
	Rated line speed ⁽³⁾	52	37	41	49
	Maximum line speed ⁽⁴⁾	78	69	68	87
<i>Slow speed gearing</i>					
Bare Drum	Rated line pull ⁽¹⁾	22 650	31 750	31 750	—
	Maximum line pull ⁽²⁾	31 400	40 750	40 750	—
	Rated line speed ⁽³⁾	12	9	11	—
	Maximum line speed ⁽⁴⁾	19	18	18	—
Full Drum ⁽⁵⁾	Rated line pull ⁽¹⁾	19 650	31 750	31 750	—
	Maximum line pull ⁽²⁾	31 400	40 750	40 750	—
	Rated line speed ⁽³⁾	21	17	19	—
	Maximum line speed ⁽⁴⁾	33	32	31	—

⁽¹⁾"Rated line pull" is lesser of winch catalog rating or actual line pull at maximum PTO horsepower.

⁽²⁾"Maximum line pull" is lesser of actual line pull at maximum PTO output torque or catalog breaking strength of maximum optional size new IWRC IPS wire rope.

⁽³⁾"Rated line speed" is actual line speed at maximum PTO output horsepower.

⁽⁴⁾"Maximum line speed" is no-load speed at maximum tractor engine rpm.

⁽⁵⁾"Full Drum" as defined in SAE J1158.

WINCH MODEL		H200	
TRACTOR MODEL		D8T	D9T
British Units of Measure			
Tractor transmission		Powershift	Powershift
Winch drive		Hydraulic (High Power)	Hydraulic (High Power)
Bare Drum	Maximum line pull ⁽¹⁾ lb	180,000	200,000
	Rated line speed ⁽²⁾ fpm	17	17
	Maximum line speed ⁽³⁾ fpm	38	38
Full Drum ⁽⁴⁾	Maximum line pull ⁽¹⁾ lb	112,000	124,500
	Rated line speed ⁽²⁾ fpm	27	27
	Maximum line speed ⁽³⁾ fpm	61	61
Metric Units of Measure			
Bare Drum	Maximum line pull ⁽¹⁾ kg	81 600	90 700
	Rated line speed ⁽²⁾ m/min	5	5
	Maximum line speed ⁽³⁾ m/min	11	11
Full Drum ⁽⁴⁾	Maximum line pull ⁽¹⁾ kg	50 800	56 400
	Rated line speed ⁽²⁾ m/min	8	8
	Maximum line speed ⁽³⁾ m/min	18	18

⁽¹⁾"Maximum line pull" is lesser of winch catalog rating or calculated maximum line pull at maximum hydraulic system pressure.

⁽²⁾"Rated line speed" is calculated line speed at maximum hydraulic system pressure and flow with winch motor at maximum displacement.

⁽³⁾"Maximum line speed" is calculated no-load line speed at maximum hydraulic system flow with winch motor at minimum displacement.

⁽⁴⁾"Full Drum" as defined in SAE J1158.

WINCH MODEL		H4AT	H4AH	H5CT	H5CH
TRACTOR MODEL		D3K, D4K, D5K	D3K, D4K, D5K	D6K	D6K
British Units of Measure <i>Standard speed gearing</i>					
Winch drive		Ripper Hydraulics	Allied hi-flow pump	Ripper Hydraulics	Allied hi-flow pump
Winch type		Rescue	Hi-Performance	Rescue	Hi-Performance
Bare Drum	Rated line pull	10,400	10,400	14,200	14,200
	Maximum line pull	31,900	38,600	63,700	55,700
	Rated line speed	28	105	25	128
	Maximum line speed	46	105	27	137
Full Drum	Rated line pull	10,400	10,400	14,200	14,200
	Maximum line pull	18,200	22,100	34,400	30,000
	Rated line speed	49	110	47	100
	Maximum line speed	81	184	50	254
Metric Units of Measure <i>Standard speed gearing</i>					
Bare Drum	Rated line pull	4717	4717	6441	6441
	Maximum line pull	14 470	17 509	28 894	25 265
	Rated line speed	8.5	32.0	7.6	39.0
	Maximum line speed	21	48	12	62
Full Drum	Rated line pull	4717	4717	6441	6441
	Maximum line pull	8255	10 024	15 604	13 608
	Rated line speed	14.9	33.5	14.3	30.5
	Maximum line speed	37	83	23	115

WINCH MODEL		H6GT	W6G	W6F	W6G
TRACTOR MODEL		D6N	D6N	D6G Series II	D6T
British Units of Measure <i>Standard speed gearing</i>					
Winch drive		Ripper Hydraulics	PTO	PTO	PTO
Winch type		Rescue	Standard	Standard	Standard
Bare Drum	Rated line pull	20,700	20,000	20,000	20,000
	Maximum line pull	77,600	89,800*	89,800*	89,800*
	Rated line speed	20	133	105	129
	Maximum line speed	22	156	141	149
Full Drum	Rated line pull	20,700	20,000	20,000	20,000
	Maximum line pull	40,200	49,700	69,000	57,600
	Rated line speed	38	185	170	198
	Maximum line speed	41	284	200	264
Metric Units of Measure <i>Standard speed gearing</i>					
Bare Drum	Rated line pull	9389	9072	9072	9072
	Maximum line pull	35 199	40 733*	40 733*	40 733*
	Rated line speed	6.1	40.5	32.0	39.3
	Maximum line speed	10	71	64	68
Full Drum	Rated line pull	9389	9072	9072	9072
	Maximum line pull	18 234	22 544	31 298	26 127
	Rated line speed	11.6	56.4	51.8	60.4
	Maximum line speed	19	129	91	120

*Line pull limited by rated breaking strength of wire rope.

WINCH MODEL		W8L	
TRACTOR MODEL		D7G Series II	D7R II/572R II
British Units of Measure <i>Standard speed gearing</i>			
Winch drive		PTO	PTO
Winch type		Standard	Standard
Bare Drum	Rated line pull	40,000	40,000
	Maximum line pull	106,000	108,700
	Rated line speed	122	125
	Maximum line speed	166	170
Full Drum	Rated line pull	40,000	40,000
	Maximum line pull	65,000	64,900
	Rated line speed	177	126
	Maximum line speed	270	281
Metric Units of Measure <i>Standard speed gearing</i>			
Bare Drum	Rated line pull	18 144	18 144
	Maximum line pull	48 081	49 305
	Rated line speed	37.2	38.1
	Maximum line speed	50.6	51.8
Full Drum	Rated line pull	18 144	18 144
	Maximum line pull	29 483	29 438
	Rated line speed	53.9	38.4
	Maximum line speed	82.3	85.6

WINCH MODEL		W12E		
TRACTOR MODEL		D8T/583T/587T	D9T	D10T
British Units of Measure <i>Standard speed gearing</i>				
Winch drive		PTO	PTO	PTO
Winch type		Standard	Standard	Standard
Bare Drum	Rated line pull	80,000	80,000	90,000
	Maximum line pull	138,800*	138,800*	138,800*
	Rated line speed	58	50	54
	Maximum line speed	66	56	58
Full Drum	Rated line pull	80,000	80,000	90,000
	Maximum line pull	138,800	138,800	138,800
	Rated line speed	82	75	82
	Maximum line speed	102	87	91
Metric Units of Measure <i>Standard speed gearing</i>				
Bare Drum	Rated line pull	36 287	36 287	40 823
	Maximum line pull	62 959*	62 959*	62 959*
	Rated line speed	17.7	15.2	16.5
	Maximum line speed	20.1	17.1	17.7
Full Drum	Rated line pull	36 287	36 287	40 823
	Maximum line pull	62 959	62 959	62 959
	Rated line speed	25.0	22.9	25.0
	Maximum line speed	31.1	26.5	27.7

*Line pull limited by rated breaking strength of wire rope.

MOTOR GRADERS

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INDUSTRIES SERVED

The motor grader is one of the most versatile work tools in the Cat® product line. The M-Series machines are used in numerous applications within a wide range of industries. The major industries using Cat motor graders, along with the typical applications within each, are summarized below.

● Heavy Construction

- Highway Construction
- Paving/Resurfacing
- Airport Construction
- Railroad Construction
- Dam and Levee Construction
- Haul Road Maintenance

● Governmental

- Road Maintenance
- Road Construction
- Ditch Building/Cleaning
- Snow Removal

● Building Construction

- Residential Construction
- Commercial Construction
- Industrial Construction
- Sewer and Water Systems

● Industrial

- Waste Disposal
- Pipeline Construction

● Mining

- Haul Road Maintenance
- Snow Removal

● Forestry

- Access Road Construction
- Forest Development
- Snow Removal
- Haul Road Maintenance

- **Geographic Versions** — Cat Motor Graders were specifically designed to meet the needs of different geographic regions and regulations. K-Series Versions for less regulated locations and M Series Global Versions are available with an assortment of standard features and optional equipment. All motor graders feature advanced electronically controlled Cat engines, power train components, hydraulics and machine structures.

FEATURES, M-Series Motor Graders:

Building on the strong heritage of the H-Series, the M-Series delivers multiple technological breakthroughs setting the new standard for motor graders. The H-Series has been the industry standard in a variety of heavy construction, mining, road building and governmental applications. The M-Series continues this tradition, incorporating revolutionary, customer-driven enhancements by:

- Improving ease of operation and operation training time
- Best-in-class operator station and unmatched visibility
- Maximum productivity
- Improving availability and decreasing maintenance time

The M-Series line includes seven models: 120M/120M AWD, 12M, 140M/140M AWD, 160M/160M AWD, 14M, 16M, 24M. The 120M through 14M meet construction, road building, and governmental applications. Three of the models introduce All Wheel Drive (AWD) as an option. AWD improves traction in poor underfoot conditions such as snow, mud, and sand. The 16M and 24M meet the specialized needs of large mining customers.

- **Operation Station:** The 120M through 16M models feature a revolutionary cab design that provides unmatched comfort, visibility and ease of use, making the operator more confident and productive. The M-Series provides a comfortable environment to keep the operator alert and focused. The interior noise level is maintained between 70 and 74 dB(A) with the doors and windows closed.

Ease of Operation. The revolutionary joystick controls and exceptional visibility make the M-Series easier to operate without sacrificing control. The intuitive joystick control pattern allows both new and experienced operators to become productive quickly. Logical grouping of hydraulic functions in the joysticks allow any operator to easily control several functions at the same time. This allows the operator to be more productive and remain comfortable throughout the work shift.

Advanced Joystick Controls. Two electro-hydraulic joysticks reduce hand and wrist movement as much as 78% compared to conventional lever controls for greatly enhanced operator efficiency. The intuitive pattern is easy to learn and provides the precise implement control to allow both new and experienced operators to become productive quickly. Logical grouping of hydraulic functions in the joysticks allow any operator to control several functions at the same time for more productivity.

Visibility. The 120M through 16M models boast excellent visibility to the work area, made possible with angled cab doors, a tapered engine enclosure and a patented sloped rear window. Ample glass area and carefully placed components provide excellent visibility to enhance operator confidence and productivity in all motor grader applications. The M-Series gives the operator an exceptional view forward to the blade, working surface and front tires. The M-Series black glare-reducing paint on the front frame and engine enclosure enhances visibility.

Comfort and Convenience. Caterpillar has built the most comfortable cab in the industry by replacing the control levers and steering wheel with two joystick controls, and using a deeper cab design to give more leg room.

- **Drawbar, Circle and Moldboard:** The 120M through 16M models provide a broad range of extended blade positions particularly beneficial in mid-range bank sloping, ditch cutting and ditch cleaning. A long wheel base allows for an aggressive blade angle permitting material to roll more freely, reducing power requirements. Top-accessible drawbar wear inserts and the shimless moldboard retention system make DCM adjustments fast and simple, delivering more precise material control while lowering operating costs.

Top-Adjust Drawbar Wear Strips. The patented top-adjust wear strips dramatically reduce drawbar/circle adjustment time. By removing the access plates on top of the drawbar, shims and wear strips can easily be added or replaced. This feature reduces service downtime and lowers overall machine operating costs.

Shimless Moldboard Retention System. The unique shimless moldboard retention system reduces the potential for blade chatter. Adjusting screws keep the moldboard's wear strips aligned for precise blade control and dramatic reductions in service time.

- **Power Train:** Integrated, electronically controlled systems, deliver smooth reliable performance with reduced operating costs.

Smooth Shifting Transmission. The M-Series combine several key innovations to ensure smooth, powerful shifts throughout the gear range.

Electronically Controlled Shifting. The full Electronic Clutch Pressure Control (ECPC) system optimizes inching modulation and smoothes shifting between all gears and directional changes. This provides outstanding control and also extends the life of the transmission by reducing stress on gears.

Load Compensation. This standard feature ensures consistent shift quality regardless of blade or machine load.

Hydraulic Brakes. The oil bathed, multi-disc service brakes are hydraulically actuated, providing smooth predictable braking and lower operating costs. With brakes located at each tandem wheel, the M-Series offer the largest total brake surface area in the industry, delivering dependable stopping power and longer brake life.

- **Engine:** The M-Series combine power management with ACERT™ Technology to deliver maximum power and efficiency while reducing the environmental impact.

ACERT™ Technology. ACERT Technology allows Cat engines to supply more power per unit of displacement without causing premature wear. This breakthrough technology reduces emissions during the combustion process by using advanced technology in the air and fuel systems, in conjunction with integrated electronics. ACERT Technology enhances overall engine performance while dramatically reducing exhaust emissions.

Power Management. The M-Series Power Management System automatically delivers an additional 3.7 kW (5 hp) in each forward gear 1st through 4th, and each reverse gear 1st through 3rd. This standard feature optimizes rimpull for all gears by balancing traction, speed and horsepower while conserving fuel. The system limits horsepower in lower gears, which helps reduce wheel slip where traction is limited. With the Variable Horsepower Plus (VHP Plus) option, an additional 3.7 kW (5 hp) is delivered in each forward gear 5th through 8th for more power at higher speeds.

Exhaust Emissions Compliant. The Cat ACERT Technology engines meet or exceed all U.S. EPA Tier 3 and European Union Stage IIIa emissions control standards.

- **Hydraulics:** The M-Series electro-hydraulics enable advanced machine controls with precise and predictable movements.

Advanced Electro-Hydraulic System. The M-Series incorporates a state-of-the-art electro-hydraulic system. This technology is the foundation for revolutionary changes of the machine and implement controls. Advanced joystick controls provide unmatched controllability with precise and predictable hydraulic movements, and the reliability you expect from Caterpillar.

Load Sensing Hydraulics (PPPC). The time proven load-sensing system and the advanced Proportional Priority Pressure-Compensating (PPPC, or “triple-PC”) electro-hydraulic valves on the M-Series are designed to provide superior implement control and enhanced machine performance in all applications. Continuous matching of hydraulic flow and pressure to power demands creates less heat and reduces power consumption.

- **Integrated Electronic Solutions:** Full systems integration optimizes machine performance and availability.

“Smart Machine.” The M-Series fully integrate all core systems creating a “Smart Machine.” The Cat data link shares key data among systems, optimizing machine performance while preventing potential machine damage.

AccuGrade™ Attachment Ready Option. The AccuGrade Attachment Ready Option is fully integrated into the machine design, making installation quick and easy. Integral hydraulic and electrical components are standard on M-Series (Grade Control Ready). The AccuGrade Attachment Ready Option provides additional mounting brackets, cab controls and electrical harnesses for easy installation of the Cross Slope, Sonic, Laser, GPS or ATS electronics kits.

- **Serviceability:**

Grouped Service Points. The M-Series group daily service points in the left side service center to help ensure proper maintenance and inspection routines.

Extended Service Intervals. The M-Series extended service intervals, such as 500-hour engine oil changes and 4000-hour hydraulic oil changes, reduce machine service time and increase availability.

Ecology Drains. Conveniently located ecology drains shorten service times and help keep the environment safe by preventing spills.

Diagnostics and Monitoring. The M-Series provides Cat Messenger as standard equipment to enhance diagnostic capabilities by displaying machine system errors and fault codes. Cat Electronic Technician is a two way communication tool that provides easy access to stored diagnostic data and lets technicians configure machine parameters through the Cat Data Link. The optional Product Link provides a communication flow of vital machine data and location. The M-Series integrates Cat Messenger, Cat Electronic Technician, and S-O-SSM analysis for easy monitoring and fast troubleshooting, keeping your machine up and running.

- **Safety.** Safety is an integral part of all machine and system designs. The M-Series machines provide a safe working environment for both the operator and ground personnel. ROPS and FOPS structures meeting current SAE and ISO requirements are standard on all Global machines. Backup alarms are also standard on the M Series.

Operator Presence System. The Operator Presence System keeps the parking brake engaged until the operator is seated for safe operation.

Secondary Steering System. The standard secondary steering system automatically engages in case of a drop in steering pressure, allowing the operator to steer the machine to a stop.

Speed Sensitive Steering. The steering software automatically provides an infinitely variable ratio between the joystick and the steer tires, resulting in less sensitive steering as the ground-speed increases.

Hydraulic Lockout. A simple switch located in the cab disables all implement functions while still providing machine steering control. This safety feature is especially useful while the machine is roading.

Circle Drive Slip Clutch. This standard feature protects the drawbar, circle and moldboard from shock loads when the end of the blade encounters immovable objects. It also reduces the possibility of abrupt directional changes in poor traction conditions, protecting the machine, operator and surroundings.

Blade Lift Accumulators. This optional feature uses accumulators to help absorb impact loads to the moldboard by allowing vertical blade travel. Blade lift accumulators reduce unnecessary wear and help to avoid unintended machine movement for increased operator safety.

Drop-Down Rear Lights. Optional drop down lights fold out from the rear of the machine. This creates a wider, lower profile, to be better aligned with passenger cars.

Rear View Camera. Visibility is further enhanced with an optional Work Area Vision System (WAVS) LCD color monitor in the cab.

- **Best Product Support:** Cat motor grader users are assured the best product support anywhere in the world. With industry-best parts availability, training and an offering of inspection, maintenance and repair, Cat dealers can provide the support needed to keep the machines productive.

FEATURES, K-Series Motor Graders:

Overview

The K-Series model line-up is targeted to meet customer requirements in less regulated countries. Built on the success of the Standard H-Series, the K-Series delivers multiple improvements in emissions control and operator features, while still maintaining the industry standard for reliability. The K-Series model line-up consists of the 120K, 12K, 140K and 160K.

Engine

- **ACERT Engine Technology:** The K-Series models are equipped with Caterpillar ACERT engine technology, which uses numerous advanced components to efficiently produce more power and fewer emissions.
- **Emissions Compliant:** The K-Series machines meet or exceed US EPA Tier 2 and EU Stage II emissions regulations.
- **Power Management Strategy:** The K-Series power management strategy provides an additional 7.5 kW (10 hp) increase in third and another 7.5 kW (10 hp) in fourth gear through Variable Horsepower (VHP). This allows the operator to maintain maximum rimpull while increasing ground speed and productivity.

Power Train

- **Electronic Clutch Pressure Control (ECPC):** This standard K-Series feature smoothes shifts and improves inching control. The system uses input from the transmission and operator controls to modulate the directional clutches and produce consistent shifting.
- **Autoshift:** This optional feature improves ease of operation and maximizes productivity by automatically shifting the transmission at optimal shifting points.

Serviceability

- **Grouped Service Points:** The K-Series group daily service points in the left side service center to help ensure proper maintenance and inspection routines.
- **Diagnostic Capability:** The K-Series offer an improved dash cluster to keep the operator informed of critical system conditions. Cat Electronic Technician is also offered and this allows faster diagnostic capabilities by service personnel. Product Link allows tracking of vital machine data and location providing a convenient way to track the machine.
- **Extended Service Intervals:** Improvements in serviceability allow increased machine operation between service intervals. The machines can operate a full 500 hours between engine oil and filter changes, 4,000 hours between hydraulic oil changes, and 12,000 hours between engine coolant changes. This reduces downtime and operating expense.

APPLICATIONS, Motor Graders:

The broad line of Cat motor graders allows the customer to choose a motor grader that best fits the intended application. Below is a summary of the typical motor grader applications.

Finish Grading

This application involves preparing a roadway or site surface for future paving or other construction activity. The material being moved is usually a hard, dry base material on a solid underfoot. Finish blading is the motor grader application that requires the highest degree of accuracy. Thus, it is primarily done at low operating speeds — usually less than 5 km/h (3 mph) — in gears 1 and 2. To ensure a smooth, even finished surface, one gear is usually maintained for a given pass. Pass lengths during this application are usually less than 600 m (2000 feet) for road construction and 150 m (500 feet) for site development. Most finish blading is performed by contractors in the Heavy Construction and Building Construction industries.

Heavy Blading

This application involves cutting, moving, and mixing material, usually in the initial stages of surface preparation. A variety of material types are moved in this manner, and the blade tip position varies accordingly. Full blade loads are usually experienced during heavy blading, since moving material is the primary goal. Pass lengths within this application vary, but are usually less than 600 m (2000 feet). Unlike with finish blading, the speed of the machine is dependent on the load being moved when heavy blading material. Typical operating speeds are from 0-10 km/h (0 to 6 mph). Therefore, gears 2 through 4 are frequently used in this application. Most heavy blading activity is performed by contractors in the Heavy Construction, Governmental, Industrial, and Forestry industries.

Site Preparation

This application involves any material cutting, moving, and mixing necessary to prepare a residential, commercial, or industrial site for construction. A variety of materials are encountered in this application. Blade loads vary depending on the activity being performed. Both heavy blading and finish blading are performed when preparing a site. Pass lengths are typically in the range of 30-300 m (100 to 1000 feet). Typical operating speeds for site preparation vary depending on whether heavy blading or finish blading activities are being performed. Most site preparation activities are performed by contractors in the Building Construction industry.

Road Maintenance

This application involves reshaping dirt or gravel roads to maintain a crown or superelevation, or restoring the surface itself. This generally involves secondary roads maintained by governmental bodies such as townships and counties. Materials being moved in this application vary from extremely hard dirt bases to moist gravel surfaces. The typical blade load falls between that of finish blading and heavy blading. Pass lengths are frequently longer than 600 m (2000 feet), and can extend for miles. The general speed range for this application is 5-16 km/h (3 to 10 mph), corresponding to gears 2 (heavy dirt) through 5 (soft gravel). As with finish blading, accuracy of the graded surface is the primary concern in this application. Thus, frequent shifts should be avoided whenever possible. A gear should be chosen and maintained unless there is a significant change in the material being moved. Most road maintenance activities are performed by the Governmental industry.

Haul Road Maintenance

This application of the motor grader involves reshaping haul roads at mining, construction, or forestry work sites, usually for the purpose of maintaining smooth travel surfaces for equipment. Materials being moved while maintaining haul roads vary widely depending on the application. Typical blade loads are about one-third to half of full capacity. Some haul roads that experience large hauling units travelling on soft material may require heavy blade loads in order to reshape the road surface. Pass lengths vary depending on the application, but can extend for miles on remote forestry or large mine haul roads. The general speed range for haul road maintenance is heavily dependent on the material being moved as well as the grade of the haul road. Many mine sites are in mountainous areas, requiring haul roads with steep grades. Generally, haulroad maintenance is performed at speeds similar to those required for general road maintenance 5-16 km/h (3 to 10 mph).

A travel surface that allows for the safe and efficient movement of machinery is the ultimate goal with this motor grader application. Very precise roadway elevations and slopes are desired, but are not as crucial as they are when finish blading. Most haul road maintenance activities are performed by the Mining, Heavy Construction, and Forestry industries.

Side/Bank Slope Work

This application involves preparing side slopes or bank slopes along roadways by placing the moldboard on a sloped surface. Slopes of up to a 2:1 angle can be cut using a motor grader. Often the motor grader is operated on the level surface adjacent to the slope, and the moldboard is extended outward to the sloped surface. Fine soils are generally encountered in this application of the motor grader. Blade loads are usually less than half of the full-blade capacity, and pass lengths are seldom longer than 600 m (2000 feet). A smooth-graded sloped surface is the primary concern in this application, so frequent shifts should be avoided. The typical speed range is 0-6 km/h (0 to 4 mph), corresponding to a gear selection of 1 to 3. The nominal speed is heavily dependent on the type of material being moved and on the slope of the surface. Most side/bank slope work is performed by the Heavy Construction and Governmental industries.

Ditch Building/Cleaning

This application involves cutting “V” and flat-bottom ditches for drainage purposes and rebuilding them when necessary. Due to excessive rain and/or poor material, ditches often need cleaning and reshaping. When building ditches, materials with a wide range of densities are encountered. Blade loads vary accordingly, from half to full-blade capacity. Pass lengths are usually less than 600 m (2000 feet). The primary objective is to move material in a manner that yields a ditch with the desired slope. Ditch building often involves cutting and moving material of high density. Therefore, typical speed ranges vary. Most ditch-building work, however, is performed in gears 1 through 3, corresponding to a maximum speed of about 8 km/h (5 mph). Ditch cleaning usually involves blading moist materials underneath a sod cover. Blade loads are usually less than half of full blade capacity when cleaning ditches, and pass lengths are similar to those encountered in ditch building. Typical maximum speeds for this activity are similar to that of ditch building, but less of a blade load is experienced. Ditch building and cleaning activities are usually performed by the Heavy Construction and Governmental industries.

Ripping/Scarifying

This application involves conditioning hard, rough soils before they are bladed. Shanks on the ripper and/or scarifier are pushed into the ground, thus breaking up otherwise hard surfaces. Hard materials such as asphalt can also be loosened in order to make grading operations less damaging to the moldboard. Rippers and scarifiers can also be used to mix aggregates together. The materials being ripped/scarified are usually hard and dry. Rippers generally penetrate 150-300 mm (6 to 12 inches) into the ground, while scarifiers typically penetrate to a depth of 25-200 mm (1 to 8 inches). Pass lengths are generally less than 600 m (2000 feet) for both activities. Since the material being ripped/scarified is generally hard, the typical maximum speed for this application is about 6 km/h (4 mph) gears 1-2. If the ripper/scarifier is used for mixing aggregates, the typical operating range becomes 6-20 km/h (4 to 12 mph) gears 3-6. Most ripping/scarifying activities are performed by the Heavy Construction and Governmental industries.

Snow Removal

Snow removal is the process of cutting and removing snow or ice from the roadway. In addition to the standard motor grader moldboard, other attachments such as a snow wing, V-plow, one-way plow, or reversible plow can be used to remove the snow. The moldboard itself is the most commonly used attachment for snow plowing. It is used in areas where snow depths are low, the terrain is relatively flat, and where excessive drifting does not occur. A snow wing is a moldboard that attaches to the machine's right side. The wing's curvature lifts the snow and "wings" it off the plowed surface. The snow wing is often used in conjunction with the standard moldboard, where the moldboard cuts the material and feeds it onto the wing. V-plows are mounted in front of the motor grader and are designed to dig into and lift packed snow. The typical speed range for snow removal is 10-30 km/h (6 to 18 mph), corresponding to a gear range of 3 to 7. Snow plowing often involves lower speeds than snow removal. The typical operating range for snow plowing is 8-19 km/h (5 to 12 mph) gears 2 to 4. The majority of Snow Removal/Plowing operations are performed by the Governmental, Mining, and Forestry industries.

Motor Graders Standard Versions

Specifications



MODEL	120K		12K	
Net Flywheel Power: Gears 4-8	108 kW	145 hp	123 kW	165 hp
Gear 3▲	101 kW	135 hp	116 kW	155 hp
Gears 1-2▲	93 kW	125 hp	108 kW	145 hp
Operating Weight (Typical)*	13 032 kg	28,731 lb	14 334 kg	31,601 lb
Engine Model	C7 ACERT™ VHP		C7 ACERT VHP	
Rated Engine RPM	2000		2000	
No. of Cylinders	6		6	
Displacement	7.2 L	439 in³	7.2 L	439 in³
Max. Torque	50%		50%	
No. of Speeds Forward/Reverse	8/6		8/6	
Top Speed: Forward	45.7 km/h	28.4 mph	44.8 km/h	27.9 mph
Reverse	36.1 km/h	22.4 mph	35.4 km/h	22 mph
Std. Tires — Front and Rear	13.00-24 (12 PR) (G-2)		13.00-24 (12 PR) (G-2)	
Front Axle/Steering:				
Oscillation Angle	32°		32°	
Wheel Lean Angle	18°		18°	
Steering Angle	47.5°		47.5°	
Articulation Angle	20°		20°	
Minimum Turning Radius**	7.3 m	23'10"	7.5 m	24'7"
Front Frame Section Modulus:				
Min.	1619 cm²	99 in²	2083 cm²	127 in²
Max.	3681 cm²	225 in²	4785 cm²	291 in²
No. Circle Support Shoes	4		6	
Hydraulics: Pump Type	Variable Piston		Variable Piston	
Max. Pump Flow	205.8 L/min	54.4 gpm	205.8 L/min	54.4 gpm
Reservoir Tank Capacity	55 L	14.5 U.S. gal	55 L	14.5 U.S. gal
Implement Pressure: Max.	25 500 kPa	3699 psi	25 500 kPa	3699 psi
Min.	3600 kPa	522 psi	3600 kPa	522 psi
Electrical:				
System Size	24V		24V	
Std. Battery CCA @ 0° F	750		750	
Std. Alternator	95 amp		95 amp	
GENERAL DIMENSIONS:				
Height (to top of ROPS)	3.33 m	10'11"	3.32 m	10'11"
Height (No Cab/Canopy)***	2.88 m	9'6"	3.02 m	9'11"
Overall Length	8.24 m	27'0"	8.47 m	27'9"
With Ripper and Pushplate	9.77 m	32'1"	10.01 m	32'10"
Wheelbase	5.87 m	19'3"	6.09 m	20'0"
Blade Base	2.60 m	8'6"	2.60 m	8'6"
Overall Width (at top of front tires)	2.46 m	8'1"	2.46 m	8'1"
Standard Blade: Length	3.66 m	12'0"	3.66 m	12'0"
Height	610 mm	2'0"	610 mm	2'0"
Thickness	22 mm	0.87"	22 mm	0.87"
Lift Above Ground	410 mm	16"	480 mm	19"
Max. Shoulder Reach:◀				
Frame Straight — right	1.93 m	6'4"	1.81 m	5'11"
Frame Straight — left	1.76 m	5'9"	1.86 m	6'1"
Fuel Tank Capacity	305 L	80.6 U.S. gal	305 L	80.6 U.S. gal

*Typical Operating Weight — based on standard machine configuration, with Cab High Profile ROPS, 13.00-24 12 PR (G-2) tires, full fuel tank, coolant, lubricants and operator.

**Minimum Turning Radius — combining the use of articulated frame steering, front wheel steer and unlocked differential.

***Height (No Cab/Canopy) — without ROPS, exhaust, or other easily removed encumbrances.

◀Applicable for the standard blade with hydraulic sideshift and tip control. Maximum shoulder reach is obtainable to the right.

▲ Engine Power Management automatically reduces power in gears 1F-3F and 1R-2R.



MODEL	140K		160K	
Net Flywheel Power: Gears 4-8	142 kW	190 hp	154 kW	206 hp
Gear 3▲	135 kW	181 hp	147 kW	196 hp
Gears 1-2▲	127 kW	170 hp	139 kW	186 hp
Operating Weight (Typical)*	14 768 kg	32,558 lb	15 785 kg	34,800 lb
Engine Model	C7 ACERT VHP		C7 ACERT VHP	
Rated Engine RPM	2000		2000	
No. of Cylinders	6		6	
Displacement	7.2 L	439 in ³	7.2 L	439 in ³
Max. Torque	46%		46%	
No. of Speeds Forward/Reverse	8/6		8/6	
Top Speed: Forward	46.8 km/h	29.1 mph	46.4 km/h	28.8 mph
Reverse	37 km/h	23 mph	36.6 km/h	22.8 mph
Std. Tires — Front and Rear	14.00-24 (12 PR) (G-2)		14.00-24 (12 PR) (G-2)	
Front Axle/Steering:				
Oscillation Angle	32°		32°	
Wheel Lean Angle	18°		18°	
Steering Angle	47.5°		47.5°	
Articulation Angle	20°		20°	
Minimum Turning Radius**	7.5 m	24'7"	7.5 m	24'7"
Front Frame Section Modulus:				
Min.	2083 cm ²	127 in ²	2083 cm ²	127 in ²
Max.	4785 cm ²	291 in ²	4785 cm ²	291 in ²
No. Circle Support Shoes	6		6	
Hydraulics: Pump Type	Variable Piston		Variable Piston	
Max. Pump Flow	205.8 L/min	54.4 gpm	205.8 L/min	54.4 gpm
Reservoir Tank Capacity	55 L	14.5 U.S. gal	55 L	14.5 U.S. gal
Implement Pressure: Max.	25 500 kPa	3699 psi	25 500 kPa	3699 psi
Min.	3600 kPa	522 psi	3600 kPa	522 psi
Electrical:				
System Size	24V		24V	
Std. Battery CCA @ 0° F	750		750	
Std. Alternator	95 amp		95 amp	
GENERAL DIMENSIONS:				
Height (to top of ROPS)	3.35 m	11'0"	3.35 m	11'0"
Height (No Cab/Canopy)***	3.05 m	10'0"	3.05 m	10'0"
Overall Length	8.50 m	27'11"	8.50 m	27'11"
With Ripper and Pushplate	10.01 m	32'10"	10.01 m	32'10"
Wheelbase	6.09 m	20'0"	6.09 m	20'0"
Blade Base	2.60 m	8'6"	2.55 m	8'4"
Overall Width (at top of front tires)	2.48 m	8'2"	2.48 m	8'2"
Standard Blade: Length	3.66 m	12'0"	4.27 m	14'0"
Height	610 mm	2'0"	686 mm	2'3"
Thickness	22 mm	0.87"	25 mm	1"
Lift Above Ground	480 mm	18.9"	452 mm	17.8"
Max. Shoulder Reach:◀				
Frame Straight — right	1.98 m	6'6"	2.26 m	7'5"
Frame Straight — left	1.90 m	6'3"	2.22 m	7'4"
Fuel Tank Capacity	305 L	80.6 U.S. gal	344 L	90.9 U.S. gal

*Typical Operating Weight — based on standard machine configuration, with Cab High Profile ROPS, 14.00-24 12 PR (G-2) tires, full fuel tank, coolant, lubricants and operator.

**Minimum Turning Radius — combining the use of articulated frame steering, front wheel steer and unlocked differential.

***Height (No Cab/Canopy) — without ROPS, exhaust, or other easily removed encumbrances.

◀Applicable for the standard blade with hydraulic sideshift and tip control. Maximum shoulder reach is obtainable to the right.

▲Engine Power Management automatically reduces power in gears 1F-3F and 1R-2R.


MODEL
120M
12M

Base Power — Net	103 kW	138 hp	118 kW	158 hp
VHP Range — Net	103-114 kW	138-153 hp	118-129 kW	158-173 hp
VHP Plus Range — Net	103-129 kW	138-173 hp	118-144 kW	158-193 hp
Operating Weight*	14 093 kg	31,069 lb	14 522 kg	32,016 lb
Engine Model	C6.6 ACERT VHP		C6.6 ACERT VHP	
Rated Engine RPM	2000		2000	
No. of Cylinders	6		6	
Displacement	6.6 L	403 in ³	6.6 L	403 in ³
Max. Torque	859 N-m	690 lb-ft	859 N-m	690 lb-ft
No. of Speeds Forward/Reverse	8/6		8/6	
Top Speed: Forward	44.5 km/h	27.7 mph	44.5 km/h	27.7 mph
Reverse	37.8 km/h	23.5 mph	37.8 km/h	23.5 mph
Std. Tires — Front and Rear	13.00 24 (12 PR) (G-2)		13.00 24 (12 PR) (G-2)	
Front Axle/Steering:				
Oscillation Angle	32°		32°	
Wheel Lean Angle	18.0°		18.0°	
Steering Angle	47.5°		47.5°	
Articulation Angle	20°		20°	
Minimum Turning Radius**	7.5 m	24'6"	7.5 m	24'6"
No. Circle Support Shoes	4		6	
Hydraulics:				
Pump Type	Variable Piston		Variable Piston	
Max. Pump Flow	151 L/min	40 gpm	193 L/min	51 gpm
Tank Capacity	60 L	15.9 U.S. gal	60 L	15.9 U.S. gal
Implement Pressure: Max.	24 150 kPa	3500 psi	24 150 kPa	3500 psi
Min.	3100 kPa	450 psi	3100 kPa	450 psi
Interior Sound Level/SAE J919	70 dB(A)		70 dB(A)	
Electrical:				
System Size	24V		24V	
Std. Battery CCA @ 0° F	880		880	
Std. Alternator	80		80	
GENERAL DIMENSIONS:				
Height (to top of ROPS)	3278 mm	129"	3278 mm	129"
Overall Length	8488 mm	334"	8488 mm	334"
With Ripper and Pushplate	9889 mm	389"	9889 mm	389"
Wheelbase	5915 mm	233"	5915 mm	233"
Blade Base	2511 mm	99"	2511 mm	99"
Overall Width (at top of front tires)	2481 mm	98"	2481 mm	98"
Standard Blade: Length	3658 mm	12'0"	3658 mm	12'0"
Height	610 mm	24"	610 mm	24"
Thickness	22 mm	0.87"	22 mm	0.87"
Lift Above Ground	427 mm	16.8"	427 mm	16.8"
Max. Shoulder Reach:***				
Frame Straight — left	1742 mm	68.6"	1742 mm	68.6"
Frame Straight — right	1905 mm	75"	1905 mm	75"
Fuel Tank Capacity	340 L	90 U.S. gal	340 L	90 U.S. gal

*Operating Weight — based on standard machine configuration with full fuel tank, coolant, lubricants and operator.

**Minimum Turning Radius — combining the use of articulated frame steering, front wheel steer and unlocked differential.

***Applicable for the standard blade with hydraulic sideshift and tip control. Maximum shoulder reach is obtainable to the right.

**MODEL****140M****160M**

Base Power — Net	136 kW	183 hp	159 kW	213 hp
VHP Range — Net	136-148 kW	183-198 hp	159-170 kW	213-228 hp
VHP Plus Range — Net	136-163 kW	183-218 hp	159-185 kW	213-248 hp
Operating Weight*	15 130 kg	33,356 lb	15 903 kg	35,060 lb
Engine Model	C7 ACERT VHP		C9 ACERT VHP	
Rated Engine RPM	2000		2000	
No. of Cylinders	6		6	
Displacement	7.2 L	439 in ³	8.8 L	537 in ³
Max. Torque	1079 N·m	796 lb·ft	1237 N·m	912 lb·ft
No. of Speeds Forward/Reverse	8/6		8/6	
Top Speed: Forward	46.6 km/h	29 mph	47.4 km/h	29.5 mph
Reverse	36.8 km/h	22.9 mph	37.4 km/h	23.3 mph
Std. Tires — Front and Rear	14.00 24 (10 PR) (G-2)		14.00 24 (10 PR) (G-2)	
Front Axle/Steering:				
Oscillation Angle	32°		32°	
Wheel Lean Angle	18.0°		18.0°	
Steering Angle	47.5°		47.5°	
Articulation Angle	20°		20°	
Minimum Turning Radius**	7.75 m	25'6"	7.75 m	25'6"
No. Circle Support Shoes	6		6	
Hydraulics:				
Pump Type	Variable Piston		Variable Piston	
Max. Pump Flow	210 L/min	55.7 gpm	210 L/min	55.7 gpm
Tank Capacity	60 L	15.9 U.S. gal	60 L	15.9 U.S. gal
Implement Pressure: Max.	24 150 kPa	3500 psi	24 150 kPa	3500 psi
Min.	3100 kPa	450 psi	3100 kPa	450 psi
Interior Sound Level/SAE J919	70 dB(A)		70 dB(A)	
Electrical:				
System Size	24V		24V	
Std. Battery CCA @ 0° F	880		880	
Std. Alternator	80		80	
GENERAL DIMENSIONS:				
Height (to top of ROPS)	3293 mm	130"	3293 mm	130"
Overall Length	8713 mm	343"	8713 mm	343"
With Ripper and Pushplate	10 144 mm	399"	10 144 mm	399"
Wheelbase	6121 mm	241"	6121 mm	241"
Blade Base	2552 mm	101"	2552 mm	101"
Overall Width (at top of front tires)	2493 mm	98"	2493 mm	98"
Standard Blade: Length	3658 mm	12'0"	3658 mm	12'0"
Height	610 mm	24"	610 mm	24"
Thickness	22 mm	0.87"	22 mm	0.87"
Lift Above Ground	480 mm	18.9"	452 mm	17.8"
Max. Shoulder Reach:***				
Frame Straight — left	1790 mm	70.5"	2090 mm	82.3"
Frame Straight — right	1978 mm	77.9"	2278 mm	89.7"
Fuel Tank Capacity	416 L	110 U.S. gal	416 L	110 U.S. gal

*Operating Weight — based on standard machine configuration with full fuel tank, coolant, lubricants and operator.

**Minimum Turning Radius — combining the use of articulated frame steering, front wheel steer and unlocked differential.

***Applicable for the standard blade with hydraulic sideshift and tip control. Maximum shoulder reach is obtainable to the right.



MODEL	14M		16M		24M	
Base Power — Net	193 kW	259 hp	221 kW	297 hp	397 kW	533 hp
VHP Range — Net	193-204 kW	259-274 hp	221-233 kW	297-312 hp	—	—
VHP Plus Range — Net	193-219 kW	259-294 hp	221-248 kW	297-332 hp	—	—
Operating Weight*	21 379 kg	47,133 lb	26 060 kg	57,452 lb	62 456 kg	137,692 lb
Engine Model	C11		C13 ACERT VHP		C18 ACERT	
Rated Engine RPM	1800		2000		1800	
No. of Cylinders	6		6		6	
Displacement	11.1 L	677 in ³	12.5 L	763 in ³	18.1 L	1104.5 in ³
Max. Torque	1422 N·m	1049 lb·ft	1710 N·m	1261 lb·ft	2389 N·m	1762 lb·ft
No. of Speeds Forward/Reverse	8/6		8/6		6/3	
Top Speed: Forward	49.8 km/h	31 mph	53.9 km/h	33.5 mph	43 km/h	26.7 mph
Reverse	39.4 km/h	24.5 mph	42.6 km/h	26.5 mph	41.2 km/h	25.6 mph
Std. Tires — Front and Rear	16.00-24 (16 PR) (G-2)		18.00-25 (12 PR) (G-2)		—	
Front Axle/Steering:						
Oscillation Angle	32°		32°		32°	
Wheel Lean Angle	17.1°		18.2°		18.0°	
Steering Angle	47.5°		47.5°		47.5°	
Articulation Angle	20°		20°		20°	
Minimum Turning Radius**	7.9 m	25'11"	8.9 m	29'3"	12.4 m	40'9"
No. Circle Support Shoes	6		6		6	
Hydraulics:						
Pump Type	Variable Piston		Variable Piston		Variable Piston	
Max. Pump Flow	280 L/min	74 gpm	280 L/min	74 gpm	550 L/min	145 gpm
Tank Capacity	60 L	15.9 U.S. gal	60 L	15.9 U.S. gal	264 L	70 U.S. gal
Implement Pressure: Max.	24 150 kPa	3500 psi	24 150 kPa	3500 psi	24 150 kPa	3500 psi
Min.	3100 kPa	450 psi	3100 kPa	450 psi	3100 kPa	450 psi
Interior Sound Level/SAE J919	70 dB(A)		72 dB(A)		74 dB(A)	
Electrical:						
System Size	24V		24V		24V	
Std. Battery CCA @ 0° F	1125		1400		1500	
Std. Alternator	80		150		150	
GENERAL DIMENSIONS:						
Height (to top of ROPS)	3535 mm	139.2"	3703 mm	145.8"	4352 mm	171.3"
Overall Length	9412 mm	370.6"	9963 mm	392.2"	14 194 mm	558.8"
With Ripper and Pushplate	10 896 mm	429"	11 672 mm	459.5"	16 102 mm	633.9"
Wheelbase	6559 mm	258"	6985 mm	275"	10 278 mm	404.6"
Blade Base	2842 mm	112"	3069 mm	120.8"	4048 mm	159.4"
Overall Width (at top of front tires)	2791 mm	109.9"	3096 mm	121.9"	4280 mm	168.5"
Standard Blade: Length	4287 mm	14'0"	4877 mm	16'0"	7315 mm	24'0"
Height	686 mm	27"	787 mm	31"	1076 mm	42"
Thickness	25 mm	1"	25 mm	1"	50 mm	2"
Lift Above Ground	419 mm	16.5"	395 mm	15.6"	634 mm	25"
Max. Shoulder Reach:***						
Frame Straight — left	2169 mm	85.4"	2282 mm	90"	3222 mm	126.9"
Frame Straight — right	2279 mm	89.7"	2587 mm	101.9"	3228 mm	127.1"
Fuel Tank Capacity	492 L	130 U.S. gal	511 L	135 U.S. gal	1326 L	350 U.S. gal

*Operating Weight — based on standard machine configuration with full fuel tank, coolant, lubricants and operator. 24M includes ripper.

**Minimum Turning Radius — combining the use of articulated frame steering, front wheel steer and unlocked differential.

***Applicable for the standard blade with hydraulic sideshift and tip control. Maximum shoulder reach is obtainable to the right.

TRAVEL SPEEDS @ RATED RPM WITH STD. TIRES (M SERIES GLOBAL VERSION)

Gear		1		2		3		4		5		6		7		8	
		km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph
120M	Forward	3.9	2.4	5.3	3.3	7.6	4.75	10.5	6.5	16.4	10.2	22.2	13.8	30.6	19.0	44.5	27.7
	Reverse	3.3	2.0	6.2	3.8	8.9	5.6	13.9	8.6	26.0	16.1	37.8	23.5	—	—	—	—
12M	Forward	3.9	2.4	5.3	3.3	7.6	4.75	10.5	6.5	16.4	10.2	22.2	13.8	30.6	19.0	44.5	27.7
	Reverse	3.3	2.0	6.2	3.8	8.9	5.6	13.9	8.6	26.0	16.1	37.8	23.5	—	—	—	—
140M	Forward	4	2.5	5.5	3.4	8.0	5.0	11.0	6.8	17.1	10.6	23.3	14.5	32.0	19.9	46.6	29.0
	Reverse	3.2	2.0	6.0	3.7	8.7	5.4	13.5	8.4	25.3	15.7	36.8	22.9	—	—	—	—
160M	Forward	4.1	2.5	5.6	3.5	8.1	5.0	11.2	7.0	17.4	10.8	23.7	14.7	32.6	20.3	47.4	29.5
	Reverse	3.3	2.0	6.1	3.8	8.8	5.5	13.7	8.5	25.7	16.0	37.4	23.3	—	—	—	—
14M	Forward	4.3	2.7	5.9	3.7	8.6	5.3	11.8	7.3	18.3	11.4	24.8	15.4	34.2	21.3	49.8	31.0
	Reverse	3.4	2.1	6.4	4.0	9.3	5.8	14.5	9.0	27.1	16.9	39.4	24.5	—	—	—	—
16M	Forward	4.5	2.8	6.3	3.9	9.0	5.6	12.4	7.7	19.3	12.0	26.8	16.7	37.0	23.0	53.9	33.5
	Reverse	3.6	2.2	6.8	4.2	9.8	6.1	15.2	9.5	29.3	18.2	42.6	26.5	—	—	—	—
24M	Forward	3.6	2.3	5.7	3.5	9.6	6.0	15.0	9.3	27.7	17.2	43.0	26.7	—	—	—	—
	Reverse	5.4	3.4	14.3	8.9	41.2	25.6	—	—	—	—	—	—	—	—	—	—

TRAVEL SPEEDS @ RATED RPM WITH STD. TIRES (STANDARD VERSION)

Gear		1		2		3		4		5		6		7		8	
		km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph
120K	Forward	3.9	2.4	5.3	3.3	7.7	4.8	10.7	6.6	16.8	10.4	22.8	14.2	31.4	19.5	45.7	28.4
	Reverse	3.1	1.9	5.8	3.6	8.4	5.2	13.3	8.2	24.8	15.4	36.1	22.4	—	—	—	—
12K	Forward	3.8	2.4	5.2	3.2	7.6	4.7	10.4	6.5	16.5	10.2	22.4	13.9	30.8	19.2	44.8	27.9
	Reverse	3.0	1.9	5.7	3.5	8.2	5.1	13.0	8.1	24.3	15.1	35.4	22.0	—	—	—	—
140K	Forward	4.0	2.5	5.4	3.4	7.9	4.9	10.9	6.8	17.2	10.7	23.4	14.5	32.2	20.0	46.8	29.1
	Reverse	3.2	2.0	5.9	3.7	8.6	5.3	13.6	8.4	25.4	15.8	37.0	23.0	—	—	—	—
160K	Forward	4.1	2.5	5.5	3.4	8.0	4.9	11.0	6.8	17.0	10.6	23.2	14.4	31.9	19.8	46.4	28.8
	Reverse	3.2	2.0	5.9	3.7	8.7	5.4	13.4	8.4	25.2	15.6	36.6	22.8	—	—	—	—

Motor Graders

- All Wheel Drive
- Mid Mount and Front Mount Scarifiers

ALL WHEEL DRIVE (AWD)
OPTIONAL ON THREE MODELS

120M, 140M, 160M	
Working Range:	
Forward Gears	gears 1-7
Reverse Gears	gears 1-5
Pump Type	Variable Displacement Axial Piston Pumps (2)
Motor Type	Variable Displacement Axial Piston Motors (2)
Front Wheel Gear Reduction	Double Planetary Reduction
Maximum Pump Flow (each pump)	125 L/min 33 gpm
Front Wheel Torque	13 998 N-m 10,325 lb-ft
Control Type	Speed control with closed-loop feedback

The optional AWD system utilizes dedicated left and right pumps for precise hydraulic control.

Gross power is automatically increased up to 26 kW (35 hp) with AWD engaged, maintaining a constant net power to the ground.

Hydrostatic Mode disengages the transmission and provides hydraulic power to the front wheels only-ininitely variable to 8 km/h (5 mph).

Exclusive AWD Steering Compensation adjusts outside front tire speed up to 50% faster than the inside tire.

Operating Pressure depends on engine speed, gear selection and operating conditions.

M10 — MID MOUNT SCARIFIER

120M, 12M, 140M, 160M				
Type	V type		Straight type*	
Working Width	1184 mm	46.6"	1800 mm	71"
Depth (Max.)	292 mm	11.5"	317 mm	12.5"
Number of Shank Holders	11		17	
Spacing	116 mm	4.6"	111 mm	4.38"

*Available on M Series Global Versions only.

FRONT MOUNT SCARIFIER

120M, 12M, 140M, 160M			
Type	V type		
Working Width	1205 mm		47.4"
Depth (Max.)	467 mm		18.4"
Number of Shank Holders		11	
Spacing	116 mm		4.6"

**MOTOR
GRADER/
RIPPER**

RIPPER	120M		12M/140M/160M		14M		16M		24M	
Parallelogram — Rear Mounted	Ripper		Ripper/Scarifier		Ripper		Ripper		Ripper	
Tire Size (std.) Front and Rear	13.00-24		14.00-24***		16.00-24		18.00-25		29.5-29	
Dimensions:										
Scarifier										
Maximum digging depth	—		411 mm	16.2"	—		—		—	
Number of pockets	—		9		—		—		—	
Spacing	—		267 mm	10.5"	—		—		—	
Ripper Shank										
Maximum digging depth	262 mm	10.3"	462 mm	18.2"	401 mm	15.8"	452 mm	17.8"	490 mm	1'7.3"
Maximum reach at ground line*	1034 mm	3'4.7"	1168 mm	3'10"	1380 mm	4'6.3"	1500 mm	4'11"	1165 mm	3'9.9"
Maximum ground clearance under tip (shank pinned in bottom hole)	652 mm	2'1.6"	521 mm	1'8.5"	663 mm	2'2.1"	673 mm	2'2.5"	739 mm	2'5.1"
Maximum ramp angle, ripper up (shank pinned in bottom hole)	23°		23°		21°		21°		20°	
Shank Section	36 × 76 mm 1.4" × 3"		61 × 140 mm 2.4" × 5.5"		61 × 140 mm 2.4" × 5.5"		76 × 178 mm 3" × 7"		78 × 178 mm 3" × 7"	
Ripper Beam										
Overall Width	2.30 m	7'7"	2.30 m	7'7"	2.60 m	8'6"	2.98 m	9'9"	3.91 m	12'10"
Height	152 mm	6"	152 mm	6"	165 mm	6.5"	214 mm	8.4"	216 mm	8.5"
Length	182 mm	7.2"	229 mm	9"	211 mm	8.3"	254 mm	10"	254 mm	10"
Number of Pockets	5		5		7		7		7	
Pocket Spacing:										
Inside	533 mm	1'9"	533 mm	1'9"	472 mm	1'7"	500 mm	1'8"	593 mm	1'11.4"
Middle	533 mm	1'9"	533 mm	1'9"	373 mm	15"	445 mm	17.5"	604 mm	1'11.8"
Outside	533 mm	1'9"	533 mm	1'9"	373 mm	15"	445 mm	17.5"	604 mm	1'11.8"
Shank Gauge	2.13 m	7'0"	2.13 m	7'0"	2.44 m	8'0"	—		—	
Installed weights:										
Ripper with standard shank	613 kg	1350 lb	1060.5 kg	2336 lb	1542 kg	3399 lb	2177 kg	4799 lb	2812 kg	6186 lb
Each additional shank	11 kg	24 lb	31 kg	68 lb	31 kg	68 lb	68 kg	150 lb	68 kg	150 lb
Ripper Forces ◀										
Penetration Force ◀	4343 kg	9566 lb	8047 kg**	17,740 lb**	10 676 kg	23,541 lb	10 163 kg	22,410 lb	117 720 N	39,987 lb
Pryout Force	2279 kg	5020 lb	9281 kg	20,460 lb	11 804 kg	26,028 lb	15 323 kg	33,788 lb	263 880 N	59,373 lb

*Measured from mounting face on frame.

**Applies to 12M and 140M. Penetration force for 160M is 8518 kg (18,780 lb).

***12M std. tire is 13.00-24.

NOTE: See Section 1 for Ripper Tips.

◀ This value may vary slightly with various vehicle configurations.

PRODUCTION

The motor grader is used in a variety of applications in a variety of industries. Therefore, there are many ways to measure its operating capacity, or production. One method expresses a motor grader’s production in relation to the area covered by the moldboard.

Formula:

$$A = S \times (L_e - L_o) \times 1000 \times E \text{ (Metric)}$$
$$A = S \times (L_e - L_o) \times 5280 \times E \text{ (English)}$$

- where
- A: Hourly operating area (m²/h or ft²/h)

S: Operating speed (km/h or mph)

L_e: Effective blade length (m or ft)

L_o: Width of overlap (m or ft)

E: Job efficiency

Operating Speeds:

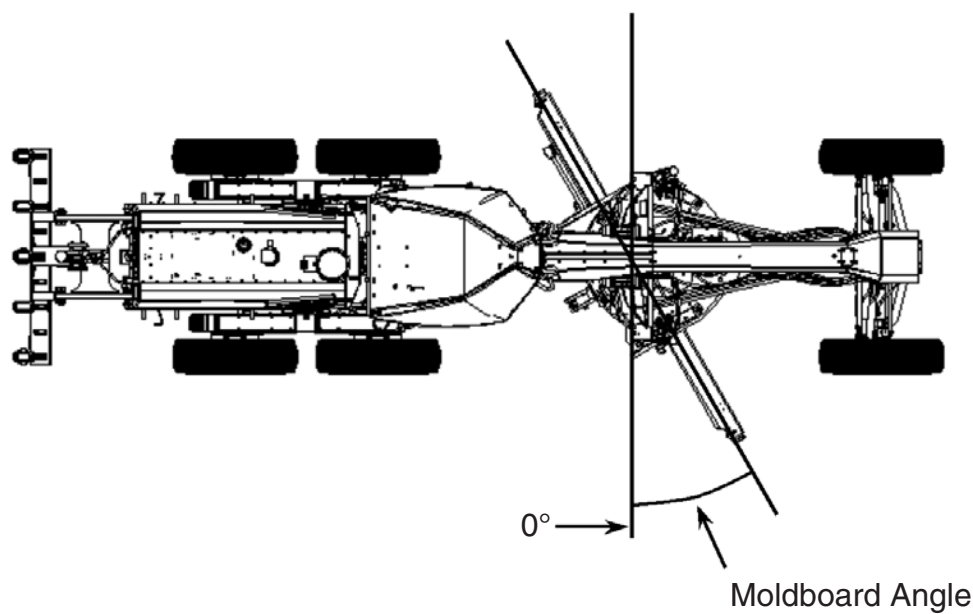
Typical operating speeds by application

Finish Grading:	0-4 km/h	(0-2.5 mph)
Heavy Blading:	0-9 km/h	(0-6 mph)
Ditch Repair:	0-5 km/h	(0-3 mph)
Ripping:	0-5 km/h	(0-3 mph)
Road Maintenance:	5-16 km/h	(3-9.5 mph)
Haul Road Maintenance:	5-16 km/h	(3-9.5 mph)
Snow Plowing:	7-21 km/h	(4-13 mph)
Snow Winging:	15-28 km/h	(9-17 mph)

Effective Blade Length:

Since the moldboard is usually angled when moving material, an effective blade length must be computed to account for this angle. This is the actual width of material swept by the moldboard.

NOTE: Angles are measured as shown below. The effective length becomes shorter as the angle increases.



Moldboard Length, m (ft)	Effective Length, m (ft) 30 degree blade angle	Effective Length, m (ft) 45 degree blade angle
3.658 (12)	3.17 (10.4)	2.59 (8.5)
3.962 (13)	3.43 (11.3)	2.80 (9.2)
4.267 (14)	3.70 (12.1)	3.02 (9.9)
4.877 (16)	4.22 (13.9)	3.45 (11.3)
7.315 (24)	6.33 (20.8)	5.17 (17.0)

For other blade lengths and carry angles:
Effective length = COS [Radians (Blade L)] × Blade Length

Width of Overlap:

The width of overlap is generally 0.6 m (2.0 ft). This overlap accounts for the need to keep the tires out of the windrow on the return pass.

Job Efficiency:

Job efficiencies vary based on job conditions, operator skill, etc.

A good estimation for efficiency is approximately 0.70 to 0.85, but actual operating conditions should be used to determine the best value.

Example problem:

A 140M motor grader with a 3.66 m (12 ft) moldboard is performing road maintenance on a town-ship road. The machine is working at an average speed of 13 km/h (8 mph) with a moldboard carry angle of 30 degrees. What is the motor grader’s production based on coverage area?

Note: Due to the long passes involved in road maintenance — fewer turnarounds — a higher job efficiency of 0.90 is chosen.

Solution:

From the table, the effective blade length is 3.17 m (10.4 ft).

Metric

Production, A = $13 \text{ km/h} \times (3.17 \text{ m} - 0.6 \text{ m}) \times 1000 \times 0.90$
= **30 069 m²/hr (3.07 hectares/hr)**

English

Production, A = $8 \text{ mph} \times (10.4 \text{ ft} - 2.0 \text{ ft}) \times 5280 \times 0.90$
= **319,334 ft²/hr (7.33 acres/hr)**

Figure 1

MOTOR GRADER COMPARISON in HAUL ROAD MAINTENANCE					Worksheet Variables		
	Moderate	Difficult	Moderate	Difficult	Application Variables		
Motor Grader Model	Cat 16M	Cat 16M	Cat 24M	Cat 24M	Pass Overlap Width (m)	Moldboard Angle	Road Width (m)
Haul Road Length Maintained (meters)	1000	1000	1000	1000	2	36	35
Haul Road Width (meters)	35	35	35	35			
Motor Grader Blade Width (meters)	4.9	4.9	7.3	7.3			
Blade Carry Angle	36	36	36	36			
1st Pass Blade Coverage (meters)	3.9	4.0	5.9	5.9			
Remaining Passes Blade Coverage (meters)	1.9	2.0	3.9	3.9			
Grader Passes Required/Road Width	17	17	8	8			
Maintenance Transmission Gear	3	3	3	3			
Maintenance Speed (km/h)	9.0	6.0	10.0	7.0			
Time Analysis:							
Time/Pass (minutes)	6.67	10.00	6.00	8.57			
Maneuver Time/Pass (minutes)	0.50	0.50	0.50	0.50			
Total Time/Pass (minutes)	7.17	10.50	6.50	9.07			
Total Time to Grade Haul Road (hours)	1.91	2.80	0.76	1.06			
Total Time to Grade 1 km (50-min. hour)	2.29	3.36	0.91	1.27			
					Road Coverage Requirements		
Coverage Requirement:					Frequency of Maintenance	Percentage	
Total km of Haul Roads	30	30	30	30	Total km of Haul Roads	30	
% Graded One Time Per 14 Shifts (1 week)	10%	10%	10%	10%	Weekly	10%	
% Graded One Time Per 4 Shifts (2 days)	30%	30%	30%	30%	Every other day	30%	
% Graded One Time Per 2 Shifts (1 day)	15%	15%	15%	15%	Daily	15%	
% Graded One Time Per Shift	25%	25%	25%	25%	Once per shift	25%	
% Graded Two Times Per Shift	20%	20%	20%	20%	Twice per shift	20%	
% Graded Three Times Per Shift	0%	0%	0%	0%	Three times per shift	0%	
Total km of Haul Roads/Shift	24.2	24.2	24.2	24.2	Total — must equal 100%	100%	
Working Hours Per Shift	11	11	11	11			
km of Road/Grader/Shift	4.79	3.27	12.08	8.66			
Fleet Requirement:							
“Working” Motor Graders Required/Shift	5.1 to 7.4		2.0 to 2.8				
Motor Grader Mechanical Availability	90%	90%	90%	90%			
Motor Grader Fleet Required (units)	5.6 to 8.2		2.2 to 3.1				

NOTE: The above numbers are generated from the formulas and inputs in figure 2. This is the finished spreadsheet's output when set up according to figure 2.

- Moderate:
- Road Maintenance
 - Pad Cleaning
 - Rock Clearing
 - Shoulder Sweeping

- Difficult:
- Ripping
 - Spreading Dump Material
 - Road Profiling/Reshaping

Figure 2

MOTOR GRADER COMPARISON in HAUL ROAD MAINTENANCE		Worksheet Variables		
	Moderate Cat 16M	Application Variables		
Motor Grader Model		Pass Overlap Width (m)	Moldboard Angle	Road Width (m)
Haul Road Length Maintained (meters)	1000			
Haul Road Width (meters)	= \$M\$8	2	36	35
Motor Grader Blade Width (meters)	4.88			
Blade Carry Angle	= \$L\$8			
1st Pass Blade Coverage (meters)	= COS(RADIANS(B10))*B9			
Remaining Passes Blade Coverage (meters)	= B11 – \$J\$8			
Grader Passes Required/Road Width	= ROUND((B8 – B11)/B12,0)			
Maintenance Transmission Gear	3			
Maintenance Speed (km/h)	9			
Time Analysis:				
Time/Pass (minutes)	= (+ B7/1000)*(60/B15)			
Maneuver Time/Pass (minutes)	0.5			
Total Time/Pass (minutes)	= SUM(B18:B19)			
Total Time to Grade Haul Road (hours)	= B13*B20/60			
Total Time to Grade 1 km (50-min. hour)	= 1000/B7*B22/0.833			
		Road Coverage Requirements		
Coverage Requirement:		Frequency of Maintenance	Percentage	
Total km of Haul Roads	= \$M\$28	Total km of Haul Roads	30	
% Graded One Time Per 14 Shifts (1 week)	= \$M\$29	Weekly	0.1	
% Graded One Time Per 4 Shifts (2 days)	= \$M\$30	Every other day	0.3	
% Graded One Time Per 2 Shifts (1 day)	= \$M\$31	Daily	0.15	
% Graded One Time Per Shift	= \$M\$32	Once per shift	0.25	
% Graded Two Times Per Shift	= \$M\$33	Twice per shift	0.2	
% Graded Three Times Per Shift	= \$M\$34	Three times per shift	0	
Total km of Haul Roads/Shift	= (B28*B29*0.0714) + (B28*B30*0.25) + (B28*B31*0.5) + (B28*B32*1) + (B28*B33*2) + (B28*B34*3)	Total — must equal 100%	= SUM(M29:M34)	
Working Hours Per Shift	11			
km of Road/Grader/Shift	= B37/B24			
Fleet Requirement:				
“Working” Motor Graders Required/Shift	= B35/B38			
Motor Grader Mechanical Availability	0.9			
Motor Grader Fleet Required (units)	= B41/B42			

NOTE: The formulas in the “Moderate — Cat 16M” column are the same formulas needed for the “Difficult — Cat 16M,” “Moderate — Cat 24M” and “Difficult — Cat 24M” columns.

Input the data from this spreadsheet exactly how you see it here. This will allow you to generate figure 1. If you have any questions or difficulties please contact the Motor Grader Marketing Group. If you can receive e-mails Motor Grader Marketing will e-mail you the file containing the spreadsheet.

BLADE PULL

This specification is also known as drawbar pull.
This spec can be calculated as follows:

Variables:

Rear weight
of machine = Wr

Tire traction
coefficient = T (Look up the table entitled
“Coefficient of Traction Factors”)

Wr × T = Blade Pull

Example problem:

Calculate the blade pull for a 140M Global Version
version machine operating in a quarry pit...

Metric

RW = 10 501 kg

T = 0.65

10 501 × 0.65 = 6825.65

English

RW = 23,151 lb

T = 0.65

23,151 × 0.65 = 15,048.15

BLADE DOWN PRESSURE

This spec can be calculated as follows:

Variables:

Blade to front axle length = BA

Wheel base length = WB

Weight on front wheels = FW

Blade down pressure = BD

$\frac{WB}{(WB - BA)} \times FW = BD$

Example problem:

Calculate the blade down pressure for a 140M
Global Version version machine...

Metric

BA = 2565 mm FW = 4223 kg

WB = 6086 mm BD = ?

$\frac{6086}{(6086 - 2565)} \times 4223 = 7299 \text{ kg}$

English

BA = 101 in

FW = 9310 lb

WB = 240 in

BD = ?

$\frac{240}{(240 - 101)} \times 9310 = 16,075 \text{ lb}$

This specification is only a minor indicator of a motor grader’s productivity. It alone gives no measure of overall machine productivity. When considering motor grader production you need an optimum balance between the machine’s front and rear weights. If a machine has too much weight on the front axle it might have a high blade down pressure spec, however it will lack the essential rear weight and traction needed to push through the load. Too much weight in the rear and it will not have the necessary weight in the front during heavy cuts to maintain proper steering control.

Cat machines are built with this optimum balance in mind. A Cat motor grader is engineered with the proper weight distribution necessary for maximum productivity.

		Effective Blade Length*							
		Moldboard							
		3.66 m (12')		4.27 m (14')		4.88 m (16')		7.32 m (24')	
Angle°		m	ft	m	ft	m	ft	m	ft
	0°	3.66	12.00	4.27	14.00	4.88	16.00	7.32	24.00
	5°	3.64	11.95	4.25	13.95	4.86	15.94	7.29	23.91
	10°	3.60	11.82	4.20	13.79	4.80	15.76	7.21	23.64
	15°	3.53	11.59	4.12	13.52	4.71	15.45	7.07	23.18
	20°	3.44	11.28	4.01	13.16	4.58	15.04	6.87	22.55
	25°	3.32	10.88	3.87	12.69	4.42	14.50	6.63	21.75
	30°	3.17	10.39	3.69	12.12	4.22	13.86	6.33	20.78
	35°	3.00	9.83	3.50	11.47	4.00	13.11	5.99	19.66
	40°	2.80	9.19	3.27	10.72	3.74	12.26	5.61	18.39
	45°	2.59	8.49	3.02	9.90	3.45	11.31	5.17	16.97

*Effective blade length is the amount of blade coverage the machine is capable of when the blade is at a given angle.

EXTREME SLOPE OPERATION

There are two ways of defining slope work. The slope perpendicular to the machines direction of travel is commonly referred to as “Side Sloping.” The slope parallel to the machines direction of travel — the machines ability to travel up or down terrain, is commonly referred to as “Gradeability.”

Side Sloping capability for our M-Series graders is somewhat subjective but general agreement among professional operators is that working on a slope ratio of 2.5:1 (21.8 degrees) is the safe limit ... an experienced operator may be able to operate on a 2:1 (28 degrees) slope. There are many factors, which influence this limit, such as operator experience, machine configuration, tires, soil conditions, but a 2.5:1 is achievable. Further, a 3:1 slope is the approximate maximum side slope a grader can work on in straight frame configuration. The steeper side slopes all require the machine to be articulated to safely negotiate the slope.

Gradeability is approximately 22 degrees. This is established by the graders ability to stop without skidding the tires while moving downhill. The motor grader can, however, *climb* grades steeper than 22 degrees. The traction coefficient is the critical factor in determining whether a grader can safely negotiate the slope. Caterpillar recommends that you never climb a slope steeper than you can safely descend.

Maximum lubrication angle: We have measured the graders on a tilt table and pump cavitation occurs around 45 degrees (100% or 1:1). This is beyond the grade or slope a motor grader can operate on.

When working side hills and slopes, consideration should be given to the following important points.

- **Speed of Travel** — At higher speeds, inertia forces tend to make the grader less stable.
- **Roughness of Terrain or Surface** — Ample allowance should be made where the terrain or surface is uneven.
- **Mounted Equipment** — Mounted attachments such as front plows, snow wings, rippers and other mounted equipment cause the tractor to balance differently.
- **Nature of Surface** — New earthen fills may give way with the weight of the grader. Rocky surfaces may promote side slipping of grader.
- **Wheel Slippage Due to Excessive Loads or Side Draft** — This may cause downhill tire to “dig in,” increasing the angle of grader.
- **Tire Selection and Maintenance** — Consideration should be given to proper tire selection and air pressure. Consult with Caterpillar publication — Motor Grader Tire Selection Guide and Operation and Maintenance manual for more information.
- **Drawbar, Circle and Blade Position** — The position of the blade can affect the stability of the machine.
- **Articulation Angle** — Articulation angle can affect the stability of the machine.
- **Wheel Lean Angle** — Wheel lean angle can affect the stability of the machine.

NOTE: Safe operation on steep slopes may require special machine maintenance as well as excellent operator skill and proper equipment setup for the specific application. Consult Operation & Maintenance Manual, Caterpillar publication — Motor Grader Application Guide, and the Grade Comparison Chart in the Tables section of this Performance Handbook, for further operating tips.

Work Tool	120M	12M	140M	160M	14M	16M	24M
Lift Group	x	x	x	x	x	x	—
V-Plow	x	x	x	x	x	x	—
One Way Plow	x	x	x	x	x	x	—
Manual Reversible Plow	x	x	x	x	x	x	—
Hydraulic Reversible Plow	x	x	x	x	x	x	—
Snow Wing	x	x	x	x	x	x	—
Mid Mount Scarifier	x	x	x	x	—	—	—
Front Scarifier	x	x	x	x	—	—	—
Manual Angle Blade	x	x	x	x	x	x	—
Hydraulic Angle Blade	x	x	x	x	x	x	—
Straight Blade	x	x	x	x	x	x	—

This list is not all inclusive.

See Price Lists, Cat Work Tools (CWT) Price List, and your Cat dealer for special attachment needs.

Attachments for Cat motor graders require additional hydraulics.

Most front-mounted attachments require a Quick Attach-Detach Parallel Lift Group.

Contact your Cat dealer for details.

SKID STEER LOADERS MULTI TERRAIN LOADERS COMPACT TRACK LOADERS

3

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Features:

- **Cat® engines** provide high horsepower, torque and S•O•S oil sampling ports standard.
- **Sealed and pressurized cab** option for C Series models provides optimum operator comfort.
- **Ergonomically designed cab** provides maximum operator comfort and visibility.
- **Low-effort** joystick controls, armrest and retractable seat belt for easy operation.
- **Seat mounted controls** are standard for C Series models.
- **Deep skid resistant steps** and two tilt cylinders makes egress/ingress easy.
- **Hand and foot throttle** for continuous or variable engine speed.
- **Anti-stall feature** (B Series) and **Electronic Torque Management** (C Series) provide maximum rimpull and hydraulic power while lugging the engine.
- **High hydraulic horsepower** gets work done quickly.
- **Direct drive hystat pumps** eliminate drive belts.
- **Tilt-up cooling package** provides access to engine compartment.
- **Long life coolant** and extended hour service intervals for low operating costs.
- **Deutsch connectors** are color coded, numbered and protected with nylon braiding.
- **Electro-depositioned** or “E” coat corrosion protection for long life.
- **High flow XPS hydraulics** are optional on all C Series machines.
- **High flow hydraulics** optional on 226B2, 242B2 and 257B2.



MODEL	216B2		226B2		232B2	
Flywheel Power: Net	35 kW	48 hp	42 kW	56 hp	42 kW	56 hp
Gross	38 kW	51 hp	46 kW	62 hp	46 kW	62 hp
Engine Model	C2.2		C2.2T		C2.2T	
Rated Engine RPM	3000		3000		3000	
Bore	84 mm	3.3"	84 mm	3.3"	84 mm	3.3"
Stroke	100 mm	3.9"	100 mm	3.9"	100 mm	3.9"
Displacement	2.2 L	134 in ³	2.2 L	134 in ³	2.2 L	134 in ³
No. Cylinders	4		4		4	
One Speed Forward	0-12.7 km/h	0-7.9 mph	0-12.7 km/h	0-7.9 mph	0-11.1 km/h	0-6.9 mph
One Speed Reverse	0-12.7 km/h	0-7.9 mph	0-12.7 km/h	0-7.9 mph	0-11.1 km/h	0-6.9 mph
Hydraulic Cycle Time, Empty Bucket:	Seconds		Seconds		Seconds	
Raise	2.7		2.7		3.0	
Dump	2.2		2.2		2.2	
Lower (Empty, Float Down)	2.8		2.8		3.0	
Total	7.7		7.7		8.2	
Tread Width	1244 mm	4'1"	1244 mm	4'1"	1244 mm	4'1"
Width Over Tires	1525 mm	5'0"	1525 mm	5'0"	1525 mm	5'0"
Ground Clearance	195 mm	8.0"	195 mm	8.0"	145 mm	5.7"
Fuel Tank Capacity	58 L	15.4 U.S. gal	58 L	15.4 U.S. gal	58 L	15.4 U.S. gal
Hydraulic Tank Capacity	35 L	9.2 U.S. gal	35 L	9.2 U.S. gal	35 L	9.2 U.S. gal
Hydraulic System Capacity (includes tank)	55 L	14.5 U.S. gal	55 L	14.5 U.S. gal	55 L	14.5 U.S. gal
Hydraulic Pump Capacity	60 L/min	15.6 gpm	60 L/min	15.6 gpm	60 L/min	15.6 gpm

**MODEL****236B2****242B2****252B2**

Flywheel Power: Net	53 kW	71 hp	42 kW	56 hp	53 kW	71 hp
Gross	56 kW	75 hp	46 kW	62 hp	56 kW	75 hp
Engine Model	C3.4 DIT		C2.2T		C3.4 DIT	
Rated Engine RPM	2500		3000		2500	
Bore	94 mm	3.7"	84 mm	3.3"	94 mm	3.7"
Stroke	120 mm	4.7"	100 mm	3.9"	120 mm	4.7"
Displacement	3.3 L	201 in ³	2.2 L	134 in ³	3.3 L	201 in ³
No. Cylinders	4		4		4	
One Speed Forward	0-12.1 km/h	0-7.5 mph	0-12 km/h	0-7.5 mph	0-11.9 km/h	0-7.4 mph
Two Speed Forward	0-18.1 km/h	0-11.2 mph	—		0-17.8 km/h	0-11 mph
One Speed Reverse	0-12.1 km/h	0-7.5 mph	0-12 km/h	0-7.5 mph	0-11.9 km/h	0-7.4 mph
Two Speed Reverse	0-18.1 km/h	0-11.2 mph	—		0-17.8 km/h	0-11 mph
Hydraulic Cycle Time, Empty Bucket:	Seconds		Seconds		Seconds	
Raise	2.7		3.0		4.8	
Dump	2.2		2.2		2.2	
Lower (Empty, Float Down)	2.8		3.0		3.6	
Total	7.7		8.2		10.6	
Tread Width	1514 mm	5'0"	1362 mm	4'6"	1514 mm	5'0"
Width Over Tires	1676 mm	5'6"	1676 mm	5'6"	1829 mm	6'0"
Ground Clearance	235 mm	9.0"	178 mm	7.0"	196 mm	7.7"
Fuel Tank Capacity	90 L	23.8 U.S. gal	58 L	15.3 U.S. gal	90 L	23.8 U.S. gal
Hydraulic Tank Capacity	35 L	9.2 U.S. gal	35 L	9.2 U.S. gal	35 L	9.2 U.S. gal
Hydraulic System Capacity (includes tank)	52 L	13.7 U.S. gal	55 L	14.5 U.S. gal	53 L	14 U.S. gal
Hydraulic Pump Capacity	77 L/min	20.3 gpm	60 L/min	15.6 gpm	77 L/min	20.3 gpm



MODEL	246C		256C		262C		272C	
Flywheel Power: Net	54 kW	73 hp	61 kW	82 hp	61 kW	82 hp	67 kW	90 hp
Gross	56 kW	75 hp	63 kW	84 hp	63 kW	84 hp	70 kW	94 hp
Engine Model	C3.4 DIT		C3.4 DIT		C3.4 DIT		C3.4 DIT	
Rated Engine RPM	2500		2500		2500		2500	
Bore	94 mm	3.7"	94 mm	3.7"	94 mm	3.7"	94 mm	3.7"
Stroke	120 mm	4.7"	120 mm	4.7"	120 mm	4.7"	120 mm	4.7"
Displacement	3.3 L	201 in³	3.3 L	201 in³	3.3 L	201 in³	3.3 L	201 in³
No. Cylinders	4		4		4		4	
One Speed Forward	0-12.5 km/h	0-7.7 mph	0-12.5 km/h	0-7.7 mph	0-12.5 km/h	0-7.7 mph	0-11.6 km/h	0-7.2 mph
Two Speed Forward	0-19.3 km/h	0-12 mph	0-19.3 km/h	0-12 mph	0-19.3 km/h	0-12 mph	0-16.1 km/h	0-10 mph
One Speed Reverse	0-12.5 km/h	0-7.7 mph	0-12.5 km/h	0-7.7 mph	0-12.5 km/h	0-7.7 mph	0-11.6 km/h	0-7.2 mph
Two Speed Reverse	0-19.3 km/h	0-12 mph	0-19.3 km/h	0-12 mph	0-19.3 km/h	0-12 mph	0-16.1 km/h	0-10 mph
Hydraulic Cycle Time, Empty Bucket:	Seconds		Seconds		Seconds		Seconds	
Raise (HF)	3.1 (3.1)		3.1 (3.1)		4.7 (4.5)		4.7 (4.5)	
Dump (HF)	2.5 (2.5)		2.5 (2.5)		2.5 (2.5)		2.5 (2.5)	
Lower (Empty, Float Down) (HF)	4.0 (3.6)		4.0 (3.6)		4.6 (4.7)		4.6 (4.7)	
Total (HF)	9.6 (9.2)		9.6 (9.2)		11.8 (11.7)		11.8 (11.7)	
Tread Width (HF)	1371 mm	4'6"	1371 mm	4'6"	1371 mm	4'6"	1371 mm	4'6"
	(1524 mm)	(5'0")	(1524 mm)	(5'0")	(1524 mm)	(5'0")	(1524 mm)	(5'0")
Width Over Tires	1676 mm	5'6"	1676 mm	5'6"	1676 mm	5'6"	1676 mm	5'6"
Ground Clearance	225 mm	8.9"	225 mm	8.9"	225 mm	8.9"	225 mm	8.9"
Fuel Tank Capacity	98 L	26 U.S. gal	98 L	26 U.S. gal	98 L	26 U.S. gal	98 L	26 U.S. gal
Hydraulic Tank Capacity	42 L	11 U.S. gal	42 L	11 U.S. gal	42 L	11 U.S. gal	42 L	11 U.S. gal
Hydraulic System Capacity (includes tank)	57 L	15 U.S. gal	57 L	15 U.S. gal	57 L	15 U.S. gal	57 L	15 U.S. gal
Hydraulic Pump Capacity	84 L/min	22 gpm	84 L/min	22 gpm	84 L/min	22 gpm	84 L/min	22 gpm

HF = High Flow

Bucket Type		General Purpose						Multi-Purpose	
Bucket Width Tire Size		1520 mm (60") 10 x 16.5			1680 mm (66") 10 x 16.5			1520 mm (60") 10 x 16.5	
Ground Engaging Type		Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge
Bucket Assembly No.		165-6152	152-0224	152-0223	165-6153	152-0226	152-0225	154-5004	154-5045
Rated bucket capacity	m ³	0.36	0.37	0.36	0.40	0.40	0.41	0.30	0.31
	yd ³	0.47	0.48	0.47	0.52	0.52	0.53	0.39	0.41
Struck capacity	m ³	0.26	0.27	0.26	0.29	0.29	0.29	0.22	0.22
	yd ³	0.34	0.35	0.34	0.38	0.38	0.38	0.29	0.29
Width	mm	1576	1586	1576	1730	1740	1730	1595	1595
	in	62	62	62	68	68	68	63	63
Dump clearance at maximum lift/dump	mm	2133	2103	2069	2130	2100	2066	2122	2092
	in	84	83	81	84	83	81	84	82
Reach at maximum lift/dump	mm	546	557	620	549	560	623	560	571
	in	21	22	24	22	22	25	22	22
Floor angle at maximum lift/dump	degrees	39.9°	39.9°	39.9°	40°	40°	40°	40.2°	40.2°
	degrees	96.7°	96.7°	96.7°	96.5°	96.5°	96.5°	96.4°	96.4°
Clearance at maximum lift/level bucket	mm	2658	2642	2657	2656	2640	2655	2655	2683
	in	105	104	105	105	104	105	105	106
Hinge pin height at maximum lift	mm	2849	2849	2849	2849	2849	2849	2849	2849
	in	112	112	112	112	112	112	112	112
Maximum overall height	mm	3762	3790	3860	3759	3787	3857	3746	3774
	in	148	149	152	148	149	152	147	149
Reach at level lift arm/bucket	mm	1333	1361	1431	1335	1363	1433	1346	1374
	in	52	54	56	53	54	56	53	54
Maximum floor angle at minimum lift	degrees	26.1°	26.1°	26.1°	26°	26°	26°	25.8°	25.8°
	degrees	0	16	1	0	16	1	0	15
Dig depth with level bucket	mm	0	16	1	0	16	1	0	15
	in	0.0	0.6	0.0	0.0	0.6	0.0	0.0	0.6
Overall length with bucket on ground	mm	3286	3314	3384	3286	3314	3384	3290	3318
	in	129	130	133	129	130	133	130	131
Front clearance circle radius (with bucket)	mm	1989	2016	2079	2021	2048	2110	1992	2020
	in	78	79	82	80	81	83	78	80
Tipping load	216B2	kg	1213	1158	1187	1194	1140	1171	1031
		lb	2673	2554	2616	2631	2513	2582	2272
	226B2	kg	1293	1238	1267	1274	1219	1251	1109
		lb	2850	2729	2792	2808	2688	2759	2445
	226B2 HF	kg	1382	1326	1356	1363	1308	1340	1196
		lb	3047	2924	2988	3004	2883	2954	2637
Breakout force — lift	216B2	kg	1437	1389	1421	1424	1374	1408	1286
		lb	3168	3062	3132	3140	3030	3104	2835
	226B2	kg	1437	1389	1421	1424	1374	1408	1286
		lb	3168	3062	3132	3140	3030	3104	2835
	226B2 HF	kg	1425	1377	1409	1412	1363	1396	1274
		lb	3142	3036	3105	3113	3004	3078	2809
Breakout force — tilt	216B2	kg	1700	1596	1681	1694	1590	1677	1539
		lb	3747	3518	3705	3735	3506	3697	3393
	226B2	kg	1700	1596	1681	1694	1590	1677	1539
		lb	3747	3518	3705	3735	3506	3697	3393
	226B2 HF	kg	1700	1596	1681	1694	1590	1677	1539
		lb	3747	3518	3706	3735	3506	3697	3393
Operating weight	216B2	kg	2637	2667	2654	2654	2687	2670	2798
		lb	5814	5880	5850	5851	5924	5887	6169
	226B2	kg	2669	2699	2686	2686	2719	2702	2830
		lb	5885	5951	5921	5922	5994	5958	6174
	226B2 HF	kg	2761	2791	2777	2778	2811	2794	2922
		lb	6087	6153	6123	6124	6196	6160	6442

HF = High Flow

Bucket Type			Multi-Purpose				Dirt			
Bucket Width			1520 mm (60")	1680 mm (66")			1520 mm (60")		1680 mm (66")	
Tire Size			10 x 16.5	10 x 16.5			10 x 16.5		10 x 16.5	
Ground Engaging Type			Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge	Holes Only	Bolt-on Edge
Bucket Assembly No.			154-5046	154-5008	154-5047	154-5048	165-6156	152-0231	165-6157	152-0232
Rated bucket capacity	m³	0.30	0.33	0.33	0.34	0.34	0.35	0.37	0.38	
	yd³	0.39	0.43	0.43	0.44	0.44	0.46	0.48	0.49	
Struck capacity	m³	0.22	0.24	0.25	0.24	0.25	0.25	0.27	0.27	
	yd³	0.29	0.31	0.33	0.31	0.33	0.33	0.35	0.35	
Width	mm	1595	1749	1749	1749	1576	1586	1730	1740	
	in	63	69	69	69	62	62	68	69	
Dump clearance at maximum lift/dump	mm	2058	2122	2092	2058	2169	2140	2169	2140	
	in	81	84	82	81	85	84	85	84	
Reach at maximum lift/dump	mm	634	560	571	634	505	520	505	520	
	in	25	22	22	25	20	20	20	20	
Floor angle at maximum lift/dump	degrees	40.2°	40.2°	40.2°	40.2°	39.9°	39.9°	39.9°	39.9°	
Floor angle at maximum lift/rack back	degrees	96.4°	96.4°	96.4°	96.4°	96.7°	96.7°	96.7°	96.7°	
Clearance at maximum lift/level bucket	mm	2654	2655	2683	2654	2661	2648	2661	2648	
	in	104	105	106	104	105	104	105	104	
Hinge pin height at maximum lift	mm	2849	2849	2849	2849	2849	2849	2849	2849	
	in	112	112	112	112	112	112	112	112	
Maximum overall height	mm	3844	3746	3774	3844	3709	3739	3709	3739	
	in	151	147	149	151	146	147	146	147	
Reach at level lift arm/bucket	mm	1444	1346	1374	1444	1280	1310	1280	1310	
	in	57	53	54	57	50	52	50	52	
Maximum floor angle at minimum lift	degrees	25.8°	25.8°	25.8°	25.8°	26.1°	26.1°	26.1°	26.1°	
	mm	1	0	16	1	0	16	0	16	
Dig depth with level bucket	in	0.0	0.0	0.6	0.0	0.0	0.6	0.0	0.6	
Overall length with bucket on ground	mm	3388	3290	3318	3388	3233	3263	3233	3263	
	in	133	130	131	133	127	128	127	128	
Front clearance circle radius (with bucket)	mm	2083	1992	2020	2113	1940	1970	1970	2000	
	in	82	78	80	83	76	78	78	79	
Tipping load	216B2	kg	1058	1053	1001	1032	1304	1251	1280	
		lb	2332	2321	2207	2275	2875	2758	2823	
	226B2	kg	1137	1132	1079	1111	1386	1332	1363	
		lb	2506	2495	2379	2449	3056	2937	3004	
	226B2 HF	kg	1225	1219	1166	1199	1477	1422	1453	
		lb	2700	2688	2571	2643	3257	3136	3204	
Breakout force — lift	216B2	kg	1316	1314	1265	1298	1515	1466	1495	
		lb	2900	2896	2789	2860	3339	3232	3295	
	226B2	kg	1316	1314	1265	1298	1515	1466	1495	
		lb	2900	2896	2789	2860	3339	3232	3295	
	226B2 HF	kg	1304	1302	1253	1286	1502	1454	1482	
		lb	2874	2870	2763	2834	3312	3206	3268	
Breakout force — tilt	216B2	kg	1620	1618	1518	1601	1853	1740	1842	
		lb	3571	3568	3346	3529	4084	3835	4061	
	226B2	kg	1620	1618	1518	1601	1853	1740	1842	
		lb	3571	3568	3346	3529	4084	3835	4061	
	226B2 HF	kg	1620	1618	1518	1601	1853	1740	1842	
		lb	3571	3568	3346	3529	4084	3835	4061	
Operating weight	216B2	kg	2785	2787	2820	2803	2579	2609	2637	
		lb	6139	6144	6216	6180	5685	5751	5740	
	226B2	kg	2817	2819	2852	2835	2611	2641	2636	
		lb	6210	6215	6287	6251	5756	5822	5811	
	226B2 HF	kg	2909	2911	2943	2927	2703	2732	2728	
		lb	6412	6417	6489	6453	5958	6024	6013	

HF = High Flow

Work Tool			Pallet Fork		
Tine Length			910 mm (36")	1070 mm (42")	1220 mm (48")
Tire Size			10 x 16.5	10 x 16.5	10 x 16.5
Carriage Assembly No.			242-9998	242-9999	243-0000
Carriage overall width without step	mm		1157	1157	1157
	in		45	45	45
Carriage step additional width	mm		108	108	108
	in		4.25	4.25	4.25
Carriage height above blade top	mm		923.5	923.5	923.5
	in		36.4	36.4	36.4
Blade surface height at maximum height	mm		2741	2741	2741
	in		107.9	107.9	107.9
Shank front face reach at maximum height	mm		290	290	290
	in		11.4	11.4	11.4
Blade surface height at level lift arms	mm		1383	1383	1383
	in		54.4	54.4	54.4
Shank front face reach at level lift arms	mm		743	743	743
	in		29.3	29.3	29.3
Blade surface height at minimum lift	mm		91	91	91
	in		3.6	3.6	3.6
Shank front face reach at minimum lift	mm		345	345	345
	in		13.6	13.6	13.6
Overall length at minimum lift, level tine	mm		3602	3762	3912
	in		141.8	148.1	154.0
Tipping load	216B2	kg	949	894	846
		lb	2093	1970	1864
	226B2	kg	1012	953	903
		lb	2230	2102	1990
	226B2 HF	kg	1083	1022	968
		lb	2388	2252	2135
Operating weight	216B2	kg	2620	2630	2640
		lb	5775	5798	5820
	226B2	kg	2652	2662	2672
		lb	5846	5869	5890
	226B2 HF	kg	2743	2754	2763
		lb	6048	6071	6092

HF = High Flow

Bucket Type		General Purpose								
Bucket Width Tire Size		1520 mm (60") 10 x 16.5			1680 mm (66") 10 x 16.5			1830 mm (72") 10 x 16.5		
Ground Engaging Type		Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth
Bucket Assembly No.		165-6152	152-0224	152-0223	165-6153	152-0226	152-0225	165-6154	152-0229	152-0228
Rated bucket capacity	m ³ yd ³	0.36 0.47	0.37 0.48	0.36 0.47	0.40 0.52	0.40 0.52	0.41 0.53	0.44 0.57	0.44 0.57	0.45 0.59
Struck capacity	m ³ yd ³	0.26 0.34	0.27 0.35	0.26 0.34	0.29 0.38	0.29 0.38	0.29 0.38	0.32 0.42	0.32 0.42	0.32 0.42
Width	mm in	1576 62	1586 62	1576 62	1730 68	1740 68	1730 68	1883 74	1893 75	1883 74
Dump clearance at maximum lift/dump	mm in	2220 87	2189 86	2148 85	2220 87	2189 86	2148 85	2220 87	2189 86	2148 85
Reach at maximum lift/dump	mm in	759 30	766 30	822 32	759 30	766 30	822 32	759 30	766 30	822 32
Floor angle at maximum lift/dump	degrees	49.5°	49.5°	49.5°	49.5°	49.5°	49.5°	49.5°	49.5°	49.5°
Floor angle at maximum lift/rack back	degrees	86.9°	86.9°	86.9°	86.9°	86.9°	86.9°	86.9°	86.9°	86.9°
Clearance at maximum lift/level bucket	mm in	2831 111	2815 111	2830 111	2831 111	2815 111	2830 111	2831 111	2815 111	2830 111
Hinge pin height at maximum lift	mm in	3026 119	3026 119	3026 119	3026 119	3026 119	3026 119	3026 119	3026 119	3026 119
Maximum overall height	mm in	3907 154	3934 155	4004 158	3907 154	3934 155	4004 158	3907 154	3934 155	4004 158
Reach at level lift arm/bucket	mm in	1356 53	1384 54	1453 57	1356 53	1384 54	1453 57	1356 53	1384 54	1453 57
Maximum floor angle at minimum lift	degrees	25.4°	25.4°	25.4°	25.4°	25.4°	25.4°	25.4°	25.4°	25.4°
Dig depth with level bucket	mm in	4 0.2	21 0.8	5 0.2	4 0.2	21 0.8	5 0.2	4 0.2	21 0.8	5 0.2
Overall length with bucket on ground	mm in	3490 137	3518 139	3588 141	3490 137	3518 139	3588 141	3490 137	3518 139	3588 141
Front clearance circle radius (with bucket)	mm in	2192 86	2224 88	2259 89	2221 87	2253 89	2286 90	2252 89	2283 90	2313 91
Tipping load	kg lb	1754 3866	1694 3734	1726 3806	1733 3821	1676 3694	1711 3772	1725 3804	1664 3668	1703 3754
Breakout force — lift	kg lb	1662 3665	1614 3558	1646 3628	1649 3635	1599 3525	1633 3600	1642 3621	1590 3505	1627 3586
Breakout force — tilt	kg lb	1699 3745	1595 3517	1680 3704	1693 3733	1590 3504	1676 3695	1689 3723	1583 3491	1672 3687
Operating weight	kg lb	3090 6812	3120 6878	3106 6848	3107 6849	3139 6921	3123 6885	3114 6866	3150 6944	3131 6902

Bucket Type	Bucket Width Tire Size	Multi-Purpose								
		1520 mm (60") 10 x 16.5			1680 mm (66") 10 x 16.5			1830 mm (72") 10 x 16.5		
Ground Engaging Type		Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth
Bucket Assembly No.		154-5004	154-5045	154-5046	154-5008	154-5047	154-5048	154-5010	154-5049	154-5050
Rated bucket capacity	m ³ yd ³	0.30 0.39	0.31 0.41	0.30 0.39	0.33 0.43	0.33 0.43	0.34 0.44	0.37 0.48	0.37 0.48	0.37 0.48
Struck capacity	m ³ yd ³	0.22 0.29	0.22 0.29	0.22 0.29	0.24 0.31	0.25 0.33	0.24 0.31	0.27 0.35	0.28 0.36	0.27 0.35
Width	mm in	1595 63	1595 63	1595 63	1749 69	1749 69	1749 69	1902 75	1902 75	1902 75
Dump clearance at maximum lift/dump	mm in	2218 87	2287 90	2143 84	2218 87	2287 90	2143 84	2218 87	2287 90	2143 84
Reach at maximum lift/dump	mm in	762 30	769 30	825 32	762 30	769 30	825 32	762 30	769 30	825 32
Floor angle at maximum lift/dump	degrees	49.6°	49.6°	49.6°	49.6°	49.6°	49.6°	49.6°	49.6°	49.6°
Floor angle at maximum lift/rack back	degrees	86.8°	86.8°	86.8°	86.8°	86.8°	86.8°	86.8°	86.8°	86.8°
Clearance at maximum lift/level bucket	mm in	2834 112	2818 111	2833 112	2834 112	2818 111	2833 112	2834 112	2818 111	2833 112
Hinge pin height at maximum lift	mm in	3026 119	3026 119	3026 119	3026 119	3026 119	3026 119	3026 119	3026 119	3026 119
Maximum overall height	mm in	3911 154	3938 155	4008 158	3911 154	3938 155	4008 158	3911 154	3938 155	4008 158
Reach at level lift arm/bucket	mm in	1360 54	1387 55	1457 57	1360 54	1387 55	1457 57	1360 54	1387 55	1457 57
Maximum floor angle at minimum lift	degrees	25.3°	25.3°	25.3°	25.3°	25.3°	25.3°	25.3°	25.3°	25.3°
Dig depth with level bucket	mm in	3 0.1	19 0.7	4 0.2	3 0.1	19 0.7	4 0.2	3 0.1	19 0.7	4 0.2
Overall length with bucket on ground	mm in	3494 138	3522 139	3591 141	3494 138	3522 139	3591 141	3494 138	3522 139	3591 141
Front clearance circle radius (with bucket)	mm in	2182 86	2214 87	2249 89	2211 87	2243 88	2276 90	2242 88	2273 89	2303 91
Tipping load	kg lb	1606 3542	1560 3439	1591 3508	1586 3495	1530 3373	1566 3451	1568 3456	1509 3327	1547 3411
Breakout force — lift	kg lb	1552 3422	1508 3324	1538 3390	1536 3386	1487 3278	1520 3351	1521 3353	1470 3240	1505 3318
Breakout force — tilt	kg lb	1631 3595	1539 3392	1619 3569	1618 3566	1517 3344	1600 3527	1609 3547	1508 3325	1594 3513
Operating weight	kg lb	3221 7101	3251 7167	3237 7137	3239 7142	3272 7214	3256 7178	3258 7182	3294 7262	3275 7219

Bucket Type		Dirt					
Bucket Width Tire Size		1520 mm (60") 10 x 16.5		1680 mm (66") 10 x 16.5		1830 mm (72") 10 x 16.5	
Ground Engaging Type		Holes Only	Bolt-on Edge	Holes Only	Bolt-on Edge	Holes Only	Bolt-on Edge
Bucket Assembly No.		165-6156	152-0231	165-6157	152-0232	188-3526	188-2719
Rated bucket capacity	m ³	0.34	0.35	0.37	0.38	0.41	0.42
	yd ³	0.44	0.46	0.48	0.49	0.54	0.55
Struck capacity	m ³	0.25	0.25	0.27	0.27	0.29	0.31
	yd ³	0.33	0.33	0.35	0.35	0.38	0.41
Width	mm	1576	1586	1730	1740	1883	1893
	in	62	62	68	69	74	75
Dump clearance at maximum lift/dump	mm	2261	2229	2261	2229	2261	2229
	in	89	88	89	88	89	88
Reach at maximum lift/dump	mm	724	732	724	732	724	732
	in	29	29	29	29	29	29
Floor angle at maximum lift/dump	degrees	49.5°	49.5°	49.5°	49.5°	49.5°	49.5°
Floor angle at maximum lift/rack back	degrees	86.9°	86.9°	86.9°	86.9°	86.9°	86.9°
Clearance at maximum lift/level bucket	mm	2831	2815	2831	2815	2831	2815
	in	111	111	111	111	111	111
Hinge pin height at maximum lift	mm	3026	3026	3026	3026	3026	3026
	in	119	119	119	119	119	119
Maximum overall height	mm	3854	3881	3854	3881	3854	3881
	in	152	153	152	153	152	153
Reach at level lift arm/bucket	mm	1302	1330	1302	1330	1302	1330
	in	51	52	51	52	51	52
Maximum floor angle at minimum lift	degrees	25.4°	25.4°	25.4°	25.4°	25.4°	25.4°
Dig depth with level bucket	mm	4	20	4	20	4	20
	in	0.2	0.8	0.2	0.8	0.2	0.8
Overall length with bucket on ground	mm	3437	3465	3437	3465	3437	3465
	in	135	136	135	136	135	136
Front clearance circle radius (with bucket)	mm	2137	2169	2154	2185	2198	2229
	in	84	85	85	86	87	88
Tipping load	kg	1858	1799	1834	1771	1827	1760
	lb	4095	3966	4043	3904	4027	3879
Breakout force — lift	kg	1741	1692	1721	1669	1714	1660
	lb	3838	3731	3793	3680	3779	3660
Breakout force — tilt	kg	1852	1739	1841	1726	1838	1720
	lb	4083	3833	4060	3806	4051	3791
Operating weight	kg	3031	3061	3056	3089	3064	3100
	lb	6683	6749	6738	6810	6755	6834

Work Tool		Pallet Fork		
Tine Length		910 mm (36")	1070 mm (42")	1220 mm (48")
Tire Size		10 x 16.5	10 x 16.5	10 x 16.5
Carriage Assembly No.		242-9998	242-9999	243-0000
Carriage overall width without step	mm	1157	1157	1157
	in	45	45	45
Carriage step additional width	mm	108	108	108
	in	4.25	4.25	4.25
Carriage height above blade top	mm	924	924	924
	in	36.4	36.4	36.4
Blade surface height at maximum height	mm	2911	2911	2911
	in	114.6	114.6	114.6
Shank front face reach at maximum height	mm	624	624	624
	in	24.6	24.6	24.6
Blade surface height at level lift arms	mm	1506	1506	1506
	in	59.3	59.3	59.3
Shank front face reach at level lift arms	mm	762	762	762
	in	30.0	30.0	30.0
Blade surface height at minimum lift	mm	56	56	56
	in	2.2	2.2	2.2
Shank front face reach at minimum lift	mm	468	468	468
	in	18.4	18.4	18.4
Overall length at minimum lift, level tine	mm	3806	3966	4116
	in	149.8	156.1	162.0
Tipping load	kg	1369	1294	1229
	lb	3018	2852	2708
Operating weight	kg	3072	3083	3092
	lb	6773	6796	6817

Bucket Type		General Purpose						Multi-Purpose	
Bucket Width Tire Size		1680 mm (66") 12 x 16.5			1830 mm (72") 12 x 16.5			1680 mm (66") 12 x 16.5	
Ground Engaging Type		Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge
Bucket Assembly No.		165-6153	152-0226	152-0225	165-6154	152-0229	152-0228	154-5008	154-5047
Rated bucket capacity	m³ yd³	0.40 0.52	0.40 0.52	0.41 0.53	0.44 0.57	0.44 0.57	0.45 0.59	0.33 0.43	0.33 0.43
Struck capacity	m³ yd³	0.29 0.38	0.29 0.38	0.29 0.38	0.32 0.42	0.32 0.42	0.32 0.42	0.24 0.31	0.25 0.33
Width	mm in	1730 68	1740 68	1730 68	1883 74	1893 75	1883 74	1749 69	1749 69
Dump clearance at maximum lift/dump	mm in	2360 92.9	2331 91.8	2299 90.5	2360 92.9	2331 91.8	2299 90.5	2356 92.8	2326 91.6
Reach at maximum lift/dump	mm in	587 23.1	593 23.3	655 25.8	581 22.9	594 23.4	656 25.8	591 23.3	605 23.8
Floor angle at maximum lift/dump	degrees	39.9°	39.9°	39.9°	39.9°	39.9°	39.9°	40.1°	40.1°
Floor angle at maximum lift/rack back	degrees	97.3°	97.3°	97.3°	97.3°	97.3°	97.3°	97.2°	97.2°
Clearance at maximum lift/level bucket	mm in	2904 114.3	2887 113.7	2902 114.3	2904 114.3	2887 113.7	2902 114.3	2905 114.4	2889 113.7
Hinge pin height at maximum lift	mm in	3098 122.0	3227 127.0	3227 127.0	3227 127.0	3227 127.0	3227 127.0	3227 127.0	3227 127.0
Maximum overall height	mm in	4014 158.0	4042 159.1	4112 161.9	4014 158.0	4042 159.1	4111 161.9	4019 158.2	4046 159.3
Reach at level lift arm/bucket	mm in	1409 55.5	1438 56.6	1507 59.3	1409 55.5	1439 56.7	1508 59.4	1419 55.9	1449 57.0
Maximum floor angle at minimum lift	degrees	27.9°	27.9°	27.9°	27.9°	27.9°	27.9°	27.3°	27.3°
Dig depth with level bucket	mm in	0 0	16 0.63	1 0.04	0 0	16 0.63	1 0.04	0 0	16 0.63
Overall length with bucket on ground	mm in	3568 140.5	3596 141.6	3666 144.3	3568 140.5	3596 141.6	3666 144.3	3572 140.6	3600 141.7
Front clearance circle radius (with bucket)	mm in	2134 84.0	2165 85.2	2198 86.5	2166 85.3	2197 86.5	2226 87.6	2136 84.1	2168 85.4
Tipping load	kg lb	1690 3726	1634 3603	1668 3678	1682 3709	1622 3577	1660 3660	1544 3405	1490 3285
Breakout force — lift	kg lb	2032 4481	1976 4357	2016 4445	2025 4465	1968 4339	2009 4430	1919 4231	1864 4110
Breakout force — tilt	kg lb	2303 5078	2178 4802	2286 5041	2299 5069	2173 4791	2284 5036	2226 4908	2105 4642
Operating weight	kg lb	3228 7118	3261 7191	3244 7153	3236 7135	3271 7213	3252 7171	3361 7411	3394 7484

Bucket Type		Multi-Purpose				Dirt			
Bucket Width		1680 mm (66")	1830 mm (72")			1520 mm (60")	1680 mm (66")		
Tire Size		12 x 16.5	12 x 16.5			12 x 16.5	12 x 16.5		
Ground Engaging Type		Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge	Holes Only	Bolt-on Edge
Bucket Assembly No.		154-5048	154-5010	154-5049	154-5050	165-6156	152-0231	165-6157	152-0232
Rated bucket capacity	m ³	0.34	0.37	0.37	0.37	0.34	0.35	0.37	0.38
	yd ³	0.44	0.48	0.48	0.48	0.44	0.46	0.48	0.49
Struck capacity	m ³	0.24	0.27	0.28	0.27	0.25	0.25	0.27	0.27
	yd ³	0.31	0.35	0.36	0.35	0.33	0.33	0.35	0.35
Width	mm	1749	1902	1902	1902	1576	1586	1730	1740
	in	69	75	75	75	62	62	68	69
Dump clearance at maximum lift/dump	mm	2292	2356	2326	2292	2398	2369	2398	2369
	in	90.2	92.8	91.6	90.2	94.4	93.3	94.4	93.3
Reach at maximum lift/dump	mm	665	591	605	665	540	554	541	555
	in	26.2	23.3	23.8	26.2	21.3	21.8	21.3	21.9
Floor angle at maximum lift/dump	degrees	40.1°	40.1°	40.1°	40.1°	39.9°	39.9°	39.9°	39.9°
	degrees	97.2°	97.2°	97.2°	97.2°	97.4°	97.4°	97.4°	97.4°
Clearance at maximum lift/level bucket	mm	2902	2904	2889	2902	2908	2893	2908	2892
	in	114.3	114.3	113.7	114.3	114.5	113.9	114.5	113.9
Hinge pin height at maximum lift	mm	3227	3227	3227	3227	3227	3227	3227	3227
	in	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0
Maximum overall height	mm	4116	4018	4046	4116	3965	3992	3965	3992
	in	162.0	158.2	159.3	162.0	156.1	157.2	156.1	157.2
Reach at level lift arm/bucket	mm	1518	1420	1449	1518	1356	1385	1357	1386
	in	59.8	55.9	57.0	59.8	53.4	54.5	53.4	54.6
Maximum floor angle at minimum lift	degrees	27.3°	27.3°	27.3°	27.3°	28°	28°	28°	28°
	degrees	27.3°	27.3°	27.3°	27.3°	28°	28°	28°	28°
Dig depth with level bucket	mm	1	0	16	1	0	16	0	16
	in	0.04	0	0.63	0.04	0	0.63	0	0.63
Overall length with bucket on ground	mm	3670	3572	3600	3670	3515	3543	3515	3543
	in	144.5	140.6	141.7	144.5	138.4	139.5	138.4	139.5
Front clearance circle radius (with bucket)	mm	2200	2168	2200	2229	2067	2094	2097	2125
	in	86.6	85.4	86.6	87.8	81.4	82.4	82.6	83.7
Tipping load	kg	1525	1526	1470	1506	1811	1754	1787	1727
	lb	3363	3365	3241	3321	3993	3868	3940	3808
Breakout force — lift	kg	1902	1903	1847	1888	2132	2078	2112	2055
	lb	4194	4196	4073	4163	4701	4582	4657	4531
Breakout force — tilt	kg	2210	2217	2097	2204	2497	2361	2487	2349
	lb	4873	4888	4624	4860	5506	5206	5484	5180
Operating weight	kg	3377	3379	3415	3396	3153	3183	3178	3211
	lb	7446	7451	7530	7488	6952	7019	7007	7080

Work Tool		Pallet Fork		
Tine Length		910 mm (36")	1070 mm (42")	1220 mm (48")
Tire Size		12 x 16.5	12 x 16.5	12 x 16.5
Carriage Assembly No.		242-9998	242-9999	243-0000
Carriage overall width without step	mm	1157	1157	1157
	in	45	45	45
Carriage step additional width	mm	108	108	108
	in	4.25	4.25	4.25
Carriage height above blade top	mm	923.5	923.5	923.5
	in	36.4	36.4	36.4
Blade surface height at maximum height	mm	2969	2969	2969
	in	116	116	116
Shank front face reach at maximum height	mm	271	271	271
	in	10.7	10.7	10.7
Blade surface height at level lift arms	mm	1494	1494	1494
	in	58	58	58
Shank front face reach at level lift arms	mm	762	762	762
	in	30	30	30
Blade surface height at minimum lift	mm	71	71	71
	in	2.8	2.8	2.8
Shank front face reach at minimum lift	mm	339	339	339
	in	13	13	13
Overall length at minimum lift, level tine	mm	3884	4044	4194
	in	152.9	159.2	165.1
Tipping load	kg	1343	1272	1211
	lb	2961	2805	2670
Operating weight	kg	3194	3204	3214
	lb	7043	7065	7087

Bucket Type		General Purpose								
Bucket Width Tire Size		1520 mm (60") 12 x 16.5			1680 mm (66") 12 x 16.5			1830 mm (72") 12 x 16.5		
Ground Engaging Type		Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth
Bucket Assembly No.		165-6152	152-0224	152-0223	165-6153	152-0226	152-0225	165-6154	152-0229	152-0228
Rated bucket capacity	m³	0.36	0.37	0.36	0.40	0.40	0.41	0.44	0.44	0.45
	yd³	0.47	0.48	0.47	0.52	0.52	0.53	0.57	0.57	0.59
Struck capacity	m³	0.26	0.27	0.26	0.29	0.29	0.29	0.32	0.32	0.32
	yd³	0.34	0.35	0.34	0.38	0.38	0.38	0.42	0.42	0.42
Width	mm	1576	1586	1576	1730	1740	1730	1883	1893	1883
	in	62	62	62	68	68	68	74	75	74
Dump clearance at maximum lift/dump	mm	2240	2209	2168	2240	2209	2166	2240	2209	2166
	in	88	87	85	88	87	85	88	87	85
Reach at maximum lift/dump	mm	759	766	822	759	766	822	759	766	822
	in	30	30	32	30	30	32	30	30	32
Floor angle at maximum lift/dump	degrees	49.5°	49.5°	49.5°	49.5°	49.5°	49.5°	49.5°	49.5°	49.5°
Floor angle at maximum lift/rack back	degrees	86.9°	86.9°	86.9°	86.9°	86.9°	86.9°	86.9°	86.9°	86.9°
Clearance at maximum lift/level bucket	mm	2851	2835	2850	2851	2835	2850	2851	2835	2850
	in	112	112	112	112	112	112	112	112	112
Hinge pin height at maximum lift	mm	3046	3046	3046	3046	3046	3046	3046	3046	3046
	in	120	120	120	120	120	120	120	120	120
Maximum overall height	mm	3927	3954	4024	3927	3954	4024	3927	3954	4024
	in	155	156	158	155	156	158	155	156	158
Reach at level lift arm/bucket	mm	1356	1384	1453	1356	1384	1453	1356	1384	1453
	in	53	54	57	53	54	57	53	54	57
Maximum floor angle at minimum lift	degrees	25.4°	25.4°	25.4°	25.4°	25.4°	25.4°	25.4°	25.4°	25.4°
Dig depth with level bucket	mm	4	21	5	4	21	5	4	21	5
	in	0.2	0.8	0.2	0.2	0.8	0.2	0.2	0.8	0.2
Overall length with bucket on ground	mm	3490	3518	3588	3490	3518	3588	3490	3518	3588
	in	137	139	141	137	139	141	137	139	141
Front clearance circle radius (with bucket)	mm	2192	2224	2259	2221	2253	2286	2252	2283	2313
	in	86	88	89	87	89	90	89	90	91
Tipping load	242B2 kg	1843	1782	1815	1822	1764	1800	1814	1752	1792
	lb	4062	3928	4001	4017	3888	3968	4000	3862	3950
	242B2 HF kg	1904	1843	1876	1884	1824	1861	1875	1812	1853
	lb	4197	4062	4137	4152	4022	4103	4135	3996	4085
Breakout force — lift	242B2 kg	1662	1614	1646	1649	1599	1633	1642	1590	1627
	lb	3665	3558	3628	3635	3525	3600	3621	3505	3586
	242B2 HF kg	1652	1604	1636	1639	1589	1623	1633	1580	1617
	lb	3643	3537	3607	3614	3503	3578	3599	3484	3564
Breakout force — tilt	242B2 kg	1699	1595	1680	1693	1590	1676	1689	1583	1672
	lb	3745	3517	3704	3733	3504	3695	3723	3491	3687
	242B2 HF kg	1699	1595	1680	1693	1590	1676	1689	1583	1672
	lb	3745	3517	3704	3733	3504	3695	3723	3491	3687
Operating weight	242B2 kg	3170	3200	3186	3187	3220	3203	3194	3230	3211
	lb	6988	7054	7024	7025	7098	7061	7042	7121	7078
	242B2 HF kg	3225	3254	3241	3241	3274	3258	3249	3285	3265
	lb	7109	7175	7145	7146	7218	7182	7163	7241	7199

HF = High Flow

Bucket Type		Multi-Purpose								
Bucket Width Tire Size		1520 mm (60") 12 x 16.5			1680 mm (66") 12 x 16.5			1830 mm (72") 12 x 16.5		
Ground Engaging Type		Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth
Bucket Assembly No.		154-5004	154-5045	154-5046	154-5008	154-5047	154-5048	154-5010	154-5049	154-5050
Rated bucket capacity	m³	0.30	0.31	0.30	0.33	0.33	0.34	0.37	0.37	0.37
	yd³	0.39	0.41	0.39	0.43	0.43	0.44	0.48	0.48	0.48
Struck capacity	m³	0.22	0.22	0.22	0.24	0.25	0.24	0.27	0.28	0.27
	yd³	0.29	0.29	0.29	0.31	0.33	0.31	0.35	0.36	0.35
Width	mm	1595	1595	1595	1749	1749	1749	1902	1902	1902
	in	63	63	63	69	69	69	75	75	75
Dump clearance at maximum lift/dump	mm	2238	2207	2163	2238	2207	2163	2238	2207	2163
	in	88	87	85	88	87	85	88	87	85
Reach at maximum lift/dump	mm	762	769	825	762	769	825	762	769	825
	in	30	30	32	30	30	32	30	30	32
Floor angle at maximum lift/dump	degrees	49.6°	49.6°	49.6°	49.6°	49.6°	49.6°	49.6°	49.6°	49.6°
Floor angle at maximum lift/rack back	degrees	86.8°	86.8°	86.8°	86.8°	86.8°	86.8°	86.8°	86.8°	86.8°
Clearance at maximum lift/level bucket	mm	2854	2838	2853	2854	2838	2853	2854	2838	2853
	in	112	112	112	112	112	112	112	112	112
Hinge pin height at maximum lift	mm	3046	3046	3046	3046	3046	3046	3046	3046	3046
	in	120	120	120	120	120	120	120	120	120
Maximum overall height	mm	3931	3958	4028	3931	3958	4028	3931	3958	4028
	in	155	156	159	155	156	159	155	156	159
Reach at level lift arm/bucket	mm	1360	1387	1457	1360	1387	1457	1360	1387	1457
	in	54	55	57	54	55	57	54	55	57
Maximum floor angle at minimum lift	degrees	25.3°	25.3°	25.3°	25.3°	25.3°	25.3°	25.3°	25.3°	25.3°
Dig depth with level bucket	mm	3	19	4	3	19	4	3	19	4
	in	0.1	0.7	0.2	0.1	0.7	0.2	0.1	0.7	0.2
Overall length with bucket on ground	mm	3494	3522	3591	3494	3522	3591	3494	3522	3591
	in	138	139	141	138	139	141	138	139	141
Front clearance circle radius (with bucket)	mm	2182	2214	2249	2211	2243	2276	2242	2273	2303
	in	86	87	89	87	88	90	88	89	91
Tipping load	242B2 kg	1694	1647	1679	1673	1617	1653	1655	1596	1635
	lb	3735	3630	3702	3689	3565	3645	3649	3518	3605
	242B2 HF kg	1754	1707	1740	1734	1677	1714	1716	1656	1695
	lb	3868	3762	3835	3822	3697	3778	3782	3650	3737
Breakout force — lift	242B2 kg	1552	1508	1538	1536	1487	1520	1521	1470	1505
	lb	3422	3324	3390	3386	3278	3351	3353	3240	3318
	242B2 HF kg	1543	1498	1528	1526	1477	1510	1511	1460	1495
	lb	3401	3302	3369	3365	3257	3329	3331	3218	3297
Breakout force — tilt	242B2 kg	1631	1539	1619	1618	1517	1600	1609	1508	1594
	lb	3595	3392	3569	3566	3344	3527	3547	3325	3513
	242B2 HF kg	1631	1539	1619	1618	1517	1600	1609	1508	1594
	lb	3595	3392	3569	3566	3344	3527	3547	3325	3513
Operating weight	242B2 kg	3301	3331	3317	3320	3352	3336	3338	3374	3355
	lb	7277	7344	7314	7318	7391	7354	7359	7439	7396
	242B2 HF kg	3356	3386	3372	3374	3407	3390	3393	3429	3409
	lb	7398	7464	7434	7439	7511	7475	7479	7559	7516

HF = High Flow

Bucket Type			Dirt					
Bucket Width Tire Size			1520 mm (60") 12 x 16.5		1680 mm (66") 12 x 16.5		1830 mm (72") 12 x 16.5	
Ground Engaging Type			Holes Only	Bolt-on Edge	Holes Only	Bolt-on Edge	Holes Only	Bolt-on Edge
Bucket Assembly No.			165-6156	152-0231	165-6157	152-0232	188-3526	188-2719
Rated bucket capacity	m ³		0.34	0.35	0.37	0.38	0.41	0.42
	yd ³		0.44	0.46	0.48	0.49	0.54	0.55
Struck capacity	m ³		0.25	0.25	0.27	0.27	0.29	0.31
	yd ³		0.33	0.33	0.35	0.35	0.38	0.41
Width	mm		1576	1586	1730	1740	1883	1893
	in		62	62	68	69	74	75
Dump clearance at maximum lift/dump	mm		2281	2249	2281	2249	2281	2249
	in		90	89	90	89	90	89
Reach at maximum lift/dump	mm		724	732	724	732	724	732
	in		29	29	29	29	29	29
Floor angle at maximum lift/dump	degrees		49.5°	49.5°	49.5°	49.5°	49.5°	49.5°
Floor angle at maximum lift/rack back	degrees		86.9°	86.9°	86.9°	86.9°	86.9°	86.9°
Clearance at maximum lift/level bucket	mm		2851	2835	2851	2835	2851	2835
	in		112	112	112	112	112	112
Hinge pin height at maximum lift	mm		3046	3046	3046	3046	3046	3046
	in		120	120	120	120	120	120
Maximum overall height	mm		3874	3901	3874	3901	3874	3901
	in		153	154	153	154	153	154
Reach at level lift arm/bucket	mm		1302	1330	1302	1330	1302	1330
	in		51	52	51	52	51	52
Maximum floor angle at minimum lift	degrees		25.4°	25.4°	25.4°	25.4°	25.4°	25.4°
Dig depth with level bucket	mm		4	20	4	20	4	20
	in		0.2	0.8	0.2	0.8	0.2	0.8
Overall length with bucket on ground	mm		3437	3465	3437	3465	3437	3465
	in		135	136	135	136	135	136
Front clearance circle radius (with bucket)	mm		2137	2169	2154	2185	2198	2229
	in		84	85	85	86	87	88
Tipping load	242B2	kg	1949	1889	1926	1862	1918	1850
		lb	4297	4165	4246	4104	4229	4079
	242B2 HF	kg	2012	1951	1989	1924	1981	1912
		lb	4435	4302	4384	4241	4367	4216
Breakout force — lift	242B2	kg	1741	1692	1721	1669	1714	1660
		lb	3838	3731	3793	3680	3779	3660
	242B2 HF	kg	1731	1682	1711	1660	1704	1650
		lb	3816	3709	3771	3659	3757	3638
Breakout force — tilt	242B2	kg	1852	1739	1841	1726	1838	1720
		lb	4083	3833	4060	3806	4051	3791
	242B2 HF	kg	1852	1739	1841	1726	1838	1720
		lb	4083	3833	4060	3806	4051	3791
Operating weight	242B2	kg	3111	3141	3136	3169	3144	3180
		lb	6859	6925	6915	6987	6932	7011
	242B2 HF	kg	3166	3196	3191	3224	3199	3235
		lb	6980	7046	7035	7107	7052	7131

HF = High Flow

Work Tool			Pallet Fork		
Tine Length			910 mm (36")	1070 mm (42")	1220 mm (48")
Tire Size			12 x 16.5	12 x 16.5	12 x 16.5
Carriage Assembly No.			242-9998	242-9999	243-0000
Carriage overall width without step	mm		1157	1157	1157
	in		45	45	45
Carriage step additional width	mm		108	108	108
	in		4.25	4.25	4.25
Carriage height above blade top	mm		924	924	924
	in		36.4	36.4	36.4
Blade surface height at maximum height	mm		2931	2931	2931
	in		115.4	115.4	115.4
Shank front face reach at maximum height	mm		624	624	624
	in		24.6	24.6	24.6
Blade surface height at level lift arms	mm		1526	1526	1526
	in		60.1	60.1	60.1
Shank front face reach at level lift arms	mm		762	762	762
	in		30.0	30.0	30.0
Blade surface height at minimum lift	mm		76	76	76
	in		3.0	3.0	3.0
Shank front face reach at minimum lift	mm		468	468	468
	in		18.4	18.4	18.4
Overall length at minimum lift, level tine	mm		3806	3966	4116
	in		149.8	156.1	162.0
Tipping load	242B2	kg	1432	1354	1286
		lb	3158	2985	2835
	242B2 HF	kg	1481	1400	1330
		lb	3264	3086	2932
Operating weight	242B2	kg	3152	3163	3172
		lb	6950	6973	6994
	242B2 HF	kg	3207	3217	3227
		lb	7070	7093	7114

HF = High Flow

Bucket Type		General Purpose						Multi-Purpose	
Bucket Width Tire Size		1680 mm (66") 12 x 16.5			1830 mm (72") 12 x 16.5			1680 mm (66") 12 x 16.5	
Ground Engaging Type		Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge
Bucket Assembly No.		165-6153	152-0226	152-0225	165-6154	152-0229	152-0228	154-5008	154-5047
Rated bucket capacity	m³ yd³	0.40 0.52	0.40 0.52	0.41 0.53	0.44 0.57	0.44 0.57	0.45 0.59	0.33 0.43	0.33 0.43
Struck capacity	m³ yd³	0.29 0.38	0.29 0.38	0.29 0.38	0.32 0.42	0.32 0.42	0.32 0.42	0.24 0.31	0.25 0.33
Width	mm in	1730 68	1740 68	1730 68	1883 74	1893 75	1883 74	1749 69	1749 69
Dump clearance at maximum lift/dump	mm in	2439 96.0	2394 94.3	2318 91.3	2439 96.0	2394 94.3	2318 91.3	2435 95.9	2392 94.2
Reach at maximum lift/dump	mm in	769 30.3	780 30.7	841 33.1	769 30.3	780 30.7	841 33.1	773 30.4	784 30.9
Floor angle at maximum lift/dump	degrees	51°	51°	51°	51°	51°	51°	51°	51°
Floor angle at maximum lift/rack back	degrees	87°	87°	87°	87°	87°	87°	87°	87°
Clearance at maximum lift/level bucket	mm in	3039 119.6	3032 119.4	3031 119.3	3039 119.6	3032 119.4	3031 119.3	3039 119.6	3032 119.4
Hinge pin height at maximum lift	mm in	3227 127	3227 127	3227 127	3227 127	3227 127	3227 127	3227 127	3227 127
Maximum overall height	mm in	4091 161.1	4131 162.6	4229 166.5	4091 161.1	4131 162.6	4229 166.5	4096 161.3	4135 162.8
Reach at level lift arm/bucket	mm in	1290 50.8	1331 52.4	1429 56.3	1290 50.8	1331 52.4	1429 56.3	1295 51	1335 52.3
Maximum floor angle at minimum lift	degrees	27°	27°	27°	27°	27°	27°	27°	27°
Dig depth with level bucket	mm in	0 0	16 0.63	1 0.04	0 0	16 0.63	1 0.04	0 0	16 0.63
Overall length with bucket on ground	mm in	3628 142.8	3669 144.4	3767 148.3	3628 142.8	3669 144.4	3767 148.3	3633 143	3673 144.6
Front clearance circle radius (with bucket)	mm in	2187 86.1	2234 88	2298 90.5	2217 87.3	2264 89.1	2325 91.5	2191 86.3	2236 88
Tipping load	kg lb	2370 5226	2305 5083	2350 5182	2364 5213	2299 5069	2342 5164	2217 4888	2158 4758
Breakout force — lift	kg lb	2303 5078	2247 4955	2287 5043	2296 5063	2238 4935	2280 5027	2187 4822	2133 4703
Breakout force — tilt	kg lb	2317 5109	2189 4827	2299 5069	2312 5098	2183 4814	2296 5063	2233 4924	2110 4653
Operating weight	kg lb	3603 7945	3635 8015	3619 7980	3610 7960	3646 8039	3627 7998	3735 8236	3768 8308

Bucket Type		Multi-Purpose				Dirt			
Bucket Width		1680 mm (66")	1830 mm (72")			1520 mm (60")	1680 mm (66")		
Tire Size		12 x 16.5	12 x 16.5			12 x 16.5	12 x 16.5		
Ground Engaging Type		Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge	Holes Only	Bolt-on Edge
Bucket Assembly No.		154-5048	154-5010	154-5049	154-5050	165-6156	152-0231	165-6157	152-0232
Rated bucket capacity	m ³	0.34	0.37	0.37	0.37	0.34	0.35	0.37	0.38
	yd ³	0.44	0.48	0.48	0.48	0.44	0.46	0.48	0.49
Struck capacity	m ³	0.24	0.27	0.28	0.27	0.25	0.25	0.27	0.27
	yd ³	0.31	0.35	0.36	0.35	0.33	0.33	0.35	0.35
Width	mm	1749	1902	1902	1902	1576	1586	1730	1740
	in	69	75	75	75	62	62	68	69
Dump clearance at maximum lift/dump	mm	2316	2435	2392	2316	2435	2403	2435	2403
	in	91.2	95.9	94.2	91.2	95.9	94.6	95.9	94.6
Reach at maximum lift/dump	mm	845	773	784	845	746	752	746	752
	in	33.3	30.4	30.9	33.3	29.4	29.6	29.4	29.6
Floor angle at maximum lift/dump	degrees	51°	51°	51°	51°	51°	51°	51°	51°
	degrees	87°	87°	87°	87°	87°	87°	87°	87°
Clearance at maximum lift/level bucket	mm	3031	3039	3032	3031	3039	3032	3039	3032
	in	119.3	119.6	119.4	119.3	119.6	119.4	119.6	119.4
Hinge pin height at maximum lift	mm	3227	3227	3227	3227	3227	3227	3227	3227
	in	127	127	127	127	127	127	127	127
Maximum overall height	mm	4232	4096	4136	4232	4078	4105	4078	4105
	in	166.6	161.3	162.8	166.6	160.6	161.6	160.6	161.6
Reach at level lift arm/bucket	mm	1433	1295	1335	1433	1630	1587	1603	1587
	in	56.4	51	52.3	56.4	64.2	65.5	64.2	65.5
Maximum floor angle at minimum lift	degrees	27°	27°	27°	27°	27°	27°	27°	27°
	degrees	27°	27°	27°	27°	27°	27°	27°	27°
Dig depth with level bucket	mm	1	0	16	1	0	16	0	16
	in	0.04	0	0.63	0.04	0	0.63	0	0.63
Overall length with bucket on ground	mm	3771	3633	3673	3771	3616	3644	3616	3644
	in	148.5	143	144.6	148.5	142.4	143.5	142.4	143.5
Front clearance circle radius (with bucket)	mm	2301	2222	2267	2328	2161	2193	2190	2222
	in	90.6	87.5	89.3	91.7	85.1	86.3	86.2	87.5
Tipping load	kg	2198	2199	2137	2179	2510	2446	2487	2419
	lb	4847	4849	4712	4805	5535	5393	5484	5334
Breakout force — lift	kg	2171	2172	2115	2156	2404	2349	2383	2326
	lb	4787	4789	4664	4754	5301	5180	5255	5129
Breakout force — tilt	kg	2216	2225	2101	2209	2515	2375	2504	2362
	lb	4886	4906	4633	4871	5546	5237	5521	5208
Operating weight	kg	3751	3753	3790	3770	3527	3557	3552	3585
	lb	8271	8275	8357	8313	7777	7843	7832	7905

Work Tool		Pallet Fork		
Tine Length		910 mm (36")	1070 mm (42")	1220 mm (48")
Tire Size		12 x 16.5	12 x 16.5	12 x 16.5
Carriage Assembly No.		242-9998	242-9999	243-0000
Carriage overall width without step	mm	1157	1157	1157
	in	45	45	45
Carriage step additional width	mm	108	108	108
	in	4.25	4.25	4.25
Carriage height above blade top	mm	923.5	923.5	923.5
	in	36.4	36.4	36.4
Blade surface height at maximum height	mm	3124	3124	3124
	in	123	123	123
Shank front face reach at maximum height	mm	671	671	671
	in	26.4	26.4	26.4
Blade surface height at level lift arms	mm	1695	1695	1695
	in	66.7	66.7	66.7
Shank front face reach at level lift arms	mm	737	737	737
	in	29	29	29
Blade surface height at minimum lift	mm	79	79	79
	in	3.1	3.1	3.1
Shank front face reach at minimum lift	mm	387	387	387
	in	15.2	15.2	15.2
Overall length at minimum lift, level tine	mm	3985	4145	4295
	in	156.9	163.2	169.1
Tipping load	kg	1885	1787	1703
	lb	4156	3940	3755
Operating weight	kg	3568	3578	3588
	lb	7867	7889	7912

Bucket Type		General Purpose								
Bucket Width Tire Size		1680 mm (66") 12 x 16.5			1830 mm (72") 12 x 16.5			1981 mm (78") 12 x 16.5		
Ground Engaging Type		Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth
Bucket Assembly No.		279-5368	279-5369	279-5370	279-5372	279-5373	279-5374	279-5376	279-5377	279-5378
Rated bucket capacity	m ³	0.40	0.41	0.40	0.44	0.45	0.44	0.47	0.49	0.47
	yd ³	0.52	0.54	0.52	0.58	0.59	0.58	0.61	0.64	0.61
Struck capacity	m ³	0.29	0.29	0.29	0.32	0.32	0.32	0.34	0.34	0.34
	yd ³	0.38	0.38	0.38	0.42	0.42	0.42	0.44	0.44	0.44
Width	mm	1730	1740	1730	1883	1893	1883	2035	2045	2035
	in	68.1	68.5	68.1	74.1	74.5	74.1	80.1	80.5	80.1
Dump clearance at maximum lift/dump	mm	2399	2385	2350	2399	2385	2350	2399	2385	2350
	in	94.4	93.9	92.5	94.4	93.9	92.5	94.4	93.9	92.5
Reach at maximum lift/dump	mm	627	655	725	627	655	725	627	655	725
	in	24.7	25.8	28.5	24.7	25.8	28.5	24.7	25.8	28.5
Floor angle at maximum lift/dump	degrees	40.1°	40.1°	40.1°	40.1°	40.1°	40.1°	40.1°	40.1°	40.1°
Floor angle at maximum lift/rack back	degrees	94.8°	94.8°	94.8°	94.8°	94.8°	94.8°	94.8°	94.8°	94.8°
Clearance at maximum lift/level bucket	mm	2928	2912	2928	2928	2912	2928	2928	2912	2928
	in	115.3	114.6	115.3	115.3	114.6	115.3	115.3	114.6	115.3
Hinge pin height at maximum lift	mm	3122	3122	3122	3122	3122	3122	3122	3122	3122
	in	122.9	122.9	122.9	122.9	122.9	122.9	122.9	122.9	122.9
Maximum overall height	mm	4051	4079	4149	4051	4079	4149	4051	4079	4149
	in	159.5	160.6	163.3	159.5	160.6	163.3	159.5	160.6	163.3
Reach at level lift arm/bucket	mm	1441	1469	1441	1441	1469	1441	1441	1469	1441
	in	56.7	57.8	56.7	56.7	57.8	56.7	56.7	57.8	56.7
Maximum floor angle at minimum lift	degrees	26.4°	26.4°	26.4°	26.4°	26.4°	26.4°	26.4°	26.4°	26.4°
Dig depth with level bucket	mm	12	29	12	12	29	12	12	29	12
	in	0.5	1.1	0.5	0.5	1.1	0.5	0.5	1.1	0.5
Overall length with bucket on ground	mm	3692	3720	3790	3692	3720	3790	3692	3720	3790
	in	145.4	146.5	149.2	145.4	146.5	149.2	145.4	146.5	149.2
Front clearance circle radius (with bucket)	mm	2433	2447	2482	2433	2447	2482	2433	2447	2482
	in	95.8	96.3	97.7	95.8	96.3	97.7	95.8	96.3	97.7
Tipping load	246C	kg	1910	1852	1888	1897	1835	1875	1883	1821
		lb	4211	4083	4162	4182	4045	4134	4151	4101
	256C	kg	2013	1955	1991	2000	1938	1978	1986	1923
		lb	4438	4310	4389	4409	4273	4361	4378	4239
Breakout force — lift	246C	kg	2654	2592	2638	2643	2578	2627	2634	2567
		lb	5851	5714	5816	5827	5683	5792	5807	5659
	256C	kg	2654	2592	2638	2643	2578	2627	2634	2567
		lb	5851	5714	5816	5827	5683	5792	5807	5659
Breakout force — tilt	246C	kg	3096	2937	3079	3089	2927	3072	3086	2923
		lb	6825	6475	6788	6810	6453	6773	6803	6444
	256C	kg	3096	2937	3079	3089	2927	3072	3086	2923
		lb	6825	6475	6788	6810	6453	6773	6803	6444
Operating weight	246C	kg	3349	3382	3365	3362	3397	3378	3374	3392
		lb	7383	7456	7419	7412	7489	7447	7438	7478
	256C	kg	3434	3467	3451	3447	3483	3464	3460	3497
		lb	7571	7643	7608	7599	7679	7637	7628	7668

Bucket Type			High Capacity — GP			Multi-Purpose					
Bucket Width Tire Size			2134 mm (84") 12 x 16.5			1680 mm (66") 12 x 16.5			1830 mm (72") 12 x 16.5		
Ground Engaging Type			Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth
Bucket Assembly No.			292-9271	296-8192	296-8191	279-5390	279-5391	279-5392	273-5398	273-5399	273-5400
Rated bucket capacity	m ³		0.63	0.63	0.63	0.33	0.34	0.33	0.37	0.38	0.37
	yd ³		0.82	0.82	0.82	0.43	0.44	0.43	0.48	0.50	0.48
Struck capacity	m ³		0.59	0.59	0.59	0.24	0.24	0.24	0.26	0.26	0.26
	yd ³		0.77	0.77	0.77	0.31	0.31	0.31	0.34	0.34	0.34
Width	mm		2187	2198	2187	1730	1740	1730	1883	1883	1883
	in		86.1	86.5	86.1	68.1	68.5	68.1	74.1	74.1	74.1
Dump clearance at maximum lift/dump	mm		*	*	*	2396	2382	2347	2396	2382	2347
	in		*	*	*	94.3	93.8	92.4	94.3	93.8	92.4
Reach at maximum lift/dump	mm		*	*	*	629	643	678	629	643	678
	in		*	*	*	24.8	25.3	26.7	24.8	25.3	26.7
Floor angle at maximum lift/dump	degrees		*	*	*	40.1°	40.1°	40.1°	40.1°	40.1°	40.1°
Floor angle at maximum lift/rack back	degrees		*	*	*	94.8°	94.8°	94.8°	94.8°	94.8°	94.8°
Clearance at maximum lift/level bucket	mm		*	*	*	2925	2908	2925	2925	2908	2925
	in		*	*	*	115.2	114.5	115.2	115.2	114.5	115.2
Hinge pin height at maximum lift	mm		*	*	*	3122	3122	3122	3122	3122	3122
	in		*	*	*	122.9	122.9	122.9	122.9	122.9	122.9
Maximum overall height	mm		*	*	*	4055	4083	4153	4055	4083	4153
	in		*	*	*	159.6	160.7	163.5	159.6	160.7	163.5
Reach at level lift arm/bucket	mm		*	*	*	1448	1476	1546	1448	1476	1546
	in		*	*	*	57.0	58.1	60.9	57.0	58.1	60.9
Maximum floor angle at minimum lift	degrees		26°	26°	26°	26.1°	26.1°	26.1°	26.1°	26.1°	26.1°
Dig depth with level bucket	mm		*	*	*	16	33	16	16	33	16
	in		*	*	*	0.6	1.3	0.6	0.6	1.3	0.6
Overall length with bucket on ground	mm		*	*	*	3749	3777	3847	3749	3777	3847
	in		*	*	*	147.6	148.7	151.5	147.6	148.7	151.5
Front clearance circle radius (with bucket)	mm		*	*	*	2466	2480	2202	2466	2480	2202
	in		*	*	*	97.1	97.6	86.7	97.1	97.6	86.7
Tipping load	246C	kg	1831	1766	1877	1759	1704	1740	1740	1682	1720
		lb	4037	3893	4138	3878	3757	3836	3836	3708	3792
	256C	kg	1931	1865	1907	1861	1805	1842	1842	1783	1822
		lb	4257	4112	4204	4103	3979	4061	4061	3931	4017
Breakout force — lift	246C	kg	2518	2450	2501	2539	2477	2523	2523	2459	2507
		lb	5551	5401	5514	5598	5461	5562	5562	5421	5527
	256C	kg	2518	2450	2501	2539	2477	2523	2523	2459	2507
		lb	5551	5401	5514	5598	5461	5562	5562	5421	5527
Breakout force — tilt	246C	kg	2742	2602	2724	3007	2851	2989	2997	2841	2982
		lb	6045	5732	6005	6629	6285	6590	6607	6263	6574
	256C	kg	2742	2602	2724	3007	2851	2989	2997	2841	2982
		lb	6045	5732	6005	6629	6285	6590	6607	6263	6574
Operating weight	246C	kg	3429	3471	3447	3482	3515	3498	3502	3538	3518
		lb	7560	7652	7599	7676	7749	7712	7721	7800	7756
	256C	kg	3512	3554	3530	3568	3601	3584	3587	3623	3604
		lb	7742	7835	7782	7866	7939	7901	7908	7987	7945

*Information not available at time of printing.

Bucket Type		Multi-Purpose			Dirt					
Bucket Width Tire Size		1981 mm (78") 12 x 16.5			1680 mm (66") 12 x 16.5		1830 mm (72") 12 x 16.5		1981 mm (78") 12 x 16.5	
Ground Engaging Type		Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge	Holes Only	Bolt-on Edge	Holes Only	Bolt-on Edge
Bucket Assembly No.		273-5403	279-5402	279-5401	279-5440	279-5441	285-6089	285-6090	268-4084	268-4083
Rated bucket capacity	m³ yd³	0.40 0.52	0.42 0.55	0.40 0.52	0.37 0.48	0.38 0.50	0.40 0.52	0.42 0.55	0.44 0.58	0.45 0.59
Struck capacity	m³ yd³	0.28 0.37	0.28 0.37	0.28 0.37	0.27 0.35	0.27 0.35	0.29 0.38	0.3 0.39	0.32 0.42	0.32 0.42
Width	mm in	2035 80.1	2045 80.5	2035 80.1	1676 66.0	1686 66.4	1829 72.0	1839 72.4	1981 78.0	1991 78.4
Dump clearance at maximum lift/dump	mm in	2396 94.3	2382 93.8	2347 92.4	2425 95.5	2394 94.3	2425 95.5	2394 94.3	2425 95.5	2394 94.3
Reach at maximum lift/dump	mm in	629 24.8	643 25.3	678 26.7	600 23.6	613 24.1	600 23.6	613 24.1	600 23.6	613 24.1
Floor angle at maximum lift/dump	degrees	40.1°	40.1°	40.1°	39.8°	39.8°	39.8°	39.8°	39.8°	39.8°
Floor angle at maximum lift/rack back	degrees	94.8°	94.8°	94.8°	95.2°	95.2°	95.2°	95.2°	95.2°	95.2°
Clearance at maximum lift/level bucket	mm in	2925 115.2	2908 114.5	2925 115.2	2930 115.4	2914 114.7	2930 115.4	2914 114.7	2930 115.4	2914 114.7
Hinge pin height at maximum lift	mm in	3122 122.9	3122 122.9	3122 122.9	3122 122.9	3122 122.9	3122 122.9	3122 122.9	3122 122.9	3122 122.9
Maximum overall height	mm in	4055 159.6	4083 160.7	4153 163.5	3998 157.4	4026 158.5	3998 157.4	4026 158.5	3998 157.4	4026 158.5
Reach at level lift arm/bucket	mm in	1448 57.0	1476 58.1	1546 60.9	1388 54.6	1416 55.7	1388 54.6	1416 55.7	1388 54.6	1416 55.7
Maximum floor angle at minimum lift	degrees	26.1°	26.1°	26.1°	26.2°	26.2°	26.2°	26.2°	26.2°	26.2°
Dig depth with level bucket	mm in	16 0.6	33 1.3	16 0.6	10 0.4	26 1.0	10 0.4	26 1.0	10 0.4	26 1.0
Overall length with bucket on ground	mm in	3749 147.6	3777 148.7	3847 151.5	3692 145.4	3720 146.5	3692 145.4	3720 146.5	3692 145.4	3720 146.5
Front clearance circle radius (with bucket)	mm in	2466 97.1	2480 97.6	2202 86.7	2433 95.8	2447 96.3	2433 95.8	2447 96.3	2433 95.8	2447 96.3
Tipping load	246C	kg lb	1731 3816	1669 3680	1707 3763	1986 4378	1921 4235	1973 4350	1905 4200	1889 4165
	256C	kg lb	1833 4041	1770 3902	1809 3988	2091 4610	2026 4467	2079 4583	2009 4429	1994 4396
Breakout force — lift	246C	kg lb	2507 5527	2443 5386	2490 5489	2722 6001	2657 5858	2711 5977	2644 5829	2701 5955
	256C	kg lb	2507 5527	2443 5386	2490 5489	2722 6001	2657 5858	2711 5977	2644 5829	2701 5955
Breakout force — tilt	246C	kg lb	2989 6590	2830 6239	2969 6545	3324 7328	3144 6931	3317 7313	3134 6909	3314 7306
	256C	kg lb	2989 6590	2830 6239	2969 6545	3324 7328	3144 6931	3317 7313	3134 6909	3314 7306
Operating weight	246C	kg lb	3521 7762	3558 7844	3539 7802	3326 7333	3359 7405	3339 7361	3375 7441	3352 7390
	256C	kg lb	3606 7950	3643 8031	3624 7990	3412 7522	3445 7595	3425 7551	3461 7630	3438 7579

Work Tool			Pallet Fork		
Tine Length			910 mm (36")	1070 mm (42")	1220 mm (48")
Tire Size			12 x 16.5	12 x 16.5	12 x 16.5
Carriage Assembly No.			293-9427	293-9428	293-9429
Carriage overall width without step	mm		1159	1159	1159
	in		45.6	45.6	45.6
Carriage step additional width	mm		106	106	106
	in		4.2	4.2	4.2
Carriage height above blade top	mm		930	930	930
	in		36.6	36.6	36.6
Blade surface height at maximum height	mm		3015	3015	3015
	in		118.7	118.7	118.7
Shank front face reach at maximum height	mm		375	375	375
	in		14.8	14.8	14.8
Blade surface height at level lift arms	mm		1535	1535	1535
	in		60.4	60.4	60.4
Shank front face reach at level lift arms	mm		840	840	840
	in		33.1	33.1	33.1
Blade surface height at minimum lift	mm		90	90	90
	in		3.5	3.5	3.5
Shank front face reach at minimum lift	mm		410	410	410
	in		16.1	16.1	16.1
Overall length at minimum lift, level tine	mm		4065	4065	4065
	in		160.0	160.0	160.0
Tipping load	246C	kg	1527	1450	1382
		lb	3366	3197	3047
	256C	kg	1609	1528	1458
		lb	3547	3369	3214
Operating weight	246C	kg	3169	3179	3188
		lb	6986	7008	7028
	256C	kg	3400	3410	3420
		lb	7496	7518	7540

Bucket Type		General Purpose								
Bucket Width Tire Size		1680 mm (66") 12 x 16.5			1830 mm (72") 12 x 16.5			1981 mm (78") 12 x 16.5		
Ground Engaging Type		Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth
Bucket Assembly No.		279-5368	279-5369	279-5370	279-5372	279-5373	279-5374	279-5376	279-5377	279-5378
Rated bucket capacity	m ³ yd ³	0.37 0.48	0.38 0.50	0.39 0.51	0.40 0.52	0.42 0.55	0.44 0.58	0.44 0.58	0.45 0.59	0.46 0.60
Struck capacity	m ³ yd ³	0.27 0.35	0.27 0.35	0.27 0.35	0.29 0.38	0.30 0.39	0.31 0.41	0.32 0.42	0.32 0.42	0.32 0.42
Width	mm in	1730 68.1	1740 68.5	1730 68.1	1883 74.1	1893 74.5	1883 74.1	2035 80.1	2045 80.5	2035 80.1
Dump clearance at maximum lift/dump	mm in	2425 95.5	2411 94.9	2376 93.5	2425 95.5	2411 94.9	2376 93.5	2425 95.5	2411 94.9	2376 93.5
Reach at maximum lift/dump	mm in	826 32.5	840 33.1	875 34.4	826 32.5	840 33.1	875 34.4	826 32.5	840 33.1	875 34.4
Floor angle at maximum lift/dump	degrees	39.2°	39.2°	39.2°	39.2°	39.2°	39.2°	39.2°	39.2°	39.2°
Floor angle at maximum lift/rack back	degrees	84.9°	84.9°	84.9°	84.9°	84.9°	84.9°	84.9°	84.9°	84.9°
Clearance at maximum lift/level bucket	mm in	3043 119.8	3043 119.8	3043 119.8	3043 119.8	3043 119.8	3043 119.8	3043 119.8	3043 119.8	3043 119.8
Hinge pin height at maximum lift	mm in	3233 127.3	3233 127.3	3233 127.3	3233 127.3	3233 127.3	3233 127.3	3233 127.3	3233 127.3	3233 127.3
Maximum overall height	mm in	4075 160.4	4089 161.0	4124 162.4	4075 160.4	4089 161.0	4124 162.4	4075 160.4	4089 161.0	4124 162.4
Reach at level lift arm/bucket	mm in	1301 51.2	1329 52.3	1399 55.1	1301 51.2	1329 52.3	1399 55.1	1301 51.2	1329 52.3	1399 55.1
Maximum floor angle at minimum lift	degrees	26.4°	26.4°	26.4°	26.4°	26.4°	26.4°	26.4°	26.4°	26.4°
Dig depth with level bucket	mm in	11 0.4	27 1.1	11 0.4	11 0.4	27 1.1	11 0.4	11 0.4	27 1.1	11 0.4
Overall length with bucket on ground	mm in	3692 145.4	3720 146.5	3790 149.2	3692 145.4	3720 146.5	3790 149.2	3692 145.4	3720 146.5	3790 149.2
Front clearance circle radius (with bucket)	mm in	2485 97.8	2517 99.1	2566 101.0	2518 99.1	2549 100.4	2598 102.3	2552 100.5	2583 101.7	2631 103.6
Tipping load	kg lb	2400 5291	2337 5152	2378 5243	2387 5262	2320 5115	2364 5212	2372 5229	2305 5082	2349 5179
Breakout force — lift	kg lb	2430 5357	2372 5229	2414 5322	2419 5333	2359 5201	2403 5298	2409 5311	2348 5176	2391 5271
Breakout force — tilt	kg lb	3096 6825	2936 6473	3079 6788	3089 6810	2927 6453	3072 6773	3086 6803	2923 6444	3067 6762
Operating weight	kg lb	3619 7978	3652 8051	3635 8014	3632 8007	3667 8084	3648 8042	3645 8036	3682 8117	3663 8076

Bucket Type		High Capacity — GP			Multi-Purpose					
Bucket Width Tire Size		2134 mm (84") 12 x 16.5			1680 mm (66") 12 x 16.5			1830 mm (72") 12 x 16.5		
Ground Engaging Type		Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth
Bucket Assembly No.		292-9271	296-8192	296-8191	279-5390	279-5391	279-5392	279-5398	279-5399	279-5400
Rated bucket capacity	m ³ yd ³	0.63 0.82	0.63 0.82	0.63 0.82	0.33 0.43	0.34 0.44	0.33 0.43	0.37 0.48	0.38 0.50	0.37 0.48
Struck capacity	m ³ yd ³	0.59 0.77	0.59 0.77	0.59 0.77	0.24 0.31	0.24 0.31	0.24 0.31	0.26 0.34	0.26 0.34	0.26 0.34
Width	mm in	2187 86.1	2198 86.5	2187 86.1	1730 68.1	1740 68.5	1730 68.1	1883 74.1	1893 74.5	1883 74.1
Dump clearance at maximum lift/dump	mm in	* *	* *	* *	2421 95.3	2407 94.8	2372 93.4	2421 95.3	2407 94.8	2372 93.4
Reach at maximum lift/dump	mm in	* *	* *	* *	810 31.9	824 32.4	859 33.8	810 31.9	824 32.4	859 33.8
Floor angle at maximum lift/dump	degrees	*	*	*	40.1°	40.1°	40.1°	40.1°	40.1°	40.1°
Floor angle at maximum lift/rack back	degrees	*	*	*	94.8°	94.8°	94.8°	94.8°	94.8°	94.8°
Clearance at maximum lift/level bucket	mm in	* *	* *	* *	3036 119.5	3015 118.7	3036 119.5	3036 119.5	3015 118.7	3036 119.5
Hinge pin height at maximum lift	mm in	* *	* *	* *	3233 127.3	3233 127.3	3233 127.3	3233 127.3	3233 127.3	3233 127.3
Maximum overall height	mm in	* *	* *	* *	4105 161.6	4130 162.6	4200 165.4	4105 161.6	4130 162.6	4200 165.4
Reach at level lift arm/bucket	mm in	* *	* *	* *	1343 52.9	1357 53.4	1343 52.9	1343 52.9	1357 53.4	1343 52.9
Maximum floor angle at minimum lift	degrees	26°	26°	26°	26.1°	26.1°	26.1°	26.1°	26.1°	26.1°
Dig depth with level bucket	mm in	* *	* *	* *	16 0.6	33 1.3	16 0.6	16 0.6	33 1.3	16 0.6
Overall length with bucket on ground	mm in	* *	* *	* *	3749 147.6	3777 148.7	3847 151.5	3749 147.6	3777 148.7	3847 151.5
Front clearance circle radius (with bucket)	mm in	* *	* *	* *	2518 99.1	2528 99.5	2616 103.0	2515 99.0	2528 99.5	2616 103.0
Tipping load	kg lb	2302 5075	2235 4927	2279 5024	2242 4943	2183 4813	2223 4901	2223 4901	2160 4762	2203 4857
Breakout force — lift	kg lb	2311 5095	2247 4954	2293 5055	2314 5101	2257 4976	2298 5066	2298 5066	2239 4936	2282 5031
Breakout force — tilt	kg lb	2743 6047	2603 5739	2725 6008	3006 6627	2851 6285	2989 6590	2997 6607	2841 6263	2981 6572
Operating weight	kg lb	3681 8115	3723 8207	3699 8155	3753 8274	3785 8344	3769 8309	3772 8316	3808 8395	3789 8353

*Information not available at time of printing.

Bucket Type		Multi-Purpose			Dirt					
Bucket Width Tire Size		1981 mm (78") 12 x 16.5			1680 mm (66") 12 x 16.5		1830 mm (72") 12 x 16.5		1981 mm (78") 12 x 16.5	
Ground Engaging Type		Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge	Holes Only	Bolt-on Edge	Holes Only	Bolt-on Edge
Bucket Assembly No.		279-5403	279-5402	279-5401	279-5440	279-5441	285-6089	285-6090	268-4084	268-4083
Rated bucket capacity	m³ yd³	0.40 0.52	0.42 0.55	0.40 0.52	0.37 0.48	0.38 0.50	0.40 0.52	0.42 0.55	0.44 0.58	0.45 0.59
Struck capacity	m³ yd³	0.28 0.37	0.28 0.37	0.28 0.37	0.27 0.35	0.27 0.35	0.29 0.38	0.30 0.39	0.32 0.42	0.32 0.42
Width	mm in	2035 80.1	2045 80.5	2035 80.1	1676 66.0	1686 66.4	1829 72.0	1839 72.4	1981 78.0	1991 78.4
Dump clearance at maximum lift/dump	mm in	2421 95.3	2407 94.8	2372 93.4	2450 96.5	2436 95.9	2450 96.5	2436 95.9	2450 96.5	2436 95.9
Reach at maximum lift/dump	mm in	810 31.9	824 32.4	859 33.8	781 30.7	795 31.3	781 30.7	795 31.3	781 30.7	795 31.3
Floor angle at maximum lift/dump	degrees	40.1°	40.1°	40.1°	39.2°	39.2°	39.2°	39.2°	39.2°	39.2°
Floor angle at maximum lift/rack back	degrees	94.8°	94.8°	94.8°	84.9°	84.9°	84.9°	84.9°	84.9°	84.9°
Clearance at maximum lift/level bucket	mm in	3036 119.5	3015 118.7	3036 119.5	3043 119.8	3043 119.8	3043 119.8	3043 119.8	3043 119.8	3043 119.8
Hinge pin height at maximum lift	mm in	3233 127.3	3233 127.3	3233 127.3	3233 127.3	3233 127.3	3233 127.3	3233 127.3	3233 127.3	3233 127.3
Maximum overall height	mm in	4105 161.6	4130 162.6	4200 165.4	4075 160.4	4089 161.0	4075 160.4	4089 161.0	4075 160.4	4089 161.0
Reach at level lift arm/bucket	mm in	1343 52.9	1357 53.4	1343 52.9	1263 49.7	1292 50.9	1263 49.7	1292 50.9	1263 49.7	1292 50.9
Maximum floor angle at minimum lift	degrees	26.1°	26.1°	26.1°	26.4°	26.4°	26.4°	26.4°	26.4°	26.4°
Dig depth with level bucket	mm in	16 0.6	33 1.3	16 0.6	11 0.4	27 1.1	11 0.4	27 1.1	11 0.4	27 1.1
Overall length with bucket on ground	mm in	3749 147.6	3777 148.7	3847 151.5	3692 145.4	3720 146.5	3692 145.4	3720 146.5	3692 145.4	3720 146.5
Front clearance circle radius (with bucket)	mm in	2518 99.1	2528 99.5	2616 103.0	2485 97.8	2517 99.1	2518 99.1	2549 100.4	2552 100.5	2583 101.7
Tipping load	kg lb	2217 4888	2150 4740	2193 4835	2491 5492	2420 5335	2479 5465	2403 5298	2467 5439	2388 5265
Breakout force — lift	kg lb	2282 5031	2222 4899	2264 4991	2490 5489	2431 5359	2478 5463	2417 5329	2467 5439	2388 5265
Breakout force — tilt	kg lb	2988 6587	2830 6239	2969 6545	3324 7328	3144 6931	3317 7313	3134 6909	3314 7306	3129 6898
Operating weight	kg lb	3791 8358	3838 8461	3809 8397	3596 7928	3629 8001	3610 7959	3645 8036	3623 7987	3663 8076

Work Tool		Pallet Fork		
Tine Length		910 mm (36")	1070 mm (42")	1220 mm (48")
Tire Size		12 x 16.5	12 x 16.5	12 x 16.5
Carriage Assembly No.		293-9427	293-9428	293-9429
Carriage overall width without step	mm	1159	1159	1159
	in	45.6	45.6	45.6
Carriage step additional width	mm	106	106	106
	in	4.2	4.2	4.2
Carriage height above blade top	mm	930	930	930
	in	36.6	36.6	36.6
Blade surface height at maximum height	mm	3130	3130	3130
	in	123.2	123.2	123.2
Shank front face reach at maximum height	mm	697	697	697
	in	27.4	27.4	27.4
Blade surface height at level lift arms	mm	1608	1608	1608
	in	63.3	63.3	63.3
Shank front face reach at level lift arms	mm	738	738	738
	in	29.1	29.1	29.1
Blade surface height at minimum lift	mm	90	90	90
	in	3.5	3.5	3.5
Shank front face reach at minimum lift	mm	410	410	410
	in	16.1	16.1	16.1
Overall length at minimum lift, level tine	mm	4065	4065	4065
	in	160.0	160.0	160.0
Tipping load	kg	1896	1798	1714
	lb	4180	3964	3779
Operating weight	kg	3585	3595	3604
	lb	7904	7926	7945

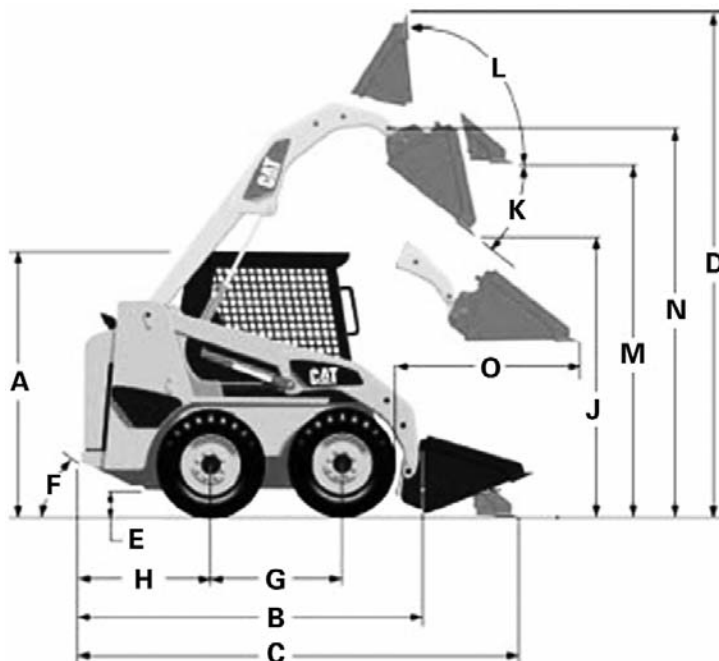
Bucket Type		General Purpose								
Bucket Width Tire Size		1680 mm (66") 12 x 16.5			1830 mm (72") 12 x 16.5			1981 mm (78") 12 x 16.5		
Ground Engaging Type		Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth
Bucket Assembly No.		279-5368	279-5369	279-5370	279-5372	279-5373	279-5374	279-5376	279-5377	279-5378
Rated bucket capacity	m ³ yd ³	0.37 0.48	0.38 0.50	0.39 0.51	0.4 0.52	0.42 0.55	0.44 0.58	0.44 0.58	0.45 0.59	0.46 0.60
Struck capacity	m ³ yd ³	0.27 0.35	0.27 0.35	0.27 0.35	0.29 0.38	0.31 0.41	0.31 0.41	0.32 0.42	0.32 0.42	0.32 0.42
Width	mm in	1730 68.1	1740 68.5	1730 68.1	1883 74.1	1893 74.5	1883 74.1	2035 80.1	2045 80.5	2035 80.1
Dump clearance at maximum lift/dump	mm in	2487 97.9	2473 97.4	2438 96.0	2487 97.9	2473 97.4	2438 96.0	2487 97.9	2473 97.4	2438 96.0
Reach at maximum lift/dump	mm in	764 30.1	778 30.6	813 32.0	764 30.1	778 30.6	813 32.0	764 30.1	778 30.6	813 32.0
Floor angle at maximum lift/dump	degrees	40°	40°	40°	40°	40°	40°	40°	40°	40°
Floor angle at maximum lift/rack back	degrees	85°	85°	85°	85°	85°	85°	85°	85°	85°
Clearance at maximum lift/level bucket	mm in	3086 121.5	3069 120.8	3086 121.5	3086 121.5	3069 120.8	3086 121.5	3086 121.5	3086 121.5	3086 121.5
Hinge pin height at maximum lift	mm in	3279 129.1	3279 129.1	3279 129.1	3279 129.1	3279 129.1	3279 129.1	3279 129.1	3279 129.1	3279 129.1
Maximum overall height	mm in	4115 162.0	4140 163.0	4200 165.4	4115 162.0	4140 163.0	4200 165.4	4115 162.0	4140 163.0	4200 165.4
Reach at level lift arm/bucket	mm in	1323 52.1	1333 52.5	1323 52.1	1323 52.1	1333 52.5	1323 52.1	1323 52.1	1333 52.5	1323 52.1
Maximum floor angle at minimum lift	degrees	26.4°	26.4°	26.4°	26.4°	26.4°	26.4°	26.4°	26.4°	26.4°
Dig depth with level bucket	mm in	14 0.6	30 1.2	14 0.6	14 0.6	30 1.2	14 0.6	14 0.6	30 1.2	14 0.6
Overall length with bucket on ground	mm in	3833 150.9	3861 152.0	3931 154.8	3833 150.9	3861 152.0	3931 154.8	3833 150.9	3861 152.0	3931 154.8
Front clearance circle radius (with bucket)	mm in	2520 99.2	2541 100.0	2576 101.4	2553 100.5	2574 101.3	2609 102.7	2577 101.5	2610 102.8	2645 104.1
Tipping load	kg lb	2848 6279	2782 6133	2826 6230	2835 6250	2764 6094	2812 6199	2820 6217	2749 6060	2796 6164
Breakout force — lift	kg lb	2296 5062	2241 4941	2280 5027	2285 5038	2227 4910	2269 5002	2275 5015	2216 4885	2257 4976
Breakout force — tilt	kg lb	3096 6825	2936 6473	3079 6788	3089 6810	2927 6453	3072 6773	3086 6803	2923 6444	3067 6762
Operating weight	kg lb	3779 8331	3812 8404	3795 8367	3792 8360	3827 8437	3808 8395	3805 8389	3842 8470	3823 8428

Bucket Type		High Capacity — GP			Multi-Purpose					
Bucket Width Tire Size		2134 mm (84") 12 x 16.5			1680 mm (66") 12 x 16.5			1830 mm (72") 12 x 16.5		
Ground Engaging Type		Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth
Bucket Assembly No.		292-9271	296-8192	296-8191	279-5390	279-5391	279-5392	279-5398	279-5399	279-5400
Rated bucket capacity	m ³ yd ³	0.63 0.82	0.63 0.82	0.63 0.82	0.33 0.43	0.34 0.44	0.33 0.43	0.37 0.48	0.38 0.50	0.37 0.48
Struck capacity	m ³ yd ³	0.59 0.77	0.59 0.77	0.59 0.77	0.24 0.31	0.24 0.31	0.24 0.31	0.26 0.34	0.26 0.34	0.26 0.34
Width	mm in	2187 86.1	2198 86.5	2187 86.1	1730 68.1	1740 68.5	1730 68.1	1883 74.1	1893 74.5	1883 74.1
Dump clearance at maximum lift/dump	mm in	* *	* *	* *	2461 96.9	2446 96.3	2385 93.9	2461 96.9	2446 96.3	2385 93.9
Reach at maximum lift/dump	mm in	* *	* *	* *	790 31.1	804 31.7	865 34.1	790 31.1	804 31.7	865 34.1
Floor angle at maximum lift/dump	degrees	*	*	*	40°	40°	40°	40°	40°	40°
Floor angle at maximum lift/rack back	degrees	*	*	*	85°	85°	85°	85°	85°	85°
Clearance at maximum lift/level bucket	mm in	* *	* *	* *	3083 121.4	3066 120.7	3083 121.4	3083 121.4	3066 120.7	3083 121.4
Hinge pin height at maximum lift	mm in	* *	* *	* *	3279 129.1	3279 129.1	3279 129.1	3279 129.1	3279 129.1	3279 129.1
Maximum overall height	mm in	* *	* *	* *	4141 163.0	4166 164.0	4201 165.4	4141 163.0	4166 164.0	4201 165.4
Reach at level lift arm/bucket	mm in	* *	* *	* *	1330 52.4	1358 53.5	1330 52.4	1330 52.4	1358 53.5	1330 52.4
Maximum floor angle at minimum lift	degrees	26°	26°	26°	26.1°	26.1°	26.1°	26.1°	26.1°	26.1°
Dig depth with level bucket	mm in	* *	* *	* *	18 0.7	34 1.3	18 0.7	18 0.7	34 1.3	18 0.7
Overall length with bucket on ground	mm in	* *	* *	* *	3886 153.0	3914 154.1	3994 157.2	3886 153.0	3914 154.1	3994 157.2
Front clearance circle radius (with bucket)	mm in	* *	* *	* *	2546 100.2	2567 101.1	2602 102.4	2579 101.5	2600 102.4	2635 103.7
Tipping load	kg lb	2721 5999	2650 5842	2697 5946	2683 5915	2620 5776	2665 2163	2664 5873	2598 5728	2644 5829
Breakout force — lift	kg lb	2183 4813	2121 4676	2165 4773	2179 4804	2126 4687	2163 4769	2163 4769	2107 4645	2148 4736
Breakout force — tilt	kg lb	2743 6047	2603 5739	2725 6008	3006 6627	2851 6285	2989 6590	2997 6607	2841 6263	2981 6572
Operating weight	kg lb	3828 8439	3870 8532	3846 8478	3912 8624	3945 8697	3929 8662	3932 8669	3968 8748	3949 8706

*Information not available at time of printing.

Bucket Type		Multi-Purpose			Dirt					
Bucket Width Tire Size		1981 mm (78") 12 x 16.5			1680 mm (66") 12 x 16.5		1830 mm (72") 12 x 16.5		1981 mm (78") 12 x 16.5	
Ground Engaging Type		Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge	Holes Only	Bolt-on Edge	Holes Only	Bolt-on Edge
Bucket Assembly No.		279-5403	279-5402	279-5401	279-5440	279-5441	285-6089	285-6090	268-4084	268-4083
Rated bucket capacity	m³ yd³	0.40 0.52	0.42 0.55	0.40 0.52	0.37 0.48	0.38 0.50	0.40 0.52	0.42 0.55	0.44 0.58	0.45 0.59
Struck capacity	m³ yd³	0.28 0.37	0.28 0.37	0.28 0.37	0.27 0.35	0.27 0.35	0.29 0.38	0.30 0.39	0.32 0.42	0.32 0.42
Width	mm in	2035 80.1	2045 80.5	2035 80.1	1676 66.0	1686 66.4	1829 72.0	1839 72.4	1981 78.0	1991 78.4
Dump clearance at maximum lift/dump	mm in	2461 96.9	2446 96.3	2385 93.9	2487 97.9	2473 97.4	2487 97.9	2473 97.4	2487 97.9	2473 97.4
Reach at maximum lift/dump	mm in	790 31.1	804 31.7	865 34.1	764 30.1	778 30.6	764 30.1	778 30.6	764 30.1	778 30.6
Floor angle at maximum lift/dump	degrees	40°	40°	40°	40°	40°	40°	40°	40°	40°
Floor angle at maximum lift/rack back	degrees	85°	85°	85°	85°	85°	85°	85°	85°	85°
Clearance at maximum lift/level bucket	mm in	3083 121.4	3066 120.7	3083 121.4	3089 121.6	3072 120.9	3089 121.6	3072 120.9	3089 121.6	3072 120.9
Hinge pin height at maximum lift	mm in	3279 129.1	3279 129.1	3279 129.1	3279 129.1	3279 129.1	3279 129.1	3279 129.1	3279 129.1	3279 129.1
Maximum overall height	mm in	4141 163.0	4166 164.0	4201 165.4	4115 162.0	4140 163.0	4115 162.0	4140 163.0	4115 162.0	4140 163.0
Reach at level lift arm/bucket	mm in	1330 52.4	1358 53.5	1330 52.4	1251 49.3	1298 51.1	1251 49.3	1298 51.1	1251 49.3	1298 51.1
Maximum floor angle at minimum lift	degrees	26.1°	26.1°	26.1°	26.4°	26.4°	26.4°	26.4°	26.4°	26.4°
Dig depth with level bucket	mm in	18 0.7	34 1.3	18 0.7	10 0.4	26 1.0	10 0.4	26 1.0	10 0.4	26 1.0
Overall length with bucket on ground	mm in	3886 153.0	3914 154.1	3994 157.2	3833 150.9	3861 152.0	3833 150.9	3861 152.0	3833 150.9	3861 152.0
Front clearance circle radius (with bucket)	mm in	2603 102.5	2636 103.8	2671 105.2	2520 99.2	2541 100.0	2553 100.5	2574 101.3	2577 101.5	2610 102.8
Tipping load	kg lb	2660 5864	2590 5710	2636 5811	2951 6506	2875 6338	2939 6479	2859 6303	2928 6455	2844 6270
Breakout force — lift	kg lb	2148 4736	2090 4608	2130 4696	2352 5185	2295 5060	2340 5159	2281 5029	2330 5137	2268 5000
Breakout force — tilt	kg lb	2988 6587	2830 6239	2969 6545	3034 6689	2917 6431	3024 6667	2905 6404	3017 6651	2895 6382
Operating weight	kg lb	3951 8710	3988 8792	3969 8750	3756 8281	3789 8353	3769 8309	3805 8389	3783 8340	3823 8428

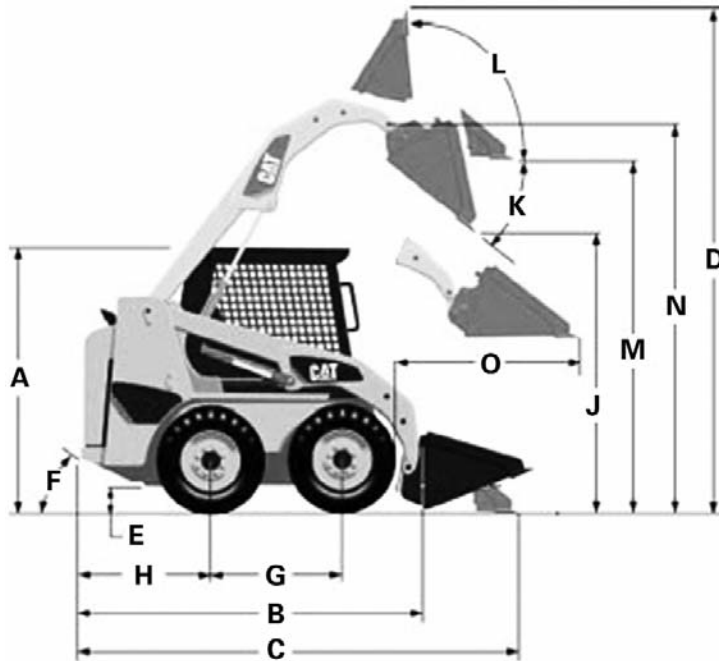
Work Tool		Pallet Fork		
Tine Length		910 mm (36")	1070 mm (42")	1220 mm (48")
Tire Size		12 x 16.5	12 x 16.5	12 x 16.5
Carriage Assembly No.		293-9427	293-9428	293-9429
Carriage overall width without step	mm	1159	1159	1159
	in	45.6	45.6	45.6
Carriage step additional width	mm	106	106	106
	in	4.2	4.2	4.2
Carriage height above blade top	mm	930	930	930
	in	36.6	36.6	36.6
Blade surface height at maximum height	mm	3130	3130	3130
	in	123.2	123.2	123.2
Shank front face reach at maximum height	mm	697	697	697
	in	27.4	27.4	27.4
Blade surface height at level lift arms	mm	1608	1608	1608
	in	63.3	63.3	63.3
Shank front face reach at level lift arms	mm	738	738	738
	in	29.1	29.1	29.1
Blade surface height at minimum lift	mm	90	90	90
	in	3.5	3.5	3.5
Shank front face reach at minimum lift	mm	410	410	410
	in	16.1	16.1	16.1
Overall length at minimum lift, level tine	mm	4186	4186	4186
	in	164.8	164.8	164.8
Tipping load	kg	2240	2127	2029
	lb	4938	4689	4473
Operating weight	kg	3745	3755	3764
	lb	8256	8278	8298



MODEL	216B2		226B2		232B2	
Rated operating capacity*	635 kg	1400 lb	680 kg	1500 lb	862 kg	1900 lb
A Height to top of ROPS	1950 mm	6'5"	1950 mm	6'5"	1953 mm	6'5"
B Length to coupler	2519 mm	8'3"	2519 mm	8'3"	2760 mm	9'1"
C Length with bucket on ground	3233 mm	10'7"	3233 mm	10'7"	3437 mm	11'3"
D Maximum overall height	3709 mm	12'2"	3709 mm	12'2"	3894 mm	12'9"
E Ground clearance	195 mm	8"	195 mm	8"	145 mm	5.7"
F Departure angle	26°		26°		28°	
G Wheelbase	986 mm	3'3"	986 mm	3'3"	1094 mm	3'7"
H Bumper overhang from axle	967 mm	3'2"	967 mm	3'2"	989 mm	3'3"
Bucket overall width	1524 mm	5'2"	1524 mm	5'2"	1524 mm	5'2"
J Clearance at maximum lift/dump	2169 mm	7'1"	2169 mm	7'1"	2243 mm	7'3"
K Floor angle at maximum lift/dump	40°		40°		49.5°	
L Floor angle at maximum lift/rack	96.7°		96.7°		86.9°	
M Clearance at maximum lift/level	2661 mm	8'9"	2661 mm	8'9"	2851 mm	9'4"
N Hinge pin height at maximum lift	2854 mm	9'4"	2854 mm	9'4"	3013 mm	9'11"
O Reach at level lift arm/bucket	1280 mm	4'2"	1280 mm	4'2"	1231 mm	4'1"
Hinge pin height at carry position	239 mm	9.3"	239 mm	9.3"	247 mm	9.7"
Maximum floor angle at carry position	27.7°		27.7°		28.1°	

*SAE J818 MAY87, ISO 5998:1986.

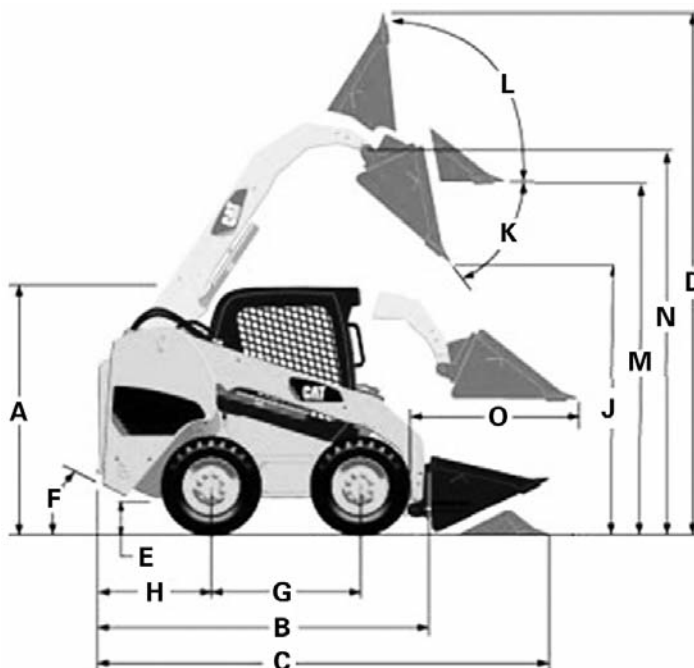
NOTE: 216B2/226B2 machine dimensions shown with standard machine equipped with optional 10 x 16.5 10 PR tires and 1520 mm (60") dirt bucket.
232B2 machine dimensions shown with standard machine equipped with optional 10 x 16.5 x 8 PR tires and 1730 mm (66") dirt bucket.



MODEL	236B2		242B2		252B2	
Rated operating capacity*	884 kg	1950 lb	952 kg	2100 lb	1134 kg	2500 lb
A Height to top of ROPS	2092 mm	6'10"	1986 mm	6'6"	2063 mm	6'8"
B Length to coupler	2800 mm	9'2"	2760 mm	9'1"	2901 mm	9'5"
C Length with bucket on ground	3515 mm	11'6"	3437 mm	11'3"	3616 mm	11'9"
D Maximum overall height	3965 mm	13'0"	3926 mm	12'11"	4062 mm	13'4"
E Ground clearance	235 mm	9"	178 mm	7"	196 mm	8"
F Departure angle	28°		28°		27°	
G Wheelbase	1134 mm	3'9"	1094 mm	3'7"	1228 mm	4'0"
H Bumper overhang from axle	1038 mm	3'5"	989 mm	3'3"	1043 mm	3'4"
Bucket overall width	1730 mm	5'8"	1524 mm	5'2"	1730 mm	5'8"
J Clearance at maximum lift/dump	2398 mm	7'10"	2270 mm	7'4"	2421 mm	8'0"
K Floor angle at maximum lift/dump	40°		49.5°		51°	
L Floor angle at maximum lift/rack	97.4°		86.9°		87°	
M Clearance at maximum lift/level	2908 mm	9'6"	2851 mm	9'4"	3039 mm	10'0"
N Hinge pin height at maximum lift	3099 mm	10'2"	3046 mm	10'0"	3210 mm	10'6"
O Reach at level lift arm/bucket	1357 mm	4'5"	1231 mm	4'1"	1331 mm	4'4"
Hinge pin height at carry position	257 mm	10"	299 mm	11.8"	213 mm	8.4"
Maximum floor angle at carry position	29.4°		28.1°		27°	

*SAE J818 MAY87, ISO 5998:1986.

NOTE: 236B2/242B2/252B2 machine dimensions shown with standard machine equipped with optional 12 x 16.5 10 PR tires and 1730 mm (66") dirt bucket.



MODEL	246C		256C		262C		272C	
Rated operating capacity*	975 kg	2150 lb	1066 kg	2352 lb	1225 kg	2700 lb	1474 kg	3250 lb
A Height to top of ROPS	2104 mm	6'11"	2104 mm	6'11"	2104 mm	6'11"	2104 mm	6'11"
B Length to coupler	2979 mm	9'9"	2979 mm	9'9"	2979 mm	9'9"	3120 mm	10'2"
C Length with bucket on ground	3692 mm	12'1"	3692 mm	12'1"	3692 mm	12'1"	3833 mm	12'7"
D Maximum overall height	3998 mm	13'1"	3998 mm	13'1"	4075 mm	13'4"	4115 mm	13'6"
E Ground clearance	225 mm	8.9"	225 mm	8.9"	225 mm	8.9"	225 mm	8.9"
F Departure angle	26°		26°		26°		26°	
G Wheelbase	1240 mm	4'1"	1240 mm	4'1"	1240 mm	4'1"	1381 mm	4'6"
H Bumper overhang from axle	1089 mm	3'7"	1089 mm	3'7"	1089 mm	3'7"	1089 mm	3'7"
Bucket overall width	1677 mm	5'6"	1677 mm	5'6"	1829 mm	6'0"	1829 mm	6'0"
J Clearance at maximum lift/dump	2425 mm	7'11"	2425 mm	7'11"	2450 mm	8'0"	2487 mm	8'2"
K Floor angle at maximum lift/dump	40°		40°		50°		51°	
L Floor angle at maximum lift/rack	85°		85°		85°		83°	
M Clearance at maximum lift/level	2930 mm	9'7"	2930 mm	9'7"	3043 mm	10'0"	3088 mm	10'2"
N Hinge pin height at maximum lift	3122 mm	10'3"	3122 mm	10'3"	3233 mm	10'7"	3279 mm	10'9"
O Reach at level lift arm/bucket	1388 mm	4'7"	1388 mm	4'7"	1283 mm	4'3"	1270 mm	4'2"
Hinge pin height at carry position	200 mm	7.8"	200 mm	7.8"	200 mm	7.8"	200 mm	7.8"
Maximum floor angle at carry position	26°		26°		26°		26°	

*SAE J818 MAY87, ISO 5998:1986.

NOTE: 246C/256C machine dimensions shown with standard machine equipped with optional 12 x 16.5 10 PR tires and 1730 mm (66") dirt bucket.
262C/272C machine dimensions shown with standard machine equipped with optional 12 x 16.5 10 PR tires and 1829 mm (72") dirt bucket.

CAT WORK TOOL COMPATIBILITY

	216B2	226B2	232B2	236B2	242B2	252B2	246C	256C	262C	272C
General Purpose Buckets										
1524 mm (60")	O	O	A	A	A	NR	A	A	NR	NR
1676 mm (66")	A	A	O	O	O	O	O	O	A	A
1829 mm (72")	NR	NR	A	O	A	O	O	O	O	O
1981 mm (78")	NR	NR	NR	A	A	O	A	A	O	O
High Capacity Bucket (GP)										
2134 mm (84")	NR	NR	NR	A	A	O	A	A	O	O
Dirt Buckets										
1524 mm (60")	O	O	A	A	A	NR	A	A	NR	NR
1676 mm (66")	A	A	O	O	O	O	O	O	A	A
1829 mm (72")	NR	NR	A	O	A	O	O	O	O	O
1981 mm (78")	NR	NR	NR	A	A	O	A	A	O	O
Utility Buckets										
1524 mm (60")	O	O	A	A	A	NR	A	A	NR	NR
1676 mm (66")	A	A	O	O	O	O	O	O	A	A
1829 mm (72")	NR	NR	A	O	A	O	O	O	O	O
Light Material Buckets										
1829 mm (72")	O	O	O	O	O	O	O	O	O	O
1981 mm (78")	NR	NR	A	A	A	O	A	A	O	O
2134 mm (84")	NR	NR	NR	A	A	O	A	A	O	O
2438 mm (96")	NR	NR	NR	NR	NR	A	A	A	O	O
Multi-Purpose Buckets										
1524 mm (60")	O	O	A	A	A	NR	A	A	NR	NR
1676 mm (66")	A	A	O	O	O	O	O	O	A	A
1829 mm (72")	NR	NR	A	O	A	O	O	O	O	O
1981 mm (78")	NR	NR	NR	A	NR	A	A	A	O	O
2134 mm (84")	NR	NR	NR	A	NR	O	A	A	O	O
Industrial Grapple Buckets										
1524 mm (60")	O	O	A	A	A	NR	A	A	NR	NR
1676 mm (66")	A	A	O	O	O	O	O	O	A	A
1829 mm (72")	NR	NR	A	O	A	O	O	O	O	O
1981 mm (78")	NR	NR	NR	A	NR	A	A	A	O	O
Industrial Grapple Forks										
1676 mm (66")	O	O	O	O	O	O	O	O	O	O
1829 mm (72")	NR	NR	A	O	A	O	O	O	O	O
Industrial Grapple Rakes										
1829 mm (72")	O	O	O	O	O	O	O	O	O	O
2134 mm (84")	NR	NR	NR	A	NR	O	O	O	O	O
Utility Grapple Buckets										
1524 mm (60")	O	O	A	A	A	NR	A	A	NR	NR
1676 mm (66")	O	O	O	O	O	O	O	O	A	A
1829 mm (72")	NR	NR	A	O	A	O	O	O	O	O

O – Provides Optimum Performance.
 A – Provides Acceptable Performance.
 NR – Not Recommended.

CAT WORK TOOL COMPATIBILITY

	216B2	226B2	232B2	236B2	242B2	252B2	246C	256C	262C	272C
Carriage	O	O	O	O	O	O	O	O	O	O
Pallet Forks										
910 mm (36") Tines	O	O	O	O	O	O	O	O	O	O
1070 mm (42") Tines	O	O	O	O	O	O	O	O	O	O
1220 mm (48") Tines	O	O	O	O	O	O	O	O	O	O
Utility Grapple Forks										
1676 mm (66")	O	O	O	O	O	O	O	O	O	O
1829 mm (72")	NR	NR	A	O	A	O	O	O	O	O
Utility Forks										
1676 mm (66")	O	O	O	O	O	O	O	O	O	O
1829 mm (72")	NR	NR	A	O	A	O	O	O	O	O
Angle Blades										
1829 mm (72")	O	O	O	A	O	A	A	A	A	A
2134 mm (84")	A	A	A	O	A	O	O	O	O	O
6 Way Blades										
2000 mm (79")	O	O	O	A	O	A	A	A	A	A
2337 mm (92")	A	A	A	O	O	O	O	O	O	O
A14B Auger	O	O	O	O	O	O	O	O	O	O
A19B Auger	A	A	A	O	A	O	O	O	O	O
A26B Auger	X	A#	X	X	A#	X	A#	O#	O#	O#
Backhoe										
BH150	O	O	O	O	O	O	X	X	X	X
BH160	X	X	X	X	X	X	O	O	O	O
BH27	O	O	O	O	O	O	X	X	X	X
BH30	O	O	O	O	O	O	X	X	X	X
BH30W	X	X	X	X	X	X	O	O	O	O
BR160 Brushcutter	O	O	O	O	O	O	O	O	O	O
BR166 Brushcutter	O	O	O	O	O	O	O	O	O	O
BR172 Brushcutter	O	O	O	O	O	O	O	O	O	O
BR272 Brushcutter	X	O#	X	X	O#	X	X	X	X	X
BR378 Brushcutter	X	X	X	X	X	X	A#	O#	O#	O#
BP15B Pickup Broom	O!	O	O	O	O	A	O	O	A	A
BP18B Pickup Broom	X	X	O	O	O	O	O	O	O	O
BA18 Angle Broom	O	O	O	O	O	O	O	O	O	O
BU115 Utility Broom	O!	O	O	O	O	A	O	O	A	A
BU118 Utility Broom	X	X	O	O	O	O	O	O	O	O

O – Provides Optimum Performance.

O# – The machine performance is optimum with the available HF/XPS option.

A – Provides Acceptable Performance.

A# – The machine performance is acceptable with the available HF/XPS option.

NR – Not Recommended.

X – Not Approved. Do Not Use.

! – Lift Restriction.

CAT WORK TOOL COMPATIBILITY

	216B2	226B2	232B2	236B2	242B2	252B2	246C	256C	262C	272C
PC203 Cold Planer	O	O	O	O	O	O	O	O	O	O
PC204 Cold Planer	X	A	X	O	A	O	O	O	O	O
PC205 Cold Planer	X	A#	X	X	A#	X	A#	O#	O#	O#
PC206 Cold Planer	X	A#	X	X	A#	X	A#	O#	O#	O#
PC210 Cold Planer	X	X	X	X	X	X	A#	O#	O#	O#
H55D S Hammer	O	O	O	O	O	O	O	O	O	O
H65D S Hammer	O	O	O	O	O	O	O	O	O	O
LR15B Landscape Rake	O!	O!	O!	O!	O!	O!	O	O	O	O
LR18B Landscape Rake	X	X	X	O!	X	O!	O	O	O	O
LT13B Landscape Tiller	O	O	O	O	O	O	O	O	O	O
LT18B Landscape Tiller	X	X	X	O	X	O	O	O	O	O
Material Handling Arm	O	O	O	O	O	O	O	O	O	O
HM312 Mulcher	X	X	X	X	X	X	A#	O#	O#	O#
HM315 Mulcher	X	X	X	X	X	X	A#	O#	O#	O#
PR172 Power Box Rake	O	O	O	A	A	A	A	A	A	A
PR184 Power Box Rake	A	O	A	O	O	O	O	O	O	O
PR190 Power Box Rake	A	A	A	O	A	O	O	O	O	O
SR117 Snowblower	O	O	O	NR	O	NR	A	A	NR	NR
SR118 Snowblower	NR	NR	NR	O	NR	O	O	O	O	O
SR121 Snowblower	NR	NR	NR	A	NR	A	A	A	A	A
SR318 Snowblower	NR	A#	NR	NR	A#	NR	A#	O#	O#	O#
SR321 Snowblower	NR	A#	NR	NR	A#	NR	A#	O#	O#	O#
SG16B Stump Grinder	O	O	O	O	O	O	O	O	O	O
SG18B Stump Grinder	X	A#	X	X	A#	X	A#	O#	O#	O#
T6B Trencher	O	O	O	O	O	O	O	O	O	O
T9B Trencher	O	O	O	O	O	O	O	O	O	O
T15 Trencher	X	A#	X	X	A#	X	X	O#	O#	O#
CV16B Vibratory Compactor	O!	O!	O!	O!	O!	O	O	O	O	O
CV18B Vibratory Compactor	X	X	X	X	X	O	O	O	O	O
SW45 Wheel Saw	X	X	X	X	X	X	O#,C	O#,C	O#,C	O#
SW60 Wheel Saw	X	X	X	X	X	X	O#,C	O#,C	O#,C	O#

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 O# – The machine performance is optimum with the available HF/XPS option.
 A – Provides Acceptable Performance.
 A# – The machine performance is acceptable with the available HF/XPS option.
 NR – Not Recommended.
 X – Not Approved. Do Not Use.
 ! – Lift Restriction.
 C – Maximum Counterweights are Required.



MODEL	247B2		257B2	
Flywheel Power: Net	42 kW	56 hp	42 kW	56 hp
Gross	46 kW	62 hp	46 kW	62 hp
Engine Model	C2.2T		C2.2T	
Rated Engine RPM	3000		3000	
Bore	84 mm	3.3"	84 mm	3.3"
Stroke	100 mm	3.9"	100 mm	3.9"
Displacement	2.2 L	134 in³	2.2 L	134 in³
No. Cylinders	4		4	
One Speed Forward	0-11.3 km/h	0-7.0 mph	0-11.3 km/h	0-7.0 mph
One Speed Reverse	0-12.2 km/h	0-7.6 mph	0-11.4 km/h	0-7.1 mph
Hydraulic Cycle Time, Empty Bucket:	Seconds		Seconds	
Raise	2.7		3.0	
Dump	2.2		2.2	
Lower (Empty, Float Down)	2.8		3.0	
Total	7.7		8.2	
Tread Width (per side)	381 mm	15"	381 mm	15"
Width Over Tracks	1676 mm	5'6"	1676 mm	5'6"
Ground Clearance	267 mm	10"	257 mm	10"
Fuel Tank Capacity	62 L	16.2 U.S. gal	84 L	22.2 U.S. gal
Hydraulic Tank Capacity	35 L	9.2 U.S. gal	35 L	9.2 U.S. gal
Hydraulic System Capacity (includes tank)	55 L	14.5 U.S. gal	55 L	14.5 U.S. gal
Hydraulic Pump Capacity	60 L/min	15.6 gpm	60 L/min	15.6 gpm



MODEL	277C		287C		297C	
Flywheel Power: Net	61 kW	82 hp	61 kW	82 hp	67 kW	90 hp
Gross	63 kW	84 hp	63 kW	84 hp	70 kW	94 hp
Engine Model	C3.4 DIT		C3.4 DIT		C3.4 DIT	
Rated Engine RPM	2500		2500		2500	
Bore	94 mm	3.7"	94 mm	3.7"	94 mm	3.7"
Stroke	120 mm	4.7"	120 mm	4.7"	120 mm	4.7"
Displacement	3.3 L	201 in ³	3.3 L	201 in ³	3.3 L	201 in ³
No. Cylinders	4		4		4	
One Speed Forward	0-9 km/h	0-5.6 mph	0-9 km/h	0-5.6 mph	0-9 km/h	0-5.6 mph
Two Speed Forward	0-14.9 km/h	0-9.2 mph	0-14.9 km/h	0-9.2 mph	0-14.9 km/h	0-9.2 mph
One Speed Reverse	0-9 km/h	0-5.6 mph	0-9 km/h	0-5.6 mph	0-9 km/h	0-5.6 mph
Two Speed Reverse	0-14.9 km/h	0-9.2 mph	0-14.9 km/h	0-9.2 mph	0-14.9 km/h	0-9.2 mph
Hydraulic Cycle Time, Empty Bucket:	Seconds		Seconds		Seconds	
Raise	3.1		4.7		4.7	
Dump	2.5		2.5		2.5	
Lower (Empty, Float Down)	4.0		4.6		4.6	
Total	9.6		11.8		11.8	
Tread Width (per side)	457 mm	18"	457 mm	18"	457 mm	18"
Width Over Tracks	1981 mm	78"	1981 mm	78"	1981 mm	78"
Ground Clearance	225 mm	8.9"	225 mm	8.9"	225 mm	8.9"
Fuel Tank Capacity	98 L	26 U.S. gal	98 L	26 U.S. gal	98 L	26 U.S. gal
Hydraulic Tank Capacity	42 L	11 U.S. gal	42 L	11 U.S. gal	42 L	11 U.S. gal
Hydraulic System Capacity (includes tank)	57 L	15 U.S. gal	57 L	15 U.S. gal	57 L	15 U.S. gal
Hydraulic Pump Capacity	84 L/min	22 gpm	84 L/min	22 gpm	84 L/min	22 gpm

Bucket Type		General Purpose						Multi-Purpose	
Bucket Width		1680 mm (66")			1829 mm (72")			1680 mm (66")	
Ground Engaging Type		Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge
Bucket Assembly No.		165-6153	152-0226	152-0225	165-6154	152-0229	152-0228	154-5008	154-5047
Rated bucket capacity	m ³	0.40	0.40	0.41	0.44	0.44	0.45	0.33	0.33
	yd ³	0.52	0.52	0.53	0.57	0.57	0.59	0.43	0.43
Struck capacity	m ³	0.29	0.29	0.29	0.32	0.32	0.32	0.24	0.25
	yd ³	0.38	0.38	0.38	0.42	0.42	0.42	0.31	0.33
Width	mm	1730	1740	1730	1883	1893	1883	1749	1749
	in	68.0	68.0	68.0	74.0	75.0	74.0	69.0	69.0
Dump clearance at maximum lift/dump	mm	2134	2101	2067	2134	2101	2067	2133	2103
	in	84.0	82.7	81.4	84.0	82.7	81.4	84.0	82.8
Reach at maximum lift/dump	mm	625	637	696	625	637	696	628	640
	in	24.6	25.1	27.4	24.6	25.1	27.4	24.7	25.2
Floor angle at maximum lift/dump	degrees	40.8°	40.8°	40.8°	40.8°	40.8°	40.8°	40.8°	40.8°
Floor angle at maximum lift/rack back	degrees	95.7°	95.7°	95.7°	95.7°	95.7°	95.7°	95.6°	95.6°
Clearance at maximum lift/level bucket	mm	2667	2651	2666	2667	2651	2666	2673	2653
	in	105.0	104.4	105.0	105.0	104.4	105.0	105.2	104.4
Hinge pin height at maximum lift	mm	2862	2862	2862	2862	2862	2862	2862	2862
	in	112.7	112.7	112.7	112.7	112.7	112.7	112.7	112.7
Maximum overall height	mm	3770	3799	3867	3770	3799	3867	3774	3804
	in	148.4	149.6	152.2	148.4	149.6	152.2	148.6	149.8
Reach at level lift arm/bucket	mm	1395	1423	1493	1395	1423	1493	1399	1427
	in	54.9	56.0	58.8	54.9	56.0	58.8	55.1	56.2
Maximum floor angle at minimum lift	degrees	25.4°	25.4°	25.4°	25.4°	25.4°	25.4°	25.3°	25.3°
Dig depth with level bucket	mm	0	16	1	0	16	1	0	16
	in	0.0	0.6	0.0	0.0	0.6	0.0	0.0	0.6
Overall length with bucket on ground	mm	3285	3313	3382	3285	3313	3382	3289	3317
	in	129.3	130.4	133.1	129.3	130.4	133.1	129.5	130.6
Front clearance circle radius (with bucket)	mm	2157	2189	2223	2189	2221	2251	2142	2174
	in	84.9	86.2	87.5	86.2	87.4	88.6	84.3	85.6
Tipping load	kg	1811	1752	1715	1803	1740	1780	1663	1607
	lb	3992	3863	1788	3975	3837	3925	3666	3542
Breakout force — lift	kg	1408	1359	1392	1402	1350	1386	1298	1250
	lb	3105	2996	3070	3091	2977	3056	2862	2755
Breakout force — tilt	kg	1694	1590	1676	1689	1583	1673	1618	1517
	lb	3734	3505	3696	3724	3491	3688	3567	3345
Operating weight	kg	3169	3202	3185	3177	3212	3193	3302	3334
	lb	6987	7060	7023	7004	7082	7040	7280	7352

Bucket Type	Multi-Purpose				Dirt			
Bucket Width	1680 mm (66")	1829 mm (72")			1680 mm (66")		1829 mm (72")	
Ground Engaging Type	Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge	Holes Only	Bolt-on Edge
Bucket Assembly No.	154-5048	154-5010	154-5049	154-5050	165-6157	152-0232	188-3526	188-2719
Rated bucket capacity	m ³ yd ³	0.34 0.44	0.37 0.48	0.37 0.48	0.37 0.48	0.38 0.49	0.41 0.54	0.42 0.55
Struck capacity	m ³ yd ³	0.24 0.31	0.27 0.35	0.28 0.36	0.27 0.35	0.27 0.35	0.29 0.38	0.31 0.41
Width	mm in	1749 69.0	1902 75.0	1902 75.0	1902 75.0	1730 68.0	1883 74.0	1893 75.0
Dump clearance at maximum lift/dump	mm in	2066 81.3	2133 84.0	2103 82.8	2066 81.3	2167 85.3	2138 84.2	2167 85.3
Reach at maximum lift/dump	mm in	702 27.6	628 24.7	640 25.2	702 27.6	584 23.0	596 23.5	584 23.0
Floor angle at maximum lift/dump	degrees	40.8°	40.8°	40.8°	40.8°	40.8°	40.8°	40.8°
Floor angle at maximum lift/rack back	degrees	95.6°	95.6°	95.6°	95.6°	95.7°	95.7°	95.7°
Clearance at maximum lift/level bucket	mm in	2668 105.0	2673 105.2	2653 104.4	2668 105.0	2667 105.0	2651 104.4	2667 105.0
Hinge pin height at maximum lift	mm in	2862 112.7	2862 112.7	2862 112.7	2862 112.7	2862 112.7	2862 112.7	2862 112.7
Maximum overall height	mm in	3872 152.4	3774 148.6	3804 149.8	3872 152.4	3717 146.3	3746 147.5	3717 146.3
Reach at level lift arm/bucket	mm in	1497 58.9	1399 55.1	1427 56.2	1497 58.9	1342 52.8	1370 53.9	1342 52.8
Maximum floor angle at minimum lift	degrees	25.3°	25.3°	25.3°	25.3°	25.4°	25.4°	25.4°
Dig depth with level bucket	mm in	1 0.0	0 0.0	16 0.6	1 0.0	0 0.0	13 0.5	0 0.0
Overall length with bucket on ground	mm in	3386 133.3	3289 129.5	3317 130.6	3386 133.3	3232 127.2	3260 128.3	3233 127.3
Front clearance circle radius (with bucket)	mm in	2208 86.9	2152 84.7	2183 85.9	2213 87.1	2097 82.6	2128 83.8	2110 83.1
Tipping load	kg lb	1643 3623	1645 3628	1586 3497	1625 3584	1913 4219	1849 4077	1906 4203
Breakout force — lift	kg lb	1282 2826	1283 2829	1233 2718	1267 2794	1478 3260	1428 3148	1472 3246
Breakout force — tilt	kg lb	1600 3528	1609 3548	1508 3326	1594 3514	1842 4061	1726 3806	1838 4052
Operating weight	kg lb	3318 7316	3320 7321	3356 7400	3337 7357	3119 6876	3151 6949	3126 6893

Work Tool		Pallet Fork		
Tine Length		910 mm (36")	1070 mm (42")	1220 mm (48")
Carriage Assembly No.		242-9998	242-9999	243-0000
Carriage overall width without step	mm	1159	1159	1159
	in	45.6	45.6	45.6
Carriage step additional width	mm	108	108	108
	in	4.3	4.3	4.3
Carriage height above blade top	mm	923.5	923.5	923.5
	in	36.4	36.4	36.4
Blade surface height at maximum height	mm	2754	2754	2754
	in	108.4	108.4	108.4
Shank front face reach at maximum height	mm	373	373	373
	in	14.7	14.7	14.7
Blade surface height at level lift arms	mm	1419	1419	1419
	in	55.9	55.9	55.9
Shank front face reach at level lift arms	mm	802	802	802
	in	31.6	31.6	31.6
Blade surface height at minimum lift	mm	106	106	106
	in	4.2	4.2	4.2
Shank front face reach at minimum lift	mm	392	392	392
	in	15.4	15.4	15.4
Overall length at minimum lift, level tine	mm	3601	3761	3911
	in	142.0	148.0	154.0
Tipping load	kg	1542	1436	1349
	lb	3400	3167	2975
Operating weight	kg	3134	3145	3154
	lb	6911	6934	6955

Bucket Type		General Purpose						Multi-Purpose	
Bucket Width		1680 mm (66")			1829 mm (72")			1680 mm (66")	
Ground Engaging Type		Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge
Bucket Assembly No.		165-6153	152-0226	152-0225	165-6154	152-0229	152-0228	154-5008	154-5047
Rated bucket capacity	m³	0.40	0.40	0.41	0.44	0.44	0.45	0.33	0.33
	yd³	0.52	0.52	0.53	0.57	0.57	0.59	0.43	0.43
Struck capacity	m³	0.29	0.29	0.29	0.32	0.32	0.32	0.24	0.25
	yd³	0.38	0.38	0.38	0.42	0.42	0.42	0.31	0.33
Width	mm	1730	1740	1730	1883	1893	1883	1749	1749
	in	68.0	68.0	68.0	74.0	75.0	74.0	69.0	69.0
Dump clearance at maximum lift/dump	mm	2278	2275	2201	2275	2244	2205	2274	2242
	in	89.7	89.6	86.7	89.6	88.3	86.8	89.5	88.3
Reach at maximum lift/dump	mm	790	797	853	790	798	854	793	801
	in	31.1	31.4	33.6	31.1	31.4	33.6	31.2	31.5
Floor angle at maximum lift/dump		degrees	40.5°	40.5°	40.5°	40.5°	40.5°	40.5°	40.5°
Floor angle at maximum lift/rack back		degrees	86.9°	86.9°	86.9°	86.9°	86.9°	86.9°	86.9°
Clearance at maximum lift/level bucket	mm	2889	2870	2885	2885	2870	2885	2887	2871
	in	113.7	113.0	113.6	113.6	113.0	113.6	113.7	113.0
Hinge pin height at maximum lift	mm	3081	3081	3081	3081	3081	3081	3081	3081
	in	121.3	121.3	121.3	121.3	121.3	121.3	121.3	121.3
Maximum overall height	mm	3963	3990	4060	3963	3990	4060	3966	3994
	in	156.0	157.1	159.8	156.0	157.1	159.8	156.1	157.2
Reach at level lift arm/bucket	mm	1387	1415	1484	1388	1416	1486	1391	1419
	in	54.6	55.7	58.4	54.6	55.7	58.5	54.8	55.9
Maximum floor angle at minimum lift		degrees	25.4°	25.4°	25.4°	25.4°	25.4°	25.3°	25.3°
Dig depth with level bucket	mm	0	0	0	0	0	0	0	0
	in	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Overall length with bucket on ground	mm	3490	3518	3588	3491	3519	3588	3494	3522
	in	137.4	138.5	141.3	137.4	138.5	141.3	137.6	138.7
Front clearance circle radius (with bucket)	mm	2261	2293	2327	2292	2323	2354	2250	2282
	in	89.0	90.3	91.6	90.2	91.5	92.7	88.6	89.8
Tipping load	257B2	kg	2266	2204	2244	2264	2198	2242	2117
		lb	4997	4860	4947	4992	4847	4943	4668
	257B2 HF	kg	2202	2140	2179	2200	2135	2177	2054
		lb	4855	4719	4805	4850	4707	4801	4528
Breakout force — lift	257B2	kg	1683	1632	1667	1682	1629	1666	1576
		lb	3712	3599	3676	3709	3592	3674	3474
	257B2 HF	kg	1671	1621	1655	1670	1617	1654	1564
		lb	3685	3573	3650	3682	3565	3648	3448
Breakout force — tilt	257B2	kg	1646	1543	1628	1644	1540	1628	1573
		lb	3629	3403	3590	3625	3397	3589	3469
	257B2 HF	kg	1646	1543	1628	1644	1540	1628	1573
		lb	3629	3403	3590	3625	3397	3589	3469
Operating weight	257B2	kg	3624	3657	3641	3626	3661	3642	3751
		lb	7991	8064	8027	7994	8073	8030	8270
	257B2 HF	kg	3666	3699	3682	3667	3703	3683	3792
		lb	8083	8155	8119	8086	8164	8122	8362

HF = High Flow

Bucket Type		Multi-Purpose				Dirt			
Bucket Width		1680 mm (66")	1829 mm (72")			1680 mm (66")		1829 mm (72")	
Ground Engaging Type		Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge	Holes Only	Bolt-on Edge
Bucket Assembly No.		154-5048	154-5010	154-5049	154-5050	165-6157	152-0232	188-3526	188-2719
Rated bucket capacity	m³ yd³	0.34 0.44	0.37 0.48	0.37 0.48	0.37 0.48	0.37 0.48	0.38 0.49	0.41 0.54	0.42 0.55
Struck capacity	m³ yd³	0.24 0.31	0.27 0.35	0.28 0.36	0.27 0.35	0.27 0.35	0.27 0.35	0.29 0.38	0.31 0.41
Width	mm in	1749 69.0	1902 75.0	1902 75.0	1902 75.0	1730 68.0	1740 69.0	1883 74.0	1893 75.0
Dump clearance at maximum lift/dump	mm in	2199 86.6	2274 89.5	2242 88.3	2199 86.6	2318 91.3	2288 90.1	2316 91.2	2285 90.0
Reach at maximum lift/dump	mm in	856 33.7	793 31.2	801 31.5	856 33.7	756 29.8	763 30.0	756 29.8	763 30.0
Floor angle at maximum lift/dump	degrees	40.5°	40.5°	40.5°	40.5°	40.5°	40.5°	40.5°	40.5°
Floor angle at maximum lift/rack back	degrees	86.9°	86.9°	86.9°	86.9°	86.9°	86.9°	86.9°	86.9°
Clearance at maximum lift/level bucket	mm in	2886 113.6	2887 113.7	2871 113.0	2886 113.6	2885 113.6	2869 113.0	2885 113.6	2869 113.0
Hinge pin height at maximum lift	mm in	3081 121.3	3081 121.3	3081 121.3	3081 121.3	3081 121.3	3081 121.3	3081 121.3	3081 121.3
Maximum overall height	mm in	4064 160.0	3966 156.1	3994 157.2	4064 160.0	3910 153.9	3937 155.0	3910 153.9	3937 155.0
Reach at level lift arm/bucket	mm in	1489 58.6	1391 54.8	1419 55.9	1489 58.6	1334 52.5	1362 53.6	1334 52.5	1362 53.6
Maximum floor angle at minimum lift	degrees	25.3°	25.3°	25.3°	25.3°	25.4°	25.4°	25.4°	25.4°
Dig depth with level bucket	mm in	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0
Overall length with bucket on ground	mm in	3591 141.4	3494 137.6	3522 138.7	3591 141.4	3437 135.3	3465 136.4	3437 135.3	3465 136.4
Front clearance circle radius (with bucket)	mm in	2317 91.2	2281 89.8	2312 91.0	2344 92.3	2205 86.8	2237 88.1	2236 88.0	2268 89.3
Tipping load	257B2 kg lb	2098 4626	2099 4629	2037 4491	2079 4585	2386 5260	2317 5109	2378 5244	2306 5084
	257B2 HF kg lb	2034 4486	2036 4489	1974 4352	2016 4445	2320 5115	2252 4965	2312 5099	2240 4940
Breakout force — lift	257B2 kg lb	1560 3439	1561 3441	1509 3326	1545 3406	1761 3883	1709 3769	1755 3869	1700 3749
	257B2 HF kg lb	1548 3413	1549 3415	1497 3300	1533 3380	1749 3857	1697 3743	1743 3842	1688 3722
Breakout force — tilt	257B2 kg lb	1556 3430	1564 3450	1466 3232	1549 3416	1793 3954	1680 3705	1790 3946	1674 3691
	257B2 HF kg lb	1556 3430	1564 3450	1466 3232	1549 3416	1793 3954	1680 3705	1790 3946	1674 3691
Operating weight	257B2 kg lb	3767 8306	3769 8311	3805 8390	3786 8347	3568 7866	3600 7939	3575 7884	3611 7962
	257B2 HF kg lb	3808 8398	3811 8402	3847 8482	3827 8439	3609 7958	3642 8030	3617 7975	3653 8054

HF = High Flow

Work Tool			Pallet Fork		
Tine Length			910 mm (36")	1070 mm (42")	1220 mm (48")
Carriage Assembly No.			242-9998	242-9999	243-0000
Carriage overall width without step	mm		1159	1159	1159
	in		45.6	45.6	45.6
Carriage step additional width	mm		108	108	108
	in		4.3	4.3	4.3
Carriage height above blade top	mm		923.5	923.5	923.5
	in		36.4	36.4	36.4
Blade surface height at maximum height	mm		2968	2968	2988
	in		116.9	116.9	117.6
Shank front face reach at maximum height	mm		655	655	655
	in		25.8	25.8	25.8
Blade surface height at level lift arms	mm		1554	1554	1554
	in		61.2	61.2	61.2
Shank front face reach at level lift arms	mm		793	793	793
	in		31.2	31.2	31.2
Blade surface height at minimum lift	mm		112	112	112
	in		4.4	4.4	4.4
Shank front face reach at minimum lift	mm		500	500	500
	in		19.7	19.7	19.7
Overall length at minimum lift, level tine	mm		3806	3966	4116
	ft/in		12'6"	13'0"	13'6"
Tipping load	257B2	kg	1931	1805	1701
		lb	4258	3980	3750
	257B2 HF	kg	1878	1755	1653
		lb	4141	3870	3646
Operating weight	257B2	kg	3583	3594	3414
		lb	7901	7924	7528
	257B2 HF	kg	3625	3635	3645
		lb	7993	8016	8037

HF = High Flow

Bucket Type		General Purpose			High Capacity — GP			Multi-Purpose	
Bucket Width		1981 mm (78")			2134 mm (84")			1981 mm (78")	
Ground Engaging Type		Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge
Bucket Assembly No.		279-5376	279-5377	279-5378	292-9271	296-8192	296-8191	279-5403	279-5402
Rated bucket capacity	m ³	0.47	0.49	0.47	0.63	0.63	0.63	0.40	0.42
	yd ³	0.61	0.64	0.61	0.82	0.82	0.82	0.52	0.55
Struck capacity	m ³	0.34	0.34	0.34	0.59	0.59	0.59	0.28	0.28
	yd ³	0.44	0.44	0.44	0.77	0.77	0.77	0.37	0.37
Width	mm	2035	2045	2035	2187	2198	2187	2035	2045
	in	80.1	80.5	80.1	86.1	86.5	86.1	80.1	80.5
Dump clearance at maximum lift/dump	mm	2385	2355	2385	2324.1	2324.1	2324	2378	2348
	in	93.9	92.7	93.9	91.5	91.5	91.5	93.6	92.4
Reach at maximum lift/dump	mm	652	663	652	722.4	722.4	722	656	666
	in	25.7	26.1	25.7	28.4	28.4	28.4	25.8	26.2
Floor angle at maximum lift/dump	degrees	40°	40°	40°	40°	40°	40°	40°	40°
Floor angle at maximum lift/rack back	degrees	85°	85°	85°	96°	96°	96°	85°	85°
Clearance at maximum lift/level bucket	mm	2928	2912	2928	2928	2912	2928	2925	2908
	in	115.3	114.6	115.3	115.3	114.6	115.3	115.2	114.5
Hinge pin height at maximum lift	mm	3122	3122	3122	3122	3122	3122	3122	3122
	in	122.9	122.9	122.9	122.9	122.9	122.9	122.9	122.9
Maximum overall height	mm	4051	4079	4149	4051	4079	4149	4055	4083
	in	159.5	160.6	163.3	159.5	160.6	163.3	159.6	160.7
Reach at level lift arm/bucket	mm	1452	1480	1550	1452	1480	1550	1462	1490
	in	57.2	58.3	61.0	57.2	58.3	61.0	57.6	58.7
Maximum floor angle at minimum lift	degrees	26.4°	26.4°	26.4°	26.4°	26.4°	26.4°	26.4°	26.4°
Dig depth with level bucket	mm	11	27	11	11	11	11	16	33
	in	0.4	1.1	0.4	0.4	0.4	0.4	0.6	1.3
Overall length with bucket on ground	mm	3766	3794	3863	3838	3860	3935	3768	3796
	in	148.3	149.4	152.1	151.1	152.0	154.9	148.3	149.4
Front clearance circle radius (with bucket)	mm	2549	2581	2612	2577	2609	2640	2550	2582
	in	100.4	101.6	102.8	101.5	102.7	103.9	100.4	101.7
Tipping load	kg	3026	2954	3002	2721	2651	2697	2862	2791
	lb	6671	6512	6618	5999	5844	5946	6310	6153
Breakout force — lift	kg	2629	2563	2611	2517	2449	2500	2503	2438
	lb	5796	5650	5756	5549	5399	5512	5518	5375
Breakout force — tilt	kg	3086	2923	3067	2743	2602	2724	2989	2830
	lb	6803	6444	6762	6047	5736	6005	6590	6239
Operating weight	kg	4287	4324	4305	4313	4355	4331	4433	4470
	lb	9451	9533	9491	9509	9601	9548	9773	9855

Bucket Type		Multi-Purpose				Dirt	
Bucket Width		1981 mm (78")	2134 mm (84")			1981 mm (78")	
Ground Engaging Type		Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge
Bucket Assembly No.		279-5401	293-0139	296-8057	296-8055	268-4084	268-4083
Rated bucket capacity	m ³ yd ³	0.40 0.52	0.43 0.56	0.43 0.56	0.43 0.56	0.44 0.58	0.45 0.59
Struck capacity	m ³ yd ³	0.28 0.37	0.30 0.39	0.30 0.39	0.30 0.39	0.32 0.42	0.32 0.42
Width	mm in	2035 80.1	2187 86.1	2198 86.5	2187 86.1	1981 78.0	1991 78.4
Dump clearance at maximum lift/dump	mm in	2378 93.6	2378.4 93.6	2348 92.4	2378.4 93.6	2421 95.3	2391 94.1
Reach at maximum lift/dump	mm in	656 25.8	655.5 25.8	666.5 26.2	655.5 25.8	613 24.1	624 24.6
Floor angle at maximum lift/dump	degrees	40°	40°	40°	40°	40°	40°
Floor angle at maximum lift/rack back	degrees	85°	96°	96°	96°	85°	85°
Clearance at maximum lift/level bucket	mm in	2925 115.2	2925 115.2	2908 114.5	2925 115.2	2930 115.4	2914 114.7
Hinge pin height at maximum lift	mm in	3122 122.9	3122 122.9	3122 122.9	3122 122.9	3233 127.3	3233 127.3
Maximum overall height	mm in	4153 163.5	4055 159.6	4083 160.7	4153 163.5	3998 157.4	4026 158.5
Reach at level lift arm/bucket	mm in	1560 61.4	1462 57.6	1490 58.7	1560 61.4	1402 55.2	1430 56.3
Maximum floor angle at minimum lift	degrees	26.4°	26.4°	26.4°	26.4°	26.4°	26.4°
Dig depth with level bucket	mm in	16 0.6	11 0.4	11 0.4	11 0.4	11 0.4	27 1.1
Overall length with bucket on ground	mm in	3866 152.2	3753 147.8	3780 148.8	3850 151.6	3715 146.3	3743 147.4
Front clearance circle radius (with bucket)	mm in	2613 102.9	2578 101.5	2610 102.8	2641 104.0	2508 98.7	2540 100.0
Tipping load	kg lb	2838 6257	2633 5805	2560 5644	2609 5752	3138 6918	3052 6728
Breakout force — lift	kg lb	2485 5478	2485 5478	2416 5326	2467 5439	2696 5944	2626 5789
Breakout force — tilt	kg lb	2969 6545	2979 6568	2817 6210	2959 6523	3314 7306	3129 6898
Operating weight	kg lb	4451 9813	4447 9804	4489 9897	4465 9844	4265 9403	4305 9491

Work Tool		Pallet Fork		
Tine Length		910 mm (36")	1070 mm (42")	1220 mm (48")
Carriage Assembly No.		293-9427	293-9428	293-9429
Carriage overall width without step	mm	1159	1159	1159
	in	45.6	45.6	45.6
Carriage step additional width	mm	106	106	106
	in	4.2	4.2	4.2
Carriage height above blade top	mm	930	930	930
	in	36.6	36.6	36.6
Blade surface height at maximum height	mm	3019	3019	3019
	in	118.9	118.9	118.9
Shank front face reach at maximum height	mm	389	389	389
	in	15.3	15.3	15.3
Blade surface height at level lift arms	mm	1608	1608	1608
	in	63.3	63.3	63.3
Shank front face reach at level lift arms	mm	751	751	751
	in	29.6	29.6	29.6
Blade surface height at minimum lift	mm	148	148	148
	in	5.8	5.8	5.8
Shank front face reach at minimum lift	mm	428	428	428
	in	16.9	16.9	16.9
Overall length at minimum lift, level tine	mm	4079	4079	4079
	in	160.6	160.6	160.6
Tipping load	kg	2457	2335	2229
	lb	5417	5148	4914
Operating weight	kg	4203	4213	4223
	lb	9266	9288	9310

Bucket Type		General Purpose			High Capacity — GP			Multi-Purpose	
Bucket Width		1981 mm (78")			2134 mm (84")			1981 mm (78")	
Ground Engaging Type		Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge
Bucket Assembly No.		279-5376	279-5377	279-5378	292-9271	296-8192	296-8191	279-5403	279-5402
Rated bucket capacity	m ³	0.47	0.49	0.47	0.63	0.63	0.63	0.40	0.42
	yd ³	0.61	0.64	0.61	0.82	0.82	0.82	0.52	0.55
Struck capacity	m ³	0.34	0.34	0.34	0.59	0.59	0.59	0.28	0.28
	yd ³	0.44	0.44	0.44	0.77	0.77	0.77	0.37	0.37
Width	mm	2035	2045	2035	2187	2198	2187	2035	2045
	in	80.1	80.5	80.1	86.1	86.5	86.1	80.1	80.5
Dump clearance at maximum lift/dump	mm	2496	2466	2496	2335	2304	2333	2489	2458
	in	98.3	97.1	98.3	91.9	90.7	91.9	98.0	96.8
Reach at maximum lift/dump	mm	800	814	849	891	897	894	971	982
	in	31.5	32.0	33.4	35.1	35.3	35.2	38.2	38.7
Floor angle at maximum lift/dump	degrees	40°	40°	40°	50°	50°	50°	40°	40°
Floor angle at maximum lift/rack back	degrees	85°	85°	85°	85°	85°	85°	85°	85°
Clearance at maximum lift/level bucket	mm	3043	3043	3043	3039	3023	3039	3043	3043
	in	119.8	119.8	119.8	119.6	119.0	119.6	119.8	119.8
Hinge pin height at maximum lift	mm	3233	3233	3233	3233	3233	3233	3233	3233
	in	127.3	127.3	127.3	127.3	127.3	127.3	127.3	127.3
Maximum overall height	mm	4075	4089	4124	4221	4247	4319	4075	4089
	in	160.4	161.0	162.4	166.2	167.2	170.0	160.4	161.0
Reach at level lift arm/bucket	mm	1301	1330	1399	1447	1475	1545	1301	1330
	in	51.2	52.4	55.1	57.0	58.1	60.8	51.2	52.4
Maximum floor angle at minimum lift	degrees	26.4°	26.4°	26.4°	26.4°	26.4°	26.4°	26.4°	26.4°
Dig depth with level bucket	mm	11	27	11	11	27	11	16	33
	in	0.4	1.1	0.4	0.4	1.1	0.4	0.6	1.3
Overall length with bucket on ground	mm	3692	3720	3790	3838	3866	3935	3745	3773
	in	145.4	146.5	149.2	151.1	152.2	154.9	147.4	148.5
Front clearance circle radius (with bucket)	mm	2580	2611	2643	2608	2639	2671	2581	2613
	in	101.6	102.8	104.1	102.7	103.9	105.2	101.6	102.9
Tipping load	kg	3504	3426	3480	3264	3188	3240	3333	3256
	lb	7725	7553	7672	7196	7028	7143	7348	7178
Breakout force — lift	kg	2408	2347	2391	2309	2245	2291	2281	2222
	lb	5309	5174	5271	5090	4949	5051	5029	4899
Breakout force — tilt	kg	3086	2923	3067	2743	2602	2724	2988	2830
	lb	6803	6444	6762	6047	5736	6005	6587	6239
Operating weight	kg	4515	4552	4533	4533	4575	4551	4662	4699
	lb	9954	10,035	9994	9994	10,086	10,033	10,278	10,359

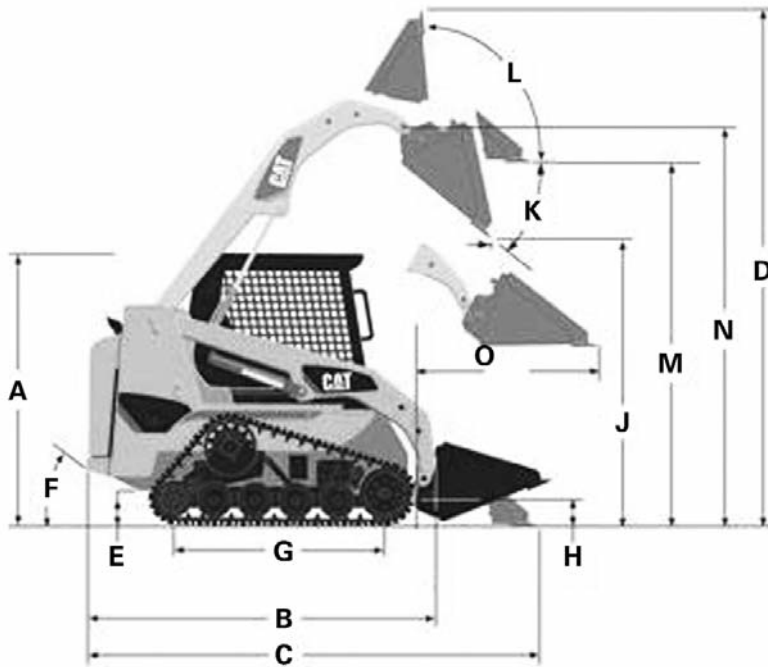
Bucket Type		Multi-Purpose				Dirt	
Bucket Width		1981 mm (78")	2134 mm (84")			1981 mm (78")	
Ground Engaging Type		Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge
Bucket Assembly No.		279-5401	293-0139	296-8057	296-8055	268-4084	268-4083
Rated bucket capacity	m ³ yd ³	0.40 0.52	0.43 0.56	0.43 0.56	0.43 0.56	0.44 0.58	0.45 0.59
Struck capacity	m ³ yd ³	0.28 0.37	0.30 0.39	0.30 0.39	0.30 0.39	0.32 0.42	0.32 0.42
Width	mm in	2035 80.1	2187 86.1	2198 86.5	2187 86.1	1981 78.0	1991 78.4
Dump clearance at maximum lift/dump	mm in	2489 98.0	2400 94.5	2368 93.2	2325 91.5	2450 96.5	2419 95.2
Reach at maximum lift/dump	mm in	971 38.2	834 32.8	840 33.1	896 35.3	800 31.5	814 32.0
Floor angle at maximum lift/dump	degrees	40°	50°	50°	50°	40°	40°
Floor angle at maximum lift/rack back	degrees	85°	85°	85°	85°	85°	85°
Clearance at maximum lift/level bucket	mm in	3043 119.8	3036 119.5	3019 118.9	3034 119.4	3043 119.8	3043 119.8
Hinge pin height at maximum lift	mm in	3233 127.3	3233 127.3	3233 127.3	3233 127.3	3233 127.3	3233 127.3
Maximum overall height	mm in	4124 162.4	4135 162.8	4161 163.8	4232 166.6	4075 160.4	4089 161.0
Reach at level lift arm/bucket	mm in	1399 55.1	1361 53.6	1389 54.7	1459 57.4	1301 51.2	1330 52.4
Maximum floor angle at minimum lift	degrees	26.4°	26.4°	26.4°	26.4°	26.4°	26.4°
Dig depth with level bucket	mm in	16 0.6	16 0.6	16 0.6	16 0.6	11 0.4	27 1.1
Overall length with bucket on ground	mm in	3843 151.3	3745 147.4	3773 148.5	3843 151.3	3692 145.4	3720 146.5
Front clearance circle radius (with bucket)	mm in	2645 104.1	2609 101.6	2641 102.9	2646 104.1	2538 99.9	2570 101.2
Tipping load	kg lb	3309 7295	3185 7022	3105 6845	3160 6967	3634 8012	3539 7802
Breakout force — lift	kg lb	2264 4991	2262 4987	2198 4846	2245 4949	2468 5441	2402 5295
Breakout force — tilt	kg lb	2969 6545	2979 6568	2817 6210	2959 6523	3314 7306	3129 6898
Operating weight	kg lb	4680 10,318	4666 10,287	4708 10,379	4684 10,326	4493 9905	4533 9994

Work Tool		Pallet Fork		
Tine Length		910 mm (36")	1070 mm (42")	1220 mm (48")
Carriage Assembly No.		293-9427	293-9428	293-9429
Carriage overall width without step	mm	1159	1160	1161
	in	45.6	45.7	45.7
Carriage step additional width	mm	106	107	108
	in	4.2	4.2	4.3
Carriage height above blade top	mm	930	931	932
	in	36.6	36.7	36.7
Blade surface height at maximum height	mm	3130	3131	3132
	in	123.2	123.3	123.3
Shank front face reach at maximum height	mm	703	704	705
	in	27.7	27.7	27.8
Blade surface height at level lift arms	mm	1608	1609	1610
	in	63.3	63.3	63.4
Shank front face reach at level lift arms	mm	751	752	753
	in	29.6	29.6	29.6
Blade surface height at minimum lift	mm	90	91	92
	in	3.5	3.6	3.6
Shank front face reach at minimum lift	mm	425	426	427
	in	16.7	16.8	16.8
Overall length at minimum lift, level tine	mm	4065	4066	4067
	in	160.0	160.1	160.1
Tipping load	kg	2822	2678	2555
	lb	6221	5904	5633
Operating weight	kg	4451	4451	4451
	lb	9813	9813	9813

Bucket Type		General Purpose			High Capacity — GP			Multi-Purpose	
Bucket Width		1981 mm (78")			2134 mm (84")			1981 mm (78")	
Ground Engaging Type		Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge
Bucket Assembly No.		279-5376	279-5377	279-5378	292-9271	296-8192	296-8191	279-5403	279-5402
Rated bucket capacity	m ³	0.47	0.49	0.47	0.63	0.63	0.63	0.40	0.42
	yd ³	0.61	0.64	0.61	0.82	0.82	0.82	0.52	0.55
Struck capacity	m ³	0.40	0.34	0.34	0.59	0.59	0.59	0.28	0.28
	yd ³	0.52	0.44	0.44	0.77	0.77	0.77	0.37	0.37
Width	mm	2035	2045	2035	2187	2198	2187	2035	2045
	in	80.1	80.5	80.1	86.1	86.5	86.1	80.1	80.5
Dump clearance at maximum lift/dump	mm	2444	2412	2367	2370	2338	2367	2536	2506
	in	96.2	95.0	93.2	93.3	92.0	93.2	99.8	98.7
Reach at maximum lift/dump	mm	814	819	874	871	876	874	974	985
	in	32.0	32.2	34.4	34.3	34.5	34.4	38.3	38.8
Floor angle at maximum lift/dump	degrees	51°	51°	51°	51°	51°	51°	40°	40°
	degrees	83°	83°	83°	83°	83°	83°	85°	85°
Clearance at maximum lift/level bucket	mm	3086	3070	3086	3086	3070	3086	3043	3043
	in	121.5	120.9	121.5	121.5	120.9	121.5	119.8	119.8
Hinge pin height at maximum lift	mm	3280	3280	3280	3280	3280	3280	3233	3233
	in	129.1	129.1	129.1	129.1	129.1	129.1	127.3	127.3
Maximum overall height	mm	4168	4194	4265	4260	4286	4265	4075	4089
	in	164.1	165.1	167.9	167.7	168.7	167.9	160.4	161.0
Reach at level lift arm/bucket	mm	1341	1369	1439	1434	1462	1439	1301	1330
	in	52.8	53.9	56.7	56.5	57.6	56.7	51.2	52.4
Maximum floor angle at minimum lift	degrees	26.4°	26.4°	26.4°	26.4°	26.4°	26.4°	26.4°	26.4°
	degrees	26.4°	26.4°	26.4°	26.4°	26.4°	26.4°	26.4°	26.4°
Dig depth with level bucket	mm	11	27	11	11	11	11	16	33
	in	0.4	1.1	0.4	0.4	0.4	0.4	0.6	1.3
Overall length with bucket on ground	mm	3886	3914	3984	3980	4027	3984	3905	3933
	in	153.0	154.1	156.9	156.7	158.5	156.9	153.7	154.8
Front clearance circle radius (with bucket)	mm	2654	2685	2718	2682	2713	2746	2655	2687
	in	104.5	105.7	107.0	105.6	106.8	108.1	104.5	105.8
Tipping load	kg	3698	3620	3674	3596	3519	3572	3524	3448
	lb	8153	7981	8100	7928	7758	7875	7769	7602
Breakout force — lift	kg	2273	2214	2255	2179	2118	2161	2146	2088
	lb	5011	4881	4971	4804	4669	4764	4731	4603
Breakout force — tilt	kg	3086	2923	3067	2743	2602	2724	2988	2830
	lb	6803	6444	6762	6047	5736	6005	6587	6239
Operating weight	kg	4552	4589	4570	4694	4736	4712	4699	4736
	lb	10,035	10,117	10,075	10,348	10,441	10,388	10,359	10,441

Bucket Type	Multi-Purpose				Dirt	
Bucket Width	1981 mm (78")	2134 mm (84")			1981 mm (78")	
Ground Engaging Type	Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge
Bucket Assembly No.	279-5401	293-0139	296-8057	296-8055	268-4084	268-4083
Rated bucket capacity	m ³ yd ³	0.40 0.52	0.43 0.56	0.43 0.56	0.44 0.58	0.45 0.59
Struck capacity	m ³ yd ³	0.28 0.37	0.30 0.39	0.30 0.39	0.32 0.42	0.32 0.42
Width	mm in	2035 80.1	2187 86.1	2198 86.5	2187 86.1	1981 78.0
Dump clearance at maximum lift/dump	mm in	2536 99.8	2436 95.9	2405 94.7	2359 92.9	2579 101.5
Reach at maximum lift/dump	mm in	974 38.3	816 32.1	821 32.3	876 34.5	931 36.7
Floor angle at maximum lift/dump	degrees	40°	51°	51°	51°	40°
Floor angle at maximum lift/rack back	degrees	85°	83°	83°	83°	85°
Clearance at maximum lift/level bucket	mm in	3043 119.8	3083 121.4	3067 120.7	3081 121.3	3043 119.8
Hinge pin height at maximum lift	mm in	3233 127.3	3280 129.1	3280 129.1	3280 129.1	3233 127.3
Maximum overall height	mm in	4124 162.4	4175 164.4	4201 165.4	4271 168.1	4075 160.4
Reach at level lift arm/bucket	mm in	1399 55.1	1348 53.1	1376 54.2	1446 56.9	1301 51.2
Maximum floor angle at minimum lift	degrees	26.4°	26.4°	26.4°	26.4°	26.4°
Dig depth with level bucket	mm in	16 0.6	16 0.6	33 1.3	16 0.6	11 0.4
Overall length with bucket on ground	mm in	4002 157.6	3893 153.3	3921 154.4	3991 157.1	3852 151.7
Front clearance circle radius (with bucket)	mm in	2720 107.1	2683 105.6	2715 106.9	2748 108.2	2612 102.8
Tipping load	kg lb	3500 7716	3520 7760	3438 7579	3496 7707	3828 8439
Breakout force — lift	kg lb	2128 4691	2126 4687	2064 4550	2108 4647	2328 5132
Breakout force — tilt	kg lb	2969 6545	2979 6568	2817 6210	2959 6523	3314 7306
Operating weight	kg lb	4717 10,399	4828 10,644	4870 10,736	4846 10,684	4530 9987

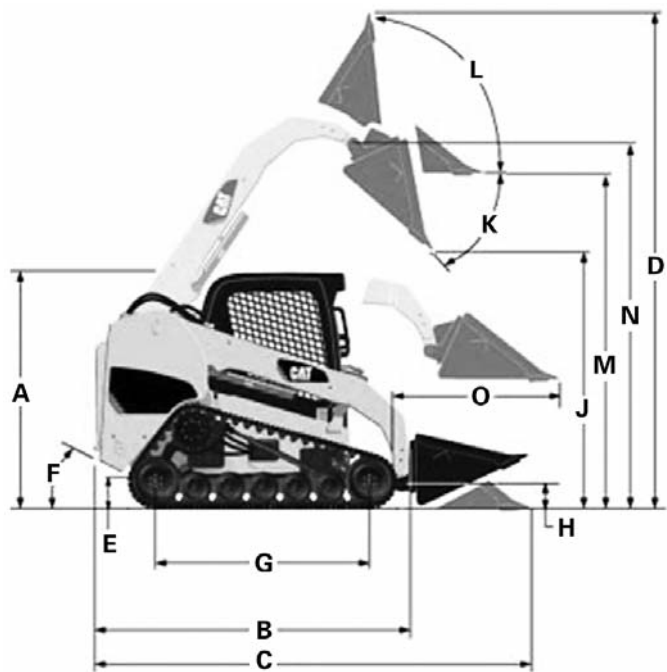
Work Tool		Pallet Fork		
Tine Length		910 mm (36")	1070 mm (42")	1220 mm (48")
Carriage Assembly No.		293-9427	293-9428	293-9429
Carriage overall width without step	mm	1159	1159	1159
	in	45.6	45.6	45.6
Carriage step additional width	mm	106	106	106
	in	4.2	4.2	4.2
Carriage height above blade top	mm	930	930	930
	in	36.6	36.6	36.6
Blade surface height at maximum height	mm	3177	3177	3177
	in	125.1	125.1	125.1
Shank front face reach at maximum height	mm	703	703	703
	in	27.7	27.7	27.7
Blade surface height at level lift arms	mm	1608	1608	1608
	in	63.3	63.3	63.3
Shank front face reach at level lift arms	mm	751	751	751
	in	29.6	29.6	29.6
Blade surface height at minimum lift	mm	148	148	148
	in	5.8	5.8	5.8
Shank front face reach at minimum lift	mm	425	425	425
	in	16.7	16.7	16.7
Overall length at minimum lift, level tine	mm	4216	4376	4526
	in	166.0	172.3	178.2
Tipping load	kg	3036	2886	2756
	lb	6693	6363	6076
Operating weight	kg	4488	4498	4508
	lb	9894	9916	9938



MODEL	247B2		257B2	
Rated operating capacity*	929 kg	2050 lb	1134 kg	2500 lb
A Height to top of ROPS	1990 mm	6'6"	2022 mm	6'7"
B Length to coupler	2518 mm	8'3"	2701 mm	8'10"
C Length with bucket on ground	3285 mm	10'8"	3490 mm	11'5"
D Maximum overall height	3799 mm	12'4"	3963 mm	13'0"
E Ground clearance	267 mm	10.5"	257 mm	10"
F Departure angle	41°		37°	
G Wheelbase	1499 mm	4'11"	1499 mm	4'11"
H Hinge pin height at carry position	234 mm	8"	234 mm	8"
Bucket overall width with edge	1730 mm	6'6"	1730 mm	6'6"
J Clearance at maximum lift/dump	2134 mm	7'0"	2278 mm	7'5"
K Floor angle at maximum lift/dump	40°		40°	
L Floor angle at maximum lift/rack	96.7°		86.9°	
M Clearance at maximum lift/level	2667 mm	8'8"	2889 mm	9'5"
N Hinge pin height at maximum lift	2862 mm	9'4"	3018 mm	10'1"
O Reach at level lift arm/bucket	1395 mm	4'7"	1387 mm	4'6"
Bumper overhang from axle	576 mm	1'10"	672 mm	2'2"
Maximum floor angle at carry position	26.4°		26.8°	

*SAE J818 MAY87, ISO 5998:1986.

NOTE: 247B2/257B2 machine dimensions shown with standard machine equipped with 1676 mm (66") dirt bucket.



MODEL	277C		287C		297C	
Rated operating capacity*	1060 kg	2337 lb	1229 kg	2709 lb	1363 kg	3005 lb
Rated operating capacity at 50%	1451 kg	3200 lb	1724 kg	3801 lb	1905 kg	4200 lb
A Height to top of ROPS	2115 mm	6'11"	2115 mm	6'11"	2115 mm	6'11"
B Length to coupler	2974 mm	9'9"	2973 mm	9'9"	3115 mm	10'3"
C Length with bucket on ground	3692 mm	12'1"	3692 mm	12'1"	3833 mm	12'7"
D Maximum overall height	3998 mm	13'1"	4075 mm	13'4"	4115 mm	13'6"
E Ground clearance	225 mm	8.9"	225 mm	8.9"	225 mm	8.9"
F Departure angle	42°		42°		35°	
G Wheelbase	1808 mm	5'11"	1808 mm	5'11"	1808 mm	5'11"
H Hinge pin height at carry position	200 mm	7.9"	200 mm	7.9"	200 mm	7.9"
Bucket overall width with edge	1981 mm	6'6"	1981 mm	6'6"	1981 mm	6'6"
J Clearance at maximum lift/dump	2425 mm	7'11"	2450 mm	8'0"	2487 mm	8'0"
K Floor angle at maximum lift/dump	40°		50°		51°	
L Floor angle at maximum lift/rack	85°		85°		83°	
M Clearance at maximum lift/level	2930 mm	9'7"	3043 mm	10'0"	3088 mm	10'2"
N Hinge pin height at maximum lift	3122 mm	10'3"	3233 mm	10'7"	3279 mm	10'9"
O Reach at level lift arm/bucket	1390 mm	4'7"	1285 mm	4'3"	1273 mm	4'2"
Bumper overhang from axle	689 mm	2'3"	689 mm	2'3"	830 mm	2'9"
Maximum floor angle at carry position	26°		26°		26°	

*SAE J818 MAY87, ISO 5998:1986.
NOTE: 277C/287C/297C machine dimensions shown with standard machine equipped with 1981 mm (78") dirt bucket.

CAT WORK TOOL COMPATIBILITY

	247B2	257B2	277C	287C	297C
General Purpose Buckets					
1524 mm (60")	A	A	NR	NR	NR
1676 mm (66")	O	O	NR	NR	NR
1829 mm (72")	O	O	A	A	A
1981 mm (78")	A	A	O	O	O
High Capacity Bucket (GP)					
2134 mm (84")	NR	NR	O	O	O
Dirt Buckets					
1524 mm (60")	A	A	NR	NR	NR
1676 mm (66")	O	O	NR	NR	NR
1829 mm (72")	O	O	A	A	A
1981 mm (78")	O	O	O	O	O
Utility Buckets					
1524 mm (60")	A	A	NR	NR	NR
1676 mm (66")	O	O	NR	NR	NR
1829 mm (72")	O	O	A	A	A
Light Material Buckets					
1829 mm (72")	O	O	A	A	A
1981 mm (78")	A	A	O	O	O
2134 mm (84")	A	A	O	O	O
2438 mm (96")	A	O	O	O	O
Multi-Purpose Buckets					
1524 mm (60")	A	A	NR	NR	NR
1676 mm (66")	O	O	NR	NR	NR
1829 mm (72")	O	O	A	A	A
1981 mm (78")	A	A	O	O	O
2134 mm (84")	NR	NR	O	O	O
Industrial Grapple Buckets					
1524 mm (60")	A	A	NR	NR	NR
1676 mm (66")	O	O	NR	NR	NR
1829 mm (72")	O	O	A	A	A
1981 mm (78")	A	A	O	O	O
Industrial Grapple Forks					
1676 mm (66")	O	O	A	A	A
1829 mm (72")	O	O	O	O	O
Industrial Grapple Rakes					
1829 mm (72")	O	O	O	O	O
2134 mm (84")	O	O	O	O	O
Utility Grapple Buckets					
1524 mm (60")	A	A	NR	NR	NR
1676 mm (66")	O	O	NR	NR	NR
1829 mm (72")	O	O	A	A	A

O – Provides Optimum Performance.

A – Provides Acceptable Performance.

NR – Not Recommended.

CAT WORK TOOL COMPATIBILITY

	247B2	257B2	277C	287C	297C
Carriage	O	O	O	O	O
Pallet Forks					
910 mm (36") Tines	O	O	O	O	O
1070 mm (42") Tines	O	O	O	O	O
1220 mm (48") Tines	O	O	O	O	O
Utility Grapple Forks					
1676 mm (66")	O	O	A	A	A
1829 mm (72")	O	O	O	O	O
Utility Forks					
1676 mm (66")	O	O	A	A	A
1829 mm (72")	O	O	O	O	O
Angle Blades					
1829 mm (72")	A	A	NR	NR	NR
2134 mm (84")	O	O	O	O	O
6 Way Blades					
2000 mm (79")	O	O	O	O	O
2337 mm (92")	A	A	O	O	O
A14B Auger	O	O	O	O	O
A19B Auger	O	O	O	O	O
A26B Auger	X	X	O#	O#	O#
Backhoe					
BH150	O	O	X	X	X
BH160	X	X	O	O	O
BH27	O	O	X	X	X
BH30	O	O	X	X	X
BH30W	X	X	O	O	O
BR160 Brushcutter	O	O	O	O	O
BR166 Brushcutter	O	O	O	O	O
BR172 Brushcutter	O	O	O	O	O
BR272 Brushcutter	X	O#	X	X	X
BR378 Brushcutter	X	X	O#	O#	O#
BP15B Pickup Broom	O!	O	A	A	A
BP18B Pickup Broom	X	O!	O	O	O
BA18 Angle Broom	O	O	O	O	O
BU115 Utility Broom	O!	O	A	A	A
BU118 Utility Broom	X	O!	O	O	O

O – Provides Optimum Performance.

O# – The machine performance is optimum with the available HF/XPS option.

A – Provides Acceptable Performance.

NR – Not Recommended.

X – Not Approved. Do Not Use.

! – Lift Restriction.

CAT WORK TOOL COMPATIBILITY

	247B2	257B2	277C	287C	297C
PC203 Cold Planer	O	O	O	O	O
PC204 Cold Planer	X	A	O	O	O
PC205 Cold Planer	X	X	O#	O#	O#
PC206 Cold Planer	X	X	O#	O#	O#
PC210 Cold Planer	X	X	O#	O#	O#
H55D S Hammer	O	O	O	O	O
H65D S Hammer	O	O	O	O	O
LR15B Landscape Rake	O!	O!	NR	NR	NR
LR18B Landscape Rake	O!	O!	O	O	O
LT13B Landscape Tiller	O!	O!	NR	NR	NR
LT18B Landscape Tiller	O	O!	O	O	O
Material Handling Arm	O	O	O	O	O
HM312 Mulcher	X	X	O#	O#	O#
HM315 Mulcher	X	X	O#	O#	O#
PR172 Power Box Rake	O	O	A	A	A
PR184 Power Box Rake	O	O	O	O	O
PR190 Power Box Rake	A	A	O	O	O
SR117 Snowblower	O	O	NR	NR	NR
SR118 Snowblower	NR	NR	A	A	A
SR121 Snowblower	NR	NR	O	O	O
SR318 Snowblower	NR	O#	A#	A#	A#
SR321 Snowblower	NR	O#	O#	O#	O#
SG16B Stump Grinder	O	O	O	O	O
SG18B Stump Grinder	X	X	O#	O#	O#
T6B Trencher	O	O	O	O	O
T9B Trencher	A	O	O	O	O
T15 Trencher	X	X	O#	O#	O#
CV16B Vibratory Compactor	O!	O!	O	O	O
CV18B Vibratory Compactor	X	X	O	O	O
SW45 Wheel Saw	X	X	O#	O#	O#
SW60 Wheel Saw	X	X	O#	O#	O#

O – Provides Optimum Performance.
O# – The machine performance is optimum with the available HF/XPS option.
A – Provides Acceptable Performance.
A# – The machine performance is acceptable with the available HF/XPS option.
NR – Not Recommended.
X – Not Approved. Do Not Use.
! – Lift Restriction.



MODEL	279C		289C		299C	
Flywheel Power: Net	61 kW	82 hp	61 kW	82 hp	67 kW	90 hp
Gross	63 kW	84 hp	63 kW	85 hp	70 kW	94 hp
Engine Model	C3.4 DIT		C3.4 DIT		C3.4 DIT	
Rated Engine RPM	2500		2500		2500	
Bore	94 mm	3.7"	94 mm	3.7"	94 mm	3.7"
Stroke	120 mm	4.7"	120 mm	4.7"	120 mm	4.7"
Displacement	3.3 L	201 in ³	3.3 L	201 in ³	3.3 L	201 in ³
No. Cylinders	4		4		4	
One Speed Forward	0-8.1 km/h	0-5 mph	0-8.1 km/h	0-5 mph	0-8.1 km/h	0-5 mph
Two Speed Forward	0-13.6 km/h	0-8.5 mph	0-13.6 km/h	0-8.5 mph	0-13.6 km/h	0-8.5 mph
One Speed Reverse	0-8.1 km/h	0-5 mph	0-8.1 km/h	0-5 mph	0-8.1 km/h	0-5 mph
Two Speed Reverse	0-13.6 km/h	0-8.5 mph	0-13.6 km/h	0-8.5 mph	0-13.6 km/h	0-8.5 mph
Hydraulic Cycle Time, Empty Bucket:	Seconds		Seconds		Seconds	
Raise	3.1		4.7		4.7	
Dump	2.5		2.5		2.5	
Lower (Empty, Float Down)	4.0		4.6		4.6	
Total	9.6		11.8		11.8	
Tread Width (per side)	457 mm	18"	457 mm	18"	457 mm	18"
Width Over Tracks	1981 mm	78"	1981 mm	78"	1981 mm	78"
Ground Clearance	231 mm	9.1"	231 mm	9.1"	231 mm	9.1"
Fuel Tank Capacity	98 L	26 U.S. gal	98 L	26 U.S. gal	98 L	26 U.S. gal
Hydraulic Tank Capacity	42 L	11 U.S. gal	42 L	11 U.S. gal	42 L	11 U.S. gal
Hydraulic System Capacity (includes tank)	57 L	15.1 U.S. gal	57 L	15 U.S. gal	57 L	15 U.S. gal
Hydraulic Pump Capacity	84 L/min	22 gpm	84 L/min	22 gpm	84 L/min	22 gpm

Bucket Type		General Purpose			High Capacity — GP			Multi-Purpose	
Bucket Width		1981 mm (78")			2134 mm (84")			1981 mm (78")	
Ground Engaging Type		Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge
Bucket Assembly No.		279-5376	279-5377	279-5378	292-9271	296-8192	296-8191	279-5403	279-5402
Rated bucket capacity	m ³	0.47	0.49	0.47	0.63	0.63	0.63	0.40	0.42
	yd ³	0.61	0.64	0.61	0.82	0.82	0.82	0.52	0.55
Struck capacity	m ³	0.34	0.34	0.34	0.59	0.59	0.59	0.28	0.28
	yd ³	0.44	0.44	0.44	0.77	0.77	0.77	0.37	0.37
Width	mm	2035	2045	2035	2187	2198	2187	2035	2045
	in	80.1	80.5	80.1	86.1	86.5	86.1	80.1	80.5
Dump clearance at maximum lift/dump	mm	2391	2361	2333	2330	2305	2277	2384	2354
	in	94.0	93.0	91.9	92.0	90.7	89.6	94.0	92.7
Reach at maximum lift/dump	mm	633	644	702	703	721	779	636	647
	in	25.0	25.4	27.6	28.0	28.4	30.7	25.0	25.5
Floor angle at maximum lift/dump	degrees	40°	40°	40°	*	*	*	40°	40°
Floor angle at maximum lift/rack back	degrees	85°	85°	85°	*	*	*	85°	85°
Clearance at maximum lift/level bucket	mm	2934	2918	2934	*	2918	2934	2931	2915
	in	115.5	114.9	115.5	*	114.9	115.5	115.4	114.8
Hinge pin height at maximum lift	mm	3128	3128	3128	3128	3128	3128	3128	3128
	in	123.2	123.2	123.2	123.2	123.2	123.2	123.2	123.2
Maximum overall height	mm	4058	4087	4148	*	4180	4241	4065	4094
	in	159.8	160.9	163.3	*	164.6	167.0	160.0	161.2
Reach at level lift arm/bucket	mm	1434	1466	1524	*	1555	1613	1447	1477
	in	56.5	57.7	60.0	*	61.2	63.5	57.0	58.1
Maximum floor angle at minimum lift	degrees	26°	26°	26°	26°	26°	26°	26°	26°
Dig depth with level bucket	mm	11	27	11	*	27	11	16	33
	in	0.4	1.1	0.4	*	1.1	0.4	0.6	1.3
Overall length with bucket on ground	mm	3726	3758	3816	*	3847	3905	3729	3759
	in	146.7	148.0	150.2	*	151.5	153.7	146.8	148.0
Front clearance circle radius (with bucket)	mm	2357	2389	2421	*	2474	2506	2360	2392
	in	92.8	94.1	95.3	*	97.5	98.7	92.9	94.2
Tipping load	kg	2838	2769	2815	2749	2675	2725	2679	2611
	lb	6258	6106	6207	6062	5898	6009	5907	5757
Breakout force — lift	kg	2631	2565	2614	*	2454	2504	2505	2440
	lb	5801	5656	5764	*	5411	5521	5524	5380
Breakout force — tilt	kg	3085	2923	3066	*	2602	2724	2988	2830
	lb	6802	6445	6761	*	5737	6006	6589	6240
Operating weight	kg	4509	4546	4527	*	4583	4559	4655	4692
	lb	9942	10,024	9982	*	10,106	10,053	10,264	10,346

*Information not available at time of printing.

Bucket Type		Multi-Purpose				Dirt	
Bucket Width		1981 mm (78")	2134 mm (84")			1981 mm (78")	
Ground Engaging Type		Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge
Bucket Assembly No.		279-5401	293-0139	296-8057	296-8055	268-4084	268-4083
Rated bucket capacity	m ³ yd ³	0.40 0.52	0.43 0.56	0.43 0.56	0.43 0.56	0.44 0.58	0.45 0.59
Struck capacity	m ³ yd ³	0.28 0.37	0.30 0.39	0.30 0.39	0.30 0.39	0.32 0.42	0.32 0.42
Width	mm in	2035 80.1	2187 86.1	2198 86.5	2187 86.1	1981 78.0	1991 78.4
Dump clearance at maximum lift/dump	mm in	2326 91.6	2384 94.0	2354 92.7	2326 91.6	2427 95.6	2397 94.0
Reach at maximum lift/dump	mm in	705 27.8	636 25.0	647 25.5	705 27.8	594 23.4	605 24.0
Floor angle at maximum lift/dump	degrees	40°	*	*	*	40°	40°
Floor angle at maximum lift/rack back	degrees	85°	*	*	*	85°	85°
Clearance at maximum lift/level bucket	mm in	2931 115.4	2931 115.4	2915 114.8	2931 115.4	2937 115.6	2921 115.0
Hinge pin height at maximum lift	mm in	3128 123.2	3128 123.2	3128 123.2	3128 123.2	3128 123.2	3128 123.2
Maximum overall height	mm in	4155 163.6	4065 160.0	4094 161.2	4155 163.6	4005 157.7	4034 158.8
Reach at level lift arm/bucket	mm in	1537 60.5	1447 57.0	1447 57.0	1537 60.5	1387 54.6	1419 55.9
Maximum floor angle at minimum lift	degrees	26°	26°	26°	26°	26°	26°
Dig depth with level bucket	mm in	16 0.6	16 0.6	33 1.3	16 0.6	11 0.4	27 1.1
Overall length with bucket on ground	mm in	3819 150.4	3729 146.8	3759 148	3819 150.4	3679 144.8	3711 146.1
Front clearance circle radius (with bucket)	mm in	2424 95.4	2474 97.4	2506 98.7	2538 99.9	2314 91.1	2345 92.3
Tipping load	kg lb	2656 5857	2661 5868	2588 5707	2638 5817	2941 6485	2859 6304
Breakout force — lift	kg lb	2487 5484	2490 5491	2421 5338	2472 5451	2699 5951	2628 5795
Breakout force — tilt	kg lb	2969 6547	2979 6569	2817 6212	2959 6525	3314 7307	3129 6884
Operating weight	kg lb	4673 10,304	4674 10,306	4716 10,399	4692 10,346	4487 9894	4527 9982

*Information not available at time of printing.

Work Tool		Pallet Fork		
Tine Length		910 mm (36")	1070 mm (42")	1220 mm (48")
Carriage Assembly No.		261-6681	261-6681	261-6681
Carriage overall width without step	mm	1159	1159	1159
	in	45.6	45.6	45.6
Carriage step additional width	mm	106	106	106
	in	4.2	4.2	4.2
Carriage height above blade top	mm	930	930	930
	in	36.6	36.6	36.6
Blade surface height at maximum height	mm	3025	3025	3025
	in	119.0	119.0	119.0
Shank front face reach at maximum height	mm	381	381	381
	in	15.0	15.0	15.0
Blade surface height at level lift arms	mm	1545	1545	1545
	in	60.8	60.8	60.8
Shank front face reach at level lift arms	mm	849	849	849
	in	33.0	33.0	33.0
Blade surface height at minimum lift	mm	122	122	122
	in	4.8	4.8	4.8
Shank front face reach at minimum lift	mm	409	409	409
	in	16.1	16.1	16.1
Overall length at minimum lift, level tine	mm	3997	4149	4302
	in	157.4	163.3	169.4
Tipping load	kg	2465	2316	2193
	lb	5435	5107	4836
Operating weight	kg	4449	4459	4468
	lb	9810	9832	9852

Bucket Type		General Purpose			High Capacity — GP			Multi-Purpose	
Bucket Width		1981 mm (78")			2134 mm (84")			1981 mm (78")	
Ground Engaging Type		Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge
Bucket Assembly No.		279-5376	279-5377	279-5378	292-9270	296-8192	296-8191	279-5403	279-5402
Rated bucket capacity	m ³	0.47	0.49	0.47	0.63	0.63	0.63	0.40	0.42
	yd ³	0.61	0.64	0.61	0.82	0.82	0.82	0.52	0.55
Struck capacity	m ³	0.34	0.34	0.34	0.59	0.59	0.59	0.28	0.28
	yd ³	0.44	0.44	0.44	0.77	0.77	0.77	0.37	0.37
Width	mm	2035	2045	2035	2187	2198	2187	2035	2045
	in	80.1	80.5	80.1	86.1	86.5	86.1	80.1	80.5
Dump clearance at maximum lift/dump	mm	2414	2382	2345	2341	2309	2272	2406	2374
	in	95.0	93.8	92.3	92.0	90.9	89.4	95.0	93.5
Reach at maximum lift/dump	mm	813	819	871	872	877	930	815	821
	in	32.0	32.2	34.3	34.0	34.5	36.6	32.0	32.3
Floor angle at maximum lift/dump	degrees	50°	50°	50°	*	*	*	*	*
Floor angle at maximum lift/rack back	degrees	85°	85°	85°	*	*	*	*	*
Clearance at maximum lift/level bucket	mm	3044	3028	3044	3044	3028	3044	3041	3025
	in	119.8	119.2	119.8	119.8	119.2	119.8	119.7	119.1
Hinge pin height at maximum lift	mm	3239	3239	3239	3239	3239	3239	3239	3239
	in	127.5	127.5	127.5	127.5	127.5	127.5	127.5	127.5
Maximum overall height	mm	4134	4160	4224	4227	4253	4317	4141	4167
	in	162.8	163.8	166.3	166.4	167.4	170.0	163.0	164.1
Reach at level lift arm/bucket	mm	1335	1363	1425	1424	1456	1514	1342	1370
	in	52.8	53.7	56.1	56.1	57.3	59.6	52.8	53.9
Maximum floor angle at minimum lift	degrees	26°	26°	26°	26°	26°	26°	26°	26°
Dig depth with level bucket	mm	11	27	11	11	27	11	16	33
	in	0.4	1.1	0.4	0.4	1.1	0.4	0.6	1.3
Overall length with bucket on ground	mm	3726	3758	3816	3815	3847	3905	3729	3759
	in	146.7	148.0	150.2	150.2	151.5	153.7	146.8	148.0
Front clearance circle radius (with bucket)	mm	2357	2389	2421	2442	2474	2506	2360	2392
	in	92.8	94.1	95.3	96.1	97.4	98.7	92.9	94.2
Tipping load	kg	3378	3303	3355	3274	3195	3250	3213	3139
	lb	7448	7283	7397	7219	7045	7166	7085	6922
Breakout force — lift	kg	2410	2348	2392	2313	2249	2295	2283	2223
	lb	5314	5177	5288	5100	4959	5061	5034	4902
Breakout force — tilt	kg	3086	2923	3066	2743	2602	2724	2988	2830
	lb	6805	6445	6761	6048	5737	6006	6589	6240
Operating weight	kg	4724	4761	4742	4756	4798	4774	4870	4907
	lb	10,416	10,498	10,456	10,487	10,580	10,527	10,738	10,820

*Information not available at time of printing.

Bucket Type	Multi-Purpose				Dirt	
Bucket Width	1981 mm (78")	2134 mm (84")			1981 mm (78")	
Ground Engaging Type	Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge
Bucket Assembly No.	279-5401	293-0139	296-8057	296-8055	268-4084	268-4083
Rated bucket capacity	m ³ yd ³	0.40 0.52	0.43 0.56	0.43 0.56	0.44 0.58	0.45 0.59
Struck capacity	m ³ yd ³	0.28 0.37	0.30 0.39	0.30 0.39	0.32 0.42	0.32 0.42
Width	mm in	2035 80.1	2187 86.1	2198 86.5	2187 86.1	1981 78.0
Dump clearance at maximum lift/dump	mm in	2337 92.0	2406 95.0	2374 93.5	2337 92.0	2456 96.7
Reach at maximum lift/dump	mm in	873 34.4	815 32.0	821 32.2	873 34.4	781 30.7
Floor angle at maximum lift/dump	degrees	50°	*	*	*	50°
Floor angle at maximum lift/rack back	degrees	85°	*	*	*	85°
Clearance at maximum lift/level bucket	mm in	3041 119.7	3041 119.7	3025 119.1	3041 119.7	3047 120.0
Hinge pin height at maximum lift	mm in	3239 127.5	3239 127.5	3239 127.5	3239 127.5	3239 127.5
Maximum overall height	mm in	4231 166.6	4141 163.0	4167 164.1	4231 166.6	4081 160.7
Reach at level lift arm/bucket	mm in	1432 56.4	1342 52.8	1370 53.9	1432 56.4	1282 50.5
Maximum floor angle at minimum lift	degrees	26°	26°	26°	26°	26°
Dig depth with level bucket	mm in	16 0.6	16 0.6	33 1.3	16 0.6	11 0.4
Overall length with bucket on ground	mm in	3819 150.4	3729 146.8	3759 148.0	3819 150.4	3679 144.8
Front clearance circle radius (with bucket)	mm in	2424 95.4	2474 97.4	2506 98.7	2538 99.9	2314 91.1
Tipping load	kg lb	3190 7034	3196 7047	3116 6871	3172 6994	3502 7722
Breakout force — lift	kg lb	2265 4994	2267 4999	2203 4858	2249 4959	2469 5444
Breakout force — tilt	kg lb	2969 6547	2979 6569	2817 6212	2959 6525	3314 7307
Operating weight	kg lb	4888 10,778	4889 10,780	4931 10,873	4907 10,820	4702 10,368

*Information not available at time of printing.

Work Tool		Pallet Fork		
Tine Length		910 mm (36")	1070 mm (42")	1220 mm (48")
Carriage Assembly No.		261-6681	261-6681	261-6681
Carriage overall width without step	mm	1159	1159	1159
	in	45.6	45.6	45.6
Carriage step additional width	mm	106	106	106
	in	4.2	4.2	4.2
Carriage height above blade top	mm	930	930	930
	in	36.6	36.6	36.6
Blade surface height at maximum height	mm	3130	3130	3130
	in	123.0	123.0	123.0
Shank front face reach at maximum height	mm	695	695	695
	in	27.4	27.4	27.4
Blade surface height at level lift arms	mm	1636	1636	1636
	in	64.4	64.4	64.4
Shank front face reach at level lift arms	mm	743	743	743
	in	29.0	29.0	29.0
Blade surface height at minimum lift	mm	122	122	122
	in	4.8	4.8	4.8
Shank front face reach at minimum lift	mm	409	409	409
	in	16.1	16.1	16.1
Overall length at minimum lift, level tine	mm	3997	4149	4302
	in	157.4	163.3	169.4
Tipping load	kg	2891	2709	2560
	lb	6375	5973	5645
Operating weight	kg	4664	4674	4683
	lb	10,284	10,306	10,326

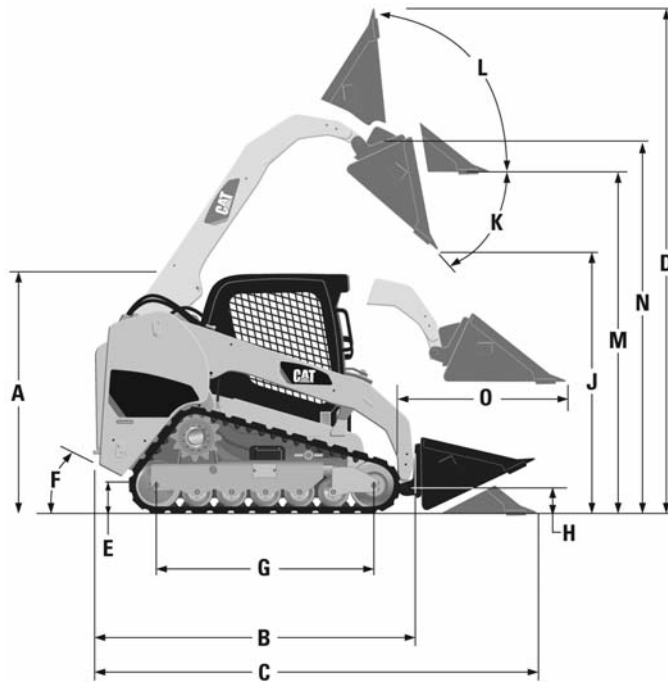
Bucket Type		General Purpose			High Capacity — GP			Multi-Purpose	
Bucket Width		1981 mm (78")			2134 mm (84")			1981 mm (78")	
Ground Engaging Type		Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge
Bucket Assembly No.		279-5376	279-5377	279-5378	292-9270	296-8192	296-8191	279-5403	279-5402
Rated bucket capacity	m ³	0.47	0.49	0.47	0.63	0.63	0.63	0.40	0.42
	yd ³	0.61	0.64	0.61	0.82	0.82	0.82	0.52	0.55
Struck capacity	m ³	0.34	0.34	0.34	0.59	0.59	0.59	0.28	0.28
	yd ³	0.44	0.44	0.44	0.77	0.77	0.77	0.37	0.37
Width	mm	2035	2045	2035	2187	2198	2187	2035	2045
	in	80.1	80.5	80.1	86.1	86.5	86.1	80.1	80.5
Dump clearance at maximum lift/dump	mm	2450	2418	2380	2376	2344	2306	2442	2410
	in	96.0	95.2	93.7	94.0	92.3	90.8	96.0	94.9
Reach at maximum lift/dump	mm	794	799	851	851	856	908	796	801
	in	31.0	31.5	33.5	34.0	33.7	35.7	31.0	31.5
Floor angle at maximum lift/dump	degrees	51°	51°	51°	*	*	*	51°	51°
	degrees	83°	83°	83°	*	*	*	83°	83°
Clearance at maximum lift/level bucket	mm	3092	3076	3092	3092	3076	3092	3089	3072
	in	121.7	121.1	121.7	121.7	121.1	121.7	121.6	120.9
Hinge pin height at maximum lift	mm	3286	3286	3286	3286	3286	3286	3286	3286
	in	129.4	129.4	129.4	129.4	129.4	129.4	129.4	129.4
Maximum overall height	mm	4174	4200	4263	4266	4292	4355	4180	4206
	in	164.3	165.4	167.8	168.0	169.0	171.5	164.6	165.6
Reach at level lift arm/bucket	mm	1322	1350	1412	1411	1443	1501	1329	1357
	in	52.0	53.1	55.6	55.6	56.8	59.1	52.3	53.4
Maximum floor angle at minimum lift	degrees	26°	26°	26°	26°	26°	26°	26°	26°
	degrees	26°	26°	26°	26°	26°	26°	26°	26°
Dig depth with level bucket	mm	11	27	11	11	27	11	16	33
	in	0.4	1.1	0.4	0.4	1.1	0.4	0.6	1.3
Overall length with bucket on ground	mm	3956	3988	4046	3956	3988	4046	3870	3900
	in	155.7	157.0	159.3	155.7	157.0	159.3	152.4	153.5
Front clearance circle radius (with bucket)	mm	2442	2474	2506	2442	2474	2506	2360	2392
	in	96.1	97.4	98.7	96.1	97.4	98.7	92.9	94.2
Tipping load	kg	3653	3576	3629	3543	3463	3519	3485	3410
	lb	8055	7885	8002	7812	7636	7759	7684	7519
Breakout force — lift	kg	2276	2217	2258	2185	2124	2168	2149	2091
	lb	5019	4889	4879	4818	4683	4780	4739	4611
Breakout force — tilt	kg	3086	2923	3067	2743	2602	2724	2988	2830
	lb	6805	6445	6763	6048	5737	6006	6589	6240
Operating weight	kg	4889	4926	4907	4921	4963	4939	5036	5073
	lb	10,780	10,862	10,820	10,851	10,943	10,891	11,104	11,186

*Information not available at time of printing.

Bucket Type		Multi-Purpose				Dirt	
Bucket Width		1981 mm (78")	2134 mm (84")			1981 mm (78")	
Ground Engaging Type		Bolt-on Teeth	Holes Only	Bolt-on Edge	Bolt-on Teeth	Holes Only	Bolt-on Edge
Bucket Assembly No.		279-5401	293-0139	296-8057	296-8055	268-4084	268-4083
Rated bucket capacity	m ³ yd ³	0.40 0.52	0.43 0.56	0.43 0.56	0.43 0.56	0.44 0.58	0.45 0.59
Struck capacity	m ³ yd ³	0.28 0.37	0.30 0.39	0.30 0.39	0.30 0.39	0.32 0.42	0.32 0.42
Width	mm in	2035 80.1	2187 86.1	2198 86.5	2187 86.1	1981 78.0	1991 78.4
Dump clearance at maximum lift/dump	mm in	2372 93.4	2442 96.0	2410 94.9	2372 93.4	2493 98.1	2461 97.0
Reach at maximum lift/dump	mm in	853 33.6	796 31.0	801 31.5	853 33.6	763 30.0	768 30.0
Floor angle at maximum lift/dump	degrees	51°	*	*	*	51°	51°
Floor angle at maximum lift/rack back	degrees	83°	*	*	*	83°	83°
Clearance at maximum lift/level bucket	mm in	3089 121.6	3089 121.6	3072 120.9	3089 121.6	3094 121.8	3078 121.2
Hinge pin height at maximum lift	mm in	3286 129.4	3286 129.4	3286 129.4	3286 129.4	3286 129.4	3286 129.4
Maximum overall height	mm in	4269 168.1	4180 164.6	4206 165.6	4269 168.1	4121 162.2	4147 163.3
Reach at level lift arm/bucket	mm in	1419 55.9	1329 52.3	1357 53.4	1419 55.9	1269 50.0	1297 51.1
Maximum floor angle at minimum lift	degrees	26°	26°	26°	26°	26°	26°
Dig depth with level bucket	mm in	16 0.6	16 0.6	33 1.3	16 0.6	11 0.4	27 1.1
Overall length with bucket on ground	mm in	3960 155.9	3870 152.4	3900 153.5	3960 155.9	3820 150.4	3852 151.7
Front clearance circle radius (with bucket)	mm in	2424 95.4	2474 97.4	2506 98.7	2538 99.9	2314 91.1	2345 92.3
Tipping load	kg lb	3462 7634	3468 7647	3387 7468	3444 7594	3782 8339	3690 8136
Breakout force — lift	kg lb	2131 4699	2133 4703	2071 4567	2115 4664	2331 5140	2269 5003
Breakout force — tilt	kg lb	2969 6547	2979 6569	2817 6212	2959 6525	3314 7307	3129 6899
Operating weight	kg lb	5054 11,144	5055 11,146	5097 11,239	5073 11,186	4867 10,732	4907 10,820

*Information not available at time of printing.

Work Tool		Pallet Fork		
Tine Length		910 mm (36")	1070 mm (42")	1220 mm (48")
Carriage Assembly No.		261-6681	261-6681	261-6681
Carriage overall width without step	mm	1159	1159	1159
	in	45.6	45.6	45.6
Carriage step additional width	mm	106	106	106
	in	4.2	4.2	4.2
Carriage height above blade top	mm	930	930	930
	in	36.6	36.6	36.6
Blade surface height at maximum height	mm	3177	3177	3177
	in	125.0	125.0	125.0
Shank front face reach at maximum height	mm	698	698	698
	in	27.5	27.5	27.5
Blade surface height at level lift arms	mm	1677	1677	1677
	in	66.0	66.0	66.0
Shank front face reach at level lift arms	mm	730	730	730
	in	29.0	29.0	29.0
Blade surface height at minimum lift	mm	122	122	122
	in	4.8	4.8	4.8
Shank front face reach at minimum lift	mm	409	409	409
	in	16.1	16.1	16.1
Overall length at minimum lift, level tine	mm	4138	4290	4443
	in	162.9	168.9	174.9
Tipping load	kg	3124	2932	2774
	lb	6888	6465	6117
Operating weight	kg	4830	4840	4849
	lb	10,635	10,672	10,692



MODEL	279C		289C		299C	
Rated operating capacity	1016 kg	2240 lb	1222 kg	2695 lb	1318 kg	2905 lb
Rated operating capacity at 50%	1451 kg	3200 lb	1746 kg	3850 lb	1882 kg	4150 lb
A Height to top of ROPS	2117 mm	6'11"	2117 mm	6'11"	2117 mm	6'11"
B Length to coupler	2960 mm	9'9"	2960 mm	9'8"	3101 mm	10'2"
C Length with bucket on ground	3679 mm	12'1"	3679 mm	12'1"	3820 mm	12'7"
D Maximum overall height	4005 mm	13'2"	4081 mm	13'5"	4121 mm	13'6"
E Ground clearance	231 mm	9.1"	231 mm	9.1"	231 mm	9.1"
F Departure angle		44°		44°		38°
G Wheelbase	1767 mm	5'10"	1767 mm	5'10"	1767 mm	5'10"
H Hinge pin height at carry position	195 mm	7.7"	195 mm	7.7"	195 mm	7.7"
Bucket overall width with edge	1981 mm	6'6"	1981 mm	6'6"	1981 mm	6'6"
J Clearance at maximum lift/dump	2395 mm	7'10"	2456 mm	8'1"	2493 mm	8'2"
K Floor angle at maximum lift/dump		40°		50°		51°
L Floor angle at maximum lift/rack		85°		85°		83°
M Clearance at maximum lift/level	2937 mm	9'8"	3047 mm	10'0"	3094 mm	10'2"
N Hinge pin height at maximum lift	3128 mm	10'3"	3239 mm	10'8"	3286 mm	10'9"
O Reach at level lift arm/bucket	1387 mm	4'7"	1282 mm	4'3"	1269 mm	4'2"
Bumper overhang from axle	719 mm	2'4"	719 mm	2'4"	860 mm	2'10"
Maximum floor angle at carry position		26°		26°		26°

CAT WORK TOOL COMPATIBILITY

	279C	289C	299C
General Purpose Buckets			
1524 mm (60")	NR	NR	NR
1676 mm (66")	NR	NR	NR
1829 mm (72")	A	A	A
1981 mm (78")	O	O	O
High Capacity Bucket (GP)			
2134 mm (84")	O	O	O
Dirt Buckets			
1524 mm (60")	NR	NR	NR
1676 mm (66")	NR	NR	NR
1829 mm (72")	A	A	A
1981 mm (78")	O	O	O
Utility Buckets			
1524 mm (60")	NR	NR	NR
1676 mm (66")	NR	NR	NR
1829 mm (72")	A	A	A
Light Material Buckets			
1829 mm (72")	A	A	A
1981 mm (78")	O	O	O
2134 mm (84")	O	O	O
2438 mm (96")	O	O	O
Multi-Purpose Buckets			
1524 mm (60")	NR	NR	NR
1676 mm (66")	NR	NR	NR
1829 mm (72")	A	A	A
1981 mm (78")	O	O	O
2134 mm (84")	O	O	O
Industrial Grapple Buckets			
1524 mm (60")	NR	NR	NR
1676 mm (66")	NR	NR	NR
1829 mm (72")	A	A	A
1981 mm (78")	O	O	O
Industrial Grapple Forks			
1676 mm (66")	A	A	A
1829 mm (72")	O	O	O
Industrial Grapple Rakes			
1829 mm (72")	O	O	O
2134 mm (84")	O	O	O
Utility Grapple Buckets			
1524 mm (60")	NR	NR	NR
1676 mm (66")	NR	NR	NR
1829 mm (72")	A	A	A

O – Provides Optimum Performance.

A – Provides Acceptable Performance.

NR – Not Recommended.

CAT WORK TOOL COMPATIBILITY

	279C	289C	299C
Carriage	O	O	O
Pallet Forks			
910 mm (36") Tines	O	O	O
1070 mm (42") Tines	O	O	O
1220 mm (48") Tines	O	O	O
Utility Grapple Forks			
1676 mm (66")	A	A	A
1829 mm (72")	O	O	O
Utility Forks			
1676 mm (66")	A	A	A
1829 mm (72")	O	O	O
Angle Blades			
1829 mm (72")	NR	NR	NR
2134 mm (84")	O	O	O
6 Way Blades			
2000 mm (79")	O	O	O
2337 mm (92")	O	O	O
A14B Auger	O	O	O
A19B Auger	O	O	O
A26B Auger	O#	O#	O#
Backhoe			
BH150	X	X	X
BH160	O	O	O
BH27	X	X	X
BH30	X	X	X
BH30W	O	O	O
BR160 Brushcutter	O	O	O
BR166 Brushcutter	O	O	O
BR172 Brushcutter	O	O	O
BR272 Brushcutter	O#	O#	O#
BR378 Brushcutter	O#	O#	O#
BP15B Pickup Broom	A	A	A
BP18B Pickup Broom	O	O	O
BA18 Angle Broom	O	O	O
BU115 Utility Broom	A	A	A
BU118 Utility Broom	O	O	O

O – Provides Optimum Performance.

O# – The machine performance is optimum with the available HF/XPS option.

A – Provides Acceptable Performance.

NR – Not Recommended.

X – Not Approved. Do Not Use.

CAT WORK TOOL COMPATIBILITY

	279C	289C	299C
PC203 Cold Planer	O	O	O
PC204 Cold Planer	O	O	O
PC205 Cold Planer	O#	O#	O#
PC206 Cold Planer	O#	O#	O#
PC210 Cold Planer	O#	O#	O#
H55D S Hammer	O	O	O
H65D S Hammer	O	O	O
LR15B Landscape Rake	NR	NR	NR
LR18B Landscape Rake	O	O	O
LT13B Landscape Tiller	NR	NR	NR
LT18B Landscape Tiller	O	O	O
Material Handling Arm	O	O	O
HM312 Mulcher	O#	O#	O#
HM315 Mulcher	O#	O#	O#
PR172 Power Box Rake	A	A	A
PR184 Power Box Rake	O	O	O
PR190 Power Box Rake	O	O	O
SR117 Snowblower	NR	NR	NR
SR118 Snowblower	A	A	A
SR121 Snowblower	O	O	O
SR318 Snowblower	O#	O#	O#
SR321 Snowblower	O#	O#	O#
SG16B Stump Grinder	O	O	O
SG18B Stump Grinder	O#	O#	O#
T6B Trencher	O	O	O
T9B Trencher	O	O	O
T15 Trencher	O#	O#	O#
CV16B Vibratory Compactor	O	O	O
CV18B Vibratory Compactor	O	O	O
SW45 Wheel Saw	O#	O#	O#
SW60 Wheel Saw	O#	O#	O#

O – Provides Optimum Performance.
O# – The machine performance is optimum with the available HF/XPS option.
A – Provides Acceptable Performance.
NR – Not Recommended.

Features:

- **Cat XT™-3 hose and O-ring face seals** are used throughout for superior leak-free performance.
- **Both standard and tree bits are available in a variety of sizes** for a wide range of projects.
- **Standard bit teeth and pilot points** are produced from hardened steel. Optional hardfaced and carbide inserted teeth are also available.
- **Optional bit extension is available** in 305 mm (12") length.
- **Hex-to-round shaft adapter is available** to accommodate existing round auger bit mountings.
- **A14B and A19B** are compatible with both mini hydraulic excavators and skid steer loaders.

A14B Auger

- **Direct drive system** features a variable speed, bi-directional, "Gerotor" style hydraulic motor that generates optimal speed and output torque for light to moderate duty work.

A19B Auger

- **Single reduction planetary drive system** transfers power from the drive motor to the drive shaft, reducing motor speed and increasing torque.
- **Drive motor shaft** is splined and couples directly to the planetary gearbox.

A26B Auger

- **Double reduction planetary drive system** transfers power from the drive motor to the drive shaft, reducing motor speed and increasing torque.
- **Drive motor shaft** is splined and couples directly to the planetary gearbox.

Market Opportunities

- **Agriculture** — Augers are an effective work tool around the farm to drill holes for fence posts, pole barn supports and footers for outbuildings.
- **Building/General Construction** — Augers are an essential work tool on many construction sites to drill holes for deck posts and footings, signs and fencing.
- **Landscaping/Landscape Maintenance** — Augers with special tree bits are ideal for preparing holes for tree planting. They are also ideal for school, park, golf course and recreational maintenance departments to drill holes for playground supports, trees and shrubs, fence posts, and signs.
- **Governmental/Municipalities** — Augers with multiple bit sizes are popular work tools to do a wide spectrum of jobs, including digging holes for traffic signs, poles, posts and trees.
- **Rental** — Augers are one of the highest opportunity rental work tool after buckets.
- **Specialty Trades/Utility** — Augers are ideal for electrical, fencing and plumbing contractors when installing lighting, fence posts and gas/water mains.

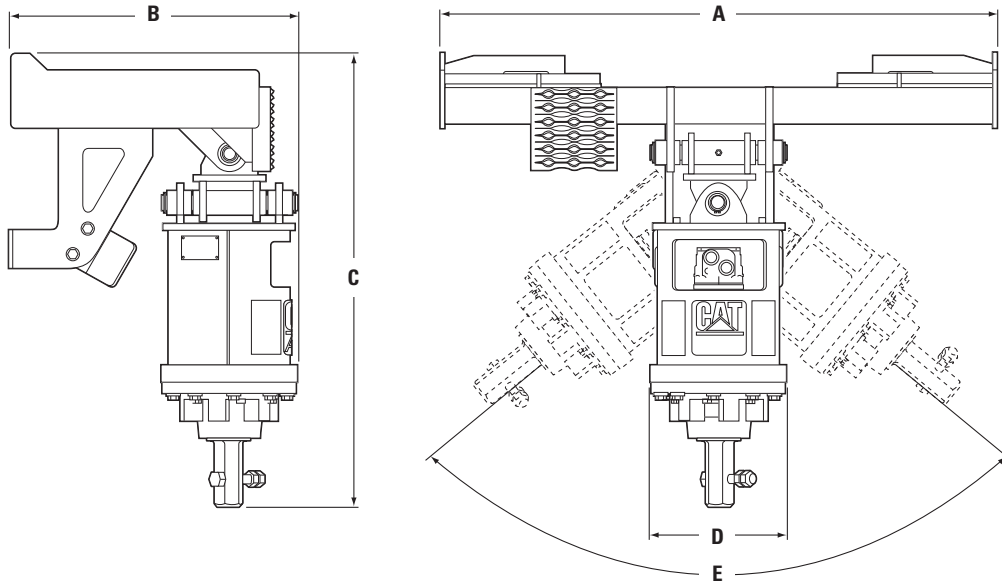
Augers are typically not a full time work tool, however they are a highly utilized option for specialized applications. They are often used in conjunction with a bucket, set of pallet forks and/or a trencher.

Auger Bits

Auger bits are available in both standard and tree bit configurations with standard hardened, reversible teeth and cast/hardened pilot point. Optional hardfaced and carbide inserted teeth and pilot points are available for aggressive boring conditions. Standard bits are available diameters ranging from 6"-36"; tree bits are available in 24" and 36" diameters. Typical digging depth is 48", however for deeper holes, optional 12" and 24" extensions are available. A special HEX to round adapter is also available for customers who use existing round shaft auger bits.

Machine Compatibility

Auger Model	Machine Models
A14B	216B2, 226B2, 232B2, 236B2, 242B2, 247B2, 252B2, 257B2, 246C, 256C, 262C, 272C, 277C, 287C, 297C, 279C, 289C, 299C
A19B	216B2, 226B2, 232B2, 236B2, 242B2, 247B2, 252B2, 257B2, 246C, 256C, 262C, 272C, 277C, 287C, 297C, 279C, 289C, 299C
A26B	246C, 256C, 262C, 272C, 277C, 287C, 297C, 279C, 289C, 299C



MODEL	A14B		A19B		A26B	
A Overall width with bracket	1152 mm	45"	1152 mm	45"	1152 mm	45"
B Overall length with bracket	598 mm	24"	598 mm	24"	598 mm	24"
C Overall drive unit height	1020 mm	40"	934 mm	37"	978 mm	39"
D Housing diameter	252 mm	10"	252 mm	10"	252 mm	10"
E Swing range	102°		102°		102°	
Drive unit weight with hydraulic lines without bit	101 kg	223 lb	75 kg	165 lb	91 kg	201 lb
Mounting frame weight with clevis	91 kg	201 lb	91 kg	201 lb	91 kg	201 lb
Total weight without bit	192 kg	423 lb	166 kg	366 lb	182 kg	402 lb
Drive method	Gerotor Motor — Direct		Gerotor Motor — Single Planetary Reduction		Gear Motor — Double Planetary Reduction	
Required hydraulic flow range	42-80 L/min	11-21 gpm	42-80 L/min	11-21 gpm	95-130 L/min	25-34 gpm
Optimal hydraulic pressure range	145-230 bar	2103-3336 psi	145-230 bar	2103-3336 psi	207-290 bar	3002-4206 psi
Effective displacement	629.1 cm³/rev	38.39 in³/rev	250 cm³/rev	15.26 in³/rev	43.77 cm³/rev	2.685 in³/rev
Drive shaft torque @ maximum pressure*	2304 N•m	1700 lb-ft	4118 N•m	3037 lb-ft	6826 N•m	5034 lb-ft
Bit speed (drive shaft) @ maximum flow	127 RPM		71 RPM		84 RPM	
HEX output shaft size	51 mm	2"	51 mm	2"	51 mm	2"
Auger bit retention method	Cross bolts/nuts		Cross bolts/nuts		Cross bolts/nuts	
Hydraulic hose	Cat XT-3 ES		Cat XT-3 ES		Cat XT-6 ES	

*Theoretical values calculated at 100% efficiency.

A14B Auger

Theoretical Bit Speed			Theoretical Digging Torque			
L/min	gpm	RPM	bar	psi	N•m	lb-ft
42	11	54	145	2100	1764	1300
45	12	59	152	2200	1848	1362
49	13	64	159	2300	1932	1424
53	14	69	166	2400	2016	1486
57	15	74	172	2500	2100	1548
61	16	79	179	2600	2184	1610
64	17	84	186	2700	2268	1672
68	18	89	193	2800	2352	1734
72	19	94	200	2900	2436	1795
76	20	99	207	3000	2520	1857
80	21	104	214	3100	2604	1919
83	22	109	221	3200	2688	1981
87	23	114	228	3300	2772	2043

A19B Auger

Theoretical Bit Speed			Theoretical Digging Torque			
L/min	gpm	RPM	bar	psi	N•m	lb-ft
42	11	38	145	2100	2535	1868
45	12	41	152	2200	2655	1956
49	13	45	159	2300	2776	2045
53	14	48	166	2400	2897	2134
57	15	52	172	2500	3017	2223
61	16	55	179	2600	3138	2312
64	17	59	186	2700	3259	2401
68	18	62	193	2800	3379	2490
72	19	65	200	2900	3500	2579
76	20	69	207	3000	3621	2668
80	21	72	214	3100	3741	2757
83	22	76	221	3200	3862	2846
87	23	79	228	3300	3983	2935

A26B Auger

Theoretical Bit Speed			Theoretical Digging Torque			
L/min	gpm	RPM	bar	psi	N•m	lb-ft
95	25	61	207	3000	4719	3492
99	26	64	214	3100	4880	3611
102	27	66	220	3200	5034	3725
106	28	69	227	3300	5191	3841
110	29	71	234	3400	5348	3958
114	30	74	241	3500	5506	4074
118	31	76	248	3600	5663	4191
121	32	79	255	3700	5820	4307
125	33	81	262	3800	5977	4423
129	34	84	269	3900	6135	4540
133	35	86	276	4000	6292	4656
136	36	88	282	4100	6449	4772
140	37	91	289	4200	6607	4889
144	38	93	296	4300	6764	5005
148	39	96	303	4400	6921	5122
152	40	98	310	4500	7079	5238

Features:

- **High-strength blades** deliver high cutting action and durability, and also mulch overgrowth.
- **Fully balanced blade carriers** prevent unnecessary vibration.
- **High-strength frame with reinforced corner gussets** provide strength in critical areas.
- **Long life motors** deliver years of high-speed blade performance.
- **Machined and heat treated gears** in sealed gearbox provide reliable, durable transfer of torque from motor to blade carrier.
- **Tapered blade carrier** allows cutter to ride up over stumps and rocks.
- **Galvanized coil chains** provide debris guarding in the front and rear areas to restrict flying debris and material.
- **Heavy-duty skids** allow easy movement of the brushcutter through uneven terrain while maintaining stability of the work tool and machine.
- **Motor protection guard shields** motor and gear box from debris. Removing a set of bolts allows this hinged guard to be moved away for easy access to motor and gear box.
- **Cat XT-3 hose, couplings and O-ring face seals** provide superior, leak-free performance and reliability. All hoses are wrapped with nylon woven cordura sleeving for added operator protection. Hydraulic quick disconnects enable fast tool changes.
- **Quick coupler** with rugged, opposing edge design holds the work tool securely and allows the operator to quickly change from one high performance Cat Work Tool to another.

Cat Brushcutters are used for clearing overgrowth from highway medians, utility easements and for initial land clearing for housing, parks and recreational areas.

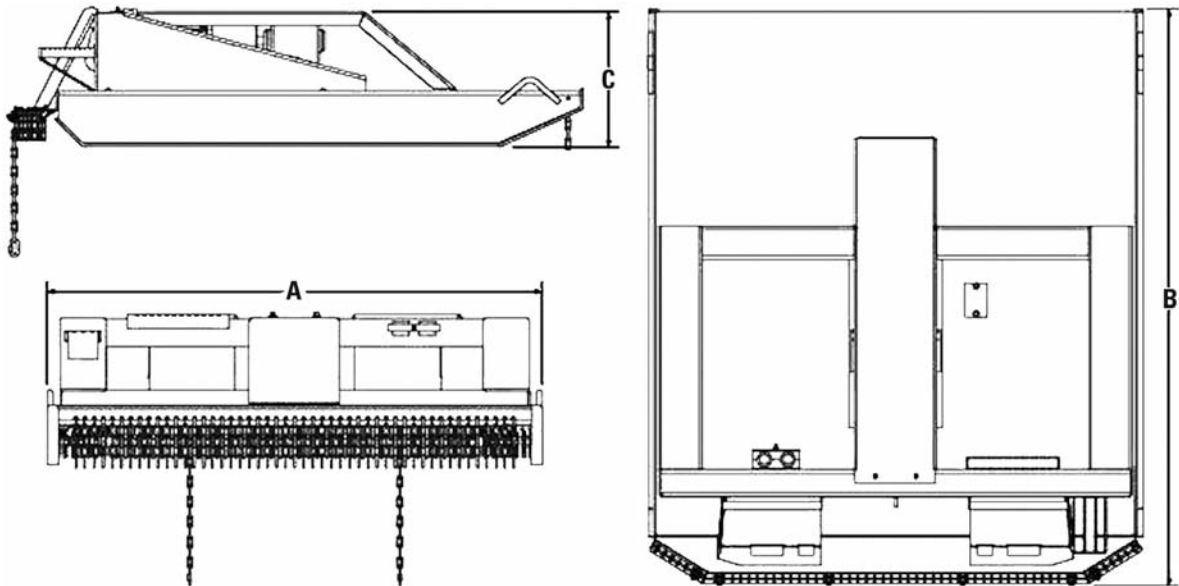
Machine Compatibility

Brushcutter Model	Machine Models
BR160	216B, 226B, 232B, 236B, 242B, 247B, 252B, 257B, 246C, 256C, 262C, 277C, 287C, 297C, 279C, 289C, 299C
BR166	216B, 226B, 232B, 236B, 242B, 247B, 252B, 257B, 246C, 256C, 262C, 277C, 287C, 297C, 279C, 289C, 299C
BR172	216B, 226B, 232B, 236B, 242B, 247B, 252B, 257B, 246C, 256C, 262C, 277C, 287C, 297C
BR272*	226B, 242B, 257B, 279C, 289C, 299C
BR378*	246C, 256C, 262C, 272C, 277C, 287C, 297C, 279C, 289C, 299C

*Requires high flow or high flow XPS option on machine.

Skid Steer Loaders
Multi Terrain Loaders
Compact Track Loaders

Work Tools
 ● Brushcutters



MODEL	BR160		BR166		BR172	
A Overall width	1575 mm	62"	1727 mm	68"	1880 mm	74"
B Overall length	1854 mm	73"	2007 mm	79"	2159 mm	85"
C Overall height	762 mm	30"	762 mm	30"	762 mm	30"
Cutting width	1524 mm	60"	1676 mm	66"	1829 mm	72"
Unit weight	431 kg	950 lb	476 kg	1050 lb	499 kg	1100 lb
Required hydraulic flow range	57-80 L/min	15-21 psi	57-80 L/min	15-21 psi	57-80 L/min	15-21 psi
Optimal hydraulic pressure range	150-228 bar	2176-3300 psi	150-228 bar	2176-3300 psi	150-228 bar	2176-3300 psi
Tip speed range	3987-	13,080-	3130-	10,270-	3417-	11,210-
(depends on flow)	5596 m/min	18,360 ft/min	4395 m/min	14,420 ft/min	4795 m/min	15,730 ft/min

MODEL	BR272		BR378	
A Overall width	1880 mm	74"	2032 mm	80"
B Overall length	2159 mm	85"	2311 mm	91"
C Overall height	762 mm	30"	762 mm	30"
Cutting width	1829 mm	72"	1981 mm	78"
Unit weight	508 kg	1120 lb	535 kg	1180 lb
Required hydraulic flow range	76-100 L/min	20-26 psi	76-130 L/min	20-34 psi
Optimal hydraulic pressure range	150-228 bar	2176-3300 psi	150-280 bar	2176-4060 psi
Tip speed range	4554-	14,940-	3392-	11,130-
(depends on flow)	5992 m/min	19,660 ft/min	5800 m/min	19,030 ft/min

Features:

- **Self-leveling design** automatically levels itself when placed on the ground for consistent depth control without operator adjustments and excellent spoil retention.
- **Two wear resistant skid plates** remain parallel to the ground for optimum stability.
- **Hydraulic side-shift** permits close planing to curbs, walls and other obstructions.
- **Independent left/right depth control** allows maximum drum depths to be adjusted independently on each skid. The gauges are easily viewable from the cab. Independent depth control is mechanical on standard flow planers and hydraulic on high flow planers.
- **Spring tilt and hydraulic tilt** enable planers to oscillate for angled cuts. Tilt is hydraulically controlled on high flow models and spring controlled on standard flow planers.
- **Direct drive on standard flow** models features a variable speed, unidirectional, gerotor style hydraulic motor.
- **Planetary drive on high flow** models features a variable speed, unidirectional, axial piston style hydraulic motor mounted to a double reduction gearbox.
- **Optional concrete bits and water sprinkler kits** are available for all models.
- **Cat XT-3 and medium pressure hose, couplings and O-ring face seals** provide superior, leak-free performance and reliability.
- **Quick coupler** with rugged, opposing edge design holds the work tool securely and allows the operator to quickly change from one high performance Cat Work Tool to another.

Conical Bits: Cold planer drums are designed with an optimal bit pattern to provide maximum cutting performance and efficiency, while ensuring superior surface texture. Standard all-purpose tungsten carbide inserted conical bits provide all-purpose planing in most applications.

Market Opportunities

- **Infrastructure/Heavy Construction** — Skid steer mounted cold planers are frequently used on bridges to remove pavement where large dedicated planers are restricted due to weight.
- **Concrete/Masonry (Including Asphalt/Paving)** — Cold planers are used extensively by paving contractors in urban and rural settings to remove damaged pavement prior to overlay, remove excess pavement, provide specific surface texture (skid resistance), remove traffic lane stripes and re-establish proper draining characteristics of pavement.
- **Governmental/Municipalities (Street and Road Maintenance)** — Cold planers are ideal for urban road and parking lot maintenance departments to remove cracked or deteriorated pavement, milling bumps or imperfections in expanded pavement.

Cold planers are highly utilized work tools for specialized applications. They are often used in conjunction with a bucket and broom.

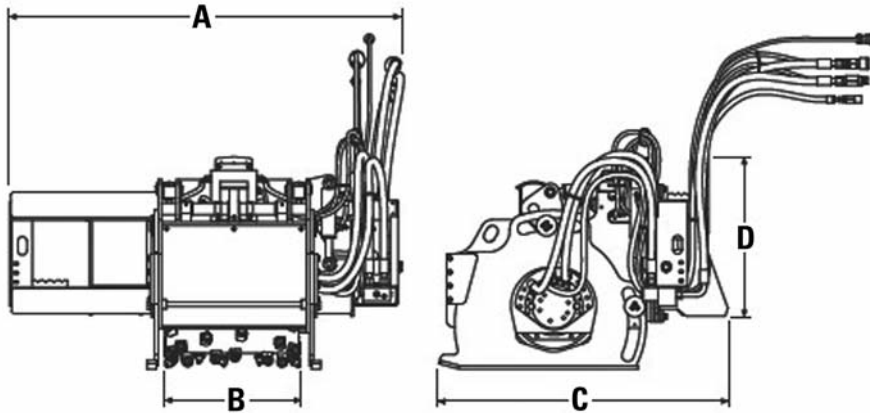
Machine Compatibility

Cold Planer Model	Machine Models
PC203	216B2, 226B2, 232B2, 236B2, 242B2, 247B2, 252B2, 257B2, 246C, 256C, 262C, 277C, 287C, 297C, 279C, 289C, 299C
PC204	226B2, 236B2, 242B2, 252B2, 257B2, 246C, 256C, 262C, 277C, 287C, 297C, 279C, 289C, 299C
PC205*	226B2, 242B2, 252B2, 257B2, 246C, 256C, 262C, 277C, 287C, 297C, 279C, 289C, 299C
PC206*	246C, 256C, 262C, 272C, 277C, 287C, 297C, 279C, 289C, 299C
PC210*	246C, 256C, 262C, 272C, 277C, 287C, 297C, 279C, 289C, 299C

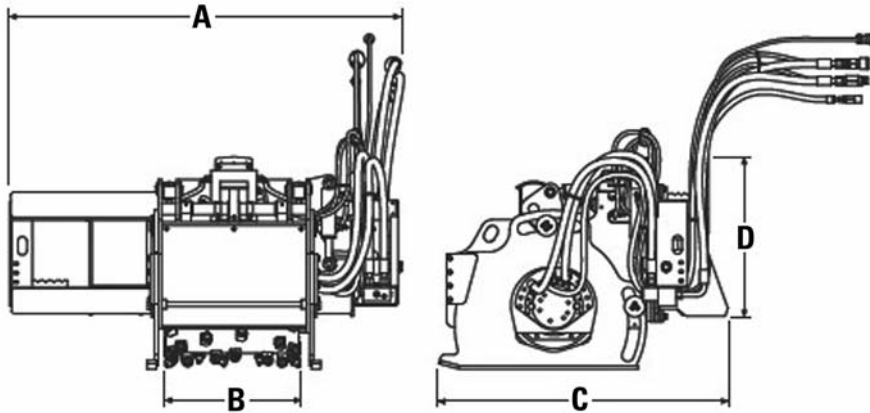
*Requires high flow or high flow XPS option on machine.

Skid Steer Loaders
Multi Terrain Loaders
Compact Track Loaders

Work Tools
● Cold Planers



MODEL	PC203		PC204		PC205	
A Overall width	1720 mm	68"	1720 mm	68"	1720 mm	68"
B Maximum drum width	350 mm	14"	450 mm	18"	450 mm	18"
Optional drum widths (depths)						
80 (200) mm		3 (8)"	80 (200) mm	3 (8)"	80 (200) mm	3 (8)"
152 (200) mm		6 (8)"	152 (200) mm	6 (8)"	152 (200) mm	6 (8)"
203 (200) mm		8 (8)"	203 (200) mm	8 (8)"	305 (200) mm	12 (8)"
305 (200) mm		12 (8)"	305 (200) mm	12 (8)"	450 (200) mm	18 (8)"
			350 (200) mm	14 (8)"	450 (150) mm	18 (6)"
			400 (200) mm	16 (8)"		
			450 (200) mm	18 (8)"		
			450 (150) mm	18 (6)"		
C Overall height	840 mm	33"	840 mm	33"	990 mm	39"
D Length	1180 mm	46"	1180 mm	46"	1180 mm	46"
Weight	650 kg	1433 lb	690 kg	1521 lb	750 kg	1654 lb
Drive method	Direct drive		Direct drive		Planetary drive	
Required hydraulic flow range	55-100 L/min	14-26 gpm	55-100 L/min	14-26 gpm	80-125 L/min	21-33 gpm
Optimal hydraulic pressure range	160-240 bar	2320-3580 psi	160-240 bar	2320-3580 psi	160-300 bar	2320-4350 psi
Drum torque @ max. pressure	1460 N•m	1077 lb-ft	1460 N•m	1077 lb-ft	2487 N•m	1834 lb-ft
Drum speed @ max. flow	178 RPM		178 RPM		223 RPM	
Bit speed @ max. flow	202 RPM		202 RPM		220 RPM	
Number of conical bits	42 per 350 mm (12") drum		48 per 450 mm (18") drum		48 per 450 mm (18") drum	
Standard bit type	All purpose		All purpose		All purpose	
Maximum depth of cut	127 mm	5"	127 mm	5"	125 mm	5"
Tilt angle range	8.5°		8.5°		8.5°	
Side shift travel	650 mm	26"	650 mm	26"	650 mm	26"



MODEL	PC206		PC210	
A Overall width	1720 mm	68"	1720 mm	68"
B Maximum drum width	600 mm	24"	1000 mm	38"
Optional drum widths (depths)	80 (200) mm 152 (200) mm 305 (200) mm 450 (200) mm 450 (150) mm	3 (8)" 6 (8)" 12 (8)" 18 (8)" 18 (6)"	—	
C Overall height	950 mm	37"	890 mm	35"
D Length	1265 mm	55"	1130 mm	44"
Weight	906 kg	1998 lb	1080 kg	2381 lb
Drive method	Planetary drive		Planetary drive	
Required hydraulic flow range	95-140 L/min	25-37 gpm	95-180 L/min	25-48 gpm
Optimal hydraulic pressure range	160-300 bar	2320-4350 psi	160-300 bar	2320-4350 psi
Drum torque @ max. pressure	3465 N•m	2556 lb-ft	3339 N•m	2463 lb-ft
Drum speed @ max. flow	160 RPM		240 RPM	
Bit speed @ max. flow	160 RPM		173 RPM	
Number of conical bits	60 per 600 mm (24") drum		78 per 1000 mm (40") drum	
Standard bit type	All purpose		All purpose	
Maximum depth of cut	170 mm	7"	105 mm	4"
Tilt angle range	8.5°		8.5°	
Side shift travel	650 mm	26"	465 mm	18"

Features:

- **Two sizes available:** the 1321 mm (52") working width LT13B and the 1854 mm (73") working width LT18B. Both units efficiently utilize the standard flow auxiliary hydraulic horsepower capabilities of Cat Skid Steer Loaders.
- **Direct drive system** features two in-line motors that transmit power directly from the drive motor shaft to the tiller shaft. Power to both ends of the shaft eliminates torque twist and increased system performance.
- **Adjustable skid shoes** provide a working depth range of 25-152 mm (1"-6").
- **High strength medium carbon alloy steel tines** are hardened for maximum strength, durability and wear life in the toughest soil conditions.
- **Cat XT-3 hose and O-ring face seals** are used throughout for superior leak-free performance.

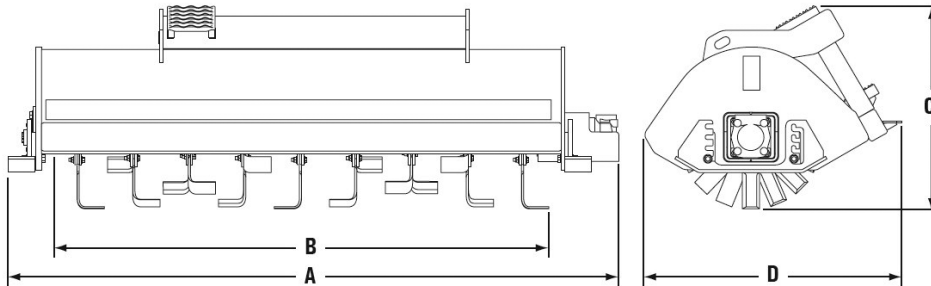
Market Opportunities

- **Agriculture** — Landscape tillers provide an effective work tool around the farm or orchard to breakup and condition soil prior to planting.
- **Building/General Construction** — Landscape tillers can be used on construction sites to level soil and remove ruts.
- **Landscaping/Landscape Maintenance** — Landscape tillers are ideal for mixing and composting soils for improved seedbeds, soil stabilization and soil preparation prior to landscaping and laying sod.
- **Governmental/Municipalities** — Landscape tillers are ideal for city maintenance departments and parks to recondition, level and stabilize soil after utility work or prior to yearly landscaping.

Landscape tillers are productive work tools for specialized applications. They are often used in conjunction with a bucket, landscape rake and auger.

Machine Compatibility

Landscape Tiller Model	Machine Models
LT13B	216B2, 226B2, 232B2, 236B2, 242B2, 247B2, 252B2, 257B2, 246C, 256C, 262C, 272C, 277C, 287C, 297C, 279C, 289C, 299C
LT18B	236B2, 247B2, 252B2, 257B2, 246C, 256C, 262C, 272C, 277C, 287C, 297C, 279C, 289C, 299C



MODEL	LT13B		LT18B	
A Overall width	1788 mm	70.5"	2271 mm	89.5"
B Working width	1321 mm	52"	1847 mm	73"
C Height	755 mm	30"	755 mm	30"
D Length	956 mm	38"	956 mm	38"
Working depth range	25-152 mm	1"-6"	25-152 mm	1"-6"
Weight	340 kg	750 lb	420 kg	926 lb
Drive method	Direct drive		Direct drive	
Number of motors	Two in-line		Two in-line	
Hydraulic flow range	42-83 L/min	11-22 gpm	95-114 L/min	25-30 gpm
Hydraulic pressure range	145-227 bar	2100-3300 psi	207-310 bar	3000-4500 psi
Motor size	305 cm ³	18.6 in³	305 cm ³	18.6 in³
Effective displacement	629.1 cm ³	38.4 in³	629.1 cm ³	38.4 in³
Drum speed @ maximum flow	127 RPM @ 80 L/min	127 RPM @ 21 gpm	127 RPM @ 80 L/min	127 RPM @ 21 gpm
Fasteners	Cat		Cat	
Hydraulic hose	Cat XT-3 ES		Cat XT-3 ES	
Number of tines	24		36	

Features:

- **Two sizes available:** the 1321 mm (62") working width LR15B and the 1880 mm (74") working width LR18B. Both units efficiently utilize the standard flow auxiliary hydraulic horsepower capabilities of Cat Skid Steer Loaders.
- **Chain reduction drive system** features #80H roller chain for strength and durability, a variable speed unidirectional gerotor motor for maximum performance and cartridge relief valve for system protection.
- **Durable #2060H conveyor chain** provides strength, durability and long life in a variety of soil conditions.
- **High strength medium carbon alloy steel teeth** are hardened for maximum strength, durability and wear life in the toughest soil conditions.
- **Quick dumping capability** is accomplished with a poppet check valve. Once the hopper bucket is full, simply reverse flow to actuate the rake head and dump the bucket.
- **Cat XT-3 hose and O-ring face seals** are used throughout for superior leak-free performance.

Market Opportunities

- **Agriculture** — Landscape rakes provide an effective work tool around the farm or nursery to condition, level and remove rock and foreign material from soil prior to planting.
- **Building/General Construction** — Landscape rakes can be used on construction sites to level and remove debris from soil prior to landscaping and seeding.
- **Demolition** — Landscape rakes provide an excellent means to clean up loose material after the demolition work is complete.
- **Landscaping/Landscape Maintenance** — Landscape rakes are ideal for aerating, conditioning, leveling and removing rocks from soil prior to seeding or laying sod. They also are ideal for conditioning and cleaning baseball fields.

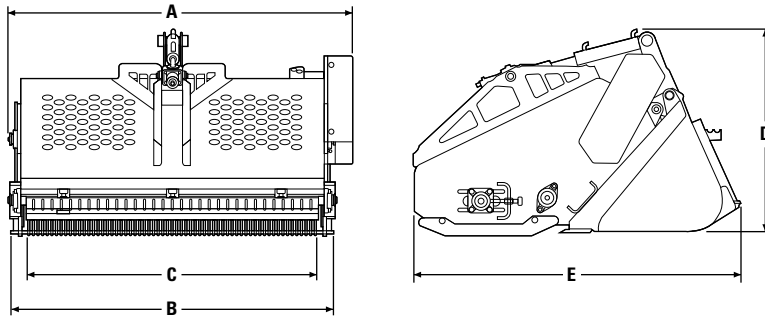
Landscape rakes are productive work tools for specialized applications. They are often used in conjunction with a bucket, landscape tiller and auger.

Machine Compatibility

The following are the recommended and approved Cat machine/Landscape Rake combinations for maximum system performance.

Landscape Rake Model	Machine Models*
LR15B	216B2, 226B2, 232B2, 236B2, 242B2, 247B2, 252B2, 257B2, 246C, 256C, 262C, 272C, 277C, 287C, 297C, 279C, 289C, 299C
LR18B	236B2, 247B2, 252B2, 257B2, 246C, 256C, 262C, 272C, 277C, 287C, 297C, 279C, 289C, 299C

*Lift restriction! Do not raise lift arm — work tool hinge higher than 1 m (3 ft) above the ground. Tipping can result.



MODEL	LR15B		LR18B	
A Overall width	1683 mm	66"	1990 mm	78"
B Working width	1576 mm	62"	1883 mm	74"
C Raking width	1384 mm	55"	1655 mm	65"
D Height	989 mm	39"	989 mm	39"
E Length	1620 mm	64"	1620 mm	64"
Weight	595 kg	1312 lb	615 kg	1355 lb
Drive method	Chain reduction		Chain reduction	
Drive chain	#80H		#80H	
Conveyor chain	#2060H		#2060H	
Hydraulic flow range	42-83 L/min	11-22 gpm	42-83 L/min	11-22 gpm
Hydraulic pressure range	145-227 bar	2100-3000 psi	145-227 bar	2100-3000 psi
Bucket capacity (struck)*	0.31 m³	0.4 yd³	0.34 m³	0.44 yd³
Motor size	305 cm³	18.6 in³	305 cm³	18.6 in³
Effective displacement	484.5 cm³	29.5 in³	484.5 cm³	29.5 in³
Driven shaft speed	165 RPM @ 80 L/min	165 RPM @ 21 gpm	165 RPM @ 80 L/min	165 RPM @ 21 gpm
Torque @ 230 bar (3336 psi)	1774 N•m	1310 lb-ft	1774 N•m	1310 lb-ft
Fasteners	Cat		Cat	
Hydraulic hose	Cat XT-3 ES		Cat XT-3 ES	
Number of teeth	372		444	
Rock size	19-52 mm	0.75"-6"	19-52 mm	0.75"-6"

*Rated struck capacities shown as per ISO 7546: 1983 and SAE J742 FEB85.

Features:

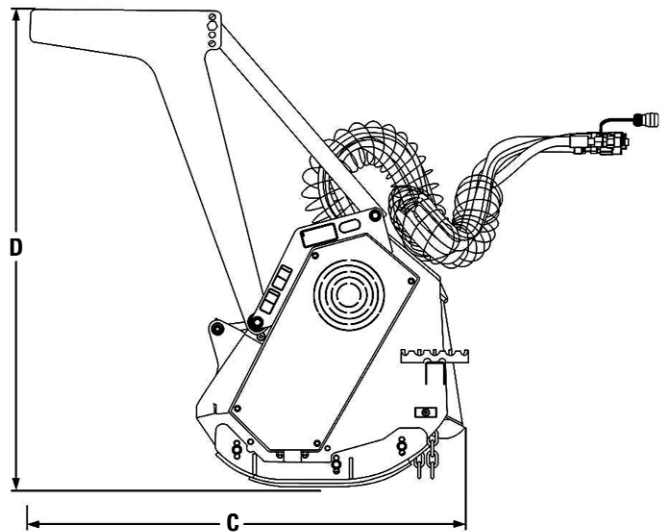
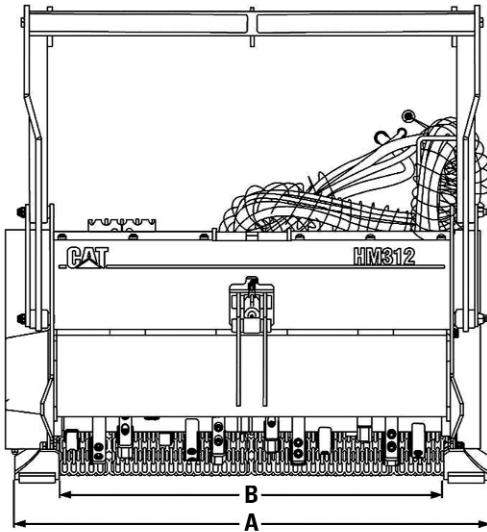
- **Axial piston hydraulic motor** provides smooth, efficient performance.
- **Rugged mulching head** processes trees up to 200 mm (8 in) diameter for effective forestry clearing applications.
- **Fixed tooth balanced rotor** provides excellent operating efficiency at high speed.
- **Adjustable push frame** is standard equipment on the HM312 and provides the ability to position trees to allow for optimum cutting and efficiency. In forestry operation it also provides operator cab protection.
- **Heavy-duty bearings** extend work tool life.
- **Hydraulically operated front hood** allows trees to be cut when opened and allows dense vegetation to be mulched.
- **V-belt drive** protects the motor against blockages.
- **Rear chain guard protection** reduces spread of material.
- **Rigid, robust tempered steel construction** provides fully guarded protection in tough applications.
- **Cat XT-3 ES hose, couplings and O-ring face seals** provide superior, leak-free performance and reliability. All hoses are wrapped with nylon woven cordura sleeving for added operator protection. Hydraulic quick disconnects enable fast tool changes.
- **Quick coupler** with rugged, opposing edge design holds the work tool securely and allows the operator to quickly change from one high performance Cat Work Tool to another.

The **Cat Mulcher** is designed for high-performance cutting, and mulching vegetation and undergrowth from typical forested terrain. The hydraulic mulcher reduces saplings, shrubs and trees into mulched material, making it ideal for environmental maintenance, such as creating fire lanes. Other applications include: reclaiming untilled land, removing foliage from building construction sites, and shredding pruned material and organic waste for biomass production.

Machine Compatibility

Mulcher Model	Machine Models
HM312*	246C, 256C, 262C, 272C, 277C, 287C, 297C, 279C, 289C, 299C
HM315*	246C, 256C, 262C, 272C, 277C, 287C, 297C, 279C, 289C, 299C

*Requires high flow or high flow XPS option on machine.
Debris barrier recommended.



MODEL	HM312		HM315	
A Overall width	1640 mm	65"	1830 mm	72"
B Working width	1210 mm	48"	1450 mm	57"
C Length	1470 mm	58"	1470 mm	58"
D Overall height	1610 mm	63"	1610 mm	63"
Weight	940 kg	2070 lb	1075 kg	2365 lb
Drive method	V-belt drive		V-belt drive	
Hydraulic motor type	Axial piston		Axial piston	
Optimum hydraulic flow range	120-137 L/min	31-36 gpm	120-137 L/min	31-36 gpm
Optimal hydraulic pressure range	195-350 bar	2828-5075 psi	195-350 bar	2828-5075 psi
Drum speed range	1800-2100 RPM		1800-2100 RPM	
Number of teeth	28		34	
Maximum diameter of material to be cut	200 mm	8"	200 mm	8"

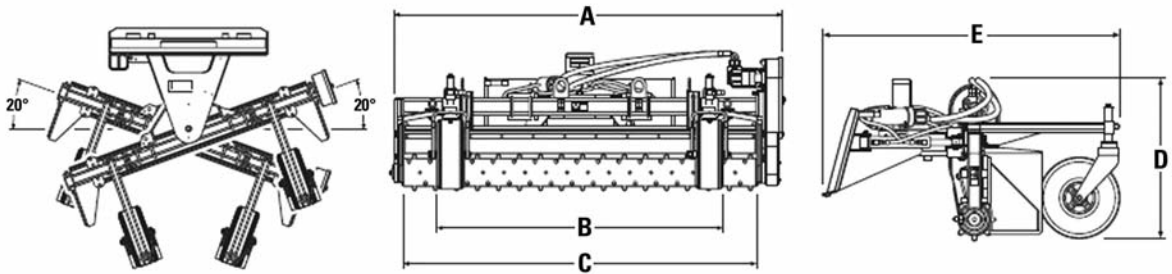
Features:

- A heavy-duty frame, pivot plate and attachment plate are featured for reliable operation in rugged terrain and abusive soil conditions.
- Pure carbide, blunt shaped teeth create a dimpled subsurface to ensure the best possible seedbed sub-base fracture pattern.
- Two-position winged endplates allow close raking to side walks or foundations. They can remain parallel, even during angling, for smoother plowing.
- Convenient, heavy-duty, deep skid-resistant step and a generous cab allow for easy operator entry and exit.
- Dual independently adjustable gauge wheels allow for skim passes for over-seeding or adjust to cut drainage grades.
- Cat XT-3 ES hose, couplings and O-ring face seals provide superior, leak-free performance and reliability. All hoses are wrapped with nylon woven cordura sleeving for added operator protection. Hydraulic quick disconnects enable fast tool changes.
- Quick coupler with rugged, opposing edge design holds the work tool securely and allows the operator to quickly change from one high performance Cat Work Tool to another.

Cat Power Box Rakes are ideal for clearing and preparing soil in general construction trench restoration, golf course construction and athletic field maintenance. They offer the versatility to de-thatch, remove old lawns and weeds, grade, level, rake, remove debris and prepare seedbeds with one work tool. Their angling ability allows the operator to windrow collected debris for easy pickup and removal. The consistent milling action creates an ideal seedbed for great germination results, laying the groundwork for a perfect lawn. Wet, dry, weedy, hard and rocky soil can be dried, flattened, pulverized and conditioned for seed in one step.

Machine Compatibility

Power Box Rake Model	Machine Models
PR172	216B2, 226B2, 232B2, 236B2, 242B2, 247B2, 252B2, 257B2, 246C, 256C, 262C, 272C, 277C, 287C, 297C, 279C, 289C, 299C
PR184	216B2, 226B2, 232B2, 236B2, 242B2, 247B2, 252B2, 257B2, 246C, 256C, 262C, 272C, 277C, 287C, 297C, 279C, 289C, 299C
PR190	216B2, 226B2, 232B2, 236B2, 242B2, 247B2, 252B2, 257B2, 246C, 256C, 262C, 272C, 277C, 287C, 297C, 279C, 289C, 299C



MODEL	PR172		PR184		PR190	
A Overall width	2057 mm	81"	2362 mm	93"	2515 mm	99"
B Width over tires	1386 mm	55"	1732 mm	68"	1845 mm	73"
C Roller width	1829 mm	72"	2134 mm	84"	2286 mm	90"
D Overall height	847 mm	34"	847 mm	34"	953 mm	38"
E Overall length	1626 mm	64"	1626 mm	64"	1626 mm	64"
Raking width at maximum angle	1727 mm	68"	2007 mm	79"	2159 mm	85"
Unit weight (Manual)	408 kg	900 lb	465 kg	1026 lb	588 kg	1296 lb
Unit weight (Hydraulic)	420 kg	925 lb	476 kg	1050 lb	599 kg	1320 lb
Maximum working angle	20°		20°		20°	
Hydraulic flow required	49-83 L/min	13-22 gpm	57-83 L/min	15-22 gpm	58-83 L/min	16-22 gpm

Features:

- **Direct drive system** features a variable speed, bidirectional, gerotor style motor that delivers optimal chain speed, chain pull and torque for maximum trenching performance in a broad range of soil types.
- **Durable double standard anti-backflex chain** is standard for strength, durability and long life in all soil types.
- **Standard boom lengths** for all-purpose performance. Replaceable weld-on wear strips extend boom life.
- **Hardfaced, tungsten carbide steel cupped teeth** are standard for long life in many soil conditions. Teeth are spaced for optimum digging performance in most soil.
- **Hydraulic or manual side-shift on the T6B and T9B** provides close trenching flexibility near structures or obstructions.
- **Hydraulic side-shift on the T15B** is controlled from the operator's compartment using the standard flow auxiliary hydraulic circuit selector control.
- **Optional cutting widths and crumber bars** are available for wider trenching requirements and loose material removal.
- **Cat XT-3 hose and O-ring face seals** are used throughout for superior leak-free performance.

Market Opportunities

- **Agriculture** — Trenchers provide an effective work tool around the farm or nursery to cut trenches for water lines, electrical cables and other utilities.
- **Building/General Construction** — Trenchers are often used on construction sites to cut trenches for plumbing, electrical, telephone and cable television lines.
- **Landscaping/Landscape Maintenance** — Trenchers are popular landscaping work tools when installing irrigation and water sprinkler systems. They can also be used to remove roots that grow too close to buildings or cart paths. Landscapers, golf course maintenance departments and irrigation contractors are prime users.
- **Specialty Trades/Utilities** — Trenchers are excellent work tools for specialty trades and utility contractors that need to bury water and gas pipe, conduit, electrical, telephone and cable television lines.

Trenchers are productive work tools for specialized applications. They are often used in conjunction with a bucket and auger.

Machine Compatibility

Trencher Model	Machine Models
T6B	216B2, 226B2, 232B2, 236B2, 242B2, 247B2, 252B2, 257B2, 246C, 256C, 262C, 272C, 277C, 287C, 297C
T9B	216B2, 226B2, 232B2, 236B2, 242B2, 247B2, 252B2, 257B2, 246C, 256C, 262C, 272C, 277C, 287C, 297C
T15B*	226B2, 242B2, 257B2, 246C, 256C, 262C, 272C, 277C, 287C, 297C

*Requires high flow or high flow XPS option on machine.

T6B/T9B Trencher

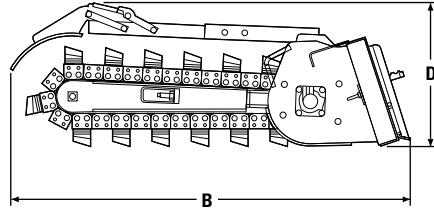
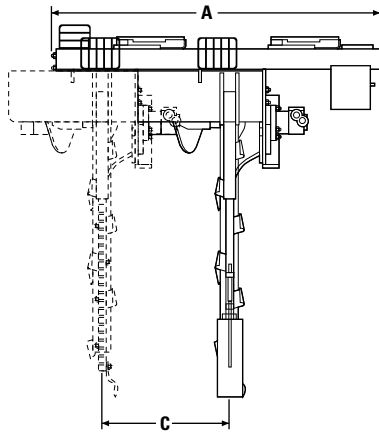
Theoretical Drive Shaft Torque			
Pressure		Torque	
bar	psi	N•m	lb-ft
145	2100	848	625
152	2200	889	655
158	2300	924	681
166	2400	971	716
172	2500	1006	741
179	2600	1047	772
186	2700	1088	802
193	2800	1129	832
200	2900	1170	863
207	3000	1211	893
214	3100	1252	923
220	3200	1287	949
227	3300	1328	979

T15B Trencher

Theoretical Drive Shaft Torque			
Pressure		Torque	
bar	psi	N•m	lb-ft
207	3000	1916	1413
214	3100	1981	1461
220	3200	2036	1501
227	3300	2101	1549
235	3400	2175	1604
242	3500	2240	1652
248	3600	2295	1692
255	3700	2360	1740
262	3800	2425	1788
269	3900	2490	1836
276	4000	2555	1884
283	4100	2619	1931
290	4200	2684	1979
297	4300	2749	2027
304	4400	2814	2075
311	4500	2878	2122

Skid Steer Loaders
Multi Terrain Loaders
Compact Track Loaders

Work Tools
• Trenchers



MODEL	T6B		T9B		T15B	
A Overall width	1426 mm	56"	1901 mm	74.8"	1901 mm	74.8"
B Overall length	2348 mm	92"	2705 mm	106.5"	3010 mm	118.5"
C Side shift travel (center to right)	419 mm	16.5"	559 mm	22"	559 mm	22"
D Height	786 mm	30.9"	786 mm	30.9"	786 mm	30.9"
Max. auger clearance	534 mm	21"	534 mm	21"	534 mm	21"
Spoil auger diameter	457 mm	18"	457 mm	18"	457 mm	18"
Standard boom length	914 mm	36"	1219 mm	48"	1524 mm	60"
Weight	397 kg*	875 lb*	551 kg**	1215 lb**	601 kg***	1325 lb***
Required hydraulic flow range	42-83 L/min	11-22 gpm	42-83 L/min	11-22 gpm	95-152 L/min	25-40 gpm
Optimal hydraulic pressure range	145-227 bar	2100-3300 psi	145-227 bar	2100-3300 psi	207-310 bar	3000-4500 psi
Motor size	393.9 cm³	24.0 in³	393.9 cm³	24.0 in³	629.1 cm³	38.4 in³
Theoretical drive shaft torque¹	1447 N•m	1068 lb-ft	1447 N•m	1068 lb-ft	2905 N•m	2144 lb-ft
Chain pull @ max. pressure²	1207 kg	2661 lb	1207 kg	2661 lb	2424 kg	5344 lb
Chain speed @ max. flow²	155 m/min	508.5 ft/min	155 m/min	508.5 ft/min	158 m/min	518.3 ft/min
Drive shaft speed @ max. flow²	203 RPM		203 RPM		207 RPM	
Optional cutting widths	152, 203, 254, 305 mm	(6", 8", 10", 12")	152, 203, 254, 305 mm	(6", 8", 10", 12")	152, 203, 254, 305 mm	(6", 8", 10", 12")

*T6B bare configuration, no chain.

**T9B equipped with 1219 mm (48") boom, hydraulic side shift control, double standard anti-backflex chain, 203 mm (8") cutting width, 50/50 carbide/cup chain.

***T15B equipped with 1524 mm (60") boom, double standard anti-backflex chain, 203 mm (8") cutting width, 50/50 carbide/cup chain.

¹Max. Pressure: T6B, T9B — 230 bar (3335 psi), T15B — 290 bar (4206 psi).

²Max. Flow: T6B, T9B — 80 L/min (21 gpm), T15B — 130 L/min (34 gpm).

Features:

- **Caterpillar exclusive vibratory pod design** delivers desired balance between frequency and amplitude to provide a superior matte finish. Pod-style weight housings are factory sealed for longer bearing life and easy serviceability.
- **Higher compaction forces** provide twice the compaction force of the original design requiring fewer passes for greater productivity.
- **Replaceable rubber mounts** isolate vibration and enhance vibratory capabilities.
- **Durable high-strength steel drums** are roll formed and finish welded for a smoother surface and longer life.
- **Pivoting interface** allows the drum to oscillate $\pm 15^\circ$ and follow the contour of the ground.
- **Cat XT-3 hose and O-ring face seals** are used throughout for superior leak-free performance.

Market Opportunities

- **Building/General Construction** — Vibratory compactors can be used on construction sites to level and compact soil around building foundations after backfilling.
- **Governmental/Municipalities (Street and Road Maintenance)** — Vibratory compactors are useful work tools for compacting soil and crushed rock prior to paving or pouring concrete. They are also useful for compacting small areas of asphalt (pot-hole repair).
- **Landscaping/Landscape Maintenance** — Vibratory compactors are used by landscaping contractors after installing irrigation and water sprinkler systems. Golf course maintenance departments will often use this product to compact greens and fairways.
- **Paving** — Vibratory compactors are used by paving contractors for smaller paving jobs (compacting soil and crushed stone), compacting hot patch (pot hole repair) or compacting material in tight areas where a dedicated roller can't maneuver.
- **Specialty Trades/Utilities** — Vibratory compactors are ideal for compacting back-filled soil after trenching and backhoe work.

Vibratory compactors are productive work tools for specialized applications. They are often used in conjunction with a bucket, cold planer and trencher.

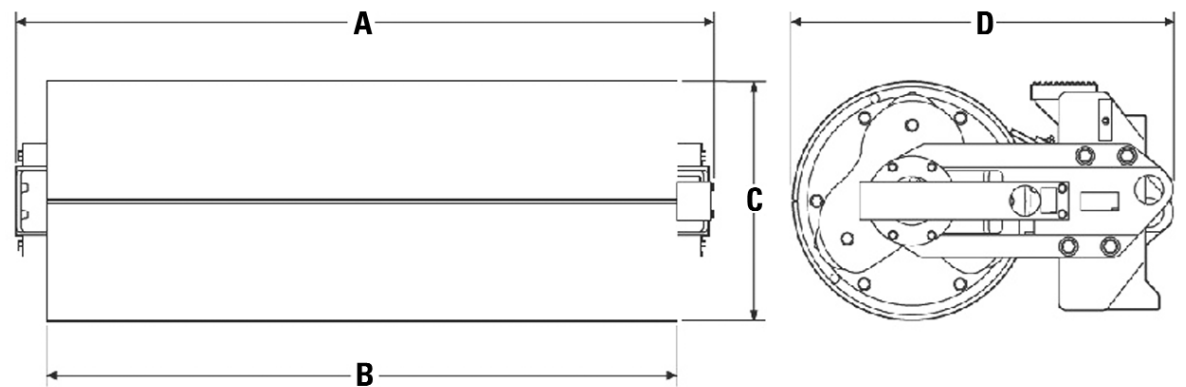
Machine Compatibility

Vibratory Compactor Model	Machine Models*
CV16B	216B2*, 226B2*, 232B2*, 236B2*, 242B2*, 247B2*, 252B2, 257B2*, 246C, 256C, 262C, 272C, 277C, 287C, 297C, 279C, 289C, 299C
CV18B	252B2, 246C, 256C, 262C, 272C, 277C, 287C, 297C, 279C, 289C, 299C

*Lift restriction! Do not raise lift arm — work tool coupler interface higher than 1 m (3 ft) above the ground. Tipping can result.

Skid Steer Loaders
Multi Terrain Loaders
Compact Track Loaders

Work Tools
● Vibratory Compactors



MODEL	CV16B		CV18B	
A Overall width	1854 mm	73"	2032 mm	80"
B Drum width	1676 mm	66"	1854 mm	73"
C Overall height	634 mm	25"	634 mm	25"
D Overall length	1009 mm	40"	1009 mm	40"
Drum diameter	634 mm	25"	634 mm	25"
Weight	924 kg	2037 lb	965 kg	2127 lb
Drive method	Direct drive		Direct drive	
Number of motors	1		1	
Motor size	28.2 cm³	1.72 in³	28.2 cm³	1.72 in³
Hydraulic flow range	42-83 L/min	11-22 gpm	42-83 L/min	11-22 gpm
Hydraulic pressure range	145-227 bar	2100-3300 psi	145-227 bar	2100-3300 psi
Drum oscillation range	±15°		±15°	
Drum frequency @ maximum flow	2946 vibrations/min		2946 vibrations/min	
Dynamic force	5399 kg	11,903 lb	5399 kg	11,903 lb
Amplitude	1.16 mm	0.046"	1.09 mm	0.043"

Features:

- **Pickup Brooms** sweep and deposit material into an integrated hopper bucket for easy removal and dumping. Bi-directional capabilities of the bristles allow Pickup and Utility Brooms to sweep in forward or reverse machine travel. Optimum sweeping style is in forward travel, resulting in over-the-brush pickup. Certain conditions require a dust pan style of sweeping, done in reverse travel.
- **Utility Brooms** sweep and collect light debris on smooth surfaces in forward or reverse travel. They can be adjusted for greater bristle down-force in tough applications such as sweeping course material out of a cold planer cut.
- **Angle Brooms** use a single variable speed, unidirectional gerotor style hydraulic motor, contained in a protective housing. They use a windrowing action to move loose debris ahead and to the side of the surface being swept. They can be oriented straight or angled up to 30° left or right of center in forward travel.
- **Direct drive motors** provide maximum performance and durability. Pickup and Utility Brooms use a single variable speed, bidirectional gerotor style hydraulic motor, contained in a special housing that is adjustable to compensate for bristle wear. Angle brooms use a single variable speed unidirectional gerotor style hydraulic motor contained in a protective housing.
- **Polypropylene/wire convoluted brushes** provide optimum results for sweeping. Optional all-polypropylene and all-steel wire convoluted brushes are available for specialty applications. Convoluted brush sections are available in half-kits for easy maintenance and quick replacement.
- **Drop core design** allows for quick bristle replacement without removing hydraulic hoses.
- **Quick coupler** with rugged, opposing edge design holds the work tool securely and allows the operator to quickly change from one high performance Cat Work Tool to another.

Market Opportunities

- **Building/General Construction** — Brooms are often found on construction sites once the construction is complete to remove and collect dirt, rock and other construction debris from driveways, sidewalks and streets.

- **Demolition** — Brooms are ideal for collecting loose dirt and debris from demolition sites.
- **Governmental/Municipalities (Street and Road Maintenance)** — Brooms are useful work tools for cleaning city streets, sidewalks and parking areas. Airport maintenance is another popular application.
- **Industrial/Recycling** — Pickup brooms are excellent for cleaning factory floors or industrial pavements.
- **Landscaping/Landscape Maintenance** — Brooms are used by landscaping contractors to clean paved surfaces after the landscaping is complete. Golf course maintenance departments will often use this product to clean cart paths, parking lots and even turf.
- **Paving** — Pickup brooms are often used by paving contractors to sweep and collect milled asphalt and concrete. Angle brooms are used to clean milled surfaces.
- **Specialty Trades/Utilities** — Brooms are often utilized by specialty trades and utility contractors to clean up after trenching and backhoe work.

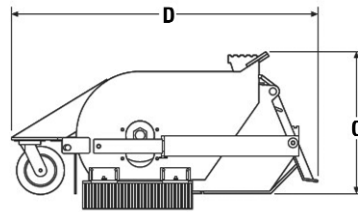
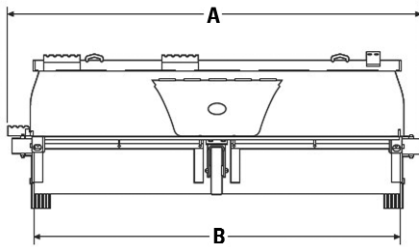
Pickup brooms are productive work tools for specialized applications. They are often used in conjunction with a bucket, cold planer and trencher.

Machine Compatibility

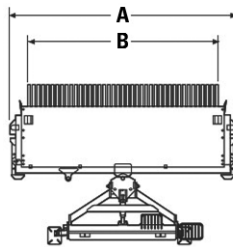
Broom Model	Machine Models
BP15B	216B2, 226B2, 232B2, 236B2, 242B2, 247B2, 252B2, 257B2, 246C, 256C, 262C, 272C, 277C, 287C, 297C, 279C, 289C, 299C
BP18B	232B2, 236B2, 242B2, 252B2, 257B2, 246C, 256C, 262C, 272C, 277C, 287C, 297C, 279C, 289C, 299C
BA18	216B2, 226B2, 232B2, 236B2, 242B2, 247B2, 252B2, 257B2, 246C, 256C, 262C, 272C, 277C, 287C, 297C, 279C, 289C, 299C
BU115	216B2, 226B2, 232B2, 236B2, 242B2, 247B2, 252B2, 257B2, 246C, 256C, 262C, 272C, 277C, 287C, 297C, 279C, 289C, 299C
BU118	232B2, 236B2, 242B2, 252B2, 257B2, 246C, 256C, 262C, 272C, 277C, 287C, 297C, 279C, 289C, 299C

Skid Steer Loaders
Multi Terrain Loaders
Compact Track Loaders

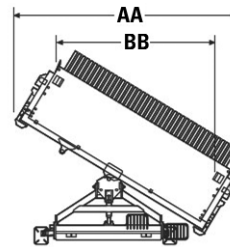
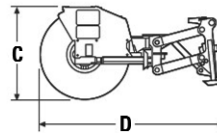
Work Tools
● Brooms



Pickup Brooms



Angle Brooms

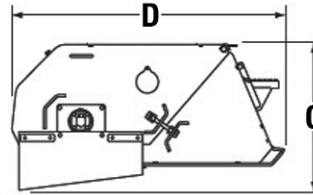
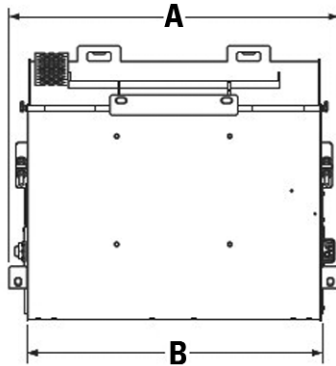


MODEL	BP15B Pickup Broom		BP18B Pickup Broom		BA18 Angle Broom	
A Overall width	1912 mm	75"	2217 mm	87"	2312 mm	91"
AA Overall width angled*	—	—	—	—	2328 mm	92"
B Sweeping width	1524 mm	60"	1829 mm	72"	2134 mm	84"
BB Sweeping width angled*	—	—	—	—	1702 mm	67"
C Height	754 mm	30"	754 mm	30"	845 mm	33"
D Length	1632 mm	64"	1575 mm	62"	1676 mm	66"
Weight**	435 kg	960 lb	468 kg	1032 lb	409 kg	901 lb
Drive method	Direct drive		Direct drive		Direct drive	
Number of motors	One		Two in-line		One	
Motor size	250 cm ³	15.3 in ³	200 cm ³ each	12.2 in ³ each	410 cm ³	24.9 in ³
Hydraulic flow range	30-83 L/min	8-22 gpm	30-80 L/min	8-22 gpm	42-83 L/min	11-22 gpm
Hydraulic pressure range	145-227 bar	2100-3300 psi	145-227 bar	2100-3300 psi	145-227 bar	2100-3300 psi
Rated brush speed @ maximum flow	190 RPM		190 RPM		190 RPM	
Hopper capacity***	0.42 m ³	0.55 yd ³	0.45 m ³	0.59 yd ³	—	—
Fasteners	Cat		Cat		Cat	
Hydraulic hose	Cat XT-3 ES		Cat XT-3 ES		Cat XT-3 ES	
Brush diameter	660 mm	26"	660 mm	26"	813 mm	32"
Brush head retention	Dual chain/loader arm bracket		Dual chain/loader arm bracket		—	
Brush material (standard)	Replaceable polypropylene/steel wire sections		Replaceable polypropylene/steel wire sections		Replaceable polypropylene/steel wire sections	

*30° right or left.

**Without gutter brush.

***Rated struck capacities shown as per ISO 7546: 1983 and SAE J742 FEB85.



Utility Brooms

MODEL	BU115 Utility Broom		BU118 Utility Broom	
A Overall width	1810 mm	71"	2115 mm	83"
B Sweeping width	1510 mm	59"	1865 mm	73"
C Height	1920 mm	76"	2225 mm	88"
D Length	1490 mm	59"	1490 mm	59"
Weight	410 kg	904 lb	450 kg	992 lb
Drive method	Direct drive		Direct drive	
Number of motors	1		1	
Motor size	393 cm ³	24 in ³	393 cm ³	24 in ³
Hydraulic flow range	30-83 L/min	8-22 gpm	30-83 L/min	8-22 gpm
Hydraulic pressure range	145-227 bar	2100-3300 psi	145-227 bar	2100-3300 psi
Rated brush speed @ maximum flow	190 RPM		190 RPM	
Hopper capacity*	0.42 m ³	0.55 yd ³	0.49 m ³	0.64 yd ³
Fasteners	Cat		Cat	
Hydraulic hose	Cat XT-3 ES		Cat XT-3 ES	
Brush diameter	660 mm	26"	660 mm	26"
Brush material (standard)	Replaceable polypropylene sections		Replaceable polypropylene sections	
Brush material (optional)	Replaceable steel wire sections		Replaceable steel wire sections	

*Rated truck capacities shown as per ISO 7546: 1983 and SAE J742 FEB85.

Features:

- **Two direct drive models, the standard flow SG16B and the high flow SG18B** feature a variable speed, unidirectional motor that is matched to the Cat Skid Steer Loader's auxiliary hydraulic horsepower capabilities. Provides high torque for efficient grinding performance.
- **Heavy-duty 550 mm (22") cutting wheel and 32 bolt-on carbide teeth** provide maximum durability and cutting efficiency.
- **Heavy-duty, dual height, pivoting stand feet** provide a stable platform when grinding.
- **Standard hydraulic cutting wheel swing** (full 70 degrees) and extension [279 mm (11 in) max.].
- **Hydraulic depth control on SG18B, depth control on SG16B** is manually adjustable using a 3-position depth control bar.
- **Extension slider rods** are chrome plated for long life.
- **Cat XT-3 and medium pressure hose, couplings and O-Rings.**

Market Opportunities

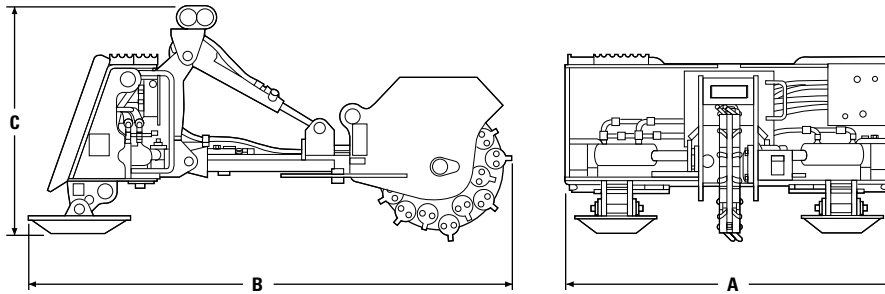
- **Landscaping/Landscaping Maintenance** — Stump grinders are ideal for economically removing tree stumps in residential, commercial and agricultural settings.
- **Rental** — Stump grinders are a high opportunity rental work tool for lawn care and for clean up after natural disasters such as tornadoes and hurricanes where many trees are damaged.

Stump grinders are productive work tools for specialized applications. Maneuverability and compact size compared to tow behind stump grinders lend it be to very popular in lawn care and golf course maintenance.

Machine Compatibility

Stump Grinder Model	Machine Models
SG16B	216B2, 226B2, 232B2, 236B2, 242B2, 247B2, 252B2, 257B2, 246C, 256C, 262C, 272C, 277C, 287C, 297C, 279C, 289C, 299C
SG18B*	246C, 256C, 262C, 272C, 277C, 287C, 297C, 279C, 289C, 299C

*Requires high flow or high flow XPS option on machine.



MODEL	SG16B		SG18B	
A Overall width	1175 mm	46"	1175 mm	46"
B Overall length	1737 mm	69"	1737 mm	69"
C Overall height	730 mm	30"	813 mm	32"
Unit weight	379 kg	775 lb	400 kg	840 lb
Drive method	Gerotor Motor — Direct		Gerotor Motor — Direct	
Required hydraulic flow	42-83 L/min	11-22 gpm	95-114 L/min	25-30 gpm
Optimal hydraulic pressure	145-227 bar	2100-3300 psi	207-310 bar	3000-4500 psi
Effective displacement	80 cm ³	4.9 in ³	100 cm ³	6.2 in ³
Drive shaft torque @ maximum pressure	295 N•m @ 230 bar	218 lb-ft @ 3336 psi	469 N•m @ 290 bar	346 lb-ft @ 4206 psi
Cutting head speed (drive shaft) @ maximum flow	993 RPM @ 80 L/min	993 RPM @ 21 gpm	1280 RPM @ 130 L/min	1280 RPM @ 34 gpm
Cutting wheel width (with teeth)	83 mm	3.3"	83 mm	3.3"
Cutting wheel diameter (with teeth)	550 mm	22"	550 mm	22"
Cutting width (full swing range)	1524 mm	60"	1524 mm	60"
Cutting head swing range	70°		70°	
Cutting height (above ground)	470 mm	18.5"	470 mm	18.5"
Cutting height (below ground)	547 mm	21.5"	547 mm	21.5"
Cutting head extension	280 mm	11"	280 mm	11"
Fasteners	Cat		Cat	
Hydraulic hose	XT-3 ES, medium pressure		XT-6 ES, medium pressure	
Ground Engaging Tools (GET)	12.7 mm (½") square bolt-on carbide teeth		12.7 mm (½") square bolt-on carbide teeth	
Number of carbide teeth per cutting wheel	32		32	

SG16B Stump Grinder

Theoretical Drive Shaft Torque			
Pressure		Torque	
bar	psi	N•m	lb-ft
145	2100	186	137
152	2200	194	143
158	2300	204	150
166	2400	212	156
172	2500	222	163
179	2600	230	169
186	2700	239	176
193	2800	248	182
200	2900	257	189
207	3000	265	195
214	3100	275	202
220	3200	283	208
227	3300	292	215

SG18B Stump Grinder

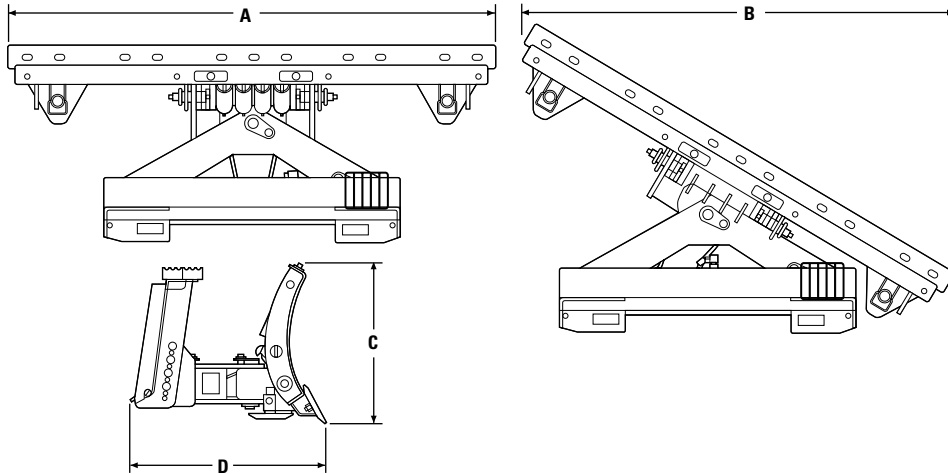
Theoretical Drive Shaft Torque			
Pressure		Torque	
bar	psi	N•m	lb-ft
207	3000	336	247
214	3100	347	255
221	3200	358	263
227	3300	370	272
234	3400	381	280
241	3500	392	288
248	3600	403	296
255	3700	413	304
262	3800	426	313
269	3900	437	321
276	4000	447	329
282	4100	458	337
289	4200	471	346
296	4300	481	354
303	4400	492	362
310	4500	503	370

SG16B Stump Grinder

Theoretical Cutting Head Speed (Drive Shaft)		
Flow		Cutting Head Speed
L/min	gpm	RPM
42	11	519
45	12	566
49	13	613
53	14	660
57	15	707
61	16	754
64	17	801
68	18	849
72	19	896
76	20	943
80	21	990
83	22	1037

SG18B Stump Grinder

Theoretical Cutting Head Speed (Drive Shaft)		
Flow		Cutting Head Speed
L/min	gpm	RPM
95	25	931
99	26	969
102	27	1006
106	28	1043
110	29	1080
114	30	1118
118	31	1155
122	32	1192
125	33	1230

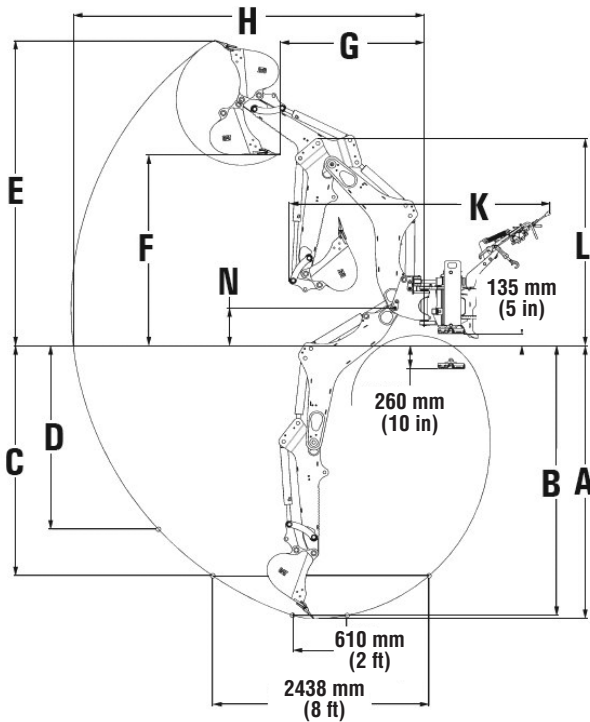


A Overall width (straight)*	1829 mm	72"	2134 mm	84"
B Working width, fully angled	1685 mm	66"	1949 mm	78"
C Height	614 mm	24"	614 mm	24"
D Length	753 mm	30"	753 mm	30"
Weight	313 kg	690 lb	331 kg	730 lb
Adjustable cutting depth (three positions — 25.4 mm (1") increments)	0, 25 and 51 mm	0", 1" and 2"	0, 25 and 51 mm	0", 1" and 2"
Maximum blade angle — (right or left of center)		30°		30°
Maximum blade trip angle		60°		60°

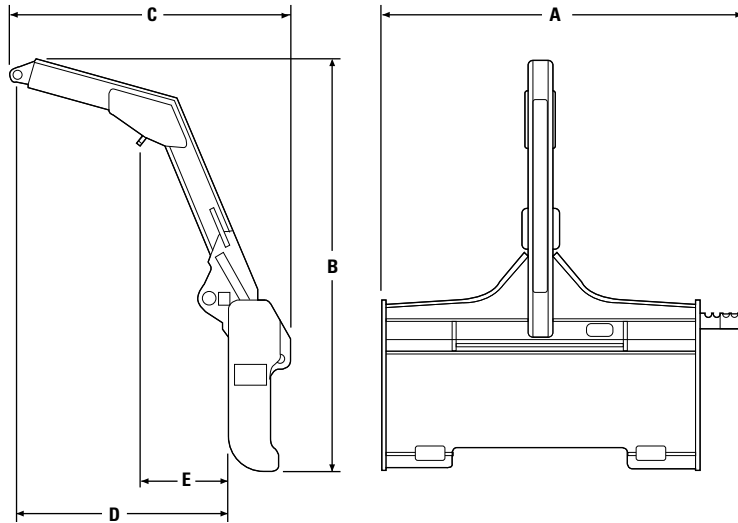
*Measured from moldboard edges; overall width is approximately 50 mm (2") wider with bolt-on edge.

Skid Steer Loaders
Multi Terrain Loaders
Compact Track Loaders

Work Tools
● Backhoes



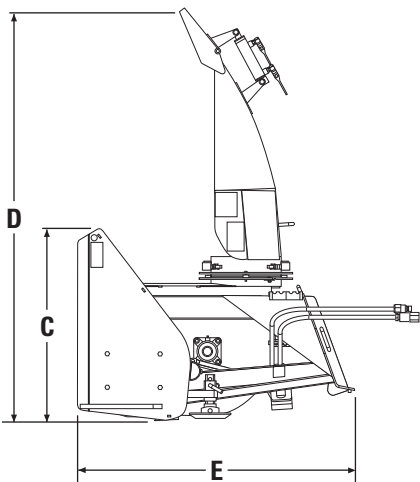
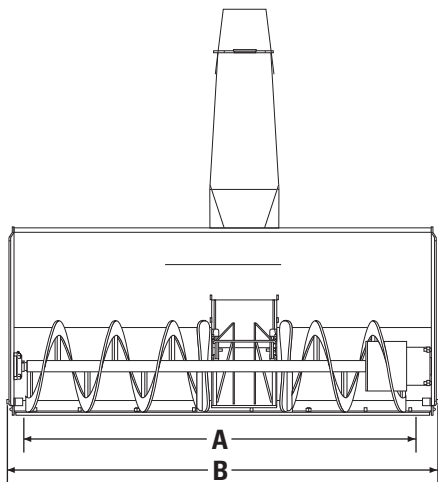
MODEL	BH150		BH160	
Operational Specifications				
A Digging depth maximum	3074 mm	121"	3074 mm	121"
B Digging depth 0.61 m (2') flat bottom	3040 mm	120"	3040 mm	120"
C Digging depth 2.44 m (8') flat bottom	2593 mm	102"	2593 mm	102"
D Straight wall digging depth	2064 mm	81"	2064 mm	81"
E Overall operating height	3442 mm	136"	3442 mm	136"
F Loading height	2147 mm	85"	2147 mm	85"
G Loading reach	1628 mm	64"	1628 mm	64"
H Reach from swing pivot	3955 mm	156"	3955 mm	156"
K Overall length	2776 mm	109"	2936 mm	116"
Side shift length	822 mm	32"	974 mm	38"
Swing arc		180°		180°
Bucket rotation		192°		192°
Bucket breakout force	3241 kg	7146 lb	3241 kg	7146 lb
Stick breakout force	1560 kg	3439 lb	1560 kg	3439 lb
Transport Dimensions				
L Transport height	2336 mm	92"	2336 mm	92"
N Boom pivot height	425 mm	17"	425 mm	17"
Ground clearance	85.7 mm	3.4"	85.7 mm	3.4"
Operating weight	1023 kg	2256 lb	1047 kg	2309 lb



A Width with side step	1309 mm	52"
B Height	1473 mm	58"
C Length	1016 mm	40"
D Load length (end point)	768 mm	30"
E Load length (mid point)	311 mm	12"
Rated structural capacity*	907 kg	2000 lb
Maximum reach (horizontal)**	2134 mm	84"
Weight	127 kg	280 lb

*Rated structural capacity is the maximum load that can be carried by the work tool and does not imply that the specific host machine has the tipping capacity to lift the load. Refer to the Cat Skid Steer Loader and Multi Terrain Loader Operation and Maintenance Manual (OMM) for Cat Skid Steer Loader and Multi Terrain Loader rated operating capacity with Material Handling Arm.

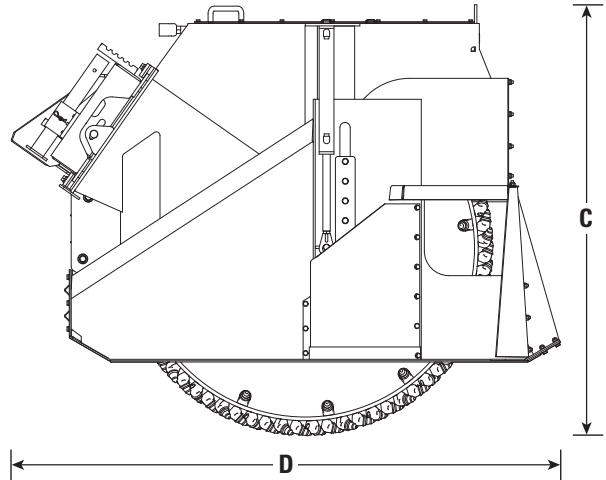
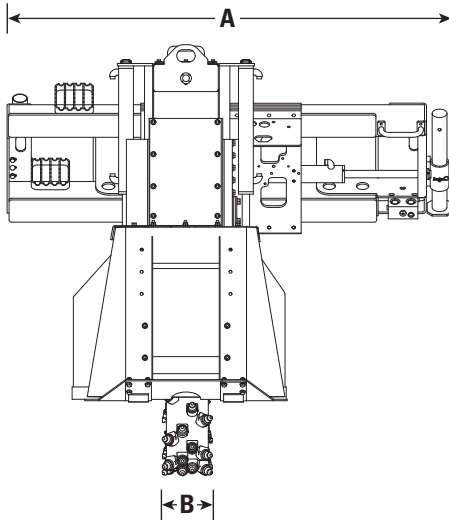
**Maximum horizontal reach is measured from the front tire with the loader arms approximately 1.5 m (5') off the ground and work tool tilted forward approximately 68 degrees at the end point.



MODEL	SR117		SR118		SR121	
A Intake width	1702 mm	67"	1854 mm	73"	2159 mm	85"
B Overall width	1765 mm	69.5"	1918 mm	75.5"	2223 mm	87.5"
C Cutting height	609.6 mm	24"	812.8 mm	32"	914.4 mm	36"
D Overall height	1582 mm	62.3"	1582 mm	62.3"	1735 mm	68.3"
E Overall length	1148 mm	45.2"	1209 mm	47.6"	1440 mm	56.7"
Weight	404.5 kg	890 lb	450 kg	990 lb	555 kg	1220 lb
Maximum throw distance*	9.1 m	30'0"	12.2 m	40'0"	12.2 m	40'0"
Auger diameter	305 mm	12"	406 mm	16"	457 mm	18"
Impeller/fan diameter	517 mm	20"	517 mm	20"	679 mm	27"
Chute rotation	180°		180°		180°	
Required hydraulic flow	53-76 L/min	14-20 gpm	68-83 L/min	18-22 gpm	72-87 L/min	19-23 gpm

MODEL	SR318		SR321	
A Intake width	1584 mm	73"	2159 mm	85"
B Overall width	1918 mm	75.5"	2223 mm	87.5"
C Cutting height	812 mm	32"	915 mm	36"
D Overall height	1582 mm	62.3"	1735 mm	68.3"
E Overall length	1209 mm	47.6"	1440 mm	56.7"
Weight	450 kg	990 lb	555 kg	1220 lb
Maximum throw distance*	13.7 m	45'0"	13.7 m	45'0"
Auger diameter	406 mm	16"	457 mm	18"
Impeller/fan diameter	517 mm	20"	679 mm	27"
Chute rotation	180°		180°	
Required hydraulic flow	98-130 L/min	26-34 gpm	98-130 L/min	26-34 gpm

*Theoretical values calculated at 100% efficiency.



MODEL	SW45 80 mm (3")		SW45 160 mm (6")		SW45 200 mm (8")		SW60 160 mm (6")		SW60 200 mm (8")	
A Overall width	1803 mm	71"	1803 mm	71"	1803 mm	71"	1866 mm	74"	1866 mm	74"
B Maximum wheel width	80 mm	3"	160 mm	6"	200 mm	8"	160 mm	6"	200 mm	8"
C Overall height	1440 mm	57"	1435 mm	56"	1435 mm	56"	1746 mm	69"	1746 mm	69"
D Length	1992 mm	78"	1992 mm	78"	1992 mm	78"	2230 mm	88"	2230 mm	88"
Weight	1004 kg	2213 lb	932 kg	2054 lb	961 kg	2118 lb	1169 kg	2577 lb	1192 kg	2628 lb
Trench cleaning device	No		Yes		Yes		Yes		Yes	
Drive method	Piston motor/ Planetary		Piston motor/ Planetary		Piston motor/ Planetary		Piston motor/ Planetary		Piston motor/ Planetary	
Required hydraulic flow range	90- 160 L/min	24- 42 gpm	90- 160 L/min	24- 42 gpm	90- 160 L/min	24- 42 gpm	100- 160 L/min	26- 42 gpm	100- 160 L/min	26- 42 gpm
Optimal hydraulic pressure range	180- 300 bar	2611- 4351 psi	180- 300 bar	2611- 4351 psi	180- 300 bar	2611- 4351 psi	180- 300 bar	2611- 4351 psi	180- 300 bar	2611- 4351 psi
Wheel torque @ maximum pressure	1131 N•m	832 lb-ft	1429 N•m	1051 lb-ft	1429 N•m	1051 lb-ft	1429 N•m	1051 lb-ft	1429 N•m	1051 lb-ft
Wheel speed @ maximum flow	267 RPM		212 RPM		212 RPM		212 RPM		212 RPM	
Bit speed @ maximum flow	395 m/min	1295 ft/min	313 m/min	1026 ft/min	313 m/min	1026 ft/min	313 m/min	1026 ft/min	313 m/min	1026 ft/min
Conical bits	64 per wheel		56 per wheel		62 per wheel		96 per wheel		96 per wheel	
Standard bit type	Concrete		Concrete		Concrete		Concrete		Concrete	
Optional bit type	All purpose		All purpose		All purpose		All purpose		All purpose	
Maximum depth of cut	450 mm	18"	450 mm	18"	450 mm	18"	600 mm	24"	600 mm	24"
Sideshift travel	650 mm	26"	650 mm	26"	650 mm	26"	650 mm	26"	650 mm	26"

EXCAVATORS

4

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EXCAVATORS

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MODEL	 301.6C		 301.8C	
	U.K.		U.K.	
Sourcing				
Flywheel Power	13.5 kW	18.1 hp	13.5 kW	18.1 hp
Operating Weight*	1720 kg	3792 lb	1785 kg	3935 lb
Bucket Capacity Range (heaped)	0.018-0.056 m ³	0.023-0.073 yd³	0.018-0.056 m ³	0.023-0.073 yd³
Engine Model	Mitsubishi L3E		Mitsubishi L3E	
Rated Engine RPM	2400		2400	
No. of Cylinders	3		3	
Bore	76 mm	2.99"	76 mm	2.99"
Stroke	70 mm	2.76"	70 mm	2.76"
Displacement	952 cm ³	58.1 in³	952 cm ³	58.1 in³
Max. Implement Hydraulic Pump	2 × 18.9/	2 × 5.2/	2 × 18.9/	2 × 5.2/
Output at Rated RPM	1 × 14.6 L/min	1 × 3.9 gpm	1 × 14.6 L/min	1 × 3.9 gpm
Relief Valve Settings:				
Implement Circuits	20.6 mPa	2988 psi	20.6 mPa	2988 psi
Travel Circuits	20.6 mPa	2988 psi	20.6 mPa	2988 psi
Swing Circuits	17.4 mPa	2524 psi	17.4 mPa	2524 psi
Maximum Drawbar Pull	15.8 kN	3552 lb	15.8 kN	3552 lb
Maximum Travel Speed at Rated RPM	Two Speed Travel		Two Speed Travel	
	Lo: 2.0 km/h	1.2 mph	Lo: 2.0 km/h	1.2 mph
	Hi: 4.5 km/h	2.8 mph	Hi: 4.5 km/h	2.8 mph
Width of Standard Track Shoe	230 mm	9"	230 mm	9"
Overall Track Length	1575 mm	62"	1575 mm	62"
Ground Contact Area with Std. Shoe	0.61 m ²	950 in²	0.61 m ²	950 in²
Track Gauge:				
Standard Undercarriage	750 mm	30"	750 mm	30"
Variable Width Undercarriage	—		1110 mm	44"
Fuel Tank Refill Capacity	22 L	5.8 U.S. gal	22 L	5.8 U.S. gal
Hydraulic System (includes tank)	37 L	9.8 U.S. gal	37 L	9.8 U.S. gal

*Operating weight includes coolant, lubricants, full fuel tank, cab, standard shoes, bucket, medium stick, and operator 75 kg (165 lb).

NOTE: Certain models may not be available in all Sales areas.

Specifications may also vary by Sales area.

Contact your Cat dealer for details.

**302.5C****303C CR****303.5C CR**

MODEL	302.5C		303C CR		303.5C CR	
Sourcing	U.K.		Japan		Japan	
Flywheel Power	18.6 kW	24.9 hp	22 kW	29.5 hp	29 kW	38.9 hp
Operating Weight*	2850 kg	6283 lb	3555 kg	7837 lb	3910 kg	8620 lb
with Additional Counterweight						
Bucket Capacity Range (heaped)	0.035-0.092 m ³	0.046-0.12 yd³	0.049-0.159 m ³	0.065-0.208 yd³	0.049-0.159 m ³	0.065-0.208 yd³
Engine Model	Mitsubishi S3L2		Mitsubishi S3Q2		Mitsubishi S3Q2-T	
Rated Engine RPM	2300		2300		2400	
No. of Cylinders	3		3		3	
Bore	78 mm	3.07"	88 mm	3.46"	88 mm	3.46"
Stroke	92 mm	3.62"	103 mm	4.06"	103 mm	4.06"
Displacement	1318 cm ³	80.4 in³	1900 cm ³	115.9 in³	1900 cm ³	115.9 in³
Max. Implement Hydraulic Pump Output at Rated RPM	2 × 32.9/ 1 × 19.5 L/min	2 × 8.7/ 1 × 5.2 gpm	1 × 87.6 L/min	1 × 23.1 gpm	1 × 87.6 L/min	1 × 23.1 gpm
Relief Valve Settings:						
Implement Circuits	22.1 mPa	3205 psi	24.5 mPa	3553 psi	24.5 mPa	3553 psi
Travel Circuits	22.1 mPa	3205 psi	24.5 mPa	3553 psi	24.5 mPa	3553 psi
Swing Circuits	17.4 mPa	2524 psi	17.2 mPa	2495 psi	18.1 mPa	2625 psi
Maximum Drawbar Pull	23.6 kN	5305 lb	33.4 kN	7509 lb	33.4 kN	7509 lb
	Two Speed Travel		Two Speed Travel		Two Speed Travel	
Maximum Travel Speed at Rated RPM	Lo: 2.5 km/h Hi: 5.0 km/h	1.6 mph 3.1 mph	Lo: 2.6 km/h Hi: 4.6 km/h	1.6 mph 2.9 mph	Lo: 2.6 km/h Hi: 4.6 km/h	1.6 mph 2.9 mph
Width of Standard Track Shoe	300 mm	12"	300 mm	12"	300 mm	12"
Overall Track Length	1925 mm	76"	2220 mm	87"	2220 mm	87"
Ground Contact Area with Std. Shoe	0.097 m ²	1503 in²	1.19 m ²	1845 in²	1.19 m ²	1845 in²
Track Gauge:						
Standard Undercarriage	1150 mm	45"	1250 mm	49"	1480 mm	58"
Fuel Tank Refill Capacity	38 L	10.0 U.S. gal	45 L	11.9 U.S. gal	51 L	13.5 U.S. gal
Hydraulic System (includes tank)	50 L	13.2 U.S. gal	65 L	17.2 U.S. gal	65 L	17.2 U.S. gal

*Operating weight for 302.5C and 303.5C CR includes coolant, lubricants, full fuel tank, cab, standard shoes, bucket, medium stick, and operator 75 kg (165 lb).

Operating weight for 303C CR includes coolant, lubricants, full fuel tank, canopy, rubber track, rubber shoes, bucket, medium stick, and operator 75 kg (165 lb).

NOTE: Certain models may not be available in all Sales areas.

Specifications may also vary by Sales area.

Contact your Cat dealer for details.



MODEL	304C CR		305C CR		305.5**	
	Japan		Japan		China	
Sourcing						
Flywheel Power	31 kW	41.6 hp	35 kW	46.9 hp	40.5 kW	54.3 hp
Operating Weight*						
with Additional Counterweight	4920 kg	10,847 lb	5320 kg	11,729 lb	5480 kg	12,081 lb
Bucket Capacity Range (heaped)	0.059-0.03 m ³	0.078-0.039 yd ³	0.059-0.03 m ³	0.078-0.039 yd ³	0.18 m ³	0.24 yd ³
Engine Model	Mitsubishi S4Q2		Mitsubishi S4Q2-T		4M40	
Rated Engine RPM	2400		2400		2100	
No. of Cylinders	4		4		4	
Bore	88 mm	3.46"	88 mm	3.46"	95 mm	3.7"
Stroke	103 mm	4.06"	103 mm	4.06"	100 mm	4.0"
Displacement	2505 cm ³	152.9 in ³	2505 cm ³	152.9 in ³	2.84 L	173 in ³
Max. Implement Hydraulic Pump Output at Rated RPM	1 × 119.3 L/min	1 × 31.5 gpm	1 × 129.6 L/min	1 × 34.2 gpm	152 L/min	40.2 gpm
Relief Valve Settings:						
Implement Circuits	24.5 mPa	3553 psi	24.5 mPa	3553 psi	24.5 mPa	3550 psi
Travel Circuits	24.5 mPa	3553 psi	24.5 mPa	3553 psi	24.5 mPa	3550 psi
Swing Circuits	17.6 mPa	2553 psi	18.4 mPa	2669 psi	19.6 mPa	2840 psi
Maximum Drawbar Pull	44.6 kN	10,026 lb	48.1 kN	10,813 lb	48.2 kN	10,836 lb
	Two Speed Travel		Two Speed Travel			
Maximum Travel Speed at Rated RPM	Lo: 2.6 km/h Hi: 4.6 km/h	1.6 mph 2.9 mph	Lo: 2.6 km/h Hi: 4.6 km/h	1.6 mph 2.9 mph	4.8 km/h	3.0 mph
Width of Standard Track Shoe	400 mm	16"	400 mm	16"	400 mm	16"
Overall Track Length	2580 mm	102"	2580 mm	102"	2450 mm	96.5"
Ground Contact Area with Std. Shoe	1.8 m ²	2796 in ²	1.8 m ²	2796 in ²	—	
Track Gauge:						
Standard Undercarriage	1580 mm	62"	1580 mm	62"	1550 mm	61"
Fuel Tank Refill Capacity	72 L	19.0 U.S. gal	72 L	19.0 U.S. gal	135 L	35.7 U.S. gal
Hydraulic System (includes tank)	78 L	20.6 U.S. gal	78 L	20.6 U.S. gal	85 L	22.4 U.S. gal

*Operating weight for 304C CR includes coolant, lubricants, full fuel tank, cab, rubber track, rubber shoes, bucket, medium stick, and operator 75 kg (165 lb).

Operating weight for 305C CR and 305.5 includes coolant, lubricants, full fuel tank, cab, standard shoes, bucket, medium stick, and operator 75 kg (165 lb).

**China and Korea only.

NOTE: Certain models may not be available in all Sales areas.

Specifications may also vary by Sales area.

Contact your Cat dealer for details.

**307C******307D****308D CR**

MODEL	307C**		307D		308D CR	
Sourcing	Japan		Japan		Japan	
Flywheel Power	41 kW	54 hp	41.5 kW	55.6 hp	41.5 kW	55.6 hp
Operating Weight*	7210 kg	15,900 lb	7075 kg	15,598 lb	7850 kg	17,306 lb
Bucket Capacity Range (heaped)	0.1-0.37 m ³	0.13-0.48 yd³	0.1-0.37 m ³	0.13-0.48 yd³	0.14-0.28 m ³	0.076-0.3 yd³
Engine Model	4M40E1		4M40 TL		4M40 TL	
Rated Engine RPM	2100		2000		2000	
No. of Cylinders	4		4		4	
Bore	95 mm	3.7"	95 mm	3.7"	95 mm	3.7"
Stroke	100 mm	3.9"	100 mm	3.9"	100 mm	3.9"
Displacement	2.84 L	173 in³	2.84 L	173 in³	2.835 L	173 in³
Max. Implement Hydraulic Pump Output at Rated RPM	2 × 64 L/min	2 × 17 gpm	1 × 150 L/min	1 × 39.6 gpm	1 × 150 L/min	1 × 39.6 gpm
Relief Valve Settings:						
Implement Circuits	27 460 kPa	3980 psi	28 mPa	4061 psi	28 mPa	4061 psi
Travel Circuits	31 380 kPa	4550 psi	32 mPa	4641 psi	32 mPa	4641 psi
Swing Circuits	19 610 kPa	2840 psi	24 mPa	3481 psi	24 mPa	3481 psi
Pilot Circuits	4120 kPa	600 psi	4120 kPa	600 psi	4120 kPa	600 psi
Maximum Drawbar Pull	57 kN	12,810 lb	57 kN	12,810 lb	64.6 kN	14,523 lb
Two Speed Travel						
Maximum Travel Speed at Rated RPM	Lo: 3.5 km/h	2.2 mph	Lo: 3.1 km/h	1.9 mph	Lo: 3.1 km/h	1.9 mph
	Hi: 5.3 km/h	3.3 mph	Hi: 5.0 km/h	3.1 mph	Hi: 5.0 km/h	3.1 mph
Width of Standard Track Shoe	600 mm	24"	450 mm	18"	450 mm	18"
Overall Track Length	2760 mm	9'1"	2760 mm	9'1"	2910 mm	9'7"
Ground Contact Area with Std. Shoe	2.81 m ²	4360 in²	2.81 m ²	4360 in²	3 m ²	4650 in²
Track Gauge:						
Standard Undercarriage	1750 mm	5'9"	1750 mm	5'9"	1870 mm	6'2"
Fuel Tank Refill Capacity	135 L	36 U.S. gal	135 L	36 U.S. gal	125 L	33 U.S. gal
Hydraulic System (includes tank)	94 L	24.8 U.S. gal	94 L	24.8 U.S. gal	92 L	24.3 U.S. gal

*Operating weight for 307C and 307D includes coolant, lubricants, full fuel tank, cab, standard shoes, bucket, medium stick, and operator 75 kg (**165 lb**).

Operating weight for 308D CR includes coolant, lubricants, full fuel tank, canopy, rubber shoes, bucket, medium stick, and operator 75 kg (**165 lb**).

**China only.

NOTE: Certain models may not be available in all Sales areas.

Specifications may also vary by Sales area.

Contact your Cat dealer for details.

								
MODEL	308D CR SB		311D LRR		312D		312D	
Sourcing	Japan		Japan		Japan		France	
Flywheel Power	41.5 kW	55.6 hp	60 kW	80 hp	67 kW	90 hp	67 kW	90 hp
Operating Weight*	8400 kg	18,519 lb	12 710 kg	28,021 lb	13 150 kg	29,000 lb	13 470 kg	29,700 lb
Bucket Capacity								
Range (heaped)	0.1-0.37 m ³	0.13-0.48 yd ³	0.25-0.74 m ³	0.33-0.97 yd ³	0.30-0.74 m ³	0.39-0.97 yd ³	0.21-0.72 m ³	0.27-0.94 yd ³
Engine Model	4M40 TL		C4.2 ACERT™		C4.2 ACERT		C4.2 ACERT	
Rated Engine RPM	2000		1700		1800		2200	
No. of Cylinders	4		4		4		4	
Bore	95 mm	4"	102 mm	4"	102 mm	4"	102 mm	4"
Stroke	100 mm	4"	130 mm	5.1"	130 mm	5.1"	130 mm	5.1"
Displacement	2.84 L	173 in ³	4.25 L	259 in ³	4.25 L	259 in ³	4.25 L	259 in ³
Max. Implement Hydraulic Pump Output at Rated RPM	1 × 150 L/min	1 × 39.6 gpm	2 × 117 L/min	2 × 30.9 gpm	2 × 127 L/min	2 × 33.5 gpm	2 × 127 L/min	2 × 33.5 gpm
Relief Valve Settings:								
Implement Circuits	28 mPa	4061 psi	30 500 kPa	4424 psi	30 500 kPa	4424 psi	30 500 kPa	4424 psi
Travel Circuits	32 mPa	4641 psi	35 000 kPa	5076 psi	35 000 kPa	5076 psi	35 000 kPa	5076 psi
Swing Circuits	24 mPa	3481 psi	23 000 kPa	3336 psi	23 000 kPa	3336 psi	23 000 kPa	3336 psi
Pilot Circuits	4120 kPa	600 psi	4120 kPa	600 psi	4120 kPa	600 psi	3600 kPa	522 psi
Maximum Drawbar Pull	64 kN	14,388 lb	114 kN	25,600 lb	114 kN	25,600 lb	114 kN	25,650 lb
Maximum Travel Speed at Rated RPM	Two Speed Travel		Two Speed Travel		Two Speed Travel		Two Speed Travel	
Lo:	3.1 km/h	1.9 mph	3.5 km/h	2.1 mph	3.8 km/h	2.3 mph	3.9 km/h	2.4 mph
Hi:	5.0 km/h	3.1 mph	5.1 km/h	3.1 mph	5.5 km/h	3.4 mph	5.5 km/h	3.4 mph
Width of Standard Track Shoe	450 mm	18"	500 mm	20"	600 mm	24"	500 mm	20"
Overall Track Length	2760 mm	9'1"	3490 mm	11'5"	3490 mm	11'5"	3490 mm	11'5"
Ground Contact Area with Std. Shoe	2.81 m ²	4360 in ²	2.8 m ²	4360 in ²	3.3 m ²	5232 in ²	3.03 m ²	4700 in ²
Track Gauge:								
Standard Undercarriage	1750 mm	5'9"	1990 mm	6'6"	1990 mm	6'6"	1990 mm	6'6"
Fuel Tank Refill Capacity	125 L	33 U.S. gal	210 L	55 U.S. gal	250 L	66 U.S. gal	250 L	66 U.S. gal
Hydraulic System (includes tank)	94 L	24.8 U.S. gal	145 L	38 U.S. gal	162 L	42.8 U.S. gal	162 L	42.8 U.S. gal

*Operating weight includes coolant, lubricants, full fuel tank, cab, standard shoes, bucket, medium stick, and operator 75 kg (165 lb).

NOTE: Certain models may not be available in all Sales areas.

Specifications may also vary by Sales area.

Contact your Cat dealer for details.



MODEL	312D L		312D L		313C SR		313C CR	
Sourcing	Japan		France		Japan		Japan	
Flywheel Power	67 kW	90 hp	67 kW	90 hp	59 kW	79 hp	59 kW	79 hp
Operating Weight*	13 450 kg	29,650 lb	13 470 kg	29,700 lb	14 000 kg	30,860 lb	13 400 kg	29,540 lb
Bucket Capacity								
Range (heaped)	0.30-0.74 m ³	0.39-0.97 yd ³	0.21-0.72 m ³	0.27-0.94 yd ³	0.32-0.45 m ³	0.42-0.59 yd ³	0.32-0.5 m ³	0.42-0.75 yd ³
Engine Model	C4.2 ACERT		C4.2 ACERT		3064 T		3064 T	
Rated Engine RPM	1800		2200		1800		1800	
No. of Cylinders	4		4		4		4	
Bore	102 mm	4"	102 mm	4"	102 mm	4"	102 mm	4"
Stroke	130 mm	5.1"	130 mm	5"	130 mm	5"	130 mm	5"
Displacement	4.25 L	259 in ³	4.25 L	259 in ³	4.25 L	259 in ³	4.25 L	259 in ³
Max. Implement Hydraulic Pump Output at Rated RPM	2 × 127 L/min	2 × 33.5 gpm	2 × 127 L/min	2 × 33.5 gpm	2 × 117 L/min	2 × 30.9 gpm	2 × 117 L/min	2 × 30.9 gpm
Relief Valve Settings:								
Implement Circuits	30 500 kPa	4424 psi	30 500 kPa	4422.5 psi	29 900 kPa	4340 psi	29 900 kPa	4340 psi
Travel Circuits	35 000 kPa	5076 psi	35 000 kPa	5075 psi	34 300 kPa	4970 psi	34 300 kPa	4970 psi
Swing Circuits	23 000 kPa	3336 psi	23 000 kPa	3335 psi	24 500 kPa	3550 psi	24 500 kPa	3550 psi
Pilot Circuits	4120 kPa	600 psi	3600 kPa	522 psi	4100 kPa	590 psi	4100 kPa	590 psi
Maximum Drawbar Pull	114 kN	25,600 lb	114 kN	25,650 lb	110 kN	24,720 lb	110 kN	24,720 lb
Maximum Travel Speed at Rated RPM	Two Speed Travel		Two Speed Travel		Two Speed Travel		Two Speed Travel	
Lo:	3.8 km/h	2.3 mph	3.9 km/h	2.4 mph	3.6 km/h	2.2 mph	3.6 km/h	2.2 mph
Hi:	5.5 km/h	3.4 mph	5.5 km/h	3.4 mph	5.2 km/h	3.2 mph	5.2 km/h	3.2 mph
Width of Standard Track Shoe	600 mm	24"	500 mm	20"	500 mm	20"	500 mm	20"
Overall Track Length	3750 mm	12'4"	3490 mm	11'5"	2780 mm	9'1"	2780 mm	9'1"
Ground Contact Area with Std. Shoe	3.6 m ²	5760 in ²	3.03 m ²	4700 in ²	3.03 m ²	4700 in ²	3.03 m ²	4700 in ²
Track Gauge	1990 mm	6'6"	1990 mm	6'6"	1990 mm	6'6"	1990 mm	6'6"
Fuel Tank Refill Capacity	250 L	66 U.S. gal	250 L	66 U.S. gal	200 L	53 U.S. gal	200 L	53 U.S. gal
Hydraulic System (includes tank)	162 L	42.8 U.S. gal	162 L	42.8 U.S. gal	150 L	39.6 U.S. gal	150 L	39.6 U.S. gal

*Operating weight for 312D L includes coolant, lubricants, full fuel tank, standard shoes, bucket, medium stick, and operator 75 kg (165 lb).

Operating weight for 313C SR and 313C CR includes coolant, lubricants, full fuel tank, standard shoes, bucket, blade, medium stick, and operator 75 kg (165 lb).

NOTE: Certain models may not be available in all Sales areas.

Specifications may also vary by Sales area.

Contact your Cat dealer for details.



MODEL	314D CR	314D LCR	315D L
Sourcing	Japan	Japan	Japan, France
Flywheel Power	67 kW 90 hp	67 kW 90 hp	86 kW 115 hp
Operating Weight*	14 200 kg 31,306 lb	14 400 kg 31,747 lb	17 280 kg 38,100 lb
Bucket Capacity Range (heaped)	0.25-0.74 m ³ 0.33-0.97 yd³	0.25-0.74 m ³ 0.33-0.97 yd³	0.33-0.86 m ³ 0.43-1.13 yd³
Engine Model	C4.2 ACERT	C4.2 ACERT	C4.2
Rated Engine RPM	1800	1800	2150
No. of Cylinders	4	4	4
Bore	102 mm 4"	102 mm 4"	102 mm 4"
Stroke	130 mm 5.1"	130 mm 5.1"	130 mm 5.1"
Displacement	4.25 L 259 in³	4.25 L 259 in³	4.25 L 259 in³
Max. Implement Hydraulic Pump Output at Rated RPM	2 × 127 L/min 2 × 33.5 gpm	2 × 127 L/min 2 × 33.5 gpm	2 × 150 L/min 2 × 39.6 gpm
Relief Valve Settings:			
Implement Circuits	30 500 kPa 4424 psi	30 500 kPa 4424 psi	35 000 kPa 5080 psi
Travel Circuits	35 000 kPa 5076 psi	35 000 kPa 5076 psi	35 000 kPa 5080 psi
Swing Circuits	23 000 kPa 3336 psi	23 000 kPa 3336 psi	22 550 kPa 3270 psi
Pilot Circuits	4120 kPa 600 psi	4120 kPa 600 psi	4120 kPa 600 psi
Maximum Drawbar Pull	114 kN 25,600 lb	113 kN 25,402 lb	157 kN 35,300 lb
	Two Speed Travel	Two Speed Travel	Two Speed Travel
Maximum Travel Speed at Rated RPM	Lo: 3.8 km/h 2.3 mph Hi: 5.5 km/h 3.4 mph	Lo: 3.8 km/h 2.3 mph Hi: 5.5 km/h 3.4 mph	Lo: 3.5 km/h 2.2 mph Hi: 5.6 km/h 3.5 mph
Width of Standard Track Shoe	500 mm 20"	500 mm 20"	600 mm 24"
Overall Track Length	3490 mm 11'5"	3750 mm 12'4"	3970 mm 13'0"
Ground Contact Area with Std. Shoe	2.8 m ² 4360 in²	3.0 m ² 4800 in²	3.8 m ² 6000 in²
Track Gauge	1990 mm 6'6"	1990 mm 6'6"	1990 mm 6'6"
Fuel Tank Refill Capacity	186 L 49 U.S. gal	186 L 49 U.S. gal	300 L 79.3 U.S. gal
Hydraulic System (includes tank)	160 L 42 U.S. gal	160 L 42 U.S. gal	190 L 50.2 U.S. gal

*Operating weight for 314D CR and 314D LCR includes coolant, lubricants, full fuel tank, standard shoes, bucket, blade, medium stick, and operator 75 kg (165 lb).

Operating weight for 315D L includes coolant, lubricants, full fuel tank, standard shoes, bucket, medium stick, and operator 75 kg (165 lb).

NOTE: Certain models may not be available in all Sales areas.

Specifications may also vary by Sales area.

Contact your Cat dealer for details.

**MODEL****319D L****319D LN**

	France		France	
Sourcing				
Flywheel Power	93 kW	124.7 hp	93 kW	124.7 hp
Operating Weight*	19 500 kg	43,005 lb	19 500 kg	43,005 lb
Bucket Capacity Range (heaped)	0.38-1.13 m ³	0.5-1.48 yd ³	0.38-1.13 m ³	0.5-1.48 yd ³
Engine Model	C4.2 ACERT		C4.2 ACERT	
Rated Engine RPM	2200		2200	
No. of Cylinders	4		4	
Bore	102 mm	4"	102 mm	4"
Stroke	130 mm	5"	130 mm	5"
Displacement	4.249 L	259.3 in ³	4.249 L	259.3 in ³
Max. Implement Hydraulic Pump Output at Rated RPM	2 × 176 L/min	2 × 46 gpm	2 × 176 L/min	2 × 46 gpm
Relief Valve Settings:				
Implement Circuits	35 000 kPa	5076 psi	35 000 kPa	5076 psi
Travel Circuits	36 300 kPa	5265 psi	36 300 kPa	5265 psi
Swing Circuits	23 000 kPa	3336 psi	23 000 kPa	3336 psi
Pilot Circuits	4120 kPa	598 psi	4120 kPa	598 psi
Maximum Drawbar Pull	207 kN	46,535 lb	207 kN	46,535 lb
	Two Speed Travel		Two Speed Travel	
Maximum Travel Speed	Lo: 3.0 km/h	1.86 mph	Lo: 3.0 km/h	1.86 mph
at Rated RPM	Hi: 5.0 km/h	3.1 mph	Hi: 5.0 km/h	3.1 mph
Width of Standard Track Shoe	600 mm	24"	500 mm	20"
Overall Track Length	4450 mm	13'3"	4450 mm	13'3"
Ground Contact Area with Std. Shoe	4.3 m ²	6665 in ²	3.6 m ²	5580 in ²
Track Gauge	2200 mm	7'3"	1995 mm	6'7"
Fuel Tank Refill Capacity	300 L	79 U.S. gal	300 L	79 U.S. gal
Hydraulic System (includes tank)	190 L	50 U.S. gal	190 L	50 U.S. gal

*Operating weight for 319D L and 319D LN includes coolant, lubricants, full fuel tank, standard shoes, bucket, medium stick, and operator 75 kg (165 lb).

NOTE: Certain models may not be available in all Sales areas.

Specifications may also vary by Sales area.

Contact your Cat dealer for details.

**M313D****M315D****M316D**

MODEL	M313D		M315D		M316D	
Flywheel Power	95 kW	129 hp	101 kW	137 hp	118 kW	160 hp
Operating Weight*	14 000- 16 200 kg	30,870- 35,721 lb	16 100- 18 300 kg	35,501- 40,352 lb	17 600- 19 800 kg	38,808- 43,659 lb
Bucket Capacity Range (heaped)	0.18-0.92 m ³	0.24-1.2 yd³	0.38-1.26 m ³	0.5-1.65 yd³	0.38-1.26 m ³	0.5-1.65 yd³
Engine Model	C4.4 ACERT		C4.4 ACERT		C6.6 ACERT	
Rated Engine RPM	2000		2000		1800	
No. of Cylinders	4		4		6	
Bore	105 mm	4.1"	105 mm	4.1"	105 mm	4.1"
Stroke	127 mm	5"	127 mm	5"	127 mm	5"
Displacement	4.4 L	269 in³	4.4 L	269 in³	6.6 L	403 in³
Max. Implement Hydraulic Pump Output at Rated RPM	190+80 L/min	50+21 gpm	220+80 L/min	58+21 gpm	250+80 L/min	66+21 gpm
Tires — standard	10.00-20 dual pneumatic		10.00-20 dual pneumatic		10.00-20 dual pneumatic	
— optional	11.00-20 dual pneumatic		10.00-20 dual solid rubber		10.00-20 dual solid rubber	
	18-R 19.5 XF single		18-R 19.5 XF single		18-R 19.5 XF single	
	600/40-22.5 single		600/40-22.5 single		600/40-22.5 single	
	11.00-20 dual pneumatic		11.00-20 dual pneumatic		11.00-20 dual pneumatic	
Maximum Travel Speed	37 km/h	23 mph	34 km/h	21 mph	37 km/h	23 mph
Wheel Base	2500 mm	8'2"	2550 mm	8'4"	2600 mm	8'6"
Width Over Tires**	2550 mm	8'4"	2550 mm	8'4"	2550 mm	8'4"
Ground Clearance**	370 mm	14.7"	370 mm	14.7"	370 mm	14.7"
Fuel Tank Refill Capacity	235 L	62 U.S. gal	235 L	62 U.S. gal	310 L	61 U.S. gal
Hydraulic System (includes tank)	180 L	48 U.S. gal	220 L	58 U.S. gal	220 L	58 U.S. gal

*Operating weight includes full fuel tank, operator 75 kg (**165 lb**), one-piece boom, mid-size stick and bucket, and two sets of outriggers.

**With standard tires.

NOTE: Standard cold inflation pressure for all tires is 650 kPa (**94 psi**).

Certain models may not be available in all Sales areas.

Specifications may also vary by Sales area.

Contact your Cat dealer for details.



M318D



M322D

MODEL				
Flywheel Power	124 kW	169 hp	123 kW	167 hp
Operating Weight*	18 200-20 100 kg	40,124-44,312 lb	20 500-22 500 kg	45,195-49,604 lb
Bucket Capacity Range (heaped)	0.38-1.26 m³	0.5-1.65 yd³	0.44-1.57 m³	0.58-2.05 yd³
Engine Model	C6.6 ACERT		C6.6 ACERT	
Rated Engine RPM	1800		2000	
No. of Cylinders	6		6	
Bore	105 mm	4.1"	105 mm	4.1"
Stroke	127 mm	5"	127 mm	5"
Displacement	6.6 L	403 in³	6.6 L	403 in³
Max. Implement Hydraulic Pump Output at Rated RPM	290+112 L/min	76+29 gpm	350+112 L/min	92+28 gpm
Tires — standard	10.00-20 dual pneumatic		11.00-20 dual pneumatic	
— optional	10.00-20 dual solid rubber		11.00-20 dual solid rubber	
	18-R 19.5 XF single		18-R 19.5 XF single	
	600/40-22.5 single		600/40-22.5 single	
	11.00-20 dual pneumatic			
Maximum Travel Speed	37 km/h	23 mph	25 km/h	15 mph
Wheel Base	2600 mm	8'6"	2750 mm	9'0"
Width Over Tires**	2550 mm	8'4"	2750 mm	9'0"
Ground Clearance**	370 mm	1'3"	380 mm	1'3"
Fuel Tank Refill Capacity	385 L	102 U.S. gal	385 L	102 U.S. gal
Hydraulic System (includes tank)	270 L	71 U.S. gal	335 L	89 U.S. gal

*Operating weight includes full fuel tank, operator 75 kg (165 lb), one-piece boom, mid-size stick and bucket, and two sets of outriggers.

**With standard tires.

NOTE: Standard cold inflation pressure for all tires is 650 kPa (94 psi).

Certain models may not be available in all Sales areas.

Specifications may also vary by Sales area.

Contact your Cat dealer for details.



MODEL	320D		320D		320D RR		320D L	
Sourcing	Japan, China, Indonesia, Brazil		Japan		Japan		Japan, China, Indonesia, Brazil	
Flywheel Power	103 kW	138 hp	110 kW	148 hp	103 kW	138 hp	103 kW	138 hp
Operating Weight*	20 300 kg	44,700 lb	20 300 kg	44,700 lb	22 800 kg	50,265 lb	21 500 kg	47,400 lb
Bucket Capacity Range (heaped)	0.45-1.5 m ³	0.59-1.96 yd ³	0.45-1.5 m ³	0.59-1.96 yd ³	0.8-1.5 m ³	1.05-1.96 yd ³	0.45-1.7 m ³	0.59-2.2 yd ³
Engine Model	C6.4 ACERT		C6.4 ACERT		C6.4 ACERT		C6.4 ACERT	
Rated Engine RPM	1800		1800		1800		1800	
No. of Cylinders	6		6		6		6	
Bore	102 mm	4"	102 mm	4"	102 mm	4"	102 mm	4"
Stroke	130 mm	5"	130 mm	5"	130 mm	5"	130 mm	5"
Displacement	6.4 L	391 in ³	6.4 L	391 in ³	6.4 L	391 in ³	6.4 L	391 in ³
Max. Implement Hydraulic Pump Output at Rated RPM	2 × 205 L/min	2 × 54 gpm	2 × 205 L/min	2 × 54 gpm	2 × 205 L/min	2 × 54 gpm	2 × 205 L/min	2 × 54 gpm
Relief Valve Settings:								
Implement Circuits	35 000 kPa	5076 psi	35 000 kPa	5076 psi	35 000 kPa	5076 psi	35 000 kPa	5076 psi
Travel Circuits	35 000 kPa	5076 psi	35 000 kPa	5076 psi	35 000 kPa	5076 psi	35 000 kPa	5076 psi
Swing Circuits	25 000 kPa	3630 psi	25 000 kPa	3630 psi	25 000 kPa	3630 psi	25 000 kPa	3630 psi
Pilot Circuits	3900 kPa	566 psi	3900 kPa	566 psi	3900 kPa	566 psi	3900 kPa	566 psi
Maximum Drawbar Pull	206 kN	46,311 lb	206 kN	46,311 lb	206 kN	46,311 lb	206 kN	46,311 lb
Maximum Travel Speed at Rated RPM	Two Speed Travel Lo: 3.5 km/h 2.2 mph Hi: 5.5 km/h 3.4 mph		Two Speed Travel Lo: 3.5 km/h 2.2 mph Hi: 5.5 km/h 3.4 mph		Two Speed Travel Lo: 3.5 km/h 2.2 mph Hi: 5.5 km/h 3.4 mph		Two Speed Travel Lo: 3.5 km/h 2.2 mph Hi: 5.5 km/h 3.4 mph	
Width of Standard Track Shoe	600 mm	2'0"	600 mm	2'0"	600 mm	2'0"	800 mm	2'8"
Overall Track Length	4075 mm	13'4"	4075 mm	13'4"	4075 mm	13'4"	4450 mm	14'7"
Ground Contact Area with Std. Shoe	4.26 m ²	6600 in ²	4.26 m ²	6600 in ²	4.26 m ²	6600 in ²	4.72 m ²	7320 in ²
Track Gauge	2200 mm	7'3"	2200 mm	7'3"	2200 mm	7'3"	2380 mm	7'10"
Fuel Tank Refill Capacity	410 L	108 U.S. gal	410 L	108 U.S. gal	284 L	75 U.S. gal	410 L	108 U.S. gal
Hydraulic System (includes tank)	260 L	69 U.S. gal	260 L	69 U.S. gal	240 L	63 U.S. gal	260 L	69 U.S. gal

*Operating weight includes coolant, lubricants, full fuel tank, standard shoes, bucket and operator 75 kg (165 lb).

NOTE: Certain models may not be available in all Sales areas.

Specifications may also vary by Sales area.

Contact your Cat dealer for details.

**MODEL****320D L****320D LRR****320D LRR****321D LCR**

Sourcing	Japan		Japan		Japan		Japan	
Flywheel Power	110 kW	148 hp	103 kW	138 hp	110 kW	148 hp	103 kW	138 hp
Operating Weight*	21 570 kg	47,400 lb	24 000 kg	52,911 lb	24 000 kg	52,911 lb	24 180 kg	53,308 lb
Bucket Capacity	0.45-1.7 m ³		0.8-1.5 m ³		0.8-1.7 m ³		0.8-1.7 m ³	
Range (heaped)	0.59-2.2 yd³		1.05-1.96 yd³		1.05-2.2 yd³		1.05-2.2 yd³	
Engine Model	C6.4 ACERT		C6.4 ACERT		C6.4 ACERT		C6.4 ACERT	
Rated Engine RPM	1800		1800		1800		1800	
No. of Cylinders	6		6		6		6	
Bore	102 mm	4"	102 mm	4"	102 mm	4"	102 mm	4"
Stroke	130 mm	5"	130 mm	5"	130 mm	5"	130 mm	5"
Displacement	6.4 L	391 in³	6.4 L	391 in³	6.4 L	391 in³	6.4 L	391 in³
Max. Implement Hydraulic Pump Output at Rated RPM	2 × 205 L/min	2 × 54 gpm	2 × 205 L/min	2 × 54 gpm	2 × 205 L/min	2 × 54 gpm	2 × 205 L/min	2 × 54 gpm
Relief Valve Settings:								
Implement Circuits	35 000 kPa	5076 psi	35 000 kPa	5076 psi	35 000 kPa	5076 psi	35 000 kPa	5076 psi
Travel Circuits	35 000 kPa	5076 psi	35 000 kPa	5076 psi	35 000 kPa	5076 psi	35 000 kPa	5076 psi
Swing Circuits	25 000 kPa	3630 psi	25 000 kPa	3630 psi	25 000 kPa	3630 psi	25 000 kPa	3630 psi
Pilot Circuits	3900 kPa	566 psi	3900 kPa	566 psi	3900 kPa	566 psi	3900 kPa	566 psi
Maximum Drawbar Pull	206 kN	46,311 lb	206 kN	46,311 lb	206 kN	46,311 lb	206 kN	46,311 lb
Maximum Travel Speed at Rated RPM	Two Speed Travel		Two Speed Travel		Two Speed Travel		Two Speed Travel	
Lo: 3.5 km/h		2.2 mph	Lo: 3.5 km/h	2.2 mph	Lo: 3.5 km/h	2.2 mph	Lo: 3.5 km/h	2.2 mph
Hi: 5.5 km/h		3.4 mph	Hi: 5.5 km/h	3.4 mph	Hi: 5.5 km/h	3.4 mph	Hi: 5.5 km/h	3.4 mph
Width of Standard Track Shoe	800 mm	2'8"	800 mm	2'8"	800 mm	2'8"	800 mm	2'8"
Overall Track Length	4450 mm	14'7"	4450 mm	14'7"	4450 mm	14'7"	4450 mm	14'7"
Ground Contact Area with Std. Shoe	4.72 m ²	7320 in²	4.72 m ²	7320 in²	4.72 m ²	7320 in²	4.72 m ²	7320 in²
Track Gauge	2380 mm	7'10"	2380 mm	7'10"	2380 mm	7'10"	2380 mm	7'10"
Fuel Tank Refill Capacity	410 L	108 U.S. gal	284 L	75 U.S. gal	284 L	75 U.S. gal	330 L	87 U.S. gal
Hydraulic System (includes tank)	260 L	69 U.S. gal	240 L	63 U.S. gal	240 L	63 U.S. gal	208 L	55 U.S. gal

*Operating weight includes coolant, lubricants, full fuel tank, standard shoes, bucket and operator 75 kg (165 lb).

NOTE: Certain models may not be available in all Sales areas.

Specifications may also vary by Sales area.

Contact your Cat dealer for details.



MODEL	321D LCR		323D L		323D L		323D LN	
Sourcing	Japan		Belgium, Brazil, Japan		China		France	
Flywheel Power	110 kW	148 hp	110 kW	147 hp	110 kW	147 hp	110 kW	147 hp
Operating Weight*	24 180 kg	53,308 lb	23 190 kg	51,134 lb	22 300-23 100 kg	49,172-50,936 lb	23 000 kg	50,715 lb
Bucket Capacity Range (heaped)	0.8-1.7 m ³	1.05-2.2 yd ³	0.47-1.38 m ³	0.61-1.8 yd ³	0.47-1.38 m ³	0.61-1.8 yd ³	0.41-1.7 m ³	0.54-2.2 yd ³
Engine Model	C6.4 ACERT		C6.4 ACERT		C6.4 ACERT		C6.4 ACERT	
Rated Engine RPM	1800		1800		1800		1800	
No. of Cylinders	6		6		6		6	
Bore	102 mm	4"	102 mm	4"	102 mm	4"	102 mm	4"
Stroke	130 mm	5"	130 mm	5"	130 mm	5"	130 mm	5"
Displacement	6.4 L	391 in ³	6.4 L	391 in ³	6.4 L	391 in ³	6.4 L	391 in ³
Max. Implement Hydraulic Pump Output at Rated RPM	2 × 205 L/min	2 × 54 gpm	2 × 205 L/min	2 × 54.2 gpm	2 × 205 L/min	2 × 54.2 gpm	2 × 205 L/min	2 × 54 gpm
Relief Valve Settings:								
Implement Circuits	35 000 kPa	5076 psi	35 000 kPa	5080 psi	35 000 kPa	5080 psi	35 000 kPa	5080 psi
Travel Circuits	35 000 kPa	5076 psi	35 000 kPa	5080 psi	35 000 kPa	5080 psi	35 000 kPa	5080 psi
Swing Circuits	25 000 kPa	3630 psi	25 000 kPa	3625 psi	25 000 kPa	3625 psi	25 000 kPa	3625 psi
Pilot Circuits	3900 kPa	566 psi	3900 kPa	566 psi	3900 kPa	566 psi	3900 kPa	566 psi
Maximum Drawbar Pull	206 kN	46,311 lb	206 kN	46,350 lb	206 kN	46,350 lb	206 kN	46,350 lb
Maximum Travel Speed at Rated RPM	Two Speed Travel Lo: 3.5 km/h 2.2 mph Hi: 5.5 km/h 3.4 mph		Two Speed Travel Lo: 3.5 km/h 2.2 mph Hi: 5.5 km/h 3.4 mph		Two Speed Travel Lo: 3.5 km/h 2.2 mph Hi: 5.7 km/h 3.5 mph		Two Speed Travel Lo: 3.5 km/h 2.2 mph Hi: 5.5 km/h 3.4 mph	
Width of Standard Track Shoe	800 mm	2'8"	600 mm	24"	600 mm	24"	500 mm	20"
Overall Track Length	4450 mm	14'7"	4450 mm	14'7"	4455 mm	14'7"	4450 mm	14'7"
Ground Contact Area with Std. Shoe	4.72 m ²	7320 in ²	4.3 m ²	6665 in ²	4.3 m ²	6665 in ²	3.6 m ²	5580 in ²
Track Gauge	2380 mm	7'10"	2380 mm	7'10"	2380 mm	7'10"	1990 mm	6'6"
Fuel Tank Refill Capacity	330 L	87 U.S. gal	410 L	108 U.S. gal	410 L	108 U.S. gal	310 L	108 U.S. gal
Hydraulic System (includes tank)	208 L	55 U.S. gal	260 L	69 U.S. gal	260 L	69 U.S. gal	260 L	69 U.S. gal

*Operating weight includes coolant, lubricants, full fuel tank, standard shoes, bucket and operator 75 kg (165 lb).

NOTE: Certain models may not be available in all Sales areas.

Specifications may also vary by Sales area.

Contact your Cat dealer for details.



MODEL	323D SA		324D		324D L		324D L	
Sourcing	Grenoble		Japan		Japan, U.S.		Belgium	
Flywheel Power	110 kW	147 hp	124 kW	166 hp	140 kW	188 hp	124 kW	188 hp
Operating Weight*	23 797 kg	52,472 lb	24 240 kg	53,400 lb	24 790 kg	54,660 lb	26 060 kg	57,462 lb
Bucket Capacity	0.41-1.7 m ³		0.9-1.5 m ³		0.5-2.0 m ³		0.5-2.3 m ³	
Range (heaped)	0.54-2.2 yd ³		1.18-1.96 yd ³		0.7-2.6 yd ³		0.65-3.01 yd ³	
Engine Model	3066 ATAAC		C7 ACERT		C7 ACERT		C7 ACERT	
Rated Engine RPM	1800		1800		1800		1800	
No. of Cylinders	6		6		6		6	
Bore	102 mm	4"	110 mm	4.3"	110 mm	4.3"	110 mm	4.3"
Stroke	130 mm	5"	127 mm	5"	127 mm	5"	127 mm	5"
Displacement	6.4 L	391 in ³	7.2 L	440 in ³	7.2 L	440 in ³	7.2 L	440 in ³
Max. Implement Hydraulic Pump Output at Rated RPM	2 × 205 L/min	2 × 54 gpm	2 × 235 L/min	2 × 62 gpm	2 × 200 L/min	2 × 58 gpm	2 × 220 L/min	2 × 58 gpm
Relief Valve Settings:								
Implement Circuits	35 000 kPa	5080 psi	35 000 kPa	5076 psi	35 000 kPa	5076 psi	35 000 kPa	5076 psi
Travel Circuits	35 000 kPa	5080 psi	35 000 kPa	5076 psi	35 000 kPa	5076 psi	35 000 kPa	5076 psi
Swing Circuits	25 000 kPa	3625 psi	24 500 kPa	3553 psi	24 500 kPa	3553 psi	24 500 kPa	3553 psi
Pilot Circuits	3900 kPa	566 psi	3900 kPa	566 psi	3900 kPa	566 psi	3900 kPa	566 psi
Maximum Drawbar Pull	206 kN	46,350 lb	227 kN	51,032 lb	227 kN	51,032 lb	227 kN	51,032 lb
Maximum Travel Speed at Rated RPM	Two Speed Travel Lo: 2.9 km/h Hi: 4.5 km/h		5.5 km/h 3.4 mph		5.4 km/h 3.4 mph		5.4 km/h 3.4 mph	
Width of Standard Track Shoe	550 mm	1'9"	600 mm	2'0"	800 mm	2'8"	800 mm	2'8"
Overall Track Length	4358 mm	14'4"	4250 mm	13'11"	4630 mm	15'2"	4630 mm	15'2"
Ground Contact Area with Std. Shoe	4.15 m ²	6433 in ²	4.48 m ²	6938 in ²	6.58 m ²	10,193 in ²	6.58 m ²	10,200 in ²
Track Gauge	1895 mm	6'3"	2390 mm	7'10"	2590 mm	8'6"	2590 mm	8'6"
Fuel Tank Refill Capacity	310 L	82 U.S. gal	520 L	137 U.S. gal	520 L	137 U.S. gal	520 L	137 U.S. gal
Hydraulic System (includes tank)	200 L	52.8 U.S. gal	300 L	79.3 U.S. gal	300 L	79 U.S. gal	300 L	79 U.S. gal

*Operating weight includes coolant, lubricants, full fuel tank, standard shoes, bucket and operator 75 kg (165 lb).

NOTE: Certain models may not be available in all Sales areas.

Specifications may also vary by Sales area.

Contact your Cat dealer for details.



MODEL	324D LN		328D LCR		329D		329D L	
Sourcing	Belgium		Japan		Japan		Japan, U.S.	
Flywheel Power	124 kW	166 hp	152 kW	204 hp	140 kW	188 hp	152 kW	204 hp
Operating Weight*	25 370 kg	54,660 lb	34 700 kg	76,500 lb	26 900 kg	59,300 lb	29 240 kg	64,460 lb
Bucket Capacity								
Range (heaped)	0.54-2.0 m ³	0.7-2.61 yd ³	0.5-2.0 m ³	0.7-2.6 yd ³	1.1-1.6 m ³	1.44-2.09 yd ³	0.54-2.0 m ³	0.7-2.61 yd ³
Engine Model	C7 ACERT		C7 ACERT		C7 ACERT		C7 ACERT	
Rated Engine RPM	1800		1800		1800		1800	
No. of Cylinders	6		6		6		6	
Bore	110 mm	4.3"	110 mm	4.3"	110 mm	4.3"	110 mm	4.3"
Stroke	127 mm	5"	127 mm	5"	127 mm	5"	127 mm	5"
Displacement	7.2 L	440 in ³	7.2 L	440 in ³	7.2 L	439 in ³	7.2 L	440 in ³
Max. Implement Hydraulic Pump Output at Rated RPM	2 × 220 L/min	2 × 58 gpm	2 × 235 L/min	2 × 62 gpm	2 × 235 L/min	2 × 62 gpm	2 × 235 L/min	2 × 62 gpm
Relief Valve Settings:								
Implement Circuits	35 000 kPa	5076 psi	35 000 kPa	5076 psi	35 000 kPa	5076 psi	35 000 kPa	5076 psi
Travel Circuits	35 000 kPa	5076 psi	35 000 kPa	5076 psi	35 000 kPa	5076 psi	35 000 kPa	5076 psi
Swing Circuits	24 500 kPa	3553 psi	27 500 kPa	3989 psi	27 500 kPa	3988 psi	27 500 kPa	3989 psi
Pilot Circuits	3900 kPa	566 psi	3900 kPa	566 psi	3900 kPa	566 psi	3900 kPa	566 psi
Maximum Drawbar Pull	227 kN	51,032 lb	300 kN	67,443 lb	249 kN	55,977 lb	249 kN	55,977 lb
Maximum Travel Speed at Rated RPM	5.4 km/h	3.4 mph	5.3 km/h	3.3 mph	4.2 km/h	2.6 mph	5.3 km/h	3.3 mph
Width of Standard Track Shoe	600 mm	2'0"	850 mm	2'10"	600 mm	2'0"	800 mm	2'8"
Overall Track Length	4630 mm	15'2"	5020 mm	16'6"	4360 mm	14'4"	4860 mm	15'11"
Ground Contact Area with Std. Shoe	4.93 m ²	7644 in ²	7.45 m ²	11,549 in ²	4.55 m ²	7058 in ²	6.87 m ²	10,650 in ²
Track Gauge	2390 mm	7'10"	2590 mm	8'6"	2390 mm	7'10"	2590 mm	8'6"
Fuel Tank Refill Capacity	520 L	137 U.S. gal	406 L	106 U.S. gal	520 L	137 U.S. gal	520 L	137 U.S. gal
Hydraulic System (includes tank)	300 L	79 U.S. gal	290 L	76.6 U.S. gal	310 L	82 U.S. gal	310 L	82 U.S. gal

*Operating weight includes coolant, lubricants, full fuel tank, standard shoes, bucket and operator 75 kg (165 lb).

NOTE: Certain models may not be available in all Sales areas.

Specifications may also vary by Sales area.

Contact your Cat dealer for details.



MODEL	329D L		329D LN		336D		336D L	
Sourcing	Belgium		Belgium		Japan		Japan, U.S., Brazil	
Flywheel Power	140 kW	188 hp	140 kW	188 hp	200 kW	268 hp	200 kW	268 hp
Operating Weight*	29 560 kg	65,180 lb	28 540 kg	62,931 lb	33 750 kg	74,400 lb	36 151 kg	79,700 lb
Bucket Capacity	0.54-2.0 m ³		0.54-2.0 m ³		1.4-2.0 m ³		0.7-2.2 m ³	
Range (heaped)	0.7-2.61 yd ³		0.7-2.61 yd ³		1.83-2.49 yd ³		0.9-3.0 yd ³	
Engine Model	C7 ACERT		C7 ACERT		C9 ACERT		C9 ACERT	
Rated Engine RPM	1800		1800		1800		1800	
No. of Cylinders	6		6		6		6	
Bore	110 mm	4.3"	110 mm	4.3"	112 mm	4.4"	112 mm	4.4"
Stroke	127 mm	5"	127 mm	5"	149 mm	5.9"	149 mm	5.9"
Displacement	7.2 L	440 in ³	7.2 L	440 in ³	8.8 L	537 in ³	8.8 L	537 in ³
Max. Implement Hydraulic Pump Output at Rated RPM	2 × 235 L/min	2 × 62 gpm	2 × 235 L/min	2 × 62 gpm	2 × 280 L/min	2 × 74 gpm	2 × 280 L/min	2 × 74 gpm
Relief Valve Settings:								
Implement Circuits	35 000 kPa	5076 psi	35 000 kPa	5076 psi	35 000 kPa	5076 psi	35 000 kPa	5076 psi
Travel Circuits	35 000 kPa	5076 psi	35 000 kPa	5076 psi	35 000 kPa	5076 psi	35 000 kPa	5076 psi
Swing Circuits	27 500 kPa	3989 psi	27 500 kPa	3989 psi	28 000 kPa	4061 psi	28 000 kPa	4061 psi
Pilot Circuits	3900 kPa	566 psi	3900 kPa	566 psi	3900 kPa	566 psi	4000 kPa	566 psi
Maximum Drawbar Pull	249 kN	55,977 lb	249 kN	55,977 lb	300 kN	67,443 lb	300 kN	67,443 lb
Maximum Travel Speed at Rated RPM	5.3 km/h	3.3 mph	5.3 km/h	3.3 mph	5.0 km/h	3.1 mph	5.0 km/h	3.11 mph
Track Shoe Width	800 mm	2'8"	600 mm	2'0"	700 mm	2'4"	800 mm	2'8"
Overall Track Length	4860 mm	15'11"	4860 mm	16'0"	4590 mm	15'1"	5020 mm	16'6"
Ground Contact Area with Std. Shoe	6.58 m ²	10,200 in ²	5.03 m ²	7794 in ²	5.53 m ²	8570 in ²	7.01 m ²	10,872 in ²
Track Gauge	2590 mm	8'6"	2390 mm	7'10"	2590 mm	8'6"	2590 mm	8'6"
Fuel Tank Refill Capacity	520 L	137 U.S. gal	520 L	137 U.S. gal	620 L	163.8 U.S. gal	620 L	163.8 U.S. gal
Hydraulic System (includes tank)	310 L	82 U.S. gal	310 L	82 U.S. gal	410 L	108.3 U.S. gal	410 L	108.3 U.S. gal

*Operating weight includes coolant, lubricants, full fuel tank, standard shoes, bucket and operator 75 kg (165 lb).

NOTE: Certain models may not be available in all Sales areas.

Specifications may also vary by Sales area.

Contact your Cat dealer for details.



MODEL	336D L		336D LN	
	Belgium		Belgium	
Sourcing				
Flywheel Power	200 kW	268 hp	200 kW	268 hp
Operating Weight*	35 820 kg	78,983 lb	35 370 kg	77,991 lb
Bucket Capacity Range (heaped)	1.11-2.4 m ³	1.45-3.14 yd ³	1.11-2.4 m ³	1.45-3.14 yd ³
Engine Model	C9 ACERT		C9 ACERT	
Rated Engine RPM	1800		1800	
No. of Cylinders	6		6	
Bore	112 mm	4.4"	112 mm	4.4"
Stroke	149 mm	5.9"	149 mm	5.9"
Displacement	8.8 L	537 in ³	8.8 L	537 in ³
Max. Implement Hydraulic Pump Output at Rated RPM	2 × 280 L/min	2 × 74 gpm	2 × 280 L/min	2 × 74 gpm
Relief Valve Settings:				
Implement Circuits	35 000 kPa	5076 psi	35 000 kPa	5076 psi
Travel Circuits	35 000 kPa	5076 psi	35 000 kPa	5076 psi
Swing Circuits	28 000 kPa	4061 psi	28 000 kPa	4061 psi
Pilot Circuits	4000 kPa	566 psi	4000 kPa	566 psi
Maximum Drawbar Pull	300 kN	67,443 lb	300 kN	67,443 lb
Maximum Travel Speed at Rated RPM	5.0 km/h	3.11 mph	5.0 km/h	3.11 mph
Track Shoe Width	700 mm	2'4"	600 mm	2'0"
Overall Track Length	5020 mm	16'6"	5.02 m	16'6"
Ground Contact Area with Std. Shoe	5.74 m ²	9987 in ²	5.26 m ²	8135 in ²
Track Gauge	2590 mm	8'6"	2.39 m	7'10"
Fuel Tank Refill Capacity	620 L	164 U.S. gal	620 L	164 U.S. gal
Hydraulic System (includes tank)	410 L	108 U.S. gal	410 L	108 U.S. gal

*Operating weight includes coolant, lubricants, full fuel tank, standard shoes, bucket and operator 75 kg (165 lb).

NOTE: Certain models may not be available in all Sales areas.
Specifications may also vary by Sales area.
Contact your Cat dealer for details.

**MODEL****345D L – FIX****345D L – VG****345D L – VG**

	Japan, U.S.		U.S.		Belgium	
Sourcing						
Flywheel Power	283 kW	380 hp	283 kW	380 hp	283 kW	380 hp
Operating Weight*	45 375 kg	100,040 lb	46 970 kg	108,610 lb	52 230 kg	115,167 lb
Bucket Capacity Range (heaped)	1.0-3.1 m ³	1.3-4.03 yd³	1.0-3.1 m ³	1.32-4.03 yd³	2.0-3.6 m ³	3.0-5.0 yd³
Engine Model	C13 ACERT		C13 ACERT		C13 ACERT	
Rated Engine RPM	1800		1800		1800	
No. of Cylinders	6		6		6	
Bore	130 mm	5.1"	130 mm	5.1"	130 mm	5.1"
Stroke	157 mm	6.2"	157 mm	6.2"	157 mm	6.2"
Displacement	12.5 L	736 in³	12.5 L	736 in³	12.5 L	736 in³
Max. Implement Hydraulic Pump Output at Rated RPM	2 × 360 L/min	2 × 95 gpm	2 × 360 L/min	2 × 95 gpm	2 × 367 L/min	2 × 97 gpm
Relief Valve Settings:						
Implement Circuits	35 000 kPa	5080 psi	35 000 kPa	5080 psi	35 000 kPa	5080 psi
Travel Circuits	35 000 kPa	5080 psi	35 000 kPa	5080 psi	35 000 kPa	5080 psi
Swing Circuits	31 400 kPa	4550 psi	31 400 kPa	4550 psi	31 400 kPa	4550 psi
Pilot Circuits	4110 kPa	596 psi	4110 kPa	596 psi	4100 kPa	596 psi
Maximum Drawbar Pull	331 kN	74,380 lb	331 kN	74,380 lb	338 kN	76,050 lb
	Two Speed Travel		Two Speed Travel			
Maximum Travel Speed at Rated RPM	Lo: 3.5 km/h	2.2 mph	Lo: 3.5 km/h	2.2 mph	4.7 km/h	3.0 mph
	Hi: 4.7 km/h	2.9 mph	Hi: 4.7 km/h	2.9 mph		
Track Shoe Width	750 mm	2'6"	750 mm	2'6"	600 mm	2'0"
Overall Track Length	5.36 m	17'7"	5.34 m	17'6"	5330 mm	17'6"
Ground Contact Area with Std. Shoe	7.07 m ²	10,960 in²	5.63 m ²	8730 in²	5.21 m ²	8045 in²
Track Gauge	2.74 m	9'0"	2.4 m	7'10"	2390 mm	7'10"
Extended	—		2.89 m	9'6"	2890 mm	9'6"
Fuel Tank Refill Capacity	705 L	186 U.S. gal	705 L	186 U.S. gal	710 L	188 U.S. gal
Hydraulic System (includes tank)	570 L	150 U.S. gal	570 L	150 U.S. gal	570 L	151 U.S. gal
Hydraulic Tank	—		—		262 L	69 U.S. gal

*Operating weight for 345D L – FIX and 345D L – VG (U.S. Sourced) includes coolant, lubricants, full fuel tank, standard shoes, bucket and operator 75 kg (165 lb). Operating weight for 345D L – VG (Belgium Sourced) includes coolant, lubricants, full fuel tank, one-piece boom, long stick, small profile bucket, operator 75 kg (165 lb) and wide shoes (standard shoes on 345D L – VG).

NOTE: Certain models may not be available in all Sales areas.

Specifications may also vary by Sales area.
Contact your Cat dealer for details.



MODEL	365C L		385C		385C L	
Sourcing	Belgium		Belgium		Belgium	
Flywheel Power	301 kW	404 hp	390 kW	523 hp	390 kW	523 hp
Operating Weight*	70 348 kg	155,117 lb	84 128 kg	185,502 lb	86 549 kg	190,840 lb
Bucket Capacity Range (heaped)	1.54-3.28 m ³	2.02-4.29 yd ³	2.06-4.66 m ³	2.69-6.1 yd ³	2.06-4.66 m ³	2.69-6.1 yd ³
Engine Model	C15 ACERT		C18 ACERT		C18 ACERT	
Rated Engine RPM	1800		1800		1800	
No. of Cylinders	6		6		8	
Bore	137 mm	5.4"	145 mm	5.71"	145 mm	5.71"
Stroke	171 mm	6.75"	183 mm	7.2"	183 mm	7.2"
Displacement	15.2 L	928 in ³	18.1 L	1104 in ³	18.1 L	1104 in ³
Max. Implement Hydraulic Pump Output at Rated RPM	2 × 400 L/min	2 × 105 gpm	2 × 490 L/min	2 × 129 gpm	2 × 490 L/min	2 × 129 gpm
Relief Valve Settings:						
Implement Circuits	32 000 kPa	4640 psi	32 000 kPa	4640 psi	32 000 kPa	4640 psi
Travel Circuits	35 000 kPa	5080 psi	35 000 kPa	5080 psi	35 000 kPa	5080 psi
Swing Circuits	28 050 kPa	4070 psi	26 000 kPa	3770 psi	26 000 kPa	3770 psi
Pilot Circuits	4120 kPa	600 psi	4100 kPa	590 psi	4100 kPa	590 psi
Maximum Drawbar Pull	462 kN	103,860 lb	592 kN	133,200 lb	592 kN	133,200 lb
Maximum Travel	Two Speed Travel		Two Speed Travel		Two Speed Travel	
Speed at	Lo: 2.5 km/h	1.6 mph	Lo: 2.8 km/h	1.7 mph	Lo: 2.8 km/h	1.7 mph
Rated RPM	Hi: 3.9 km/h	2.4 mph	Hi: 4.5 km/h	2.8 mph	Hi: 4.5 km/h	2.8 mph
Track Shoe Width	750 mm	2'6"	650 mm	2'1"	750 mm	2'6"
Overall Track Length	5.86 m	19'2"	5.84 m	19'2"	6.36 m	20'10"
Ground Contact Area with Std. Shoe	7.06 m ²	10,943 in ²	6.54 m ²	10,137 in ²	7.22 m ²	11,191 in ²
Track Gauge	2.75 m	9'0"	2.75 m	9'0"	2.75 m	9'0"
Extended	3.25 m	10'8"	3.51 m	11'6"	3.51 m	11'6"
Fuel Tank Refill Capacity	800 L	211 U.S. gal	1240 L	328 U.S. gal	1240 L	328 U.S. gal
Hydraulic System (includes tank)	670 L	177 U.S. gal	995 L	263 U.S. gal	995 L	263 U.S. gal
Hydraulic tank	310 L	82 U.S. gal	810 L	214 U.S. gal	810 L	214 U.S. gal

*Operating weight for 365C L includes coolant, lubricants, full fuel tank, one-piece boom, long stick, small profile bucket, operator 75 kg (165 lb) and wide shoes.

Operating weight for 385C and 385C L includes coolant, lubricants, full fuel tank, reach boom, medium stick configuration, bucket and operator 75 kg (165 lb) and 1500 kg (3300 lb) for attachments.

NOTE: Certain models may not be available in all Sales areas.

Specifications may also vary by Sales area.

Contact your Cat dealer for details.

SHIPPING DIMENSIONS KEYS**301.6 through 385**

A	Cab height
B	House width, without mirrors
C	Track width, standard shoe
D	Ground clearance, frame
E	Ground clearance, counterweight
F	Tail swing radius
G	Overall track length (grouser bar to grouser bar)
H	Overall transport length
J	Shipping height
K	Length of track on ground
L	Track gauge

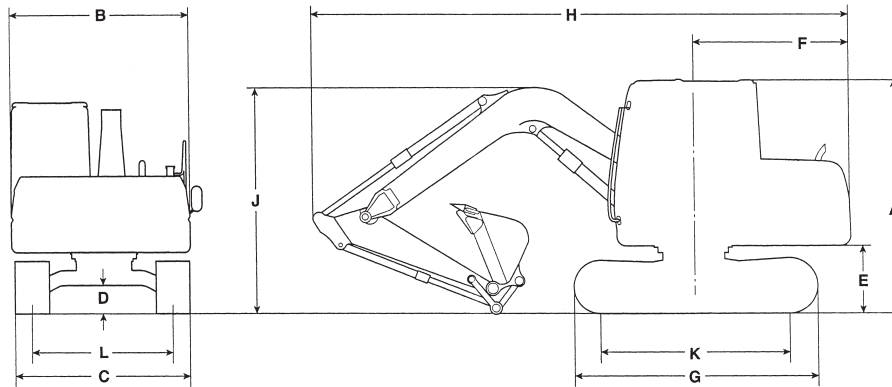
M313D through M322D

A	Cab height
B	Transport width
C	Overall tire width
D	Ground clearance, frame
E	Transport length without boom
F	Overall transport length
G	Transport height
H	Ground clearance, counterweight
J	Tail swing radius
K	Wheelbase length
L	Overall width (outrigger to outrigger)

Excavators

Shipping Dimensions

- 301.6C ● 301.8C ● 302.5C ● 303C CR
- 303.5C CR ● 304C CR ● 305C CR
- 305.5 ● 307D ● 308D CR ● 308D CR SB



	301.6C		301.8C		302.5C		303C CR		303.5C CR		304C CR		305C CR	
Sourcing	U.K.		U.K.		U.K.		Japan		Japan		Japan		Japan	
	mm	ft	mm	ft	mm	ft	mm	ft	mm	ft	mm	ft	mm	ft
A	2190	7'2"	2190	7'2"	2300	7'7"	2500	8'2"	2500	8'2"	2550	8'4"	2550	8'4"
B	980	3'3"	980	3'3"	1450	4'9"	1550	5'1"	1780	5'10"	1980	6'6"	1980	6'6"
C	980	3'3"	980	3'3"	1450	4'9"	1550	5'1"	1780	5'10"	1980	6'6"	1980	6'6"
D	—	—	—	—	—	—	—	—	—	—	—	—	—	—
E	435	1'5"	435	1'5"	545	1'9"	565	1'10"	565	1'10"	615	2'0"	615	2'0"
F	1090	3'7"	1090	3'7"	1280	4'2"	775	2'7"	890	2'11"	990	3'3"	990	3'3"
G	1575	5'2"	1575	5'2"	1925	6'4"	2220	7'3"	2220	7'3"	2580	8'6"	2580	8'6"
H*	3695	12'1"	3695	12'1"	4515	14'10"	4730	15'6"	4820	15'10"	5170	17'0"	5330	17'6"
J*	—	—	—	—	—	—	—	—	—	—	—	—	—	—
K	—	—	—	—	—	—	—	—	—	—	—	—	—	—
L	750	2'6"	750	2'6"	1150	3'9"	1250	4'1"	1480	4'10"	1580	5'2"	1580	5'2"

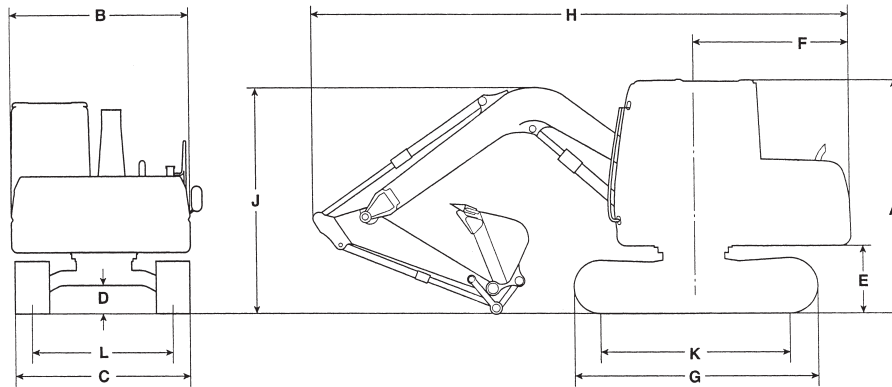
	305.5**		307D		308D CR		308D CR SB	
Sourcing	China		Japan		Japan		Japan	
	mm	ft	mm	ft	mm	ft	mm	ft
A	2545	8'4"	2630	8'8"	2590	8'6"	2590	8'6"
B	1880	6'2"	2230	7'4"	2320	7'7"	2320	7'7"
C	1950	6'5"	2290	7'6"	2320	7'7"	2320	7'7"
D	330	1'1"	380	1'5"	384	1'5"	380	1'5"
E	640	2'1"	760	2'6"	735	2'5"	735	2'5"
F	1635	5'5"	1750	2'6"	1290	4'3"	1310	4'4"
G	2450	8'0"	2760	9'1"	2910	9'7"	2910	9'7"
H*	5925	19'5"	5730	18'10"	6410	20'0"	5830	19'2"
J*	1760	5'10"	2725	8'11"	2240	7'4"	2740	9'0"
K	1920	6'4"	2120	6'11"	2280	7'6"	2120	6'11"
L	1550	5'1"	1840	5'9"	1870	6'2"	1870	6'2"

*Varies with stick length.

**China and Korea only.

Shipping Dimensions

- 311D LRR ● 312D ● 312D L
- 313C SR ● 313C CR ● 314D CR
- 314D LCR ● 315D L

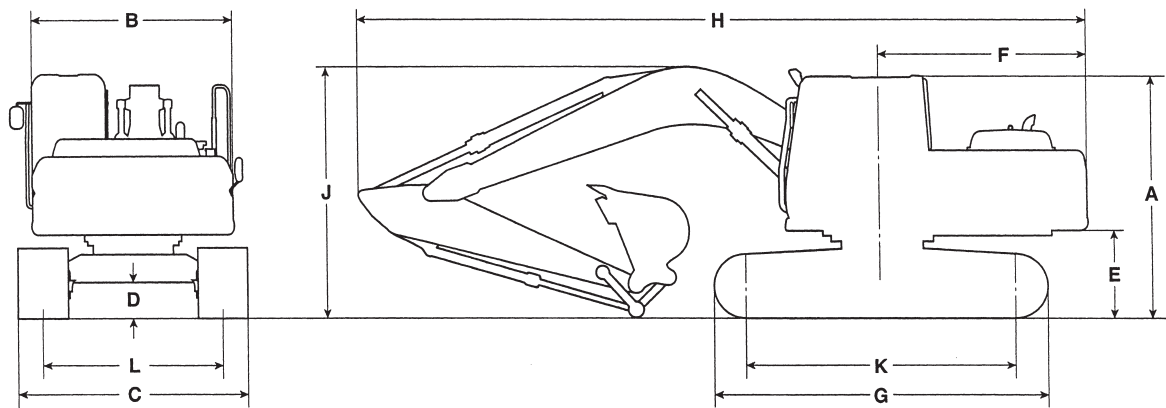


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	311D LRR		312D		312D		312D L		312D L		313C SR		313C CR	
Sourcing	Japan		Japan		France		Japan		France		Japan		Japan	
	mm	ft	mm	ft	mm	ft	mm	ft	mm	ft	mm	ft	mm	ft
A	2755	9'0"	2760	9'1"	2760	9'1"	2760	9'1"	2760	9'1"	2730	8'11"	2730	8'11"
B	2490	8'2"	2510	8'3"	2490	8'2"	2510	8'3"	2490	8'2"	2490	8'2"	2490	8'2"
C	2490	8'2"	2590	8'6"	2490	8'2"	2590	8'6"	2490	8'2"	2490	8'2"	2490	8'2"
D	455	18"	430	17"	430	1'5"	430	17"	430	1'5"	455	18"	455	18"
E	910	3'0"	915	3'0"	915	3'0"	915	3'0"	915	3'0"	915	3'0"	915	3'0"
F	1750	5'9"	2140	7'0"	2140	7'0"	2140	7'0"	2140	7'0"	1420	4'8"	1420	4'8"
G	3490	11'5"	3490	11'5"	3490	11'5"	3750	12'4"	3750	12'4"	3490	11'5"	3490	11'5"
H*	6825	22'5"	7610	25'0"	7610	25'0"	7610	25'0"	7610	25'0"	7480	24'6"	7280	23'11"
J*	3160	10'4"	2830	9'3"	2970	9'8"	2830	9'3"	2970	9'8"	2730	8'11"	2810	9'3"
K	2780	9'1"	2780	9'1"	2780	9'1"	3040	10'0"	3040	10'0"	2780	9'1"	2780	9'1"
L	1990	6'6"	1990	6'6"	1990	6'6"	1990	6'6"	1990	6'6"	1990	6'6"	1990	6'6"

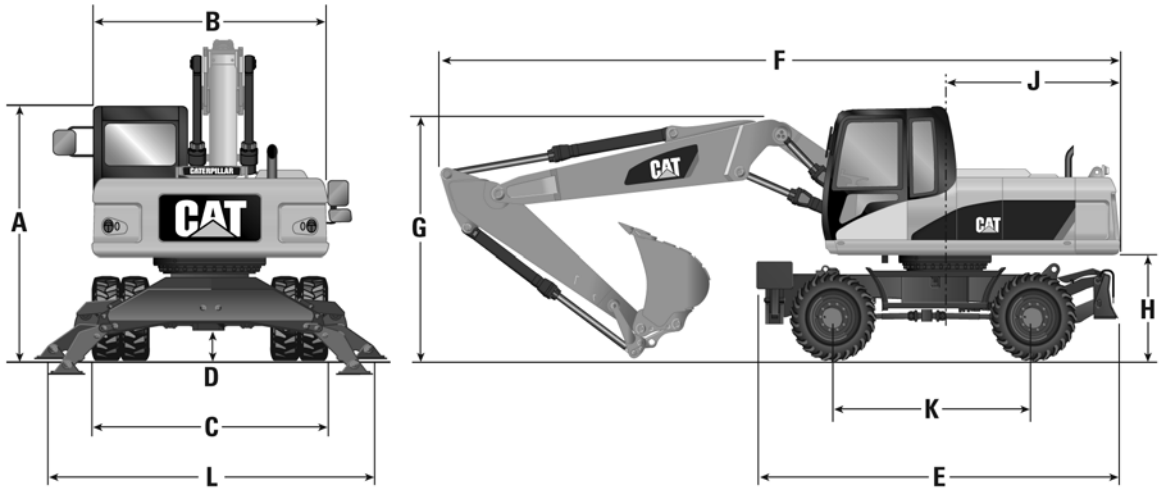
	314D CR		314D LCR		315D L	
Sourcing	Japan		Japan		Japan, France	
	mm	ft	mm	ft	mm	ft
A	2730	8'11"	2730	8'11"	2870	9'4"
B	2490	8'2"	2490	8'2"	2490	8'2"
C	2490	8'2"	2490	8'2"	2590	8'6"
D	430	17"	430	17"	460	18"
E	895	2'11"	895	2'11"	1030	3'5"
F	1480	4'10"	1480	4'10"	2500	8'2"
G	3490	11'5"	3750	12'4"	3970	13'0"
H*	7410	24'4"	7410	24'4"	8545	28'0"
J*	2910	9'7"	2910	9'7"	3360	11'0"
K	2780	9'1"	3040	10'0"	3170	10'5"
L	1990	6'6"	1990	6'6"	1990	6'6"

*Varies with stick length.



Sourcing	319D L		319D LN	
	France		France	
	mm	ft	mm	ft
A	2870	9'5"	2870	9'5"
B	2490	8'2"	2490	8'2"
C	2800	9'2"	2495	8'2"
D	463	18"	463	18"
E	1027	3'4"	1027	3'4"
F	2480	8'2"	2480	8'2"
G	4450	14'7"	4450	14'7"
H*	8775	28'9"	8775	28'9"
J*	3085	10'1"	3085	10'1"
K	3650	12'0"	3650	12'0"
L	2200	7'3"	1995	6'7"

*Varies with stick length.



	M313D		M315D		M316D		M318D		M322D	
	mm	ft	mm	ft	mm	ft	mm	ft	mm	ft
A	3120	10'3"	3150	10'4"	3170	10'5"	3170	10'5"	3200	10'6"
B	2540	8'4"	2540	8'4"	2540	8'4"	2540	8'4"	2670	8'9"
C*	2550	8'4"	2550	8'4"	2550	8'4"	2550	8'4"	2750	9'0"
Dozer width	2550	8'4"	2550	8'4"	2550	8'4"	2550	8'4"	2750	9'0"
D	370	1'3"	370	1'3"	370	1'3"	370	1'3"	380	1'3"
E¹	4725	15'6"	4775	15'8"	4825	15'10"	4825	15'10"	5025	16'6"
E²	4965	16'3"	5015	16'5"	4860	15'11"	4860	15'11"	5060	16'7"
E³	4355	14'3"	4610	15'1"	4330	14'2"	4250	13'11"	4410	14'6"
F	8080	26'6"	8330	27'4"	8400	27'7"	8960	29'5"	9640	31'7"
G	3120	10'3"	3150	10'4"	3170	10'5"	3210	10'6"	3250	10'8"
H	1230	4'0"	1260	4'2"	1280	4'2"	1275	4'2"	1310	4'4"
J	2050	6'9"	2215	7'3"	2280	7'6"	2500	8'2"	2750	9'0"
K	2500	8'2"	2550	8'4"	2600	8'6"	2600	8'6"	2750	9'0"
L	3665	12'0"	3665	12'0"	3675	12'1"	3676	12'1"	3940	12'11"

E¹ 2 Sets Outriggers.

E² Outriggers/Dozer.

E³ Dozer only.

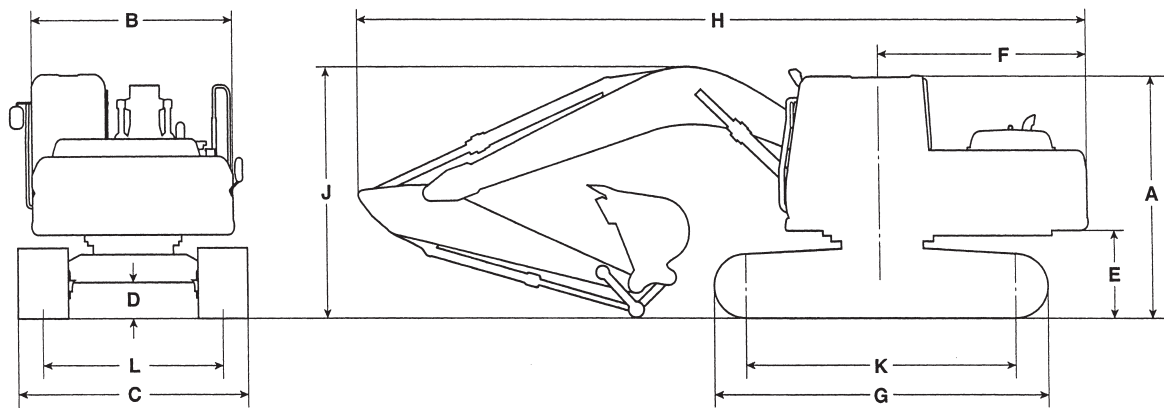
*10 × 20 Dual Tires.

NOTE: Shipping dimensions above are for standard machine equipped with one-piece boom and medium stick.

Excavators

Shipping Dimensions

- 320D, 320D L — Japan/Brazil/China/Indonesia Sourced
- 320D RR, 320D LRR — Japan Sourced



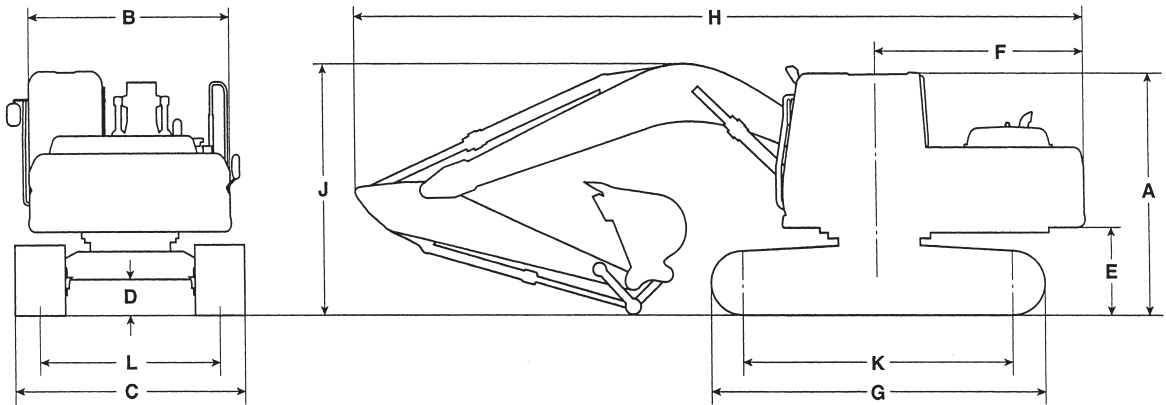
	320D Reach		320D Mass		320D RR Reach		320D L Reach		320D L Mass		320D LRR Reach	
Sourcing	Japan, Brazil, China, Indonesia		Japan, Brazil, China, Indonesia		Japan		Japan, Brazil, China, Indonesia		Japan, Brazil, China, Indonesia		Japan	
	mm	ft	mm	ft	mm	ft	mm	ft	mm	ft	mm	ft
A	2950	9'8"	2950	9'8"	2950	9'8"	2950	9'8"	2950	9'8"	2950	9'8"
B	2740	9'0"	2740	9'0"	2740	9'0"	2740	9'0"	2740	9'0"	2740	9'0"
C	2800	9'2"	2800	9'2"	2800	9'2"	3180	10'5"	3180	10'5"	2800	9'2"
D	450	1'6"	450	1'6"	450	1'6"	450	1'6"	450	1'6"	450	1'6"
E	1020	3'4"	1020	3'4"	1000	3'3"	1020	3'4"	1020	3'4"	1000	3'3"
F	2750	9'0"	2750	9'0"	2000	6'7"	2750	9'0"	2750	9'0"	2000	6'7"
G	4075	13'4"	4075	13'4"	4075	13'4"	4455	14'7"	4455	14'7"	4455	14'7"
H	9440	31'0"	9050	29'8"	8770	28'9"	9440	31'0"	9050	29'8"	8770	28'9"
J*	3440	11'3"	3280	10'9"	3030	9'11"	3440	11'3"	3440	11'3"	3030	9'11"
K	3265	10'9"	3265	10'9"	3265	10'9"	3650	12'0"	3650	12'0"	3650	12'0"
L	2200	7'3"	2200	7'3"	2200	7'3"	2380	7'10"	2380	7'10"	2380	7'10"

*Varies with stick length.

**Europe, Africa, Middle East — 2980 mm (9'3").

Shipping Dimensions

- 321D LCR — Japan Sourced
- 323D L — Belgium/Brazil/Japan/France/China Sourced
- 323D LN, 323D SA — France Sourced



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	321D LCR		321D LCR VA		323D L Reach		323D L Mass		323D L VA	
Sourcing	Japan		Japan		Belgium, Brazil		Belgium, Brazil, Japan		France	
	mm	ft	mm	ft	mm	ft	mm	ft	mm	ft
A	2960	9'9"	2980	9'9"	3050	10'0"	3050	10'0"	3050	10'0"
B	2980	9'9"	2980	9'9"	2750	9'0"	2750	9'0"	2750	9'0"
C	3180	10'5"	2980	9'9"	2980	9'9"	2980	9'9"	2980	9'9"
D	1003	3'3"	450	1'6"	460	1'8"	460	1'8"	460	1'8"
E	963	3'2"	980	3'3"	1000	3'3"	1000	3'3"	1000	3'3"
F	1680	5'6"	1676	5'6"	2770	9'1"	2770	9'1"	2770	9'1"
G	4455	14'7"	4455	14'7"	4455	14'7"	4455	14'7"	4455	14'7"
H	8830	29'0"	9200	30'2"	9460	31'0"	9260	30'4"	9700	31'10"
J*	3170	10'5"	3170	10'5"	3120	10'3"	3250	10'8"	3010	9'11"
K	3650	12'0"	3650	12'0"	3650	12'0"	3650	12'0"	3650	12'0"
L	2380	7'10"	2380	7'10"	2380	7'10"	2380	7'10"	2380	7'10"

	323D L Reach		323D L Mass		323D LN Reach		323D LN VA		323D SA Reach		323D SA VA	
Sourcing	China		China		France		France		France		France	
	mm	ft	mm	ft	mm	ft	mm	ft	mm	ft	mm	ft
A	2950	9'8"	2950	9'8"	3050	10'0"	3050	10'0"	3050	10'0"	3050	10'0"
B	—	—	—	—	2490	8'2"	2490	8'2"	2490	8'2"	2490	8'2"
C	3180	10'5"	3180	10'5"	2490	8'6"	2490	8'6"	2500	8'2"	2500	8'2"
D	450	1'6"	450	1'6"	460	1'8"	460	1'8"	480	1'9"	480	1'9"
E	1020	3'4"	1020	3'4"	1000	3'3"	1000	3'3"	1080	3'7"	1080	3'7"
F	2750	9'0"	2750	9'0"	2770	9'1"	2770	9'1"	2770	9'1"	2770	9'1"
G	4455	14'7"	4455	14'7"	4455	14'7"	4455	14'7"	4360	14'4"	4360	14'4"
H	9460	31'0"	9050	29'8"	9460	31'0"	9700	31'10"	9460	31'0"	9700	31'10"
J*	3050	10'0"	3280	10'10"	3120	10'3"	3010	9'11"	3160	10'4"	3090	10'2"
K	3650	12'0"	3650	12'0"	3650	12'0"	3650	12'0"	3490	11'5"	3490	11'5"
L	2380	7'10"	2380	7'10"	1995	6'7"	1995	6'7"	1895	6'3"	1895	6'3"

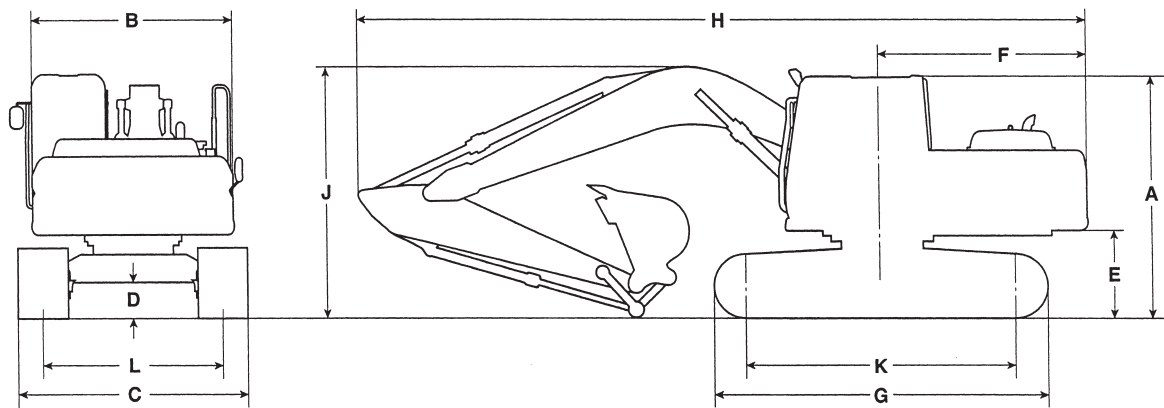
*Varies with stick length.

**Europe, Africa, Middle East — 2980 mm (8'3").

Excavators

Shipping Dimensions

- 324D, 324D L — Japan/U.S. Sourced
- 324D L, 324D LN — Belgium Sourced



Japan/U.S. Sourced

	324D Reach		324D Mass		324D L Reach		324D L Mass	
	mm	ft	mm	ft	mm	ft	mm	ft
A	2980	9'9"	2980	9'9"	2980	9'9"	2980	9'9"
B	2900	9'6"	2900	9'6"	2900	9'6"	2900	9'6"
C	2990	9'10"	2990	9'10"	3390	11'1"	3390	11'1"
D	470	1'6"	470	1'6"	440	1'5"	440	1'5"
E	1060	3'6"	1060	3'6"	1060	3'6"	1060	3'6"
F	2940	9'8"	2940	9'8"	3000	9'10"	3000	9'10"
G	4250	13'11"	4250	13'11"	4630	15'2"	4630	15'2"
H*	10 050	33'0"	9480	31'1"	10 050	33'0"	9480	31'1"
J*	3170	10'5"	3320	10'11"	3170	10'5"	3450	11'4"
K	3450	11'4"	3450	11'4"	3830	12'7"	3830	12'7"
L	2390	7'10"	2390	7'10"	2590	8'6"	2590	8'6"

Belgium Sourced

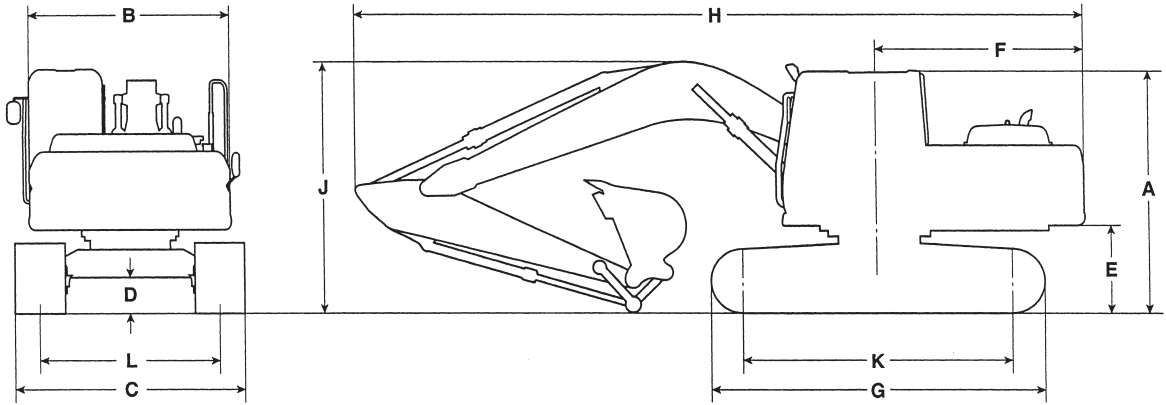
	324D L Reach		324D L Mass		324D L VA		324D LN Reach		324D LN Mass		324D LN VA	
	mm	ft	mm	ft	mm	ft	mm	ft	mm	ft	mm	ft
A	2980	9'9"	2980	9'9"	2980	9'9"	2980	9'9"	2980	9'9"	2980	9'9"
B	2900	9'6"	2900	9'6"	2900	9'6"	2900	9'6"	2900	9'6"	2900	9'6"
C	3390	11'1"	3390	11'1"	3390	11'1"	2990	9'10"	2990	9'10"	2990	9'10"
D	440	1'5"	440	1'5"	440	1'5"	440	1'5"	440	1'5"	440	1'5"
E	1060	3'6"	1060	3'6"	1060	3'6"	1060	3'6"	1060	3'6"	1060	3'6"
F	3000	9'10"	3000	9'10"	3000	9'10"	3000	9'10"	3000	9'10"	3000	9'10"
G	4630	15'2"	4630	15'2"	4630	15'2"	4630	15'2"	4630	15'2"	4630	15'2"
H*	10 060	33'0"	9480	31'1"	10 210	33'6"	10 060	33'0"	9480	31'1"	10 210	33'6"
J*	3170	10'5"	3450	11'4"	3270	10'9"	3170	10'5"	3450	11'4"	3270	10'9"
K	3830	12'7"	3830	12'7"	3830	12'7"	3830	12'7"	3830	12'7"	3830	12'7"
L	2590	8'6"	2590	8'6"	2590	8'6"	2390	7'10"	2390	7'10"	2390	7'10"

*Varies with stick length.

- Shipping Dimensions
- 328D LCR, 329D, 329D L — Japan/U.S. Sourced
 - 329D L, 329D LN — Belgium Sourced

Excavators

4



Japan/U.S. Sourced

	328D LCR Reach		329D Reach		329D Mass		329D L Reach		329D L Mass	
	mm	ft	mm	ft	mm	ft	mm	ft	mm	ft
A	3190	10'0"	3040	10'0"	3040	10'0"	3040	10'0"	3040	10'0"
B	3100	10'2"	2900	9'6"	2900	9'6"	2900	9'6"	2900	9'6"
C	3440	11'3"	2990	9'10"	2990	9'10"	3390	11'1"	3390	11'1"
D	510	1'8"	490	1'7"	490	1'7"	490	1'7"	490	1'7"
E	1200	3'11"	1110	3'8"	1110	3'8"	1110	3'8"	1110	3'8"
F	1900	6'3"	3080	10'1"	3080	10'1"	3080	10'1"	3080	10'1"
G	5020	16'6"	4360	14'4"	4360	14'4"	4860	15'11"	4860	15'11"
H*	9820	32'3"	10 410	34'2"	9860	32'4"	10 410	34'2"	9860	32'4"
J*	3400	11'2"	3130	10'3"	3250	10'8"	3180	10'5"	3250	10'8"
K	4040	13'3"	3490	11'5"	3490	11'5"	3990	13'1"	3990	13'1"
L	2590	8'6"	2390	7'10"	2390	7'10"	2590	8'6"	2590	8'6"

Belgium Sourced

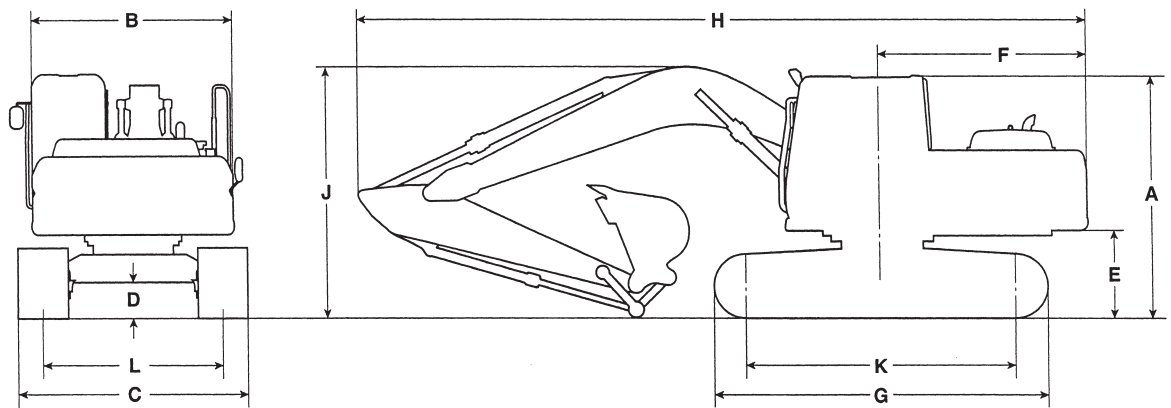
	329D L Reach		329D L Mass		329D L VA		329D LN Reach		329D LN Mass		329D LN VA	
	mm	ft	mm	ft	mm	ft	mm	ft	mm	ft	mm	ft
A	3040	10'0"	3040	10'0"	3040	10'0"	3040	10'0"	3040	10'0"	3040	10'0"
B	2900	9'6"	2900	9'6"	2900	9'6"	2900	9'6"	2900	9'6"	2900	9'6"
C	3390	11'1"	3390	11'1"	3390	11'1"	2990	9'10"	2990	9'10"	2990	9'10"
D	480	1'7"	480	1'7"	480	1'7"	480	1'7"	480	1'7"	480	1'7"
E	1110	3'8"	1110	3'8"	1110	3'8"	1110	3'8"	1110	3'8"	1110	3'8"
F	3080	10'1"	3080	10'1"	3080	10'1"	3080	10'1"	3080	10'1"	3080	10'1"
G	4860	15'11"	4860	15'11"	4860	15'11"	4860	15'11"	4860	15'11"	4860	15'11"
H*	10 410	34'2"	9860	32'4"	10 620	34'10"	10 410	34'2"	9860	32'4"	10 620	34'10"
J*	3180	10'5"	3250	10'8"	3370	11'1"	3180	10'5"	3250	10'8"	3370	11'1"
K	3990	13'1"	3990	13'1"	3990	13'1"	3990	13'1"	3990	13'1"	3990	13'1"
L	2590	8'6"	2590	8'6"	2590	8'6"	2390	7'10"	2390	7'10"	2390	7'10"

*Varies with stick length.

Excavators

Shipping Dimensions

- 336D, 336D L — Japan/U.S./Brazil Sourced
- 336D L, 336D LN — Belgium Sourced



Japan/U.S./Brazil Sourced

	336D Reach**		336D Mass**		336D L Reach		336D L Mass	
	mm	ft	mm	ft	mm	ft	mm	ft
A	3140	10'4"	3140	10'4"	3140	10'4"	3140	10'4"
B	2960	9'9"	2960	9'9"	2960	9'9"	2960	9'9"
C	3190	10'6"	3190	10'6"	3390	11'1"	3390	11'1"
D	450	1'6"	450	1'6"	450	1'6"	450	1'6"
E	1220	4'0"	1220	4'0"	1220	4'0"	1220	4'0"
F	3500	11'6"	3500	11'6"	3500	11'6"	3500	11'6"
G	4590	15'1"	4590	15'1"	5020	16'6"	5020	16'6"
H*	11 200	36'9"	10 910	35'10"	11 200	36'9"	10 910	35'10"
J*	3700	12'2"	3650	12'0"	3630	11'11"	3580	11'9"
K	2590	8'6"	2590	8'6"	4040	13'3"	4040	13'3"
L	2590	8'6"	2590	8'6"	2590	8'6"	2590	8'6"

*Varies with stick length.

**600 mm (24") shoes.

Belgium Sourced

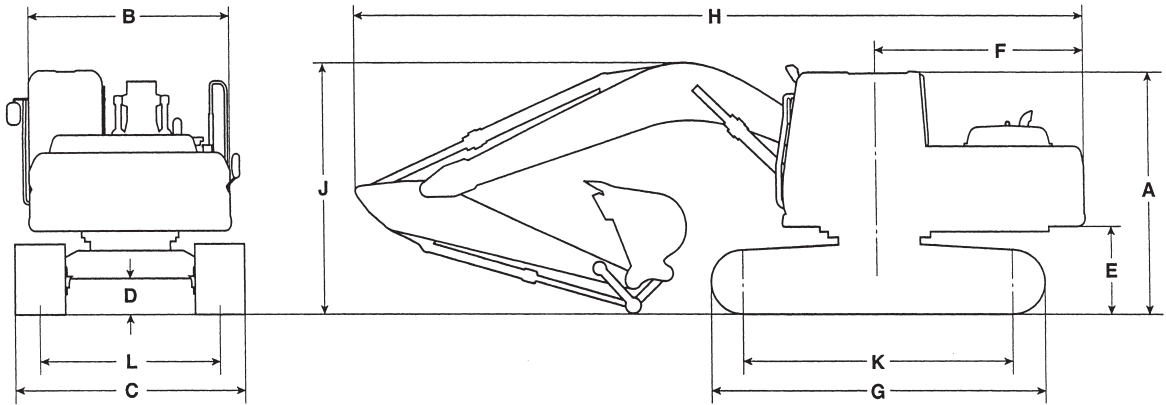
	336D L Reach		336D L Mass		336D L VA		336D LN Reach		336D LN Mass		336D LN VA	
	mm	ft	mm	ft	mm	ft	mm	ft	mm	ft	mm	ft
A	3140	10'4"	3140	10'4"	3140	10'4"	3140	10'4"	3140	10'4"	3140	10'4"
B	2960	9'9"	2960	9'9"	2960	9'9"	2960	9'9"	2960	9'9"	2960	9'9"
C	3290	10'9"	3290	10'9"	3290	10'9"	2990	9'10"	2990	9'10"	2990	9'10"
D	450	1'6"	450	1'6"	450	1'6"	450	1'6"	450	1'6"	450	1'6"
E	1220	4'0"	1220	4'0"	1220	4'0"	1220	4'0"	1220	4'0"	1220	4'0"
F	3500	11'6"	3500	11'6"	3500	11'6"	3500	11'6"	3500	11'6"	3500	11'6"
G	5020	16'6"	5020	16'6"	5020	16'6"	5020	16'6"	5020	16'6"	5020	16'6"
H*	11 200	36'9"	10 910	35'10"	11 230	40'1"	11 200	36'9"	10 910	35'10"	11 230	36'10"
J*	3540	11'7"	3580	11'9"	3630	11'11"	3540	11'7"	3580	11'9"	3630	11'11"
K	4040	13'3"	4040	13'3"	4040	13'3"	4040	13'3"	4040	13'3"	4040	13'3"
L	2590	8'6"	2590	8'6"	2590	8'6"	2390	7'10"	2390	7'10"	2390	7'10"

*Varies with stick length.

Shipping Dimensions
 ● 345D L — Japan Sourced
 ● 345D L, 365C L — Belgium Sourced

Excavators

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345D L – FIX
Reach

345D L – FIX
Mass

345D L – VG
Reach

	mm	ft	mm	ft	mm	ft
A***	3210	10'6"	3210	10'6"	3360	11'0"
B****	2692	9'8"	2962	9'8"	—	—
C**	3640	11'11"	3640	11'11"	3290	10'9"
D	510	1'8"	510	1'8"	710	2'4"
E	1320	4'4"	1320	4'4"	1430	4'8"
F	3770	12'4"	3770	12'4"	3770	12'4"
G	5360	17'7"	5360	17'7"	5330	17'6"
H*	11 950	39'2"	11 710	37'11"	11 840	38'10"
J*	3660	12'0"	3960	13'0"	3730	12'3"
K	—	—	—	—	4340	14'3"
L	—	—	—	—	2390	7'10"

*Varies with stick length.

**Transport position — 900 mm (36") track shoes.

***Without Falling Object Guard (FOG).

****No mirror or handrail.

Medium stick is available all models.

Undercarriage is retracted.

345D L – VG
Mass

345D L – FG
Reach

345D L – FG
Mass

365C L
Reach

365C L
6.6 m (21'8")
Mass
Boom

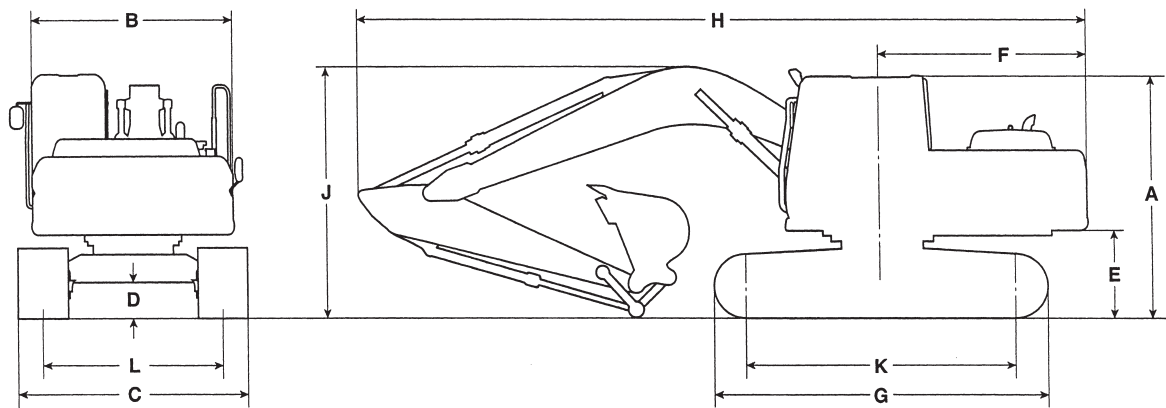
365C L
7.0 m (23'0")
Mass
Boom

	mm	ft	mm	ft	mm	ft	mm	ft	mm	ft	mm	ft
A**	3360	11'0"	3310	10'10"	3310	10'10"	3680	12'1"	3680	12'1"	3680	12'1"
B***	—	—	2995	20'10"	2995	20'10"	3450	11'4"	3450	11'4"	3450	11'4"
C	3290	10'9"	3340	10'11"	3340	10'11"	3500	11'6"	3500	11'6"	3500	11'6"
D	710	2'4"	476	1'7"	476	1'7"	840	2'9"	840	2'9"	840	2'9"
E	1430	4'8"	—	—	—	—	1540	5'1"	1540	5'1"	1540	5'1"
F	3770	12'4"	3765	12'4"	3765	12'4"	4015	13'2"	4015	13'2"	4015	13'2"
G	5330	17'6"	5371	17'7"	5371	17'7"	5860	19'3"	5860	19'3"	5860	19'3"
H*	11 610	38'1"	11 824	38'10"	11 530	37'10"	13 307	43'8"	12 199	40'0"	12 615	41'5"
J*	4000	13'1"	3547	11'8"	3938	12'11"	4173	13'8"	4630	15'2"	4634	15'2"
K	4340	14'3"	4356	14'3"	4356	14'3"	4705	15'5"	4705	15'5"	4705	15'5"
L	2390	7'10"	2740	9'0"	2740	9'0"	2750	9'0"	2750	9'0"	2750	9'0"

*Varies with stick length.

**Without Falling Object Guard (FOG).

***No mirror or handrail.



	385C Reach		385C GP		385C Mass		385C L Reach		385C L GP		385C L Mass	
	mm	ft	mm	ft	mm	ft	mm	ft	mm	ft	mm	ft
A*	3760	12'3"	3760	12'3"	3760	12'3"	3760	12'3"	3760	12'3"	3760	12'3"
B**	3470	11'4"	3470	11'4"	3470	11'4"	3470	11'4"	3470	11'4"	3470	11'4"
C	3400	11'2"	3400	11'2"	3400	11'2"	3500	11'2"	3500	11'2"	3500	11'2"
D	890	2'11"	890	2'11"	890	2'11"	890	2'11"	890	2'11"	890	2'11"
E	1580	5'2"	1580	5'2"	1580	5'2"	1580	5'2"	1580	5'2"	1580	5'2"
F	4590	15'1"	4590	15'1"	4590	15'1"	4590	15'1"	4590	15'1"	4590	15'1"
G	5840	19'2"	5840	19'2"	5840	19'2"	6360	19'2"	6360	19'2"	6360	19'2"
H	16 233	53'2"	14 633	48'0"	13 470	44'2"	16 233	53'2"	14 633	48'0"	13 470	44'2"
J	4937	16'2"	4960	16'3"	4782	15'7"	4937	16'2"	4960	16'3"	4782	15'7"
K	4600	15'1"	4600	15'1"	4600	15'1"	5120	15'1"	5120	15'1"	5120	15'1"
L	2750	9'0"	2750	9'0"	2750	9'0"	2750	9'0"	2750	9'0"	2750	9'0"

*Without Falling Object Guard (FOG).

**No mirror or handrail.

Medium stick is available all models.

Major Component Weights

● 301.6C ● 301.8C ● 302.5C ● 303C CR
● 303.5C CR ● 304C CR ● 305C CR ● 305.5

Excavators

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	301.6C		301.8C		302.5C		303C CR	
Buckets: (see data in bucket section)	kg	lb	kg	lb	kg	lb	kg	lb
Sticks:*								
Medium Stick		—	54	119	90	198	58	130
Long Stick	59	130	59	130	102	225	77	170
Booms:**								
One-piece	105	231	105	231	179	395	285	630
Other:								
Upperstructure (complete w/o ctwt)	802	1768	805	1775	1160 †	2557	1057	2330
Standard undercarriage (std shoe)	443	977	549	1210	900	1984	1046	2310
Counterweight	125	276	100	220	118	260	360	790
Extra Counterweight		—		—		—	210	460

*Stick weights include stick, stick lines, bucket cylinder, bucket cylinder pins and bucket linkage.

**Boom weights include boom, boom lines, boom cylinders and rod end pins, stick cylinder, head end pin and stick lines.

†Includes canopy, does not include boom, stick, counterweight or work tool. Undercarriage includes blade, blade cylinder and lines, track motors, swivel joint and lines, swinger sprocket, idlers, rollers and rubber track.

	303.5C CR		304C CR		305C CR		305.5†	
Buckets: (see data in bucket section)	kg	lb	kg	lb	kg	lb	kg	lb
Sticks:*								
Medium Stick	95	210	142	310	145	320	132	292
Long Stick	127	280	187	410	189	420		—
Booms:**								
One-piece	195	430	279	610	280	620	284	627
Other:								
Upperstructure (complete w/o ctwt)	1342	2970	1743	3840	1867	4120	2548	5617
Standard undercarriage (std shoe)	1059	2330	1565	3450	1704	3760	1968	4340
Counterweight	360	790	379	840	603	1330	500	1102
Extra Counterweight	220	490	190	420	190	420		—

*Stick weights include stick, stick lines, bucket cylinder, bucket cylinder pins and bucket linkage.

**Boom weights include boom, boom lines, boom cylinders and rod end pins, stick cylinder, head end pin and stick lines.

†China and Korea only.

Excavators

Major Component Weights

- 307D ● 308D CR ● 308D CR SB ● 311D LRR
- 312D ● 312D L ● 313C CR ● 313C SR

	307D		308D CR		308D CR SB		311D LRR	
Source	Japan		Japan		Japan		Japan	
Buckets: (see data in bucket section)	kg	lb	kg	lb	kg	lb	kg	lb
Sticks:*								
Medium Stick	272	598	285	627	285	627	341	752
Intermediate Stick	—	—	—	—	—	—	383	845
Long Stick	336	739	343	755	343	755	415	915
Booms:**								
One-piece	516	1135	539	1186	507	1115	759	1674
Other:								
Upperstructure (complete w/o ctwt)	2400	5280	2770	6094	3480	7656	3750	8269
Standard undercarriage (std shoe)	2590	5698	2780	6116	2780	6116	—	—
Long undercarriage (std shoe)	—	—	—	—	—	—	4016	8855
Counterweight	750	1650	1050	2310	880	1936	2450	5410

*Stick weights include stick, stick lines, bucket cylinder, bucket cylinder pins and bucket linkage.

**Boom weights include boom, boom lines, boom cylinders and rod end pins, stick cylinder, head end pin and stick lines.

	312D		312D L		312D/312D L		313C CR		313C SR	
Source	Japan		Japan		France		Japan		Japan	
Buckets: (see data in bucket section)	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb
Sticks:*										
Short Stick	—	—	—	—	581	1281	—	—	—	—
Medium Stick	373	822	373	822	567	1250	380	840	340	750
Intermediate Stick	431	950	431	950	—	—	—	—	—	—
Long Stick	453	999	453	999	645	1422	460	1010	—	—
Heavy Duty Medium Stick	—	—	—	—	—	—	440	970	—	—
Booms:**										
One-piece Reach	825	1819	825	1819	1290	2844	870	1920	—	—
Parallel-Offset	—	—	—	—	—	—	—	—	1590	3510
VA (France sourced only)	—	—	—	—	1806	3982	—	—	—	—
Other:										
Upperstructure (complete w/o ctwt)	3948	8705	3948	8705	4240	9349	3950	8710	4020	8860
Standard undercarriage (std shoe)	4100	9041	—	—	4307	9497	3900	8600	4680	10,320
Long undercarriage (std shoe)	—	—	4400	9702	4617	10,180	—	—	—	—
Counterweight	2450	5410	2450	5410	2450	5402	2500	5510	2500	5510

*Stick weights include stick, stick lines, bucket cylinder, bucket cylinder pins, bucket linkage and stick nose pin.

**Boom weights include boom, boom lines, boom cylinders and rod end pins, stick cylinder, head end pin and stick lines.

Major Component Weights

- 314D CR
- 314D LCR
- 315D L
- 319D L
- 319D LN

Excavators

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	314D CR		314D LCR		315D L	
Source	Japan		Japan		Japan	
Buckets: (see data in bucket section)	kg	lb	kg	lb	kg	lb
Sticks:*						
Short Stick	—		—		485	1069
Medium Stick	373	822	373	822	520	1146
Intermediate Stick	431	950	431	950	582	1283
Long Stick	453	999	453	999	610	1345
Booms:**						
One-piece	827	1824	827	1824	1628	3590
Other:						
Upperstructure (complete w/o ctwt)	4075	8985	4075	8985	4978	10,976
Standard undercarriage (std shoe)	4025	8875	—		—	
Long undercarriage (std shoe)	—		4146	9142	6084	13,415
Counterweight (std)	3300	7280	3300	7280	3179	7010
Counterweight (optional)	3830	8450	3830	8450	—	

*Stick weights include stick, stick lines, bucket cylinder, bucket cylinder pins, bucket linkage and stick nose pin.

**Boom weights include boom, boom lines, boom cylinders and rod end pins, stick cylinder and head end pin.

	319D L		319D LN	
Source	France		France	
Buckets: (see data in bucket section)	kg	lb	kg	lb
Sticks:*				
Short Stick	1002	2209	1002	2209
Medium Stick	981	2163	981	2163
Long Stick	980	2161	980	2161
Extra Long Stick	1075	2370	1075	2370
Booms:**				
One-piece Reach	1878	4140	1878	4140
VA (France sourced only)	2379	5245	2379	5245
Other:				
Upperstructure (complete w/o ctwt)	5484	12,092	5484	12,092
Long undercarriage (std shoe)	7156	15,779	6861	15,129
Counterweight	3600	7938	3600	7938

*Stick weights include stick, stick lines, bucket cylinder, bucket cylinder pins, bucket linkage and stick nose pin.

**Boom weights include boom, boom lines, boom cylinders and rod end pins, stick cylinder and head end pin.

	M313D		M315D		M316D		M318D		M322D	
Buckets: (see data in bucket section)	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb
Sticks:*										
Short Stick	370	816	470	1036	470	1036	550	1213	650	1433
Medium Stick	390	860	514	1133	514	1133	580	1279	700	1544
Long Stick	440	970	530	1169	530	1169	600	1323	780	1720
Booms:**										
VA Boom	1695	3737	2020	4454	2050	4520	2230	4917	2830	6240
One-piece Boom	1250	2756	1530	3374	1560	3440	1930	4256	2350	5182
Other:										
Upperstructure (with swing bearing, no boom)	7065	15,578	8126	17,918	9296	20,498	10 050	22,160	10 245	22,590
Undercarriage (with standard tires)	3500	7718	3890	8577	4200	9261	4200	9261	4900	10,805
Dozer Blade front	750	1654	750	1654	740	1632	740	1632	—	
Dozer Blade rear	650	1433	650	1433	770	1698	770	1698	920	2029
Outriggers front	960	2117	960	2117	1030	2271	1030	2271	1260	2778
Outriggers rear	950	2095	950	2095	1010	2227	1010	2227	1220	2690

*Stick weight includes stick, stick lines, bucket cylinder, bucket cylinder pins, bucket linkage and bucket linkage pins.

**Boom weight includes boom, boom lines, boom cylinders, boom cylinder rod end pin, stick cylinder, stick cylinder head end pin and boom nose pin.

Source	320D		320D RR	
	Japan/Brazil		Japan/U.S.	
Buckets: (see data in bucket section)	kg	lb	kg	lb
Booms:**				
One-piece Reach	1400	3090	1400	3090
One-piece Reach HD	2194	4840	—	—
Sticks:* (for Reach Boom)				
Short Stick	730	1610	—	—
Medium Stick	640	1410	640	1410
Long Stick	660	1460	660	1460
Extra Long Stick	910	2010	910	2010
Heavy Duty Long Stick	1100	2430	—	—
Heavy Duty Medium Stick	1040	2290	—	—
Booms:**				
One-piece Mass	1410	3110	—	—
Sticks:* (for Mass Boom)				
Short Stick	720	1590	—	—
Medium Stick	750	1650	—	—
Upperstructure (complete w/o ctwt)	5750	12,677	5650	12,457
Undercarriage — Standard () Shoe width — Long (FIX)	6650 (600 mm/24 in)	14,660	6650 (600 mm/24 in)	14,660
	7000 (700 mm/28 in)	15,430	7000 (700 mm/28 in)	15,430
	7250 (800 mm/32 in)	15,980	7250 (800 mm/32 in)	15,980
	7200 (600 mm/24 in)	15,870	7200 (600 mm/24 in)	15,870
	7580 (700 mm/28 in)	16,710	7580 (700 mm/28 in)	16,710
	7850 (800 mm/32 in)	17,310	7850 (800 mm/32 in)	17,310
	8120 (900 mm/36 in)	17,900	8120 (900 mm/36 in)	17,900
	3860	8510	6500	14,330
Counterweight — Standard	3860	8510	6500	14,330

*Stick weights include stick and stick lines.

**Boom weights include boom, boom lines, boom cylinders and rod end pins, stick cylinder and head end pin.

Excavators

Major Component Weights

- 321D LCR ● 323D ● 323D L
- 324D ● 324D L ● 324D LN

	321D LCR		323D		323D L		324D		324D L/ 324D LN
Source	Japan		Belgium/Brazil France/Japan		China		Japan/U.S.		Belgium
Buckets: (see data in bucket section)	kg	lb	kg	lb	kg	lb	kg	lb	kg lb
Booms:**									
One-piece Reach	2106	4640	1680	3704	1680	3704	2033	4482	2033 4482
VA Boom	2210	4873	2240	4939	—	—	—	—	—
Sticks:* (for Reach Boom)									
Short Stick	—	—	1210	2668	—	—	1149	2533	1149 2533
Medium Stick	—	—	1100	2426	1100	2426	1208	2663	1208 2663
Long Stick	926	2040	1120	2470	1120	2470	1199	2643	—
Extra Long Stick	—	—	—	—	—	—	1610	3549	—
Booms:**									
One-piece Mass	—	—	1120	2470	1700	3749	2138	4713	2138 4713
•	—	—	—	—	—	—	—	—	2643 5166
Sticks:* (for Mass Boom)									
Short Stick	—	—	1210	2668	1210	2668	1470	3241	1470 3241
Medium Stick	—	—	—	—	—	—	—	—	1535 3385
Upperstructure (complete w/o ctwt)	10 233	22,564	7450	16,427	—	—	6980	15,388	6980 15,388
Undercarriage — Standard	(600 mm/24 in) 6649	14,660	(600 mm/24 in) 7080	15,611	—	—	(600 mm/24 in) 7950	17,527	—
	—	—	—	—	—	—	(700 mm/28 in) 8210	18,100	—
	—	—	—	—	—	—	(800 mm/32 in) 8485	18,706	—
	—	—	—	—	—	—	(600 mm/24 in) 8661	19,094	—
() Shoe width — Long (FIX)	(600 mm/24 in) 7847	17,300	—	—	—	—	(700 mm/28 in) 8943	19,716	—
	—	—	—	—	—	—	(800 mm/32 in) 9240	20,370	—
Undercarriage — L	—	—	7930	17,486	7930	17,486	—	—	8485 18,706
— LN	—	—	7580	16,714	—	—	—	—	7950 17,527
— SA	—	—	8376	18,469	—	—	—	—	—
Counterweight — Standard	6100	13,450	4400	9702	4400	9702	4520	9965	—
— L	—	—	4400	9702	—	—	—	—	4520 9965
— LN	—	—	4700	10,364	—	—	—	—	4520 9965
— SA	—	—	4700	10,364	—	—	—	—	—

*Stick weights include stick and stick lines.

**Boom weights include boom, boom lines, boom cylinders and rod end pins, stick cylinder and head end pin.

Major Component Weights

- 328D LCR
- 329D
- 329D L
- 329D LN
- 336D
- 336D L
- 336D LN

Excavators

4

	328D LCR		329D/ 329D L		329D L/ 329D LN		336D/ 336D L		336D L/ 336D LN	
Source	Japan/U.S.		Japan/U.S.		Belgium		Japan/U.S. Brazil		Belgium	
Buckets: (see data in bucket section)	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb
Booms:**										
One-piece Reach HD	2300	5071	2300	5071	2300	5071	3495	7706	3255	7176
Sticks:* (for Reach Boom)										
Short Stick	1300	2866	1300	2866	1300	2866	1890	4170	1867	4116
•	1390	3064	1390	3064	—	—	2012	4436	—	—
•	—	—	1580	3483	—	—	—	—	—	—
•	—	—	1610	3549	—	—	—	—	—	—
Medium Stick	—	—	—	—	1390	3064	—	—	2012	4436
Long Stick	—	—	—	—	1580	3583	—	—	2180	4807
Long HD Stick	—	—	—	—	1610	3549	—	—	2305	5083
Booms:**										
One-piece Mass	—	—	2375	5236	2375	5236	3283	7238	3283	7238
VA Boom	—	—	—	—	3195	7045	—	—	4433	9775
Sticks:* (for Mass Boom)										
Short	—	—	—	—	—	—	—	—	2079	4583
Medium	—	—	—	—	1530	3373	—	—	—	—
Sticks:* (for Mass Boom & VA Boom)										
Short	—	—	1470	3241	—	—	2079	4583	—	—
•	—	—	1530	3373	—	—	—	—	—	—
Upperstructure (complete w/o ctwt)	7720	17,020	6770	14,925	6770	14,925	8160	17,990	8160	17,990
Undercarriage — Standard	—	—	(600 mm/24 in)	—	—	—	(600 mm/24 in)	—	—	—
	—	—	9440	20,812	—	—	11 980	26,411	—	—
	—	—	(700 mm/28 in)	—	—	—	(700 mm/28 in)	—	—	—
	—	—	9742	21,478	—	—	12 278	27,068	—	—
	—	—	(800 mm/32 in)	—	—	—	(800 mm/32 in)	—	—	—
	—	—	10 312	22,734	—	—	12 906	28,453	—	—
() Shoe width — Long (FIX)	(600 mm/24 in)	(600 mm/24 in)	—	—	—	—	(600 mm/24 in)	—	—	—
	12 689	27,975	10 432	22,999	—	—	12 884	28,404	—	—
	(700 mm/28 in)	(700 mm/28 in)	—	—	—	—	(700 mm/28 in)	—	—	—
	13 014	28,691	10 767	23,737	—	—	13 210	29,123	—	—
	(850 mm/34 in)	(800 mm/32 in)	—	—	—	—	(800 mm/32 in)	—	—	—
	14 000	30,865	11 400	25,133	—	—	13 894	30,631	—	—
Undercarriage — L	—	—	—	—	10 312	22,734	—	—	12 278	27,068
— LN	—	—	—	—	9440	20,812	—	—	11 980	26,411
— ES	—	—	—	—	—	—	—	—	15 020	33,119
Counterweight — Standard	7720	17,020	5410	11,927	—	—	6020	13,272	—	—
— L	—	—	—	—	5410	11,927	—	—	6260	13,803
— LN	—	—	—	—	5410	11,927	—	—	6260	13,803

*Stick weights include stick and stick lines.

**Boom weights include boom, boom lines, boom cylinders and rod end pins, stick cylinder and head end pin.

	345D/345D L		345D L		365C L		385C/385C L	
Source	Japan/U.S.		Belgium		Belgium		Belgium	
Buckets: (see data in bucket section)	kg	lb	kg	lb	kg	lb	kg	lb
Booms:*								
One-piece Reach	—		—		6400	14,110	9650	21,280
One-piece Long Reach	5135	11,323	—		—		—	
One-piece Reach HD	5467	12,052	4590	10,120	—		—	
Sticks:** (for Reach Boom)								
Short Stick	1670	3680	1950	4300	3370	7430	—	
•	1690	3730	—		3580	7890	—	
•	1805	3980	—		3800	8380	4550	10,030
•	1935	4267	—		—		—	
Medium Stick	—		1990	4390	—		—	
Long Stick	—		—		3980	8780	4860	10,720
Booms:*								
One-piece General Purpose	—		—		8240	18,170	—	
Sticks:** (for General Purpose Boom)								
Short	—		—		—		4820	10,630
•	—		—		—		4550	10,030
Long	—		—		—		4860	10,720
Booms:*								
One-piece Mass	5474	12,068	4600	10,145	6420 †	14,160	8320	18,350
•	—		—		6720 ‡	14,820	—	
Sticks:** (for Mass Boom)								
Short	—		—		4050	8930	4850	10,690
•	—		—		4230	9330	4990	11,000
Medium	—		2190	4830	—		—	
Long	—		2370	5225	—		—	
Sticks:** (for Mass Boom & VA Boom)								
Short	1765	3890	—		—		—	
Extra Long	1945	4290	—		—		—	
Upperstructure (complete w/o ctwt)	10 800	23,810	12 440	27,430	17 380	38,320	21 450	47,300
Undercarriage — Standard	(750 mm/30 in)		—		—		(650 mm/26 in)	
	15 950	35,160	—		—		32 160	70,910
() Shoe width — Long	—		—		(750 mm/30 in)		(750 mm/30 in)	
	—		—		26 970	59,470	32 900	72,540
() Shoe width — Long (FIX)	(750 mm/30 in)		—		—		—	
	16 560	36,510	—		—		—	
— Long (VG)	(600 mm/24 in)		—		—		—	
	17 840	39,330	—		—		—	
() Shoe width — ES	—		—		(650 mm/26 in)		—	
	—		—		32 340	71,310	—	
Undercarriage — L VG	—		17 790	39,225	—		—	
Counterweight — Standard	9000	19,845	—		—		11 650	25,690
— Long	—		9040	19,933	10 090	22,250	—	

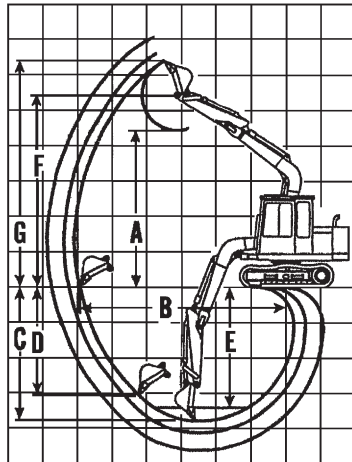
*Boom weights include: boom, boom lines, cylinders, rod end pins, stick cylinder and head end pin.

**Stick weights include stick and stick lines.

†6.6 m (21'8").

‡7.0 m (23'0").

NOTE: Heavy duty track shoes available.



One-Piece Boom Digging Envelope

- Standard shoes and undercarriage
- Lug height not included

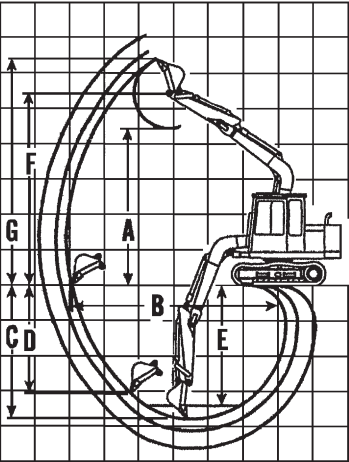
KEY:

- A** Maximum loading height of bucket with teeth
- B** Maximum reach at ground level
- C** Maximum digging depth
- D** Maximum vertical wall
- E** Maximum depth of cut for 2.44 m (8'0") level bottom (straight clean up)
- F** Maximum bucket hinge pin height
- G** Maximum height, to bucket teeth at highest arc

Stick	301.6C				301.8C				302.5C			
	890 mm	2'11"	1.09 m	3'6"	925 mm	3'0"	1.125 m	3'8"	925 mm	3'0"	1.125 m	3'8"
	mm	ft	mm	ft	mm	ft	mm	ft	mm	ft	mm	ft
A	2360	7'9"	2480	8'2"	2360	7'9"	2480	8'2"	3110	10'2"	3280	10'9"
B	3610	11'10"	3800	12'6"	3610	11'10"	3800	12'6"	4545	14'11"	4810	15'9"
C	2080	6'10"	2320	7'7"	2080	6'10"	2320	7'7"	2640	8'8"	2930	9'7"
D	1620	5'4"	1810	5'11"	1620	5'4"	1810	5'11"	1920	6'4"	2180	7'2"
E	—	—	—	—	—	—	—	—	—	—	—	—
F	—	—	—	—	—	—	—	—	—	—	—	—
G	3350	11'0"	3460	11'4"	3350	11'0"	3460	11'4"	4335	14'3"	4530	14'10"

Range Dimensions

- 303C CR ● 303.5C CR
- 304C CR ● 305C CR ● 305.5



One-Piece Boom
Digging Envelope

- Standard shoes and undercarriage
- Lug height not included

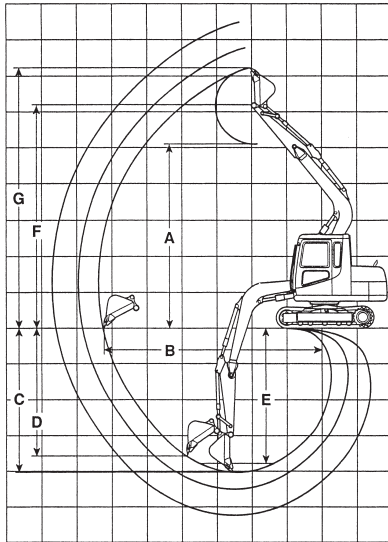
KEY:

- A** Maximum loading height of bucket with teeth
- B** Maximum reach at ground level
- C** Maximum digging depth
- D** Maximum vertical wall
- E** Maximum depth of cut for 2.44 m (8'0\") level bottom (straight clean up)
- F** Maximum bucket hinge pin height
- G** Maximum height, to bucket teeth at highest arc

303C CR					303.5C CR				
Stick	1.26 m	4'2"	1.56 m	5'1"	1.38 m	4'6"	1.78 m	5'10"	
	mm	ft	mm	ft	mm	ft	mm	ft	
A	3490	11'5"	3610	11'10"	3570	11'9"	3670	12'0"	
B	5100	16'9"	5350	17'7"	5240	17'2"	5500	18'1"	
C	2910	9'7"	3200	10'6"	3150	10'4"	3450	11'4"	
D	2400	7'10"	2550	8'4"	2490	8'2"	2650	8'8"	
E	—	—	—	—	—	—	—	—	
F	—	—	—	—	—	—	—	—	
G	4950	16'3"	5060	16'7"	5020	16'6"	5110	16'9"	

304C CR					305C CR				305.5*			
Stick	1.62 m	5'4"	2.02 m	6'8"	1.43 m	4'7"	1.83 m	6'0"	1.6 m	5'4"	1.83 m	6'0"
	mm	ft	mm	ft	mm	ft	mm	ft	m	ft	m	ft
A	3690	12'1"	3900	12'10"	3800	12'6"	4050	13'3"	3.84	12.6		**
B	5460	17'11"	5830	19'2"	5650	18'6"	6050	19'10"	6.04	19.8		**
C	3300	10'10"	3690	12'1"	3490	11'5"	3890	12'9"	3.83	12.6		**
D	2440	8'0"	2760	9'1"	2530	8'4"	2940	9'8"	3.08	10.1		**
E	—	—	—	—	—	—	—	—	3.41	11.2		**
F	—	—	—	—	—	—	—	—	4.73	15.5		**
G	5280	17'4"	5480	18'0"	5370	17'7"	5630	18'6"	5.58	18.3		**

*China and Korea only.
**Not available at time of printing.



One-Piece Boom Digging Envelope

- Standard shoes and undercarriage
- Lug height not included

KEY:

- A** Maximum loading height of bucket with teeth
- B** Maximum reach at ground level
- C** Maximum digging depth
- D** Maximum vertical wall
- E** Maximum depth of cut for 2.44 m (8'0") level bottom (straight clean up)
- F** Maximum bucket hinge pin height
- G** Maximum height, to bucket teeth at highest arc

307C*

307D

Stick	1.67 m		2.21 m			1.67 m		2.21 m	
	m	ft	m	ft		m	ft	m	ft
A	5.15	16'11"	5.56	18'3"		5.21	17'1"	5.61	18'5"
B	6.20	20'4"	6.72	22'1"		6.15	20'2"	6.67	21'11"
C	4.11	13'6"	4.65	15'3"		4.05	13'3"	4.6	15'1"
D	3.67	12'0"	4.19	13'9"		3.64	11'11"	4.17	13'8"
E	3.77	12'4"	4.35	14'3"		—	—	—	—
F	6.24	20'6"	6.65	21'10"		—	—	—	—
G	7.29	23'11"	7.69	25'3"		7.23	23'9"	7.46	25'1"

*China only.

308D CR

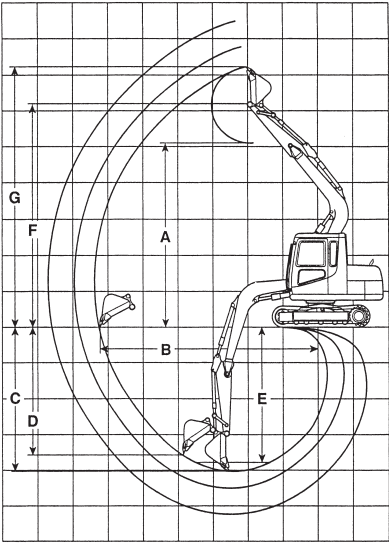
308D CR SB

Stick	1.67 m		2.21 m			1.67 m		2.21 m	
	m	ft	m	ft		m	ft	m	ft
A	5.31	17'5"	5.73	18'10"		4.64	15'3"	4.98	16'4"
B	6.19	20'4"	6.71	22'0"		6.9	22'8"	7.43	24'5"
C	4.09	13'5"	4.63	15'2"		4.18	13'9"	4.73	15'6"
D	3.65	12'0"	4.16	13'8"		2.99	9'10"	3.58	11'9"
E	—	—	—	—		—	—	—	—
F	—	—	—	—		—	—	—	—
G	7.34	24'1"	7.76	25'6"		6.61	21'8"	6.96	22'10"

Excavators

Range Dimensions

- 311D LRR ● 312D ● 312D L — Japan Sourced
- 312D ● 312D L — France Sourced
- 313C SR ● 313C CR — Japan Sourced



One-Piece Boom Digging Envelope

- Standard shoes and undercarriage
- Lug height not included

KEY:

- A** Maximum loading height of bucket with teeth
- B** Maximum reach at ground level
- C** Maximum digging depth
- D** Maximum vertical wall
- E** Maximum depth of cut for 2.44 m (8'0\") level bottom (straight clean up)
- F** Maximum bucket hinge pin height
- G** Maximum height, to bucket teeth at highest arc

Japan Sourced

311D LRR						312D, 312D L						
Stick	2.25 m	7'5"	2.6 m	8'6"	2.8 m	9'2"	2.5 m	8'2"	2.8 m	9'2"	3 m	9'10"
	m	ft	m	ft	m	ft	m	ft	m	ft	m	ft
A	5.45	17'11"	5.64	18'6"	5.77	18'11"	6.10	20'0"	6.21	20'4"	6.34	20'10"
B	7.70	25'3"	7.90	25'11"	8.10	26'7"	8.17	26'10"	8.43	27'8"	8.62	28'3"
C	5.04	16'6"	5.39	17'8"	5.59	18'4"	5.54	18'2"	5.84	19'2"	6.04	19'10"
D	4.46	14'8"	4.77	15'8"	4.98	16'4"	4.98	16'4"	5.16	16'11"	5.36	17'7"
E	4.81	15'9"	5.19	17'0"	5.40	17'9"	5.33	17'6"	5.64	18'6"	5.85	19'2"
F	6.67	21'11"	6.86	22'6"	6.99	22'11"	7.32	24'0"	7.44	24'5"	7.56	24'10"
G	7.80	25'7"	7.99	26'3"	8.13	26'8"	8.48	27'10"	8.58	28'2"	8.70	28'7"

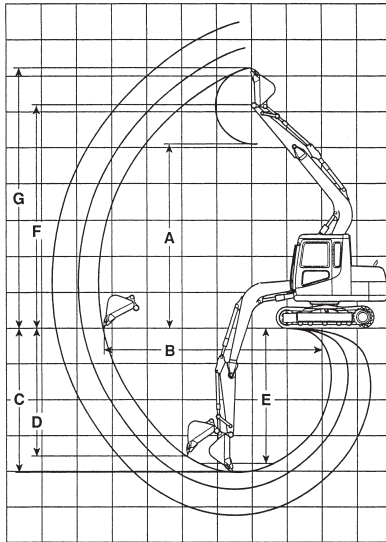
France Sourced

312D, 312D L						313C SR*				313C CR														
Stick	2.1 m		6'11"		2.5 m		8'2"		3 m		9'10"		2.13 m		7'0"		2.5 m		8'2"		3 m		9'10"	
	m	ft	m	ft	m	ft	m	ft	m	ft	m	ft	m	ft	m	ft	m	ft	m	ft	m	ft	m	ft
A	6.10	20'0"	6.21	20'5"	6.34	20'10"	6.06	19'11"	6.86	22'6"	7.19	23'7"												
B	8.17	26'10"	8.43	27'8"	8.62	28'3"	7.23	23'9"	8.18	26'10"	8.63	28'4"												
C	5.54	18'2"	5.84	19'2"	6.04	19'10"	4.84	15'11"	5.45	17'11"	5.95	19'6"												
D	4.98	16'4"	5.16	16'11"	5.36	17'7"	3.60	11'10"	4.91	16'1"	5.33	17'6"												
E	5.33	17'6"	5.64	18'6"	5.85	19'2"	4.47	14'8"	5.24	17'2"	5.77	18'11"												
F	7.06	23'2"	7.32	24'0"	7.56	24'10"	7.47	24'6"	8.10	26'7"	8.43	27'8"												
G	8.48	27'10"	8.58	28'1"	8.70	28'7"	8.47	27'9"	9.30	30'6"	9.62	31'7"												

*Parallel-offset.

Range Dimensions
 • 314D CR • 314D LCR — Japan Sourced
 • 315D L — Japan/France Sourced

Excavators



**One-Piece Boom
Digging Envelope**

- Standard shoes and undercarriage
- Lug height not included

KEY:

- A** Maximum loading height of bucket with teeth
- B** Maximum reach at ground level
- C** Maximum digging depth
- D** Maximum vertical wall
- E** Maximum depth of cut for 2.44 m (8'0") level bottom (straight clean up)
- F** Maximum bucket hinge pin height
- G** Maximum height, to bucket teeth at highest arc

4

Japan Sourced

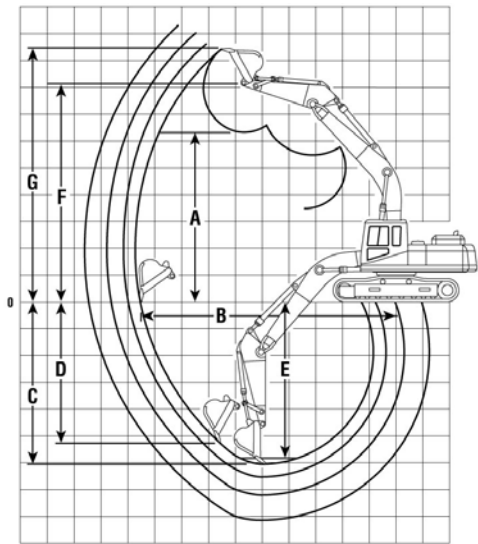
314D CR, 314D LCR

Stick	2.5 m	8'2"	2.8 m	9'2"	3 m	9'10"
	m	ft	m	ft	m	ft
A	6.87	22'6"	7.04	23'1"	7.20	23'7"
B	8.18	26'10"	8.44	27'8"	8.63	28'4"
C	5.44	17'10"	5.74	18'10"	5.94	19'6"
D	4.91	16'1"	5.08	16'8"	5.28	17'4"
E	5.24	17'2"	5.55	18'3"	5.76	18'11"
F	—	—	—	—	—	—
G	9.30	30'6"	9.47	31'1"	9.63	31'7"

Japan/France Sourced

315D L

Stick	1.85 m	6'0"	2.25 m	7'4"	2.6 m	8'6"	2.9 m	9'6"	3.1 m	10'2"
	m	ft	m	ft	m	ft	m	ft	m	ft
A	5.92	19'5"	6.14	20'2"	6.31	20'8"	6.31	20'8"	6.4	21'0"
B	8.05	26'5"	8.43	27'8"	8.75	28'8"	8.96	29'5"	9.15	30'0"
C	5.32	17'5"	5.72	18'9"	6.07	19'11"	6.37	20'11"	6.57	21'7"
D	4.38	14'4"	4.92	16'2"	5.35	17'7"	5.36	17'7"	5.55	18'3"
E	5.03	16'6"	5.47	17'11"	5.84	19'2"	6.13	20'1"	6.34	20'10"
F	7.27	23'10"	7.49	24'7"	7.66	25'2"	7.71	25'4"	7.75	25'5"
G	8.50	27'11"	8.74	28'8"	8.92	29'3"	8.87	29'1"	8.97	29'5"



**One-Piece Boom
Digging Envelope**

- Standard shoes and undercarriage

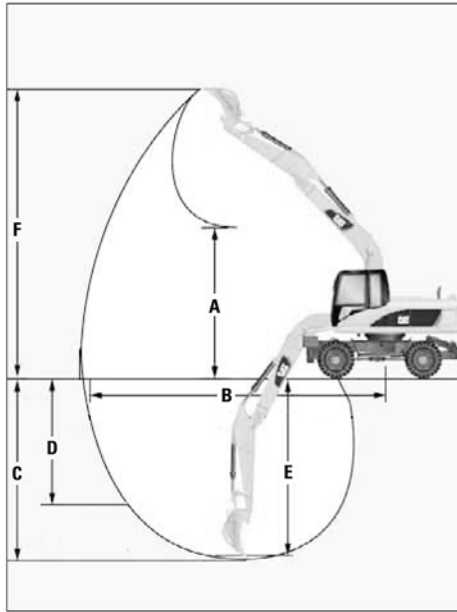
KEY:

- A** Maximum loading height of bucket with teeth
- B** Maximum reach at ground level
- C** Maximum digging depth
- D** Maximum vertical wall
- E** Maximum depth of cut for 2.44 m (8'0") level bottom (straight clean up)
- F** Maximum bucket hinge pin height
- G** Maximum height, to bucket teeth at highest arc

France Sourced

319D L, 319D LN

Stick	1.8 m	5'11"	2.25 m	7'4"	2.7 m	8'10"	3.2 m	10'5"
	m	ft	m	ft	m	ft	m	ft
A	5.84	19'2"	6.11	20'0"	6.41	21'0"	6.81	22'4"
B	8.41	27'7"	8.86	29'1"	9.30	30'6"	9.82	32'2"
C	5.52	18'1"	5.97	19'7"	6.42	21'1"	6.92	22'8"
D	4.00	13'1"	5.00	16'5"	5.57	18'4"	6.17	20'2"
E	5.21	17'1"	5.72	18'10"	6.21	20'5"	6.75	22'1"
F	7.47	24'6"	7.75	25'5"	8.04	26'5"	8.44	27'8"
G	8.62	28'4"	8.96	29'4"	9.27	30'5"	9.68	31'9"



One-Piece Boom Digging Envelope

- Standard 10 × 20 tires and undercarriage
- General purpose bucket

KEY:

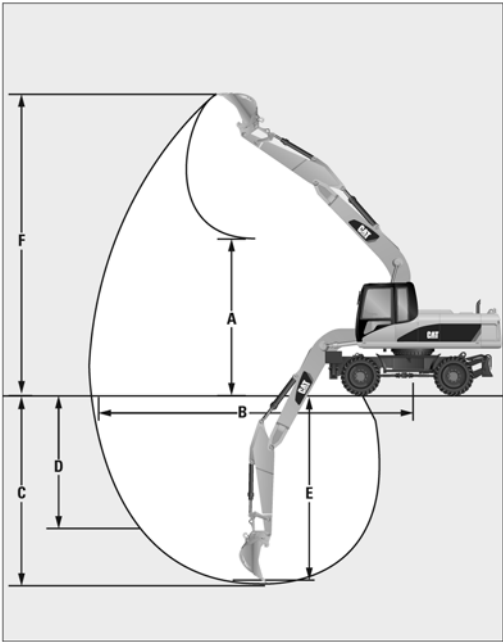
- A** Maximum loading height of bucket with teeth
- B** Maximum reach at ground level
- C** Maximum digging depth
- D** Maximum vertical wall
- E** Maximum depth of cut for 2.5 m (8'2") level bottom (straight clean up)
- F** Maximum height, to bucket teeth at highest arc

M313D

Stick	2 m	6'7"	2.3 m	7'7"	2.6 m	8'6"
Bucket	0.715 m ³	0.94 yd ³	0.64 m ³	0.84 yd ³	0.64 m ³	0.84 yd ³
	m	ft	m	ft	m	ft
A	5.91	19'5"	5.97	19'7"	6.14	20'2"
B	8.23	27'0"	8.48	27'10"	8.77	28'10"
C	4.99	16'4"	5.29	17'4"	5.59	18'4"
D	3.41	11'2"	3.37	11'1"	3.67	12'0"
E	4.75	15'7"	5.07	16'8"	5.39	17'8"
F	8.60	28'2"	8.62	28'3"	8.79	28'10"

M315D

Stick	2.1 m	6'11"	2.4 m	7'10"	2.6 m	8'6"
Bucket	0.815 m ³	1.07 yd ³	0.7 m ³	0.92 yd ³	0.7 m ³	0.92 yd ³
	m	ft	m	ft	m	ft
A	6.00	19'8"	6.11	20'0"	6.23	20'5"
B	8.71	28'7"	8.97	29'5"	9.17	30'1"
C	5.39	17'8"	5.69	18'8"	5.89	19'4"
D	3.51	11'6"	3.65	12'0"	3.82	12'6"
E	5.17	16'11"	5.49	18'0"	5.70	18'8"
F	8.98	29'5"	9.07	29'9"	9.19	30'2"



**One-Piece Boom
Digging Envelope**

- Standard 10 × 20 tires and undercarriage
- General purpose bucket

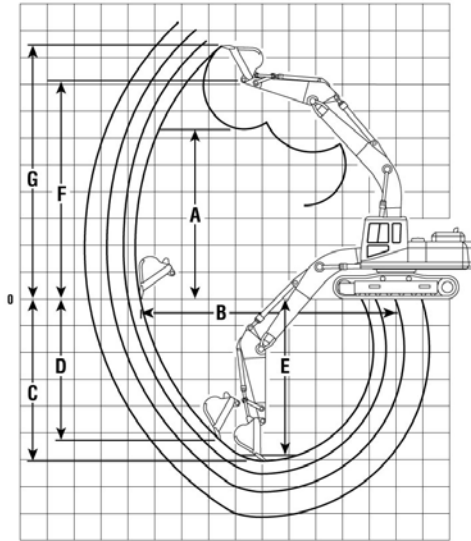
KEY:

- A** Maximum loading height of bucket with teeth
- B** Maximum reach at ground level
- C** Maximum digging depth
- D** Maximum vertical wall
- E** Maximum depth of cut for 2.5 m (8'2") level bottom (straight clean up)
- F** Maximum height, to bucket teeth at highest arc

M316D						M318D						
Stick	2.1 m	6'11"	2.4 m	7'10"	2.6 m	8'6"	2.2 m	7'3"	2.5 m	8'2"	2.8 m	9'2"
Bucket	0.815 m³	1.07 yd³	0.815 m³	1.07 yd³	0.7 m³	0.92 yd³	0.91 m³	1.19 yd³	0.91 m³	1.19 yd³	0.7 m³	0.92 yd³
	m	ft	m	ft	m	ft	m	ft	m	ft	m	ft
A	6.02	19'9"	6.13	20'1"	6.25	20'6"	5.90	19'4"	6.11	20'0"	6.27	20'7"
B	8.71	28'7"	8.97	29'5"	9.17	30'1"	9.00	29'6"	9.32	30'7"	9.60	31'6"
C	5.37	17'7"	5.67	18'7"	5.87	19'3"	5.70	18'8"	6.00	19'8"	6.30	20'8"
D	3.49	11'5"	3.63	11'11"	3.80	12'6"	2.88	9'5"	3.34	10'11"	3.62	11'10"
E	5.15	16'11"	5.47	17'11"	5.68	18'8"	5.49	18'0"	5.81	19'0"	6.12	20'1"
F	9.00	29'6"	9.09	29'10"	9.21	30'3"	8.76	28'9"	9.01	29'7"	9.17	30'1"

M322D						
Stick	2.2 m	7'3"	2.5 m	8'2"	2.9 m	9'6"
Bucket	1.04 m³	1.36 yd³	0.805 m³	1.05 yd³	0.805 m³	1.05 yd³
	m	ft	m	ft	m	ft
A	6.30	20'8"	6.23	20'5"	6.45	21'2"
B	9.72	31'11"	9.93	32'7"	10.32	33'10"
C	5.77	18'11"	6.07	19'11"	6.47	21'3"
D	4.48	14'8"	4.78	15'8"	5.16	16'11"
E	5.57	18'3"	5.88	19'3"	6.30	20'8"
F	9.67	31'9"	9.54	31'3"	9.76	32'0"

- 320D ● 320D L — Japan/China/Indonesia/Brazil Sourced
- 320D RR ● 320D LRR ● 321D LCR — Japan Sourced



One-Piece Boom Digging Envelope

- Standard shoes and undercarriage

KEY:

- A** Maximum loading height of bucket with teeth
- B** Maximum reach at ground level
- C** Maximum digging depth
- D** Maximum vertical wall
- E** Maximum depth of cut for 2.44 m (8'0") level bottom (straight clean up)
- F** Maximum bucket hinge pin height
- G** Maximum height, to bucket teeth at highest arc

Japan/China/Indonesia/Brazil Sourced

320D, 320D L with Reach Boom

320D, 320D L with Mass Boom

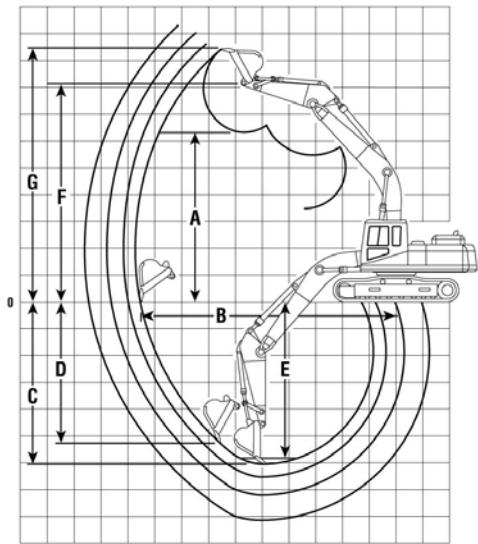
Stick	1.9 m	6'3"	2.5 m	8'2"	2.9 m	9'6"	3.9 m	12'10"	2.4 m	7'10"
	m	ft	m	ft	m	ft	m	ft	m	ft
A	5.98	19'7"	6.37	20'11"	6.57	21'7"	7.02	23'0"	5.83	19'2"
B	8.90	29'2"	9.38	30'9"	9.78	32'1"	10.68	35'0"	8.85	29'0"
C	5.71	18'9"	6.22	20'5"	6.64	21'9"	7.58	24'10"	5.78	19'0"
D	4.83	15'10"	5.64	18'6"	6.05	19'10"	6.96	22'10"	5.03	16'6"
E	5.47	17'11"	6.03	19'9"	6.47	21'3"	7.44	24'5"	5.57	18'3"
F	7.45	24'5"	7.87	25'9"	8.06	26'5"	8.41	27'7"	7.43	24'5"
G	8.93	29'4"	9.21	30'3"	9.41	30'10"	9.87	32'5"	8.81	28'11"

Japan Sourced

320D RR, 320D LRR with Reach Boom

321D LCR with Reach Boom

Stick	2.5 m	8'2"	2.9 m	9'6"	3.9 m	12'10"	2.9 m	9'6"
	m	ft	m	ft	m	ft	m	ft
A	6.37	20'11"	6.57	21'7"	6.93	22'9"	7.98	26'2"
B	9.38	30'9"	9.78	32'1"	10.63	34'11"	9.69	31'9"
C	6.22	20'5"	6.64	21'9"	7.58	24'10"	6.62	21'9"
D	5.64	18'6"	6.05	19'10"	6.80	22'4"	5.93	19'5"
E	6.03	19'9"	6.47	21'3"	7.25	23'9"	6.44	21'2"
F	7.87	25'9"	8.06	26'5"	8.41	27'7"	9.49	31'2"
G	9.21	30'3"	9.41	30'10"	9.73	31'11"	10.92	35'10"



One-Piece Boom Digging Envelope

- Standard shoes and undercarriage

KEY:

- A** Maximum loading height of bucket with teeth
- B** Maximum reach at ground level
- C** Maximum digging depth
- D** Maximum vertical wall
- E** Maximum depth of cut for 2.44 m (8'0\") level bottom (straight clean up)
- F** Maximum bucket hinge pin height
- G** Maximum height, to bucket teeth at highest arc

Belgium/Brazil Sourced

323D L with Reach Boom							323D L with Mass Boom	
Stick	1.9 m	6'3"	2.5 m	8'2"	2.92 m	9'7"	1.9 m	6'3"
	m	ft	m	ft	m	ft	m	ft
A	5.99	19'8"	6.59	21'7"	6.77	22'2"	5.71	18'9"
B	8.98	29'5"	9.44	31'0"	9.86	32'4"	8.52	27'11"
C	5.78	19'0"	6.20	20'4"	6.65	21'10"	5.33	17'6"
D	3.74	12'3"	5.09	16'8"	5.52	18'1"	3.57	11'9"
E	5.51	18'1"	5.99	19'8"	6.47	21'3"	5.09	16'8"
F	—	—	—	—	—	—	—	—
G	8.94	29'4"	9.38	30'9"	9.58	31'5"	8.71	28'7"

Japan Sourced

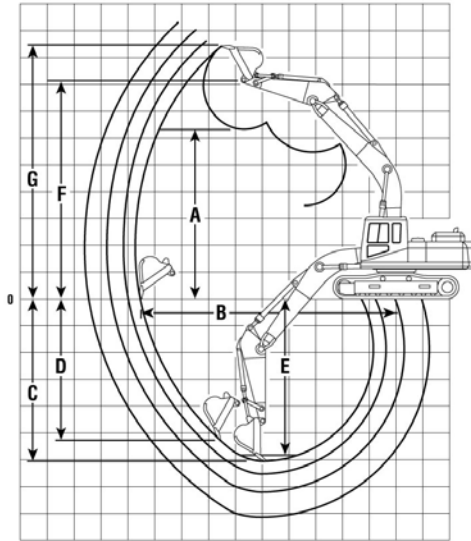
323D L with Reach Boom					323D L with Mass Boom		323D L with Reach Boom				323D L with Mass Boom	
Stick	2.5 m	8'2"	2.92 m	9'7"	2.4 m	7'10"	2.5 m	8'2"	2.9 m	9'6"	2.4 m	7'10"
	m	ft	m	ft	m	ft	m	ft	m	ft	m	ft
A	6.59	21'7"	6.77	22'2"	5.83	19'1"	6.30	20'8"	6.50	21'4"	5.72	18'10"
B	9.44	31'0"	9.86	32'4"	8.85	29'0"	9.45	31'0"	9.85	32'4"	8.96	29'5"
C	6.20	20'4"	6.65	21'10"	5.78	19'0"	6.29	20'7"	6.71	22'0"	5.89	19'4"
D	5.09	16'8"	5.52	18'1"	5.03	16'6"	5.51	18'1"	5.86	19'2"	4.80	15'8"
E	5.99	19'8"	6.47	21'3"	5.57	18'3"	5.95	19'6"	6.38	20'11"	5.54	18'2"
F	—	—	—	—	—	—	—	—	—	—	—	—
G	9.38	30'9"	9.58	31'5"	8.81	28'11"	9.26	30'5"	9.47	31'1"	8.91	29'2"

China Sourced

- 323D L ● 323D LN ● 323D SA — France Sourced
- 324D ● 324D L — Japan/U.S. Sourced

Range Dimensions

Excavators



One-Piece and VA Booms Digging Envelope

- Standard shoes and undercarriage

KEY:

- A** Maximum loading height of bucket with teeth
- B** Maximum reach at ground level
- C** Maximum digging depth
- D** Maximum vertical wall
- E** Maximum depth of cut for 2.44 m (8'0") level bottom (straight clean up)
- F** Maximum bucket hinge pin height
- G** Maximum height, to bucket teeth at highest arc

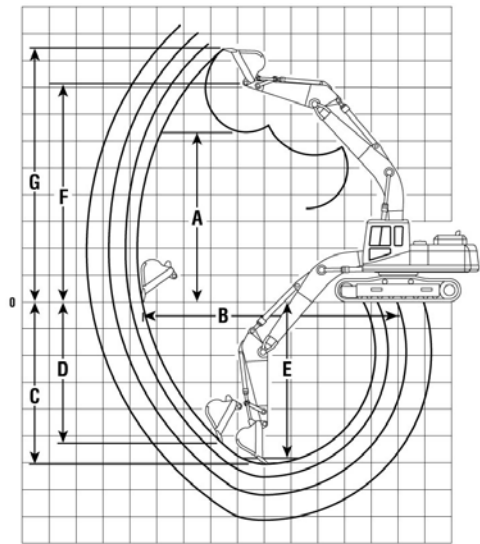
4

France Sourced

323D L, 323D LN, 323D SA with VA Boom						323D L, 323D LN, 323D SA with Reach Boom						
Stick	1.9 m	6'3"	2.5 m	8'2"	2.9 m	9'6"	1.9 m	6'3"	2.5 m	8'2"	2.9 m	9'6"
	m	ft	m	ft	m	ft	m	ft	m	ft	m	ft
A	7.51	24'8"	8.09	26'6"	8.43	27'8"	5.97	19'7"	6.57	21'7"	6.74	22'1"
B	9.28	30'5"	9.79	32'1"	10.20	33'5"	8.84	29'0"	9.28	30'5"	9.70	31'10"
C	5.74	18'10"	6.27	20'7"	6.68	21'11"	5.61	18'5"	6.03	19'9"	6.48	21'3"
D	3.46	11'4"	4.10	13'5"	4.52	14'10"	3.60	11'10"	4.94	16'2"	5.38	17'8"
E	5.63	18'6"	6.16	20'2"	6.58	21'7"	5.35	17'7"	5.83	19'2"	6.29	20'8"
F	—	—	—	—	—	—	—	—	—	—	—	—
G	10.74	35'3"	11.17	36'8"	11.51	37'9"	8.88	29'2"	9.31	30'7"	9.51	31'2"

Japan/U.S. Sourced

324D, 324D L with Reach Boom						324D, 324D L with Mass Boom			
Stick	2.5 m	8'2"	2.95 m	9'8"	3.6 m	11'10"	2.5 m	8'2"	
	m	ft	m	ft	m	ft	m	ft	
A	6.39	21'0"	6.59	21'7"	7.04	23'1"	6.30	20'8"	
B	9.40	30'10"	9.83	32'3"	10.55	34'7"	9.45	31'0"	
C	6.40	21'0"	6.85	22'6"	7.33	24'1"	6.49	21'3"	
D	5.63	18'6"	6.08	19'11"	6.58	21'7"	5.69	18'8"	
E	6.20	20'4"	6.67	21'11"	7.17	23'6"	6.30	20'8"	
F	—	—	—	—	—	—	—	—	
G	9.75	32'0"	9.95	32'8"	9.89	32'5"	9.85	32'4"	



**One-Piece and VA Booms
Digging Envelope**

- Standard shoes and undercarriage

KEY:

- A** Maximum loading height of bucket with teeth
- B** Maximum reach at ground level
- C** Maximum digging depth
- D** Maximum vertical wall
- E** Maximum depth of cut for 2.44 m (8'0") level bottom (straight clean up)
- F** Maximum bucket hinge pin height
- G** Maximum height, to bucket teeth at highest arc

Belgium Sourced

**324D L, 324D LN with
5.9 m (19'4") Reach Boom**

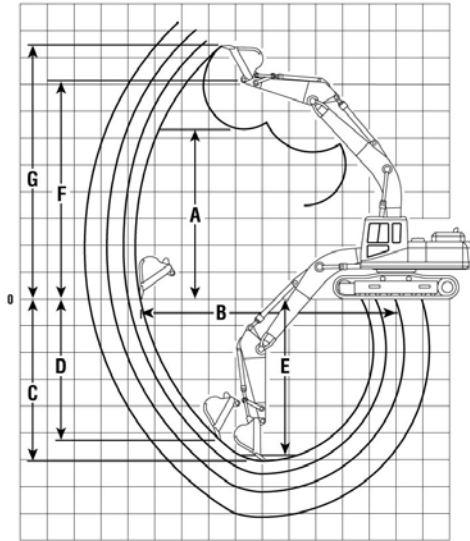
Stick	2.5 m		2.95 m		2 m		2.5 m	
	m	ft	m	ft	m	ft	m	ft
A	6.50	21'4"	6.70	22'0"	5.75	18'10"	5.97	19'7"
B	9.62	31'7"	10.05	33'0"	8.65	29'0"	9.11	29'11"
C	6.29	20'8"	6.74	22'1"	5.41	17'9"	5.91	19'5"
D	5.39	17'8"	5.83	19'1"	4.12	13'6"	4.59	15'1"
E	6.08	19'11"	6.56	21'6"	5.19	17'0"	5.72	18'9"
F	8.11	26'7"	8.31	27'3"	7.51	24'8"	7.73	25'4"
G	9.46	31'0"	9.66	31'8"	8.83	29'0"	9.05	29'8"

**324D L, 324D LN with
5.3 m (17'5") Mass Boom**

Belgium Sourced

**324D L, 324D LN with
5.6 m (18'4") VA Boom**

Stick	2.5 m		2.9 m	
	m	ft	m	ft
A	8.007	26'3"	8.346	27'4"
B	9.881	32'5"	10.304	33'10"
C	6.217	20'5"	6.655	21'10"
D	4.066	13'4"	4.498	14'9"
E	6.112	20'1"	6.555	21'6"
F	9.617	31'7"	9.956	32'8"
G	11.237	36'10"	11.575	38'0"



One-Piece Boom Digging Envelope

- Standard shoes and undercarriage

KEY:

- A** Maximum loading height of bucket with teeth
- B** Maximum reach at ground level
- C** Maximum digging depth
- D** Maximum vertical wall
- E** Maximum depth of cut for 2.44 m (8'0") level bottom (straight clean up)
- F** Maximum bucket hinge pin height
- G** Maximum height, to bucket teeth at highest arc

4

Japan/U.S. Sourced

328D LCR with Reach Boom

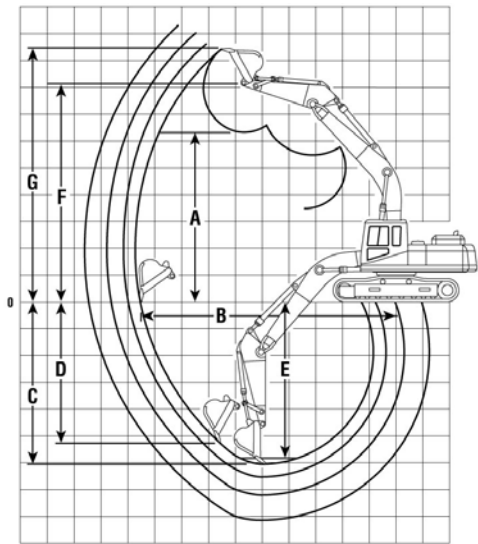
Stick	2.65 m	8'8"	3.2 m	10'6"
	m	ft	m	ft
A	7.82	25'8"	6.91	22'8"
B	10.08	33'1"	10.66	35'0"
C	6.37	20'11"	7.28	23'11"
D	5.73	18'10"	6.14	20'2"
E	6.19	20'4"	7.13	23'5"
F	—	—	—	—
G	10.91	35'10"	10.12	33'2"

Japan/U.S. Sourced

329D, 329D L with Reach Boom

329D, 329D L with Mass Boom

Stick	2 m	6'7"	2.65 m	8'8"	3.2 m	10'6"	3.75 m	12'4"	2.5 m	8'2"	3.2 m	10'6"
	m	ft	m	ft	m	ft	m	ft	m	ft	m	ft
A	6.31	20'8"	6.76	22'2"	6.91	22'8"	7.10	23'4"	5.97	19'7"	6.43	21'3"
B	9.52	31'3"	10.18	33'5"	10.66	35'0"	11.15	36'7"	9.45	31'0"	10.02	32'11"
C	6.06	19'11"	6.73	22'1"	7.28	23'11"	7.83	25'8"	6.13	20'1"	6.74	22'1"
D	5.26	17'3"	5.81	19'1"	6.14	20'2"	6.59	21'7"	5.05	16'7"	5.61	18'5"
E	5.83	19'2"	6.56	21'6"	7.13	23'5"	7.69	25'3"	5.94	19'6"	6.58	21'7"
F	7.97	26'2"	—	—	—	—	—	—	—	—	—	—
G	9.46	31'0"	10.00	32'10"	10.12	33'2"	10.30	33'9"	9.23	30'3"	9.69	31'9"



**One-Piece and VA Booms
Digging Envelope**

- Standard shoes and undercarriage

KEY:

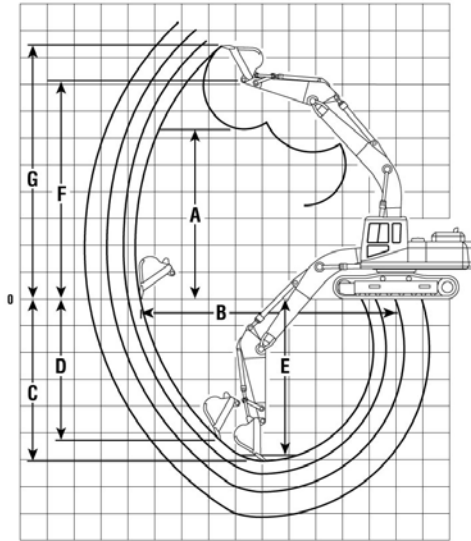
- A** Maximum loading height of bucket with teeth
- B** Maximum reach at ground level
- C** Maximum digging depth
- D** Maximum vertical wall
- E** Maximum depth of cut for 2.44 m (8'0") level bottom (straight clean up)
- F** Maximum bucket hinge pin height
- G** Maximum height, to bucket teeth at highest arc

Belgium Sourced

329D L, 329D LN with 6.15 m (20'2") Reach Boom						329D L, 329D LN with 5.55 m (18'3") Mass Boom		
Stick	2 m	6'7"	2.7 m	8'8"	3.2 m	10'6"	2.5 m	8'2"
	m	ft	m	ft	m	ft	m	ft
A	6.31	20'8"	6.87	22'6"	7.02	23'0"	6.09	20'0"
B	9.52	31'3"	10.13	33'3"	10.60	34'9"	9.34	30'8"
C	6.06	19'11"	6.62	21'9"	7.17	23'6"	6.01	19'9"
D	4.76	15'7"	6.44	21'1"	6.51	21'4"	4.71	15'5"
E	5.83	19'1"	5.98	19'7"	7.01	23'0"	6.44	21'1"
F	8.07	26'6"	8.48	27'10"	8.63	28'4"	7.85	25'9"
G	9.38	30'9"	9.88	32'5"	9.99	32'9"	10.41	34'2"

Belgium Sourced

329D L, 329D LN with 5.85 m (19'2") VA Boom						
Stick	2 m	6'7"	2.6 m	8'6"	3.2 m	10'6"
	m	ft	m	ft	m	ft
A	7.680	25'2"	8.444	27'8"	8.778	28'10"
B	9.791	32'1"	10.333	33'11"	10.819	35'6"
C	5.933	19'6"	6.466	21'3"	6.984	22'11"
D	3.719	12'2"	4.358	14'4"	4.887	16'0"
E	5.823	19'1"	6.364	20'10"	6.889	22'7"
F	9.444	21'0"	10.054	33'0"	10.388	34'1"
G	11.168	36'8"	11.679	38'4"	12.006	39'5"



One-Piece Boom Digging Envelope

- Standard shoes and undercarriage

KEY:

- A** Maximum loading height of bucket with teeth
- B** Maximum reach at ground level
- C** Maximum digging depth
- D** Maximum vertical wall
- E** Maximum depth of cut for 2.44 m (8'0") level bottom (straight clean up)
- F** Maximum bucket hinge pin height
- G** Maximum height, to bucket teeth at highest arc

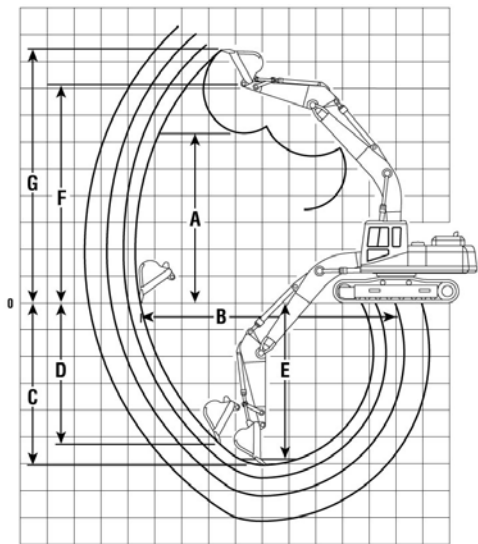
4

Japan/U.S./Brazil Sourced

336D, 336D L with Reach Boom

336D, 336D L with Mass Boom

Stick	2.15 m * 7'1"		2.8 m * 9'2"		3.2 m 10'6"		3.9 m 12'10"		2.15 m * 7'1"		2.55 m 8'4"	
	m	ft	m	ft	m	ft	m	ft	m	ft	m	ft
A	6.50	21'4"	7.20	23'7"	7.11	23'4"	7.54	24'9"	6.39	27'0"	6.63	21'9"
B	10.09	33'1"	10.62	34'10"	11.00	36'1"	11.71	38'5"	9.79	31'11"	10.24	33'7"
C	6.53	21'5"	6.99	22'11"	7.49	24'7"	8.19	26'10"	6.20	20'4"	6.63	21'9"
D	5.35	17'7"	6.04	19'10"	6.13	20'1"	7.15	23'6"	5.23	17'2"	4.42	14'6"
E	6.31	20'8"	6.82	22'5"	7.33	24'0"	8.05	26'5"	5.99	19'8"	6.46	21'2"
F	8.35	27'5"	8.86	29'1"	—	—	—	—	8.23	27'0"	—	—
G	9.92	32'7"	10.34	33'11"	10.27	33'8"	10.75	35'3"	9.84	32'2"	10.02	32'11"



**One-Piece Boom
Digging Envelope**

- Standard shoes and undercarriage

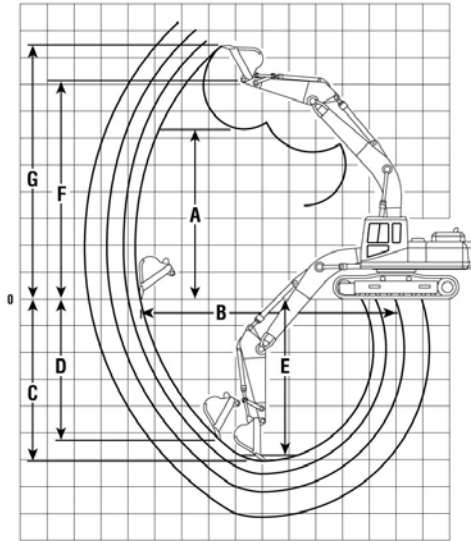
KEY:

- A** Maximum loading height of bucket with teeth
- B** Maximum reach at ground level
- C** Maximum digging depth
- D** Maximum vertical wall
- E** Maximum depth of cut for 2.44 m (8'0") level bottom (straight clean up)
- F** Maximum bucket hinge pin height
- G** Maximum height, to bucket teeth at highest arc

Belgium Sourced

336D L, 336D LN with Reach Boom								336D L, 336D LN with Mass Boom				
Stick	2.15 m	7'1"	2.8 m	9'2"	3.2 m	10'6"	3.9 m	12'10"	2.15 m	7'1"	2.55 m	8'4"
	m	ft	m	ft	m	ft	m	ft	m	ft	m	ft
A	6.53	21'1"	7.20	23'7"	7.20	23'7"	7.64	25'1"	6.41	21'0"	6.69	21'11"
B	10.07	33'0"	10.62	34'10"	10.92	35'10"	11.64	38'2"	9.76	32'0"	10.18	33'5"
C	6.50	21'4"	6.99	22'11"	7.39	24'3"	8.09	26'6"	6.17	20'3"	6.57	21'7"
D	4.65	15'3"	4.47	14'8"	4.45	14'7"	6.70	22'0"	4.31	14'2"	4.37	14'4"
E	6.28	20'7"	6.82	22'4"	7.23	23'9"	7.96	26'1"	5.97	19'7"	6.40	21'0"
F	8.43	27'8"	8.96	29'5"	8.96	29'5"	9.40	30'10"	8.31	27'3"	8.59	28'2"
G	9.82	32'3"	10.30	33'9"	10.24	33'7"	10.71	35'2"	9.74	31'11"	10.07	33'0"

*Not available on U.S. sourced machines.



One-Piece Boom Digging Envelope

- Standard shoes and undercarriage

KEY:

- A** Maximum loading height of bucket with teeth
- B** Maximum reach at ground level
- C** Maximum digging depth
- D** Maximum vertical wall
- E** Maximum depth of cut for 2.44 m (8'0") level bottom (straight clean up)
- F** Maximum bucket hinge pin height
- G** Maximum height, to bucket teeth at highest arc

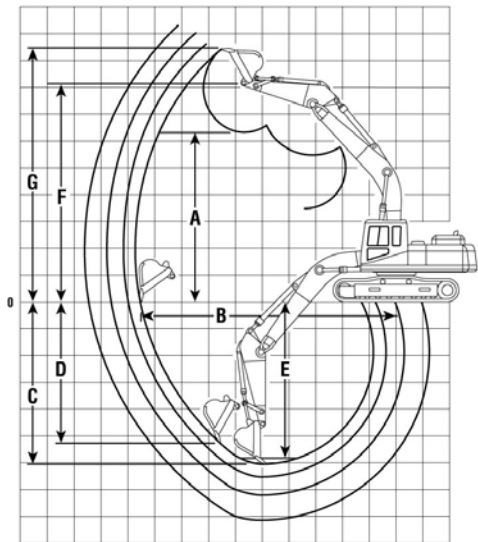
Japan/U.S. Sourced

Stick	345D L – FIX with Long Reach Boom				345D L – FIX with Reach Boom				345D L – FIX with Mass Boom			
	3.9 m	12'10"	4.3 m	14'1"	3.35 m	11'0"	3.9 m	12'10"	2.5 m	8'2"	3 m	9'10"
	m	ft	m	ft	m	ft	m	ft	m	ft	m	ft
A	7.75	25'5"	7.87	25'10"	7.42	24'4"	7.41	24'4"	6.64	21'9"	6.83	22'5"
B	12.58	41'3"	12.94	42'5"	11.71	38'5"	12.12	29'9"	10.70	35'1"	11.16	36'7"
C	8.52	27'11"	8.92	29'3"	7.65	25'1"	8.20	26'11"	6.70	22'0"	7.20	23'7"
D	5.33	17'6"	5.86	19'3"	5.21	17'1"	5.30	17'4"	4.22	13'10"	4.66	16'3"
E	8.38	27'6"	8.79	28'10"	7.50	24'7"	8.07	26'6"	6.53	21'5"	7.05	23'1"
F	9.61	31'6"	9.74	31'11"	9.29	30'6"	9.28	30'5"	8.64	28'4"	8.83	29'0"
G	10.94	35'11"	11.09	36'5"	10.73	35'2"	10.64	34'11"	10.15	33'4"	10.35	33'11"

Excavators

Range Dimensions

- 345D L – VG — U.S. Sourced
- 345D L – VG — Belgium Sourced



One-Piece Boom Digging Envelope

- Standard shoes and undercarriage

KEY:

- A** Maximum loading height of bucket with teeth
- B** Maximum reach at ground level
- C** Maximum digging depth
- D** Maximum vertical wall
- E** Maximum depth of cut for 2.44 m (8'0") level bottom (straight clean up)
- F** Maximum bucket hinge pin height
- G** Maximum height, to bucket teeth at highest arc

U.S. Sourced

345D L – VG with Reach Boom

Stick	3.35 m	11'0"	3.9 m	12'10"
	m	ft	m	ft
A	7.57	24'10"	7.89	25'11"
B	11.68	38'4"	12.55	41'2"
C	7.50	24'7"	8.37	27'6"
D	5.07	16'7"	5.19	17'0"
E	7.36	24'2"	8.23	27'0"
F	9.44	30'11"	9.42	30'11"
G	10.88	35'8"	10.78	35'5"

345D L – VG with Mass Boom

2.5 m	8'2"	3 m	9'10"
m	ft	m	ft
6.64	21'9"	6.83	22'5"
10.70	35'2"	11.16	36'7"
6.70	22'0"	7.20	23'8"
4.22	13'10"	4.66	15'3"
6.53	21'5"	7.05	23'1"
8.79	28'10"	8.98	29'5"
10.30	33'9"	10.49	34'5"

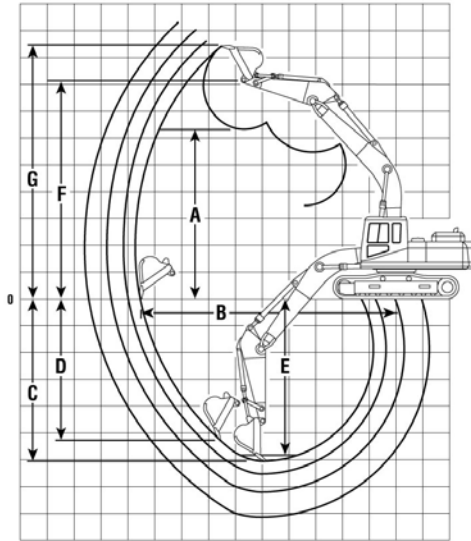
Belgium Sourced

345D L – VG with Reach Boom

Stick	2.9 m	9'6"	3.35 m	11'0"
	m	ft	m	ft
A	7.41	24'4"	7.58	24'10"
B	11.29	37'0"	11.71	38'5"
C	7.04	23'1"	7.42	24'4"
D	4.89	16'0"	5.30	17'4"
E	6.88	22'7"	7.35	24'1"
F	9.11	29'11"	9.29	30'6"
G	10.83	35'6"	11.00	36'1"

345D L – VG with Mass Boom

2.5 m	8'2"	3 m	9'10"
m	ft	m	ft
6.74	22'0"	6.93	22'8"
10.75	35'4"	11.22	36'10"
6.61	21'8"	7.11	23'4"
3.92	12'10"	4.36	14'4"
6.44	21'1"	6.96	22'10"
8.64	28'4"	8.83	29'0"
10.41	34'2"	10.60	34'9"



One-Piece Boom Digging Envelope

- Standard shoes and undercarriage
- Lug height not included

KEY:

- A** Maximum loading height of bucket with teeth
- B** Maximum reach at ground level
- C** Maximum digging depth
- D** Maximum vertical wall
- E** Maximum depth of cut for 2.44 m (8'0") level bottom (straight clean up)
- F** Maximum bucket hinge pin height
- G** Maximum height, to bucket teeth at highest arc

Belgium Sourced

365C L with Reach Boom

Stick	2.84 m	9'4"	3.6 m	11'10"	4.15 m	* 13'7"	4.67 m	15'4"
	m	ft	m	ft	m	ft	m	ft
A	8.39	27'6"	8.62	28'3"	8.85	29'0"	9.21	30'3"
B	12.44	40'10"	13.01	42'8"	13.53	44'5"	14.07	46'2"
C	7.68	25'2"	8.38	27'6"	8.93	29'3"	9.45	31'0"
D	6.21	20'4"	6.38	20'11"	6.88	22'7"	7.58	24'10"
E	7.52	24'8"	8.24	27'0"	8.80	28'10"	9.93	32'7"
F	10.50	34'5"	10.66	35'0"	10.96	35'11"	11.25	36'11"
G	12.42	40'9"	12.50	41'0"	12.73	41'9"	13.12	43'0"

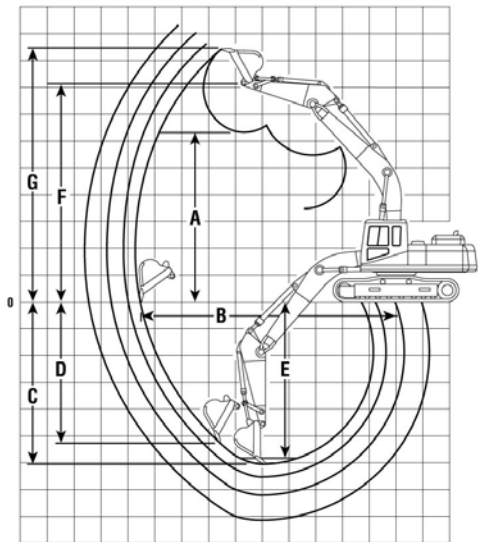
*Not available for all market areas.

Belgium Sourced

365C L with 6.6 m (21'8") Mass Boom

365C L with 7 m (23'0") Mass Boom

Stick	2.57 m	8'5"	3 m	9'10"	2.57 m	8'5"	3 m	9'10"
	m	ft	m	ft	m	ft	m	ft
A	6.77	22'2"	6.69	21'11"	7.12	23'4"	7.28	23'11"
B	11.04	36'3"	11.44	37'6"	11.46	37'7"	11.86	38'11"
C	6.90	22'8"	7.32	24'0"	7.18	23'7"	7.60	24'11"
D	4.06	13'4"	4.43	14'6"	4.25	13'11"	4.61	15'1"
E	6.74	22'1"	7.17	23'6"	7.02	23'0"	7.46	24'6"
F	9.02	29'7"	9.19	30'2"	9.42	30'11"	9.58	31'5"
G	10.73	35'2"	10.90	35'9"	11.08	36'3"	11.24	36'10"



**One-Piece Boom
Digging Envelope**

- Standard shoes and undercarriage
- Lug height not included

KEY:

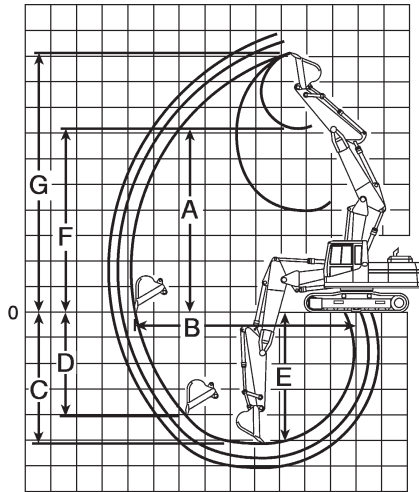
- A** Maximum loading height of bucket with teeth
- B** Maximum reach at ground level
- C** Maximum digging depth
- D** Maximum vertical wall
- E** Maximum depth of cut for 2.44 m (8'0") level bottom (straight clean up)
- F** Maximum bucket hinge pin height
- G** Maximum height, to bucket teeth at highest arc

Belgium Sourced

385C L with 10 m (32'10") Reach Boom					385C L with 8.4 m (27'7") General Purpose Boom			
Stick	4.4 m	14'5"	5.5 m	18'1"	3.4 m	11'2"	3.7 m	12'2"
	m	ft	m	ft	m	ft	m	ft
A	10.78	35'4"	11.20	36'9"	9.23	30'3"	9.25	30'4"
B	16.02	52'7"	17.04	55'11"	13.81	45'4"	13.75	45'1"
C	10.45	34'3"	11.55	37'11"	8.55	28'1"	8.68	28'6"
D	5.37	17'7"	6.30	20'8"	5.87	19'3"	7.11	23'4"
E	10.33	33'11"	11.45	37'7"	8.41	27'7"	8.55	28'1"
F	12.94	42'5"	13.37	43'10"	—	—	11.40	37'5"
G	14.51	47'7"	14.94	49'0"	13.58	44'7"	13.12	43'0"

Belgium Sourced

385C L with 8.4 m (27'7") General Purpose Boom					385C L with 7.25 m (23'9") Mass Boom			
Stick	4.4 m	14'5"	5.5 m	18'1"	2.92 m	9'7"	3.4 m	11'2"
	m	ft	m	ft	m	ft	m	ft
A	9.52	31'3"	9.98	32'9"	8.06	26'5"	8.23	27'0"
B	14.48	47'6"	15.52	50'11"	12.28	40'3"	12.70	41'8"
C	9.40	30'10"	10.50	34'5"	7.14	23'5"	7.62	25'5"
D	5.07	16'8"	6.00	19'8"	4.65	15'3"	4.92	16'2"
E	9.28	30'5"	10.40	34'1"	7.00	23'0"	7.49	24'7"
F	11.69	38'4"	12.14	39'10"	10.53	34'6"	10.70	35'1"
G	13.30	43'7"	13.76	45'2"	12.54	41'2"	12.68	41'7"



Variable Adjustable Boom Digging Envelope

KEY:

- A** Maximum loading height of bucket with teeth
- B** Maximum reach at ground level
- C** Maximum digging depth
- D** Maximum vertical wall
- E** Maximum depth of cut for 2.44 m (8'0") level bottom (straight clean up)
- F** Maximum bucket hinge pin height
- G** Maximum height, to bucket teeth at highest arc

4

France Sourced

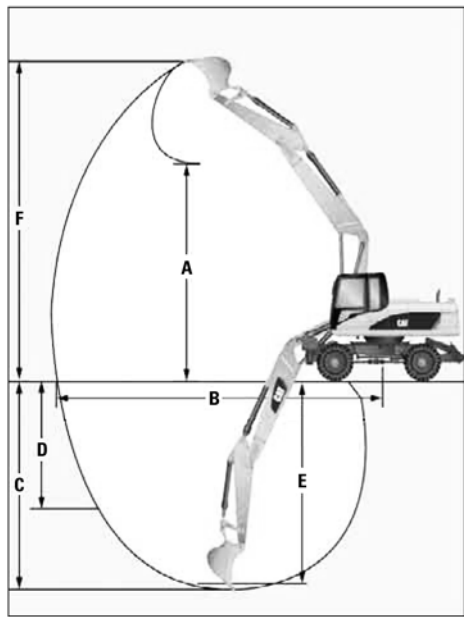
312D, 312D L

Stick	2.1 m	6'11"	2.5 m	8'2"	3 m	9'10"
	m	ft	m	ft	m	ft
A	6.91	22'8"	7.27	23'10"	7.65	25'1"
B	7.84	25'8"	8.22	27'0"	8.68	28'6"
C	4.73	15'6"	5.13	16'10"	5.61	18'5"
D	2.84	9'4"	3.16	10'5"	3.64	11'11"
E	4.54	14'11"	4.9	16'1"	5.34	17'6"
F	8.03	26'4"	8.36	27'5"	8.77	28'10"
G	9.14	30'0"	9.49	31'1"	9.89	32'5"

France Sourced

315D L

Stick	1.85 m	6'1"	2.25 m	7'5"	2.6 m	8'6"	3.1 m	10'2"
	m	ft	m	ft	m	ft	m	ft
A	6.92	22'8"	7.26	23'10"	7.45	24'5"	7.81	25'7"
B	7.97	26'2"	8.36	27'5"	8.68	28'6"	9.10	29'10"
C	4.65	15'4"	5.06	16'7"	5.40	17'8"	5.85	19'2"
D	3.12	10'2"	3.52	11'7"	3.88	12'8"	4.36	14'4"
E	4.59	15'0"	4.99	16'5"	5.34	17'6"	5.81	19'1"
F	8.21	26'11"	8.54	28'0"	8.77	28'10"	9.10	29'11"
G	9.49	31'1"	9.82	32'2"	10.09	33'1"	10.40	34'1"



Hydraulic Adjustable Boom
Digging Envelope

- Standard 10 × 20 tires and undercarriage
- General purpose bucket

KEY:

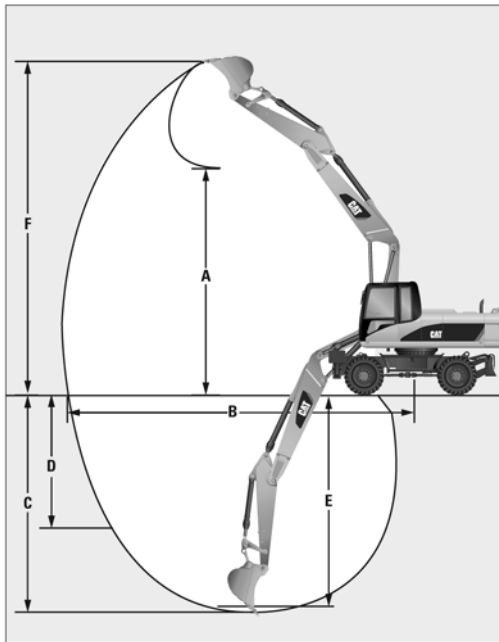
- A** Maximum loading height of bucket with teeth
- B** Maximum reach at ground level
- C** Maximum digging depth
- D** Maximum vertical wall
- E** Maximum depth of cut for 2.5 m (8'2") level bottom
- F** Maximum height, to bucket teeth at highest arc

M313D

Stick	2 m	6'7"	2.3 m	7'7"	2.6 m	8'6"
Bucket	0.64 m ³	0.84 yd ³	0.64 m ³	0.84 yd ³	0.56 m ³	0.73 yd ³
	m	ft	m	ft	m	ft
A	6.90	22'8"	7.06	23'2"	7.29	23'11"
B	8.49	27'10"	8.74	28'8"	9.03	29'7"
C	5.16	16'11"	5.45	17'11"	5.75	18'10"
D	3.50	11'6"	3.60	11'10"	3.89	12'9"
E	4.92	16'2"	5.23	17'2"	5.55	18'2"
F	9.67	31'9"	9.82	32'3"	10.06	33'0"

M315D

Stick	2.1 m	6'11"	2.4 m	7'10"	2.6 m	8'6"
Bucket	0.815 m ³	1.07 yd ³	0.7 m ³	0.92 yd ³	0.7 m ³	0.92 yd ³
	m	ft	m	ft	m	ft
A	6.95	22'10"	7.14	23'5"	7.30	23'11"
B	8.91	29'3"	9.19	30'2"	9.38	30'9"
C	5.59	18'4"	5.89	19'4"	6.09	20'0"
D	3.72	12'2"	3.92	12'10"	4.09	13'5"
E	5.37	17'7"	5.69	18'8"	5.90	19'4"
F	10.04	32'11"	10.23	33'7"	10.38	34'1"



Hydraulic Adjustable Boom Digging Envelope

- Standard 10 × 20 tires and undercarriage
- General purpose bucket

KEY:

- A** Maximum loading height of bucket with teeth
- B** Maximum reach at ground level
- C** Maximum digging depth
- D** Maximum vertical wall
- E** Maximum depth of cut for 2.5 m (8'2") level bottom
- F** Maximum height, to bucket teeth at highest arc

M316D

Stick	2.1 m	6'11"	2.4 m	7'10"	2.6 m	8'6"	2.2 m	7'3"	2.5 m	8'2"	2.8 m	9'2"
Bucket	0.815 m ³	1.07 yd ³	0.815 m ³	1.07 yd ³	0.7 m ³	0.92 yd ³	0.91 m ³	1.19 yd ³	0.91 m ³	1.19 yd ³	0.7 m ³	0.92 yd ³
	m	ft	m	ft	m	ft	m	ft	m	ft	m	ft
A	6.97	22'10"	7.16	23'6"	7.32	24'0"	6.70	22'0"	6.97	22'10"	7.19	23'7"
B	8.91	29'3"	9.19	30'2"	9.38	30'9"	8.97	29'5"	9.30	30'6"	9.59	31'5"
C	5.57	18'3"	5.87	19'3"	6.07	19'11"	5.75	18'10"	6.06	19'11"	6.36	20'10"
D	3.70	12'2"	3.90	12'10"	4.07	13'4"	3.22	10'7"	3.68	12'1"	3.96	13'0"
E	5.35	17'7"	5.67	18'7"	5.88	19'3"	5.54	18'2"	5.87	19'3"	6.18	20'3"
F	10.06	33'0"	10.25	33'7"	10.40	34'1"	9.71	31'10"	10.00	32'10"	10.21	33'6"

M322D

Stick	2.2 m	7'3"	2.5 m	8'2"	2.9 m	9'6"
Bucket	1.04 m ³	1.36 yd ³	0.805 m ³	1.05 yd ³	0.805 m ³	1.05 yd ³
	m	ft	m	ft	m	ft
A	6.93	22'9"	7.17	23'6"	7.50	24'7"
B	9.59	31'5"	9.83	32'3"	10.23	33'7"
C	5.99	19'8"	6.28	20'7"	6.68	21'11"
D	4.42	14'6"	4.45	14'7"	4.83	15'10"
E	5.78	19'0"	6.09	20'0"	6.51	21'4"
F	10.56	34'8"	10.62	34'10"	10.93	35'10"

EXCAVATOR LIFTING CAPACITY

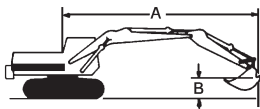
On many sewer jobs an excavator must lift and swing heavy pipe and manboxes in and out of the trench, place manholes and unload material from trucks. In some situations the excavator's lift requirements may be so critical that they determine the size excavator selected.

An excavator's lift capacity depends on its weight, center of gravity, the lift point position (see sketches) and its hydraulic capability. An excavator's lifting capability for any given lift position is limited by its tipping stability or hydraulic capacity.

Changes in boom, stick and bucket position affect attachment geometry and can drastically change a machine's hydraulic lifting capacity. Caterpillar defines excavator lifting capabilities using the following SAE guidelines.

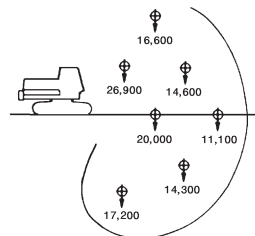
Tipping Conditions — An excavator is considered to be at the tipping point when the weight in the bucket acting at the center of gravity causes the rear rollers to lift clear of the track rails. Suspended loads are considered to be hung from the back of the excavator's bucket or bucket linkage by a sling or chain. Weights of attachments, slings or auxiliary lifting devices are considered part of the suspended load.

Thus, the tipping load is defined as the load producing a tipping condition at a specified radius. The load radius shall be measured as the horizontal distance from the axis of upper structure rotation (before loading) to the center of vertical load line with load applied (dimension A, below). The rating height is based on the vertical distance of the bucket lift point to the ground (dimension B).



A. Radius from swing centerline

B. Bucket lift point height



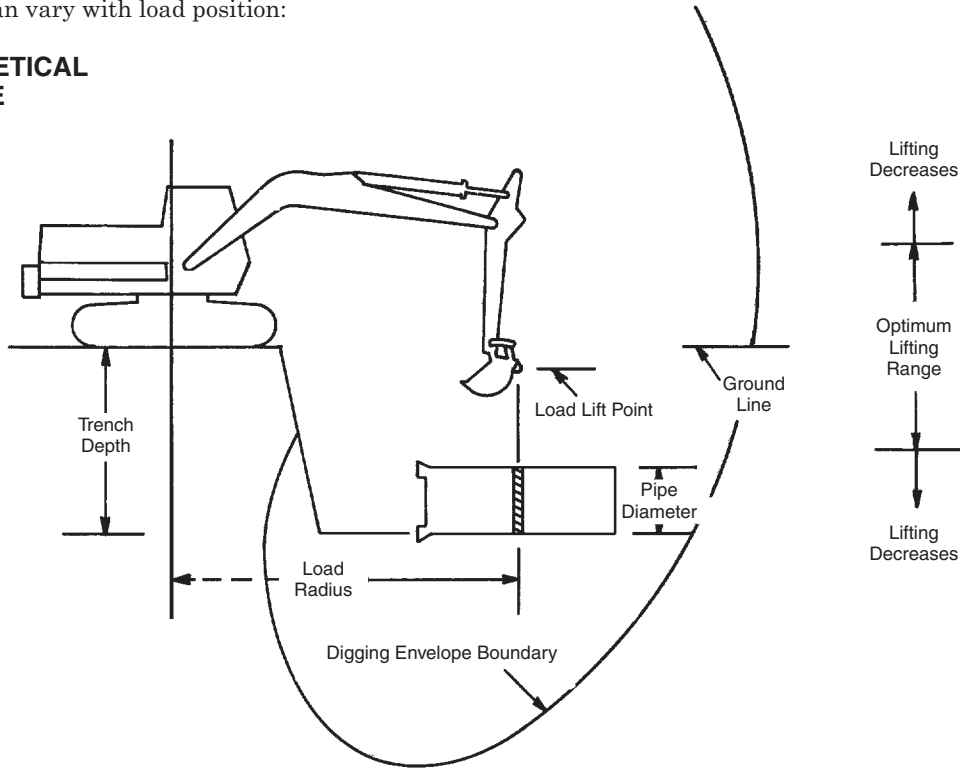
HYPOTHETICAL MACHINE

Rated Hoist Load — The rated load is established using the vertical distance of the lifting point to the ground and the radius of load. Ratings for the ability of a specific machine attachment to lift a load slung from the designated bucket are defined as follows:

- The rated load will not exceed 75% of the tipping load.
- The rated load will not exceed 87% of the excavator's hydraulic capacity. This means the machine should be able to lift 115% of the rated load.
- The rated load will not exceed the machine's structural capability.

This drawing shows how an excavator's lifting capacity can vary with load position:

HYPOTHETICAL MACHINE



Tips for Lifting Above Ground:

Get the load as close to the excavator as possible.
Use a cable short enough and position the excavator so as to put the load lift point in the "optimum lifting range" (see sketch).

Problem: Long reach cable — Can't lift.

Solution: Shorten reach and cable — Can lift.

Tips for Lifting Below Grade:

Use a cable for sufficient length to position the load lift point in the "optimum lifting range".

Problem: Short cable, deep trench — Can't lift.

Solution: Lengthen cable to locate bucket hinge pin in optimum lifting area — Can lift.

GROUND LEVEL LIFTING CAPACITIES

The lifting capacities that are shown on the following pages are with the lifting point at ground level. These capacities are rated according to SAE Std. No. J1097.

(For lifting capacities at other heights or with other tools, refer to current Specification Sheets.)

Excavators

Lifting Capacity At Ground Level

● 301.6C ● 301.8C ● 302.5C ● 303C CR

301.6C ● Rubber Track ● Canopy ● Blade Raised

Stick	Bucket	kg	1 m 3'3"		1.5 m 5'0"		2 m 6'7"		2.5 m 8'2"		3 m 9'10"		At Max. Reach	
			Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
1090 mm 3'6"	400 mm 16"	kg lb	350 770	350 770	690 1520	440 970	490 1080	300 660	350 770	220 480	270 590	170 370	210 460	130 280

301.6C ● Rubber Track ● Canopy ● Blade Lowered

Stick	Bucket	kg	1 m 3'3"		1.5 m 5'0"		2 m 6'7"		2.5 m 8'2"		3 m 9'10"		At Max. Reach	
			Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
1090 mm 3'6"	400 mm 16"	kg lb	350 770	350 770	690 1520	510 1120	670 1470	340 750	470 1030	250 550	370 810	190 410	280 610	150 330

301.8C ● Rubber Track ● Canopy ● Blade Lowered

Stick	Bucket	kg	1 m 3'3"		1.5 m 5'0"		2 m 6'7"		2.5 m 8'2"		3 m 9'10"		At Max. Reach	
			Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
890 mm 2'11"	400 mm 16"	kg lb	—	—	680 1490	680 1490	680 1490	530 1160	490 1080	380 830	380 830	300 660	300 660	250 550
1090 mm 3'6"	400 mm 16"	kg lb	350 770	350 770	690 1520	690 1520	670 1470	530 1160	470 1030	380 830	370 810	290 630	280 610	220 480

301.8C ● Rubber Track ● Canopy ● Blade Raised

Stick	Bucket	kg	1 m 3'3"		1.5 m 5'0"		2 m 6'7"		2.5 m 8'2"		3 m 9'10"		At Max. Reach	
			Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
890 mm 2'11"	400 mm 16"	kg lb	—	—	680 1490	680 1490	480 1050	480 1050	350 770	350 770	270 590	270 590	220 480	220 480
1090 mm 3'6"	400 mm 16"	kg lb	350 770	350 770	690 1520	690 1520	470 1030	480 1050	340 750	350 770	270 590	270 590	200 480	200 480

302.5C ● Rubber Track ● Canopy ● Blade Raised

Stick	Bucket	kg	1.5 m 5'0"		2 m 6'7"		2.5 m 8'2"		3 m 9'10"		3.5 m 11'6"		4 m 13'1"		At Max. Reach	
			Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
1100 mm 3'6"	400 mm 16"	kg lb	740* 1630*	740* 1630*	1020 2240	750 1650	710 1560	540 1190	540 1190	420 920	430 940	340 740	—	—	360 600	280 310
1400 mm 4'6"	400 mm 16"	kg lb	770 1690	770 1690	1010 2220	750 1650	710 1560	540 1190	540 1190	410 900	430 940	330 720	350 770	270 590	320 700	250 550

302.5C ● Rubber Track ● Canopy ● Blade Lowered

Stick	Bucket	kg	1.5 m 5'0"		2 m 6'7"		2.5 m 8'2"		3 m 9'10"		3.5 m 11'6"		4 m 13'1"		At Max. Reach	
			Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
1100 mm 3'6"	400 mm 16"	kg lb	740* 1630*	740* 1630*	1470 3240	830 1830	1150 2535	600 1323	890 1962	460 1014	710 1565	370 816	—	—	600 1323	310 683
1400 mm 4'6"	400 mm 16"	kg lb	770 1690	770 1690	1530 3370	830 1830	1140 2510	590 1300	870 1910	460 1010	700 1540	360 790	590 1300	300 660	540 1190	270 590

303C CR ● Blade Raised

Stick		kg	2 m 6'7"		2.5 m 8'2"		3 m 9'10"		3.5 m 11'6"		4 m 13'1"		4.5 m 15'0"		At Max. Reach	
			Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
1260 mm 4'2"		kg lb	1050 2315	750 1653	750 1654	550 1213	550 1213	450 992	350 772	350 772	300 661	300 661	250 551	300 661	250 551	250 551
1560 mm 5'1"		kg lb	1000 2205	750 1653	700 1543	550 1213	550 1213	400 882	350 772	350 772	250 551	300 661	200 441	300 661	250 551	200 441

*Load limited by hydraulic capacity rather than tipping.

303C CR • Blade Lowered

Stick		2 m 6'7"		2.5 m 8'2"		3 m 9'10"		3.5 m 11'6"		4 m 13'1"		4.5 m 15'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
1260 mm 4'2"	kg lb	1250*	750	1700*	550	1250*	450	1000*	350	850*	300	700*	250	650*	250
		2756*	1653	3748*	1213	2756*	992	2205*	772	1874*	661	1543*	551	1433*	551
1560 mm 5'1"	kg lb	1350*	750	1650*	550	1200*	400	950*	350	800*	250	700*	200	600*	200
		2976*	1653	3638*	1213	2646*	882	2094*	772	1764*	551	1543*	441	1323*	441

303.5C CR • Blade Raised

Stick		2 m 6'7"		2.5 m 8'2"		3 m 9'10"		3.5 m 11'6"		4 m 13'1"		4.5 m 15'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
1315 mm 4'4"	kg lb	—	—	1028 2203	886 1902	760 1633	662 1424	596 1282	522 1124	484 1041	425 915	—	—	380 838	334 737
1615 mm 5'9"	kg lb	—	—	1008 2162	866 1862	748 1607	650 1398	586 1260	512 1101	474 1019	415 892	—	—	339 747	296 653

303.5C CR • Blade Lowered

Stick		2 m 6'7"		2.5 m 8'2"		3 m 9'10"		3.5 m 11'6"		4 m 13'1"		4.5 m 15'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
1315 mm 4'4"	kg lb	—	—	2150* 4632*	970 2081	1634* 3514*	721 1550	1281* 2758*	567 1219	1050* 2258*	462 994	—	—	825* 1823*	389 859
1615 mm 5'9"	kg lb	—	—	2175* 4668*	950 2040	1597* 3429*	710 1528	1246* 2682*	559 1203	1026* 2212*	454 976	—	—	759* 1673*	325 717

304C CR • Reach Boom • Blade Raised

Stick		1.5 m 5'0"		2 m 6'7"		2.5 m 8'2"		3 m 9'10"		3.5 m 11'6"		4 m 13'1"	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
1350 mm 4'5"	kg lb	—	—	1450* 3350*	1450 3100*	1250 2700	1000 2150	950 2000	750 1600	750 1600	600 1300	600 1300	500 1050
1750 mm 5'9"	kg lb	900* 2050*	900* 2050*	1400* 3200*	1400 3000	1250 2650	950 2050	900 1950	750 1550	700 1550	600 1250	600 1250	450 1000

Stick		4.5 m 15'0"		5 m 16'5"		At Max. Reach	
		Front	Side	Front	Side	Front	Side
1350 mm 4'5"	kg lb	500 1100	400 900	—	—	400 850	350 700
1750 mm 5'9"	kg lb	500 1000	400 800	400 850	350 700	350 700	250 550

304C CR • Reach Boom • Blade Lowered

Stick		1.5 m 5'0"		2 m 6'7"		2.5 m 8'2"		3 m 9'10"		3.5 m 11'6"		4 m 13'1"	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
1350 mm 4'5"	kg lb	—	—	1450* 3350*	1450* 3350*	2150* 4700*	1150 2500	2350* 5200*	850 1850	2000* 4250*	700 1500	1650* 3550*	550 1200
1750 mm 5'9"	kg lb	900* 2050*	900* 2050*	1400* 3200*	1400* 3200*	2000* 4450*	1150 2400	2250* 5000*	850 1800	1900* 4000*	650 1450	1500* 3350*	550 1150

Stick		4.5 m 15'0"		5 m 16'5"		At Max. Reach	
		Front	Side	Front	Side	Front	Side
1350 mm 4'5"	kg lb	1400* 3000*	500 1000	—	—	900* 1900*	400 800
1750 mm 5'9"	kg lb	1350* 2900*	450 950	1200* 2550*	400 800	750* 1550*	300 650

*Load limited by hydraulic capacity rather than tipping.

305C CR ● Blade Raised

		1.5 m 5'0"		2 m 6'7"		2.5 m 8'2"		3 m 9'10"		3.5 m 11'6"		4 m 13'1"		4.5 m 15'0"		At Max. Reach	
Stick		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
1430 mm 4'8"	kg lb	—	—	1800* 3968*	1800* 3968*	1550 3417	1300 2866	1150 2535	1000 2205	900 1984	800 1764	750 1653	650 1433	650 1433	550 1213	550 1213	450 992
1830 mm 6'0"	kg lb	1250* 2756*	1250* 2756*	1800* 3968*	1800* 3968*	1550 3417	1300 2866	1150 2535	1000 2205	900 1984	800 1764	750 1653	650 1433	650 1433	550 1213	500 1102	400 882

305C CR ● Blade Lowered

		1.5 m 5'0"		2 m 6'7"		2.5 m 8'2"		3 m 9'10"		3.5 m 11'6"		4 m 13'1"		4.5 m 15'0"		At Max. Reach	
Stick		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
1430 mm 4'8"	kg lb	—	—	1800* 3968*	1800* 3968*	2500* 5512*	1300 2866	2550* 5622*	1000 2205	2100* 4630*	800 1764	1750* 3858*	650 1433	1500* 3307*	550 1213	1300* 2866*	450 992
1830 mm 6'0"	kg lb	1250* 2756*	1250* 2756*	1800* 3968*	1800* 3968*	2450* 5401*	1300 2866	2550* 5622*	1000 2205	2050* 4519*	800 1764	1700* 3748*	650 1433	1450* 3197*	550 1213	1150* 2535*	400 882

305.5 ● 400 mm (16") Track Shoes ● Blade Lowered ● 700 mm (28") Bucket**

Stick		2 m 6'7"		3 m 9'10"		4 m 13'1"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side
1665 mm 5'6"	kg lb	1400* 3086	1400* 3086	2600* 5732	1600 3527	1750* 3858	1050 2315	1000* 2205	650 1433

307C* ● Reach Boom**

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		At Max. Reach	
Bucket		Front	Side	Front	Side	Front	Side	Front	Side
1665 mm 5'6"	750 mm 2'6" kg lb	2550 5450	2050 4350	1350 2900	2200 2350	—	—	700* 1500*	700* 1500*
2210 mm 7'3"	600 mm 2'0" kg lb	2550 5450	2050 4350	1350 2900	1100 2350	—	—	750* 1650*	650 1350

307D ● 450 mm (18") Track Shoes ● Blade Lowered ● 600 mm (24") Bucket

Stick		2 m 6'7"		3 m 9'10"		4 m 13'1"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side
1665 mm 5'6"	kg lb	2600* 5732*	2600* 5732*	3800* 8378*	2600 5732	2800* 6173*	1650 3638	800* 1764*	800* 1764*
2210 mm 7'3"	kg lb	—	—	3650* 8047*	2550 5622	2700* 5952*	1650 3638	850* 1874*	800 1764

307D ● 600 mm (24") Track Shoes ● Blade Lowered ● 600 mm (24") Bucket

Stick		2 m 6'7"		3 m 9'10"		4 m 13'1"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side
1665 mm 5'6"	kg lb	2600* 5732*	2600* 5732*	3800* 8378*	2700 5952	2800* 6173*	1750 3858	800* 1764*	800* 1764*
2210 mm 7'3"	kg lb	—	—	3650* 8047*	2700 5952	2700* 5952*	1750 3858	850* 1874*	850* 1874*

*Load limited by hydraulic capacity rather than tipping.

**China and Korea only.

***China only.

308D CR • 450 mm (18") Track Shoes • Blade Lowered • 600 mm (24") Bucket

Stick			2 m 6'7"		3 m 9'10"		4 m 13'1"		At Max. Reach	
			Front	Side	Front	Side	Front	Side	Front	Side
1665 mm 5'6"	kg lb		—	—	3700* 8157*	2850 6283	2700* 5952*	1850 4079	1050* 2315*	1050* 2315*
2210 mm 7'3"	kg lb		—	—	3650* 8047*	2850 6283	2650* 5842*	1800 3968	1100* 2425*	900 1984

308D CR • 600 mm (24") Track Shoes • Blade Lowered • 600 mm (24") Bucket

Stick			2 m 6'7"		3 m 9'10"		4 m 13'1"		At Max. Reach	
			Front	Side	Front	Side	Front	Side	Front	Side
1665 mm 5'6"	kg lb		—	—	3700* 8157*	3050 6724	2700* 5952*	1950 4299	1050* 2315*	1050* 2315*
2210 mm 7'3"	kg lb		—	—	3650* 8047*	3050 6724	2650* 5842*	1950 4299	1100* 2425*	950 2094

308D CR SB • 450 mm (18") Track Shoes • Blade Lowered • 600 mm (24") Bucket

Stick			2 m 6'7"		3 m 9'10"		4 m 13'1"		At Max. Reach	
			Front	Side	Front	Side	Front	Side	Front	Side
1665 mm 5'6"	kg lb		—	—	3350* 7385*	2450 5401	3700* 8157*	1600 3527	1500* 3307*	800 1764
2210 mm 7'3"	kg lb		—	—	3200* 7055*	2450 5401	3450* 7606*	1550 3417	1400* 3086*	650 1433

308D CR SB • 600 mm (24") Track Shoes • Blade Lowered • 600 mm (24") Bucket

Stick			2 m 6'7"		3 m 9'10"		4 m 13'1"		At Max. Reach	
			Front	Side	Front	Side	Front	Side	Front	Side
1665 mm 5'6"	kg lb		—	—	3350* 7385*	2700 5952	3700* 8157*	1700 3748	1500* 3307*	850 1874
2210 mm 7'3"	kg lb		—	—	3200* 7055*	2650 5842	3450* 7606*	1700 3748	1400* 3086*	700 1543

311D LRR • Reach Boom

Stick			3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
			Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2600 mm 8'6"	760 mm 2'6"	kg lb	7200* 15,500*	4850 10,400	3900 8400	2600 5550	2500 5300	1650 3500	—	—	1050* 2300*	1050* 2300*
2800 mm 9'2"	760 mm 2'6"	kg lb	7050* 15,150*	4850 10,450	3900 8400	2600 5550	2450 5300	1650 3500	—	—	1000* 2150*	1000* 2150*

312C • Reach Boom

Stick			3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
			Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2100 mm 6'11"	914 mm 3'0"	kg lb	6200* 14,400*	5050 10,850	4100 8800	2750 5900	2600 5600	1800 3800	—	—	1850* 4000*	1300 2850
2500 mm 8'2"	914 mm 3'0"	kg lb	6750* 15,650*	5200 11,100	4150 8900	2800 6000	2650 5650	1800 3850	—	—	1500* 3300*	1200 2600
3000 mm 9'10"	914 mm 3'0"	kg lb	7800* 17,800	5200 11,150	4150 9800	2800 6000	2650 5600	1800 3800	1800 4000	1200 2650	1400* 3050*	1050 2300

*Load limited by hydraulic capacity rather than tipping.

France Sourced

312D ● 600 mm (24") Track Shoes ● Quick Coupler CW20 ● One-Piece Boom

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2100 mm	kg	5600*	5600*	4520	3090	2940	2050	—	—	2450	1710
6'11"	lb	12,348	12,348	9967	6813	6483	4520	—	—	5402	3771
2500 mm	kg	5940*	5720	4570	3140	2960	2070	—	—	2130*	1580
8'2"	lb	13,098	12,613	10,077	6924	6527	4564	—	—	4697	3484
3000 mm	kg	6650*	5740	4570	3130	2940	2050	2090	1450	1890*	1410
9'10"	lb	14,729	12,657	10,077	6902	6483	4520	4608	3197	4167	3109

312D ● 600 mm (24") Track Shoes ● Quick Coupler CW20 ● VA Boom

Stick		1.5 m 5'0"		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2100 mm	kg	5520*	5520*	8500*	6120	4780	3310	2970	2060	—	—	2020*	1580
6'11"	lb	12,172	12,172	18,743	13,495	10,540	7299	6549	4542	—	—	4454	3484
2500 mm	kg	5420*	5420*	8480*	6280	4860	3380	3020	2120	—	—	1800*	1480
8'2"	lb	11,951	11,951	18,698	13,847	10,716	7453	6659	4675	—	—	3969	3263
3000 mm	kg	5980*	5980*	8380*	6430	4850	3420	3060	2170	2070	1420	1500*	1320
9'10"	lb	13,186	13,186	18,478	14,178	10,694	7541	6747	4785	4564	3131	3308	2911

312D L ● Reach Boom

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2800 mm	kg	7750*	5950	5100	3200	3200	2100	—	—	1550*	1300
9'2"	lb	18,000*	12,750	10,950	6900	6900	4450	—	—	3350*	2850
3000 mm	kg	8200*	5650	5100	3050	3200	1950	2300	1400	1400*	1150
9'10"	lb	18,550*	12,100	10,950	6500	6900	4150	4750*	2900	3100*	2500

France Sourced

312D L ● 600 mm (24") Track Shoes ● Quick Coupler CW20 ● One-Piece Boom

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2100 mm	kg	—	—	5400	3300	3540	2250	—	—	2850	1830
6'11"	lb	—	—	11,907	7277	7806	4961	—	—	6284	4035
2500 mm	kg	4770*	4770*	5460	3350	3560	2270	—	—	2370*	1710
8'2"	lb	10,518	10,518	12,039	7387	7850	5005	—	—	5226	3771
3000 mm	kg	5540*	5540*	5460	3340	3550	2250	2570	1640	2120*	1540
9'10"	lb	12,216	12,216	12,039	7365	7828	4961	5667	3616	4675	3396

312D L ● 600 mm (24") Track Shoes ● Quick Coupler CW20 ● VA Boom

Stick		1.5 m 5'0"		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2100 mm	kg	5520*	5520*	8500*	6260	5530	3390	3430	2120	—	—	2240*	1660
6'11"	lb	12,172	12,172	18,743	13,803	12,194	7475	7563	4675	—	—	4939	3660
2500 mm	kg	5420*	5420*	8480*	6420	5520	3460	3480	2180	—	—	1800	1530
8'2"	lb	11,951	11,951	18,698	14,156	12,172	7629	7673	4807	—	—	3969	3374
3000 mm	kg	5980*	5980*	8380*	6550	5450	3490	3500	2210	2370	1440	1500*	1340
9'10"	lb	13,186	13,186	18,478	14,443	12,017	7695	7718	4873	5226	3175	3308	2955

*Load limited by hydraulic capacity rather than tipping.

313C SR • Reach Boom • Blade Raised

			3 m 9'10"		4.5 m 15'0"		6 m 20'0"		At Max. Reach	
Stick	Bucket		Front	Side	Front	Side	Front	Side	Front	Side
2130 mm 7'0"	895 mm 2'11"	kg lb	5450* 9950*	4150 8850	3400 7250	2250 4750	2150 4550	1400 3000	1750 3800	1150 2500

313C SR • Reach Boom • Blade Lowered

			3 m 9'10"		4.5 m 15'0"		6 m 20'0"		At Max. Reach	
Stick	Bucket		Front	Side	Front	Side	Front	Side	Front	Side
2130 mm 7'0"	895 mm 2'11"	kg lb	5450* 9950*	4750 9950*	4950* 10,700*	2500 5400	3550* 7650*	1600 3400	2200* 4800*	1300 2800

313C CR • Reach Boom

			3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
Stick	Bucket		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2500 mm 8'2"	895 mm 2'11"	kg lb	4400* 9900*	4300 9200	3600 7700	2250 4850	2300 4850	1450 3100	1600 3450	1000 2150	1500 3300	950 2000
3000 mm 9'10"	700 mm 2'4"	kg lb	5000* 11,000*	4300 9150	3600 7750	2300 4950	2300 4900	1450 3100	1600 3400	1000 2100	1350 3000	850 1800

314D CR • Reach Boom

			3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
Stick	Bucket		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2500 mm 8'2"	910 mm 3'0"	kg lb	—	—	4250 9100	2750 5950	2700 5800	1800 3800	—	—	1900* 4100*	1300 2800
2800 mm 9'2"	760 mm 2'6"	kg lb	5000* 11,650*	5000* 11,150	4250 9150	2800 5950	2700 5800	1800 3800	—	—	1850* 4100*	1200 2650
3000 mm 9'10"	760 mm 2'6"	kg lb	5300* 12,350*	5200 11,150	4250 9150	2800 5950	2700 5800	1800 3800	1900 4050	1250 2600	1700* 3700*	1150 2500

314D LCR • Reach Boom

			3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
Stick	Bucket		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2500 mm 8'2"	910 mm 3'0"	kg lb	—	—	4900 10,550	2800 6000	3100 6650	1800 3850	—	—	1900* 4100*	1300 2800
2800 mm 9'2"	760 mm 2'6"	kg lb	5000* 11,650*	5000* 11,250	4950 10,600	2800 6050	3150 6700	1800 3850	—	—	1850* 4100*	1250 2650
3000 mm 9'10"	760 mm 2'6"	kg lb	5300* 12,350*	5250 11,250	4950 10,600	2800 6050	3100 6700	1800 3850	2200 4700	1250 2650	1700* 3700*	1150 2550

*Load limited by hydraulic capacity rather than tipping.

315D L ● Reach Boom

Stick	Bucket		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
			Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2250 mm 7'5"	922 mm 3'0"	kg lb	5870*	5870*	7320	4280	4710	2870	—	—	3430	2180
			12,943	12,943	16,141	9437	10,386	6328			7563	4807
2600 mm 8'6"	922 mm 3'0"	kg lb	6360*	6360*	7340	4290	4720	2870	3390	2070	2880*	2030
			14,024	14,024	16,185	9459	10,408	6328	7475	4564	6350	4476
2900 mm 9'6"	922 mm 3'0"	kg lb	7170*	7170*	7310	4260	4690	2830	3360	2040	2750*	1920
			15,810	15,810	16,119	9393	10,341	6240	7409	4498	6064	4234
3100 mm 10'2"	922 mm 3'0"	kg lb	7410*	7410*	7340	4290	4700	2840	3360	2040	2500*	1840
			16,339	16,339	16,185	9459	10,364	6262	7409	4498	5513	4057

315D L ● VA Boom

Stick	Bucket		1.5 m 5'0"		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
			Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2250 mm 7'5"	922 mm 3'0"	kg lb	6820*	6820*	13 840*	8480	7830	4680	4970	3070	3460	2120	3450	2120
			15,038	15,038	30,517	18,698	17,265	10,319	10,959	6769	7629	4675	7607	4675
2600 mm 8'6"	922 mm 3'0"	kg lb	6630*	6630*	13 610*	8590	7850	4730	5010	3110	3470	2130	3040*	1980
			14,619	14,619	30,010	18,941	17,309	10,430	11,047	6858	7651	4697	6703	4366
2900 mm 9'6"	922 mm 3'0"	kg lb	6890*	6890*	13 310	8640	7790	4740	5010	3110	3460	2110	2880*	1870
			15,192	15,192	29,349	19,051	17,177	10,452	11,047	6858	7629	4653	6350	4123
3100 mm 10'2"	922 mm 3'0"	kg lb	6870*	6870*	13 230*	8750	7800	4780	5010	3130	3470	2130	2630*	1800
			15,148	15,148	29,172	19,294	17,199	10,540	11,047	6902	7651	4697	5799	3969

France Sourced**319D L ● 600 mm (24") Track Shoes ● with Quick Coupler/without Bucket**

Stick			3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
			Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2250 mm 7'5"	kg lb		—	—	9530*	5030	6180	3360	—	—	4510	2500
					21,014	11,091	13,627	7409			9945	5513
2700 mm 8'10"	kg lb		6210*	6210*	9370*	5090	6220	3390	4440	2470	3650*	2300
			13,693	13,693	20,661	11,223	13,715	7475	9790	5446	8048	5072

319D L ● 600 mm (24") Track Shoes ● with Quick Coupler/without Bucket ● VA Boom

Stick			1.5 m 5'0"		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
			Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2250 mm 7'5"	kg lb		12 270*	12 270*	14 840*	10 530	9560*	5610	6420	3500	—	—	4600	2500
			27,055	27,055	32,722	23,219	21,080	12,370	14,156	7718			10,143	5513
2700 mm 8'10"	kg lb		11 400*	11 400*	14 420*	10 810	9560*	5730	6510	3620	4460	2440	3610*	2290
			25,137	25,137	31,796	23,836	21,080	12,635	14,355	7982	9834	5380	7960	5049

*Load limited by hydraulic capacity rather than tipping.

France Sourced

319D LN ● 500 mm (20") Track Shoes ● 259 kg (571 lb) Quick Coupler ● One-Piece Boom

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
1850 mm 5'10"	kg lb	—	—	9570* 21,102	4330 9548	6060 13,362	2920 6439	—	—	4840 10,672	2380 5248
2250 mm 7'5"	kg lb	—	—	9530* 21,014	4400 9702	6090 13,428	2960 6527	—	—	4440 9790	2200 4851
2700 mm 8'10"	kg lb	6210* 13,693	6210* 13,693	9370* 20,661	4450 9812	6130 13,517	2990 6593	4370 9636	2170 4785	3650 8048	2020 4454
3200 mm 10'6"	kg lb	—	—	9570* 21,102	4550 10,033	6270 13,825	3070 6769	—	—	5020 11,069	2510 5535

319D LN ● 500 mm (20") Track Shoes ● 259 kg (571 lb) Quick Coupler ● VA Boom

Stick		1.5 m 5'0"		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
1850 mm 5'10"	kg lb	13 400* 29,547	13 400* 29,547	14 840* 32,722	8850 19,514	9550* 21,058	4840 10,672	6200 13,671	2970 6549	—	—	4960 10,937	2370 5226
2250 mm 7'5"	kg lb	12 270* 27,055	12 270* 27,055	14 480* 31,928	9090 20,043	9560* 21,080	4950 10,915	6330 13,958	3090 6813	—	—	4540 10,011	2190 4829
2700 mm 8'10"	kg lb	11 400* 25,137	11 400* 25,137	14 420* 31,796	9350 20,617	9560* 21,080	5060 11,157	6420 14,156	3200 7056	4390 9680	2130 4697	3610* 7960	2000 4410

*Load limited by hydraulic capacity rather than tipping.

Excavators

Lifting Capacity At Ground Level

● M313D ● One-Piece Boom ● Quick Coupler

M313D ● Rear Dozer Up

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2000 mm 6'7"	kg lb	—	—	4900 10,805	2900 6395	3200 7056	1900 4190	—	—	2300* 5071*	1400 3087
2300 mm 7'7"	kg lb	4300* 9482*	4300* 9482*	4900 10,805	2900 6395	3200 7056	1900 4190	—	—	2100* 4631*	1300 2867
2600 mm 8'6"	kg lb	4600* 10,143*	4600* 10,143*	4800 10,573	2900 6395	3100 6836	1900 4190	2300 5072	1400 3087	1800* 3969*	1200 2646

M313D ● Rear Dozer Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2000 mm 6'7"	kg lb	—	—	6700* 14,774*	3400 7497	4800* 10,584*	2200 4851	—	—	2300* 5071*	1700 3749
2300 mm 7'7"	kg lb	4300* 9482*	4300* 9482*	6700* 14,774*	3400 7497	4800* 10,584*	2200 4851	—	—	2100* 4631*	1600 3528
2600 mm 8'6"	kg lb	4600* 10,143*	4600* 10,143*	6700* 14,774*	3400 7497	4800* 10,584*	2200 4851	2600* 5733*	1600 3528	1800* 3969*	1500 3308

M313D ● Rear Stabilizer Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2000 mm 6'7"	kg lb	—	—	6700* 14,774*	4200 9261	4500 9923	2800 6174	—	—	2300* 5071*	2000 4410
2300 mm 7'7"	kg lb	4300* 9482*	4300* 9482*	6700* 14,774*	4200 9261	4500 9923	2800 6174	—	—	2100* 4631*	1900 4190
2600 mm 8'6"	kg lb	4600* 10,143*	4600* 10,143*	6700* 14,774*	4200 9261	4500 9923	2800 6174	2600* 5733*	2000 4410	1800* 3969*	1800* 3969*

M313D ● 4-Point Stabilizers Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2000 mm 6'7"	kg lb	—	—	6700* 14,774*	6600 14,553	4800* 10,584*	4200 9261	—	—	2300* 5071*	2300* 5071*
2300 mm 7'7"	kg lb	4300* 9482*	4300* 9482*	6700* 14,774*	6600 14,553	4800* 10,584*	4200 9261	—	—	2100* 4631*	2100* 4631*
2600 mm 8'6"	kg lb	4600* 10,143*	4600* 10,143*	6700* 14,774*	6600 14,553	4800* 10,584*	4200 9261	2600* 5733*	2600* 5733*	1800* 3969*	1800* 3969*

M313D ● Dozer and Stabilizer Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2000 mm 6'7"	kg lb	—	—	6700* 14,774*	5300 11,687	4800* 10,584*	3400 7497	—	—	2300* 5071*	2300* 5071*
2300 mm 7'7"	kg lb	4300* 9482*	4300* 9482*	6700* 14,774*	5300 11,687	4800* 10,584*	3400 7497	—	—	2100* 4631*	2100* 4631*
2600 mm 8'6"	kg lb	4600* 10,143*	4600* 10,143*	6700* 14,774*	5300 11,687	4800* 10,584*	3400 7497	2600* 5733*	2500 5513	1800* 3969*	1800* 3969*

*Load limited by hydraulic capacity rather than tipping.

M313D • Rear Dozer Up

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2000 mm 6'7"	kg lb	10 200 22,491	5900 13,010	5300 11,687	3300 7277	3300 7277	2000 4410	—	—	2200 4851	1300 2867
2300 mm 7'7"	kg lb	10 000* 22,050*	6000 13,230	5300 11,687	3300 7277	3300 7277	2100 4631	2300 5072	1300 2867	2100 4631	1200 2646
2600 mm 8'6"	kg lb	9800* 21,609*	6000 13,230	5200* 11,466*	3300 7277	3400 7497	2100 4631	2300 5072	1300 2867	1900* 4189*	1100 2426

M313D • Rear Dozer Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2000 mm 6'7"	kg lb	10 200* 22,491*	7000 15,435	6600* 14,553*	3800 8379	4800* 10,584*	2400 5292	—	—	2500* 5513*	1500 3308
2300 mm 7'7"	kg lb	10 000* 22,050*	7100 15,656	6600* 14,553*	3800 8379	4800* 10,584*	2400 5292	3000* 6615*	1600 3528	2200* 4851*	1400 3087
2600 mm 8'6"	kg lb	9800* 21,609*	7100* 15,656*	6500* 14,333*	3800 8379	4700* 10,364*	2400 5292	3500* 7718*	1600 3528	1900* 4189*	1300 2867

M313D • Rear Stabilizer Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2000 mm 6'7"	kg lb	10 200* 22,491*	8900* 19,625*	6600* 14,553*	4700 10,364	4700 10,364	2900 6395	—	—	2500* 5513*	1900* 4189*
2300 mm 7'7"	kg lb	10 000* 22,050*	8900 19,625	6600* 14,553*	4700 10,364	4600* 10,143*	3300 7277	3000* 6615*	2000 4410	2200* 4851*	1800 3969
2600 mm 8'6"	kg lb	9800* 21,609*	8800 19,404	6500* 14,333*	4700 10,364	4600* 10,143*	3000 6615	3200 7056	2000 4410	1900* 4189*	1700 3749

M313D • 4-Point Stabilizers Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2000 mm 6'7"	kg lb	10 200* 22,491*	10 200* 22,491*	6600* 14,553*	6600* 14,553*	4800* 10,584*	4300 9482	—	—	2500* 5513*	2500* 5513*
2300 mm 7'7"	kg lb	10 000* 22,050*	10 000* 22,050*	6600* 14,553*	6600* 14,553*	4800* 10,584*	4400 9702	3000* 6615*	3000 6615	2200* 4851*	2200* 4851*
2600 mm 8'6"	kg lb	9800* 21,609*	9800* 21,609*	6500* 14,333*	6500* 14,333*	4700* 10,364*	4400 9702	3500* 7718*	3000 6615	1900* 4189*	1900* 4189*

M313D • Dozer and Stabilizer Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2000 mm 6'7"	kg lb	10 200* 22,491*	10 200* 22,491	6600* 14,553*	5700* 12,569*	4800* 10,584*	3600 7938	—	—	2500* 5513*	2400 5292
2300 mm 7'7"	kg lb	10 000* 22,050*	10 000* 22,050*	6600* 14,553*	5700 12,569	4800* 10,584*	3600 7938	3000* 6615*	2500 5513	2200* 4851*	2200* 4851*
2600 mm 8'6"	kg lb	9800* 21,609*	9800* 21,609*	6500* 14,333*	5600 12,348	4700* 10,364*	3600 7938	3500* 7718*	2500 5513	1900* 4189*	1900* 4189*

*Load limited by hydraulic capacity rather than tipping.

Excavators

Lifting Capacity At Ground Level

● M315D ● One-Piece Boom ● Quick Coupler

M315D ● Rear Dozer Up

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2100 mm 6'11"	kg lb	—	—	5700 12,569	3300 7277	3700 8159	2200 4851	—	—	2500 5513	1500 3308
2400 mm 7'10"	kg lb	4000* 8820*	4000* 8820*	5600 12,348	3200 7056	3700 8159	2200 4851	2600 5733	1600 3528	2400 5292	1400 3087
2600 mm 8'6"	kg lb	4200* 9261*	4200* 9261*	5700 12,569	3300 7277	3700 8159	2200 4851	2600 5733	1600 3528	2300 5072	1400 3087

M315D ● Rear Dozer Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2100 mm 6'11"	kg lb	—	—	7900* 17,419*	3800 8379	5700* 12,569*	2500 5513	—	—	2900* 6395*	1800 3969
2400 mm 7'10"	kg lb	4000* 8820*	4000* 8820*	7900* 17,419*	3800 8379	5700* 12,569*	2500 5513	4000 8820	1800 3969	2600* 5733*	1700 3749
2600 mm 8'6"	kg lb	4200* 9261*	4200* 9261*	7900* 17,419*	3800 8379	5700* 12,569*	2500 5513	4000 8820	1800 3969	2400* 5292*	1600 3528

M315D ● Rear Stabilizer Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2100 mm 6'11"	kg lb	—	—	7900* 17,419*	4800 10,584	5100 11,246	3100 6836	—	—	2900* 6395*	2200 4851
2400 mm 7'10"	kg lb	4000* 8820*	4000* 8820*	7900* 17,419*	4800 10,584	5100 11,246	3100 6836	3600 7938	2300 5072	2600* 5733*	2100 4631
2600 mm 8'6"	kg lb	4200* 9261*	4200* 9261*	7900* 17,419*	4800 10,584	5100 11,246	3100 6836	3600 7938	2300 5072	2400* 5292*	2000 4410

M315D ● 4-Point Stabilizers Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2100 mm 6'11"	kg lb	—	—	7900* 17,419*	7300 16,097	5700* 12,569*	4700 10,364	—	—	2900* 6395*	2900* 6395*
2400 mm 7'10"	kg lb	4000* 8820*	4000* 8820*	7900* 17,419*	7300 16,097	5700* 12,569*	4600 10,143	4200* 9261*	3300 7277	2600* 5733*	2600* 5733*
2600 mm 8'6"	kg lb	4200* 9261*	4200* 9261*	7900* 17,419*	7300 16,097	5700* 12,569*	4600 10,143	4400* 9702*	3300 7277	2400* 5292*	2400* 5292*

M315D ● Dozer and Stabilizer Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2100 mm 6'11"	kg lb	—	—	7900* 17,419*	5900 13,010	5700* 12,569*	3800 8379	—	—	2900* 6395*	2700 5954
2400 mm 7'10"	kg lb	4000* 8820*	4000* 8820*	7900* 17,419*	5900 13,010	5700* 12,569*	3800 8379	4200* 9261*	2800 6174	2600* 5733*	2500 5513
2600 mm 8'6"	kg lb	4200* 9261*	4200* 9261*	7900* 17,419*	5900 13,010	5700* 12,569*	3800 8379	4400* 9702*	2800 6174	2400* 5292*	2400* 5292*

*Load limited by hydraulic capacity rather than tipping.

M315D • Rear Dozer Up

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2100 mm 6'11"	kg lb	11 800* 26,019*	6600 14,553	6300 13,892	3800 8379	3900 8600	2400 5292	2600 5733	1500 3308	2400 5292	1400 3087
2400 mm 7'10"	kg lb	11 600* 25,578*	6900 15,215	6200 13,671	3800 8379	4000 8820	2400 5292	2600 5733	1500 3308	2300 5072	1300 2867
2600 mm 8'6"	kg lb	11 200* 24,696*	6900 15,215	6200 13,671	3800 8379	4000 8820	2500 5513	2700 5954	1600 3528	2200 4851	1300 2867

M315D • Rear Dozer Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2100 mm 6'11"	kg lb	11 800* 26,019*	7900 17,420	7900* 17,420*	4400 9702	5700* 12,569*	2700 5954	4000* 8820*	1800 3969	2900* 6395*	1700 3749
2400 mm 7'10"	kg lb	11 600* 25,578*	8100 17,861	7800* 17,199*	4400 9702	5600* 12,348*	2800 6174	4100 9041	1800 3969	2500* 5513*	1500 3308
2600 mm 8'6"	kg lb	11 200* 24,696*	8200 18,081	7800* 17,199*	4400 9702	5600* 12,348*	2800 6174	4100 9041	1800 3969	2300* 5072*	1500 3308

M315D • Rear Stabilizer Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2100 mm 6'11"	kg lb	11 800* 26,019*	10 200 22,491	7900* 17,420*	5400 11,907	5400 11,907	3400 7497	3600 7938	2200 4851	2900* 6395*	2100 4631
2400 mm 7'10"	kg lb	11 600* 25,578*	10 100* 22,271*	7800* 17,199*	5400 11,907	5300 11,687	3400 7497	3600 7938	2300 5072	2500* 5513*	1900 4190
2600 mm 8'6"	kg lb	11 200* 24,696*	10 100 22,271	7800* 17,199*	5400 11,907	5300 11,687	3500 7718	3700 8159	2300 5072	2300* 5072*	1900 4190

M315D • 4-Point Stabilizers Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2100 mm 6'11"	kg lb	11 800* 26,019*	11 800* 26,019*	7900* 17,420*	7600 16,758	5700* 12,569*	4900 10,805	4000* 8820*	3300 7277	2900* 6395*	2900* 6395*
2400 mm 7'10"	kg lb	11 600* 25,578*	11 600* 25,578*	7800* 17,199*	7500* 16,538*	5600* 12,348*	5000 11,025	4300* 9482*	3300 7277	2500* 5513*	2500* 5513*
2600 mm 8'6"	kg lb	11 200* 24,696*	11 200* 24,696*	7800* 17,199*	7500 16,538	5600* 12,348*	5000 11,025	4300* 9482*	3400 7497	2300* 5072*	2300* 5072*

M315D • Dozer and Stabilizer Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2100 mm 6'11"	kg lb	11 800* 26,019*	11 800* 26,019*	7900* 17,420*	6400 14,112	5700* 12,569*	4100 9041	4000* 8820*	2800 6174	2900* 6395*	2500 5513
2400 mm 7'10"	kg lb	11 600* 25,578*	11 600* 25,578*	7800* 17,199*	6400* 14,112*	5600* 12,348*	4100 9041	4300 9482	2800 6174	2500* 5513*	2400 5292
2600 mm 8'6"	kg lb	11 200* 24,696*	11 200* 24,696*	7800* 17,199*	6400 14,112	5600* 12,348*	4200 9261	4300* 9482*	2800 6174	2300* 5072*	2300 5072

*Load limited by hydraulic capacity rather than tipping.

M316D ● Rear Dozer Up

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2100 mm 6'11"	kg lb	—	—	6400 14,112	3700 8159	4200 9261	2500 5513	—	—	2900* 6395*	1700 3749
2400 mm 7'10"	kg lb	4000* 8820*	4000* 8820*	6400 14,112	3600 7938	4100 9041	2400 5292	3000 6615	1800 3969	2600* 5733*	1600 3528
2600 mm 8'6"	kg lb	4200* 9261*	4200* 9261*	6400 14,112	3700 8159	4200 9261	2400 5292	3000 6615	1800 3969	2400* 5292*	1600 3528

M316D ● Rear Dozer Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Rear	Side	Rear	Side	Rear	Side	Rear	Side	Rear	Side
2100 mm 6'11"	kg lb	—	—	8800* 19,404*	4200 9261	6400* 14,112*	2800 6174	—	—	2900* 6395*	2000 4410
2400 mm 7'10"	kg lb	4000* 8820*	4000* 8820*	8800* 19,404*	4200 9261	6300* 13,892*	2800 6174	4100* 9041*	2100 4631	2600* 5733*	1900 4190
2600 mm 8'6"	kg lb	4200* 9261*	4200* 9261*	8800* 19,404*	4200 9261	6300* 13,892*	2800 6174	4700 10,364	2000 4410	2400* 5292*	1800 3969

M316D ● Rear Stabilizer Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Rear	Side	Rear	Side	Rear	Side	Rear	Side	Rear	Side
2100 mm 6'11"	kg lb	—	—	8800* 19,404*	5300 11,687	5800 12,789	3500 7718	—	—	2900* 6395*	2400 5292
2400 mm 7'10"	kg lb	4000* 8820*	4000* 8820*	8800* 19,404*	5300 11,687	5800 12,789	3500 7718	4100* 9041*	2500 5513	2600* 5733*	2300 5072
2600 mm 8'6"	kg lb	4200* 9261*	4200* 9261*	8800* 19,404*	5300 11,687	5800 12,789	3500 7718	4100 9041	2500 5513	2400* 5292*	2200 4851

M316D ● 4-Point Stabilizers Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2100 mm 6'11"	kg lb	—	—	8800* 19,404*	8000 17,640	6400* 14,112*	5100 11,246	—	—	2900* 6395*	2900* 6395*
2400 mm 7'10"	kg lb	4000* 8820*	4000* 8820*	8800* 19,404*	8000 17,640	6300* 13,892*	5100 11,246	4100* 9041*	3700 8159	2600* 5733*	2600* 5733*
2600 mm 8'6"	kg lb	4200* 9261*	4200* 9261*	8800* 19,404*	8000 17,640	6300* 13,892*	5100 11,246	4800* 10,584*	3700 8159	2400* 5292*	2400* 5292*

M316D ● Dozer and Stabilizer Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2100 mm 6'11"	kg lb	—	—	8800* 19,404*	6600 14,553	6400* 14,112*	4300 9482	—	—	2900* 6395*	2900* 6395*
2400 mm 7'10"	kg lb	4000* 8820*	4000* 8820*	8800* 19,404*	6600 14,553	6300* 13,892*	4300 9482	4100* 9041*	3100 6836	2600* 5733*	2600* 5733*
2600 mm 8'6"	kg lb	4200* 9261*	4200* 9261*	8800* 19,404*	6600 14,553	6300* 13,892*	4300 9482	4800* 10,584*	3100 6836	2400* 5292*	2400* 5292*

*Load limited by hydraulic capacity rather than tipping.

M316D • Rear Dozer Up

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2100 mm 6'11"	kg lb	12 700* 28,004*	7300 16,097	7000 15,435	4200 9261	4400 9702	2700 5954	3000 6615	1700 3749	2800 6174	1600 3528
2400 mm 7'10"	kg lb	12 500* 27,563*	7600 16,758	6900 15,215	4200 9261	4400 9702	2700 5954	3000 6615	1800 3969	2500* 5513*	1500 3308
2600 mm 8'6"	kg lb	12 200* 26,901*	7600 16,758	6900 15,215	4200 9261	4500 9923	2700 5954	3000 6615	1800 3969	2300* 5072*	1400 3087

M316D • Rear Dozer Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2100 mm 6'11"	kg lb	12 700* 28,004*	8700 19,184	8700* 19,184*	4800 10,584	6300* 13,892*	3100 6836	4200* 9261*	2000 4410	2900* 6395*	1900 4190
2400 mm 7'10"	kg lb	12 500* 27,563*	8900 19,625	8600* 18,963*	4800 10,584	6200* 13,671*	3100 6836	4700* 10,364*	2000 4410	2500* 5513*	1800 3969
2600 mm 8'6"	kg lb	12 200* 26,901*	9000 19,845	8600* 18,963*	4800 10,584	6200* 13,671*	3100 6836	4800* 10,584*	2100 4631	2300* 5072*	1700 3749

M316D • Rear Stabilizer Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2100 mm 6'11"	kg lb	12 700* 28,004*	11 100 24,476	8700* 19,184*	5900 13,010	6100 13,451	3700 8159	4100 9041	2500 5513	2900* 6395*	2300 5072
2400 mm 7'10"	kg lb	12 500* 27,563*	11 200 24,696	8600* 18,963*	5900 13,010	6000 13,230	3800 8379	4100 9041	2500 5513	2500* 5513*	2200 4851
2600 mm 8'6"	kg lb	12 200* 26,901*	11 100 24,476	8600* 18,963*	5900 13,010	6000 13,230	3800 8379	4200 9261	2500 5513	2300* 5072*	2100 4631

M316D • 4-Point Stabilizers Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2100 mm 6'11"	kg lb	12 700* 28,004*	12 700* 28,004*	8700* 19,184*	8300 18,302	6300* 13,892*	5400 11,907	4200* 9261*	3700 8159	2900* 6395*	2900* 6395*
2400 mm 7'10"	kg lb	12 500* 27,563*	12 500* 27,563*	8600* 18,963*	8300 18,302	6200* 13,671*	5400 11,907	4700* 10,364*	3700 8159	2500* 5513*	2500* 5513*
2600 mm 8'6"	kg lb	12 200* 26,901*	12 200* 26,901*	8600* 18,963*	8200 18,081	6200* 13,671*	5500 12,128	4800* 10,584*	3700 8159	2300* 5072*	2300* 5072*

M316D • Dozer and Stabilizer Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2100 mm 6'11"	kg lb	12 700* 28,004*	12 700* 28,004*	8700* 19,184*	7200 15,876	6300* 13,892*	4600 10,143	4200* 9261*	3100 6836	2900* 6395*	2900 6395
2400 mm 7'10"	kg lb	12 500* 27,563*	12 500* 27,563*	8600* 18,963*	7100 15,656	6200* 13,671*	4600 10,143	4700* 10,364*	3100 6836	2500* 5513*	2500* 5513*
2600 mm 8'6"	kg lb	12 200* 26,901*	12 200* 26,901*	8600* 18,963*	7100 15,656	6200* 13,671*	4600 10,143	4800* 10,584*	3100 6836	2300* 5072*	2300* 5072*

*Load limited by hydraulic capacity rather than tipping.

M318D ● Rear Dozer Up

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2200 mm 7'3"	kg lb	—	—	6600 14,553	3700 8159	4300 9482	2500 5513	3100 6836	1800 3969	2800 6174	1600 3528
2500 mm 8'2"	kg lb	—	—	6700 14,774	3800 8379	4300 9482	2500 5513	3100 6836	1800 3969	2700 5954	1600 3528
2800 mm 9'2"	kg lb	5000* 11,025*	5000* 11,025*	6600 14,553	3800 8379	4300 9482	2500 5513	3100 6836	1800 3969	2500 5513	1500 3308

M318D ● Rear Dozer Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2200 mm 7'3"	kg lb	—	—	10 200* 22,491*	4300 9482	7100 15,656	2900 6395	5000 11,025	2100 4631	3800* 8379*	1900 4190
2500 mm 8'2"	kg lb	—	—	10 200* 22,491*	4400 9702	7100 15,656	2900 6395	5000 11,025	2100 4631	2900* 6395*	1800 3969
2800 mm 9'2"	kg lb	5000* 11,025*	5000* 11,025*	10 200* 22,491*	4400 9702	7100 15,656	2900 6395	5000 11,025	2100 4631	2600* 5733*	1700 3749

M318D ● Rear Stabilizer Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2200 mm 7'3"	kg lb	—	—	9900 21,830	5400 11,907	6100 13,451	3600 7938	4300 9482	2600 5733	3800* 8379*	2400 5292
2500 mm 8'2"	kg lb	—	—	10 000 22,050	5500 12,128	6200 13,671	3600 7938	4400 9702	2600 5733	2900* 6395*	2200 4851
2800 mm 9'2"	kg lb	5000* 11,025*	5000* 11,025*	10 000 22,050	5500 12,128	6200 13,671	3600 7938	4300 9482	2600 5733	2600* 5733*	2100 4631

M318D ● 4-Point Stabilizers Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2200 mm 7'3"	kg lb	—	—	10 200* 22,491*	8300 18,302	7400* 16,317*	5300 11,687	5700* 12,569*	3800 8379	3800* 8379*	3500 7718
2500 mm 8'2"	kg lb	—	—	10 200* 22,491*	8400 18,522	7400* 16,317*	5400 11,907	5700* 12,569*	3800 8379	2900* 6395*	2900* 6395*
2800 mm 9'2"	kg lb	5000* 11,025*	5000* 11,025*	10 200* 22,491*	8400 18,522	7300* 16,097*	5300 11,687	5700* 12,569*	3800 8379	2600* 5733*	2600* 5733*

M318D ● Dozer and Stabilizer Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2200 mm 7'3"	kg lb	—	—	10 200* 22,491*	6800 14,994	7400* 16,317*	4400 9702	5700* 12,569*	3200 7056	3800* 8379*	2900 6395
2500 mm 8'2"	kg lb	—	—	10 200* 22,491*	6900 15,215	7400* 16,317*	4500 9923	5700* 12,569*	3200 7056	2900* 6395*	2800 6174
2800 mm 9'2"	kg lb	5000* 11,025*	5000* 11,025*	10 200* 22,491*	6900 15,215	7300* 16,097*	4500 9923	5700* 12,569*	3200 7056	2600* 5733*	2600* 5733*

*Load limited by hydraulic capacity rather than tipping.

M318D • Rear Dozer Up

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2200 mm 7'3"	kg lb	14 500 31,973	8000 17,640	7500 16,538	4400 9702	4700 10,364	2800 6174	3100 6836	1800 3969	2800 6174	1600 3528
2500 mm 8'2"	kg lb	14 500 31,973	8100 17,861	7500 16,538	4500 9923	4800 10,584	2900 6395	3200 7056	1900 4190	2700* 5954*	1500 3308
2800 mm 9'2"	kg lb	14 100 31,091	8200 18,081	7400 16,317	4500 9923	4900 10,805	3000 6615	3200 7056	1900 4190	2300* 5072*	1400 3087

M318D • Rear Dozer Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2200 mm 7'3"	kg lb	15 000* 33,075*	9500 20,948	10 100* 22,271*	5100 11,246	7300* 16,097*	3300 7277	5000 11,025	2100 4631	3500* 7718*	1900 4190
2500 mm 8'2"	kg lb	14 600* 32,193*	9600 21,168	10 100* 22,271*	5200 11,466	7300* 16,097*	3400 7497	5100 11,246	2200 4851	2700* 5954*	1800 3969
2800 mm 9'2"	kg lb	14 100* 31,091*	9700 21,389	10 100* 22,271*	5200 11,466	7200* 15,876*	3400 7497	5100 11,246	2200 4851	2300* 5072*	1700 3749

M318D • Rear Stabilizer Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2200 mm 7'3"	kg lb	15 000* 33,075*	12 100 26,681	10 100* 22,271*	6300 13,892	6600 14,553	4000 8820	4400 9702	2600 5733	3500* 7718*	2400 5292
2500 mm 8'2"	kg lb	14 600* 32,193*	12 100 26,681	10 100* 22,271*	6400 14,112	6600 14,553	4100 9041	4400 9702	2700 5954	2700* 5954*	2200 4851
2800 mm 9'2"	kg lb	14 100* 31,091*	12 000 26,460	10 100* 22,271*	6400 14,112	6500 14,333	4100 9041	4500 9923	2700 5954	2300* 5072*	2100 4631

M318D • 4-Point Stabilizers Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2200 mm 7'3"	kg lb	15 000* 33,075*	15 000* 33,075*	10 100* 22,271*	8900 19,625	7300* 16,097*	5700 12,569	5500* 12,128*	3900 8600	3500* 7718*	3500* 7718*
2500 mm 8'2"	kg lb	14 600* 32,193*	14 600* 32,193*	10 100* 22,271*	8900 19,625	7300* 16,097*	5800 12,789	5700* 12,569*	3900* 8599*	2700* 5954*	2700* 5954*
2800 mm 9'2"	kg lb	14 100* 31,091*	14 100* 31,091*	10 100* 22,271*	8900 19,625	7300* 16,097*	5800 12,789	5700* 12,569*	3900 8600	2300* 5072*	2300* 5072*

M318D • Dozer and Stabilizer Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2200 mm 7'3"	kg lb	15 000* 33,075*	14 800 32,634	10 100* 22,271*	7600 16,758	7300* 16,097*	4900 10,805	5500* 12,128*	3200 7056	3500* 7718*	2900 6395
2500 mm 8'2"	kg lb	14 600* 32,193*	14 600* 32,193*	10 100* 22,271*	7600 16,758	7300* 16,097*	4900 10,805	5700* 12,569*	3300 7277	2700* 5954*	2700* 5954*
2800 mm 9'2"	kg lb	14 100* 31,091*	14 100* 31,091*	10 100* 22,271*	7600 16,758	7300* 16,097*	5000 11,025	5700* 12,569*	3300 7277	2300* 5072*	2300* 5072*

*Load limited by hydraulic capacity rather than tipping.

Excavators

Lifting Capacity At Ground Level

● M322D ● One-Piece Boom ● Quick Coupler

M322D ● Rear Dozer Up

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2200 mm 7'3"	kg lb	—	—	7200 15,876	4400 9702	4700 10,364	2900 6395	3400 7497	2100 4631	2800 6174	1800 3969
2500 mm 8'2"	kg lb	—	—	7200 15,876	4400 9702	4700 10,364	2900 6395	3400 7497	2100 4631	2600* 5733*	1700 3749
2900 mm 9'6"	kg lb	—	—	7200 15,876	4400 9702	4700 10,364	2900 6395	3400 7497	2100 4631	2200* 4851*	1500 3308

M322D ● Rear Dozer Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2200 mm 7'3"	kg lb	—	—	11 800* 26,019*	5100 11,246	8500 18,743	3400 7497	5900 13,010	2500 5513	2900* 6395*	2000 4410
2500 mm 8'2"	kg lb	—	—	11 900* 26,240*	5100 11,246	8500 18,743	3400 7497	5900 13,010	2500 5513	2600* 5733*	1900 4190
2900 mm 9'6"	kg lb	—	—	11 800* 26,019*	5100 11,246	8500* 18,743*	3400 7497	5800 12,789	2400 5292	2200* 4851*	1800 3969

M322D ● Rear Stabilizer Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2200 mm 7'3"	kg lb	—	—	11 800* 26,019*	6400 14,112	7300 16,097	4200 9261	5100 11,246	3100 6836	2900* 6395*	2500 5513
2500 mm 8'2"	kg lb	—	—	11 900* 26,240*	6400 14,112	7300 16,097	4200 9261	5100 11,246	3100 6836	2600* 5733*	2400 5292
2900 mm 9'6"	kg lb	—	—	11 800* 26,019*	6400 14,112	7300 16,097	4200 9261	5100 11,246	3000 6615	2200* 4851*	2200 4851

M322D ● 4-Point Stabilizers Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2200 mm 7'3"	kg lb	—	—	11 800* 26,019*	10 100 22,271	8600* 18,963*	6400 14,112	6600* 14,553*	4600 10,143	2900* 6395*	2900* 6395*
2500 mm 8'2"	kg lb	—	—	11 900* 26,240*	10 100 22,271	8600* 18,963*	6400 14,112	6600* 14,553*	4600 10,143	2600* 5733*	2600* 5733*
2900 mm 9'6"	kg lb	—	—	11 800* 26,019*	10 100 22,271	8500* 18,743*	6200 13,671	6600* 14,553*	4500 9923	2200* 4851*	2200* 4851*

M322D ● Dozer and Stabilizer Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2200 mm 7'3"	kg lb	—	—	11 800* 26,019*	8300 18,302	8600* 18,963*	5400 11,907	6600* 14,553*	3900 8600	2900* 6395*	2900* 6395*
2500 mm 8'2"	kg lb	—	—	11 900* 26,240*	8300 18,302	8600* 18,963*	5400 11,907	6600* 14,553*	3900 8600	2600* 5733*	2600* 5733*
2900 mm 9'6"	kg lb	—	—	11 800* 26,019*	8300 18,302	8500* 18,743*	5400 11,907	6600* 14,553*	3800 8379	2200* 4851*	2200* 4851*

*Load limited by hydraulic capacity rather than tipping.

M322D • Rear Dozer Up

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach Front Side	
		Front	Side	Front	Side	Front	Side	Front	Side		
2200 mm 7'3"	kg lb	16 100 35,501	9500 20,948	8300 18,302	5300 11,687	5300 11,687	3500 7718	3500 7718	2200 4851	2700* 5954*	1800 3969
2500 mm 8'2"	kg lb	16 100 35,501	9800 21,609	8300 18,302	5400 11,907	5300 11,687	3500 7718	3500 7718	5300 11,687	2500* 5513*	1700 3749
2900 mm 9'6"	kg lb	15 800 34,839	9900 21,830	8200 18,081	5400 11,907	5400 11,907	3500 7718	3600 7938	2300 5072	2100* 4631*	1500 3308

M322D • Rear Dozer Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach Front Side	
		Front	Side	Front	Side	Front	Side	Front	Side		
2200 mm 7'3"	kg lb	16 700* 36,825*	11 300 24,917	11 800* 26,019*	6100 13,451	8500* 18,743*	4000 8820	6100 13,451	2600 5733	2700* 5954*	2100 4631
2500 mm 8'2"	kg lb	16 400* 36,162*	11 600 25,578	11 800* 26,019*	6200 13,671	8500* 18,743*	4000 8820	6100 13,451	2600 5733	2500* 5513*	2000 4410
2900 mm 9'6"	kg lb	15 800* 34,839*	11 700 25,799	11 700* 25,799*	6200 13,671	8400* 18,522*	4000 8820	6100 13,451	2700 5954	2100* 4631*	1800 3969

M322D • Rear Stabilizer Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach Front Side	
		Front	Side	Front	Side	Front	Side	Front	Side		
2200 mm 7'3"	kg lb	16 700* 36,825*	16 700 36,824	11 800* 26,019*	10 800 23,814	8500 18,743	7100 15,656	6700 14,774	4700 10,364	2700* 5954*	2700 5954
2500 mm 8'2"	kg lb	16 400* 36,162*	14 600 32,193	11 800* 26,019*	7600 16,758	7800 17,199	4900 10,805	5300 11,687	6200 13,671	2500* 5513*	2400 5292
2900 mm 9'6"	kg lb	15 800* 34,839*	14 400 31,752	11 700* 25,799*	7500 16,538	7700 16,979	4900 10,805	5400 11,907	3300 7277	2100* 4631*	2100* 4631*

M322D • 4-Point Stabilizers Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach Front Side	
		Front	Side	Front	Side	Front	Side	Front	Side		
2200 mm 7'3"	kg lb	16 700* 36,825*	16 700* 36,825*	11 800* 26,019*	10 800 23,814	8500* 18,743*	7100 15,656	6700* 14,744*	4700 10,364	2700* 5954*	2700* 5954*
2500 mm 8'2"	kg lb	16 400* 36,162*	16 400* 36,162*	11 800* 26,019*	10 800 23,814	8500* 18,743*	7000 15,435	6600* 14,553*	4700 10,364	2500* 5513*	2500* 5513*
2900 mm 9'6"	kg lb	15 800* 34,839*	15 800* 34,839*	11 700* 25,799*	10 700 23,594	8400* 18,522*	6900 15,215	6500* 14,333*	4800 10,584	2100* 4631*	2100* 4631*

M322D • Dozer and Stabilizer Down

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		At Max. Reach Front Side	
		Front	Side	Front	Side	Front	Side	Front	Side		
2200 mm 7'3"	kg lb	16 700* 36,825*	16 700* 36,825*	11 800* 26,019*	9300 20,507	8500* 18,743*	6100 13,451	6700* 14,744*	4000 8820	2700* 5954*	2700* 5954*
2500 mm 8'2"	kg lb	16 400* 36,162*	16 400* 36,162*	11 800* 26,019*	9200 20,286	8500* 18,743*	6100 13,451	6600* 14,553*	4000 8820	2500* 5513*	2500* 5513*
2900 mm 9'6"	kg lb	15 800* 34,839*	15 800* 34,839*	11 700* 25,799*	9100 20,066	8500* 18,743*	6000 13,230	6500* 14,333*	4100 9041	2100* 4631*	2100* 4631*

*Load limited by hydraulic capacity rather than tipping.

Japan/China/Indonesia/Brazil Sourced

320D ● Reach Boom ● 600 mm (24") Track Shoes

Stick	Bucket		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach Front Side	
			Front	Side	Front	Side	Front	Side	Front	Side	Front	Side		
1900 mm 6'3"	B1-1370X 4'6"	kg lb	—	—	8200 17,600	4800 10,250	5150 11,100	3100 6650	3650 —	2150 —	—	—	3100 6750	1800 3950
2500 mm 8'2"	B1-1220X 4'0"	kg lb	5650* 13,000*	5650* 13,000*	8800 18,850	5350 11,450	5600 11,950	3500 7500	3950 8450	2500 5300	—	—	2950* 6500*	1900 4150
2900 mm 9'6"	B1-1100X 3'7"	kg lb	6350* 14,600*	6350* 14,600*	8900 19,050	5400 11,600	5600 12,050	3550 7600	3950 8500	2500 5350	—	—	2550* 5550*	1800 3900
3900 mm 12'10"	B1-1100X 3'7"	kg lb	7650* 17,500*	7650* 17,500*	8850 19,000	5400 11,550	5550 11,900	3450 7400	3900 8300	2400 5100	2850 6100	1700 3650	1750* 3800*	1400 3050

320D ● Mass Boom ● 600 mm (24") Track Shoes

Stick	Bucket		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach Front Side	
			Front	Side	Front	Side	Front	Side	Front	Side	Front	Side		
2400 mm 7'10"	CB2-1370X 4'6"	kg lb	8550* 19,700*	8550* 19,700*	8600 18,400	5100 10,950	5350 11,450	3250 6950	3700 —	2200 —	—	—	3150 6950	1850 4100

Japan Sourced

320D RR ● Reach Boom

Stick	Bucket		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach Front Side	
			Front	Side	Front	Side	Front	Side	Front	Side	Front	Side		
2500 mm 8'2"	B1-1220X 4'0"	kg lb	5650* 13,050*	5650* 13,050*	9500 20,350	5700 12,250	6050 12,950	3750 8050	4300 9200	2700 5750	—	—	2950* 6500*	2050 4550
2900 mm 9'6"	B1-1100X 3'7"	kg lb	6400* 14,600*	6400* 14,600*	9550 20,500	5800 12,400	6050 13,000	3800 8150	4300 9250	2700 5750	—	—	2550* 5550*	1950 4250
3900 mm 12'10"	B1-1100X 3'7"	kg lb	7650* 17,550*	7650* 17,550*	9100* 19,650*	5750 12,350	6000 12,850	3700 7950	4200 9000	2600 5550	3100 6700	1900 4000	1750* 3800*	1550 3350

*Load limited by hydraulic capacity rather than tipping.

Japan/China/Indonesia/Brazil Sourced

320D L • Reach Boom • 800 mm (32") Track Shoes

Stick	Bucket		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach	
			Front	Side	Front	Side	Front	Side	Front	Side	Front	Side		
1900 mm 6'3"	B1-1470X 4'10"	kg lb	—	—	9700* 20,900*	5700 12,250	6550 14,000	3700 7900	4600 —	2600 —	—	—	3900 8600	2200 4800
2500 mm 8'2"	B1-1280X 4'2"	kg lb	5650* 13,050*	5650* 13,050*	10 150* 21,900*	6300 13,500	6950 14,900	4100 8800	4900 10,500	2950 6250	—	—	2950* 6500*	2250 5000
2900 mm 9'6"	B1-1220X 4'0"	kg lb	6350* 14,550*	6350* 14,550*	9950* 21,500*	6350 13,600	6950 14,950	4100 8850	4900 10,500	2900 6250	—	—	2500* 5500*	2100 4600
3900 mm 12'10"	B1-1100X 3'7"	kg lb	7650* 17,550*	7650* 17,550*	9100* 19,650*	6300 13,550	6550* 14,100*	4050 8700	4850 10,350	2850 6100	3600 7650	2100 4400	1750* 3800*	1700 3700

320D L • Mass Boom • 800 mm (32") Track Shoes

Stick	Bucket		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach	
			Front	Side	Front	Side	Front	Side	Front	Side	Front	Side		
2400 mm 7'10"	CB2-1470X 4'10"	kg lb	8550* 19,650*	8550* 19,650*	9700* 21,000*	6000 12,850	6700 14,300	3800 8150	4600 —	2600 —	—	—	3900* 8600*	2250 4900

Japan Sourced

320D LRR • Reach Boom • 800 mm (32") Track Shoes

Stick	Bucket		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach	
			Front	Side	Front	Side	Front	Side	Front	Side	Front	Side		
2500 mm 8'2"	B1-12800X 4'2"	kg lb	5650* 13,050*	5650* 13,050*	10 150* 21,900*	6700 14,400	7300* 15,750*	4400 9450	5300 11,350	3150 6750	—	—	2950* 6500*	2450 5400
2900 mm 9'6"	B1-12200X 4'0"	kg lb	6350* 14,550*	6350* 14,550*	9950* 21,500*	6750 14,500	7150* 15,400*	4400 9450	5300 11,350	3150 6750	—	—	2500* 5500*	2250 4950
3900 mm 12'10"	B1-1100X 3'7"	kg lb	7650* 17,550*	7650* 17,550*	9100* 19,650*	6750 14,450	6550* 14,100*	4350 9350	5200* 11,200	3050 6550	3900 8050*	2250 4800	1750* 3800*	1750* 3800*

321D LCR • Reach Boom • 800 mm (32") Track Shoes

Stick	Bucket		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach	
			Front	Side	Front	Side	Front	Side	Front	Side	Front	Side		
2900 mm 9'6"	B914HD 3'0"	kg lb	6950* 15,800*	6950* 15,800*	11 200* 24,150*	6300 13,500	7200 15,450*	4100 8800	5100 10,900	2900 6250	—	—	2550* 5650*	2150 4700

321D LCR • VA Boom • with Quick Coupler/without Bucket

Stick	Bucket		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach	
			Front	Side	Front	Side	Front	Side	Front	Side	Front	Side		
2900 mm 9'6"	B1082HD 3'7"	kg lb	5200* 11,466*	5200* 11,466*	10 250* 22,601*	5950 13,120	7000 15,435	3950 8710	5000 11,025	2850 6284	—	—	3450* 7607*	2200 4851

*Load limited by hydraulic capacity rather than tipping.

Belgium/Brazil Sourced

323D L ● Reach Boom ● 600 mm (24") Track Shoes

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
1.9 m	kg	—	—	10 440*	5340	7370	3580	5280	2620	—	—	5170	2570
6'3"	lb	—	—	23,020*	11,775	16,251	7894	11,642	5777	—	—	11,400	5667
2.5 m	kg	6050	6050	10 530	5600	7570	3770	5410	2750	—	—	4320*	2420
8'2"	lb	13,340	13,340	23,219	12,348	16,692	8313	11,929	6064	—	—	9526*	5336
2.9 m	kg	6820	6820	10 330	5640	7460*	3780	5410	2750	—	—	3570*	2240
9'6"	lb	15,038	15,038	22,778	12,436	16,449	8335	11,929	6064	—	—	7872*	4939

323D L ● Mass Boom ● 600 mm (24") Track Shoes

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
1.9 m	kg	—	—	10 580*	5520	7500	3690	—	—	—	—	5820	2910
6'3"	lb	—	—	23,329*	12,172	16,538	8136	—	—	—	—	12,833	6417

Japan Sourced

323D L ● Reach Boom ● 600 mm (24") Track Shoes

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2.5 m	kg	6050*	6050*	10 530*	5600	7570	3770	5410	2750	—	—	4320*	2420
8'2"	lb	13,340*	13,340*	23,219*	12,348	16,692	8313	11,929	6064	—	—	9526*	5336
2.9 m	kg	6820*	6820*	10 330*	5640	7460*	3780	5410	2750	—	—	3570*	2240
9'6"	lb	15,038*	15,038*	22,778*	12,436	16,449*	8335	11,929	6064	—	—	7872*	4939

323D L ● Mass Boom ● 600 mm (24") Track Shoes

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2.4 m	kg	*9350	*9350	*10 450	6650	7250	4400	5150	3150	—	—	5100	3100
7'10"	lb	*20,617	*20,617	*23,042	14,663	15,986	9702	11,356	6946	—	—	16,346	13,036

*Load limited by hydraulic capacity rather than tipping.

France Sourced

323D L ● Reach Boom ● 600 mm (24") Track Shoes

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach Front Side	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side		
1.9 m 6'3"	kg lb	—	—	10 440* 23,020*	5340 11,775	7370 16,251	3580 7894	5280 11,642	2620 5777	—	—	5170 11,400	2570 5667
2.5 m 8'2"	kg lb	6050* 13,340*	6050* 13,340*	10 530* 23,219*	5600 12,348	7570 16,692	3770 8313	5410 11,929	2750 6064	—	—	4320* 9526*	2420 5336
2.9 m 9'6"	kg lb	6820* 15,038*	6820* 15,038*	10 330* 22,778*	5640 12,436	7460* 16,449*	3780 8335	5410 11,929	2750 6064	—	—	3570* 7872*	2240 4939

323D LN ● Reach Boom ● 500 mm (20") Track Shoes

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach Front Side	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side		
1.9 m 6'3"	kg lb	—	—	10 440* 23,020	5490 12,105	7470 16,471	3680 8114	5360 11,819	2700 5954	—	—	5250 11,576	2640 5821
2.5 m 8'2"	kg lb	6050* 13,340	6050* 13,340	10 530* 23,219	5750 12,679	7620* 16,802	3870 8533	5490 12,105	2830 6240	—	—	4320* 9526	2500 5513
2.92 m 9'6"	kg lb	6820* 15,038	6820* 15,038	10 330* 22,778	5790 12,767	7460* 16,449	3890 8577	5490 12,105	2830 6240	—	—	3570* 7872	2310 5094

China Sourced

323D L ● Reach Boom ● 600 mm (24") Track Shoes

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach Front Side	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side		
2.5 m 8'2"	kg lb	—	—	9750 21,495	6100 13,448	6750 14,881	3850 8488	4650 10,251	2650 5842	—	—	3600 7937	2250 4960
2.9 m 9'6"	kg lb	—	—	9950 21,936	6100 13,448	6750 14,881	3850 8488	4700 10,362	2650 5842	—	—	2950 6504	2050 4519

323D L ● Mass Boom ● 800 mm (32") Track Shoes

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach Front Side	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side		
2.4 m 7'9"	kg lb	—	—	10 000 22,046	6300 13,889	6900 15,212	3900 8598	4700 10,362	2650 5842	—	—	4450 9811	2500 5512

*Load limited by hydraulic capacity rather than tipping.

France Sourced

323D L ● VA Boom ● 500 mm (20") Track Shoes

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
1.9 m	kg	14 600*	10 410	10 110*	5750	7360*	3750	5180	2450	—	—	4570*	2200
6'3"	lb	32,193*	22,954	22,293*	12,679	16,229*	8269	11,422	5402	—	—	10,077*	4851
2.5 m	kg	15 190*	10 960	10 290*	6070	7500	4010	5420	2690	—	—	4140*	2100
8'2"	lb	33,494*	24,167	22,689*	13,384	16,538	8842	11,951	5931	—	—	9129*	4631
2.92 m	kg	15 180*	11 220	10 280*	6180	7490	4070	5480	2760	—	—	3430*	1940
9'6"	lb	33,472*	24,740	22,667*	13,627	16,515	8974	12,083	6086	—	—	7563*	4278

323D LN ● VA Boom ● 500 mm (20") Track Shoes

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
1.9 m	kg	14 600*	10 680	10 110*	5900	7360*	3850	5260	2530	—	—	4570*	2280
6'3"	lb	32,193*	23,549	22,293*	13,010	16,229*	8489	11,598	5579	—	—	10,077*	5027
2.5 m	kg	15 190*	11 220	10 290*	6220	7520*	4120	5500	2770	—	—	4140*	2170
8'2"	lb	33,494*	24,740	22,689*	13,715	16,582*	9085	12,128	6108	—	—	9129*	4785
2.92 m	kg	15 180*	11 480	10 280*	6330	7500*	4170	5560	2840	—	—	3430*	2000
9'6"	lb	33,472*	25,313	22,667*	13,958	16,538*	9195	12,260	6262	—	—	7563*	4410

323D SA ● Reach Boom ● 550 mm (22") Track Shoes

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
1.9 m	kg	—	—	10 450*	5440	7260	3660	5230	2680	—	—	5140	2640
6'3"	lb	—	—	23,042*	11,995	16,008	8070	11,532	5909	—	—	11,334	5821
2.5 m	kg	6260*	6260*	10 550*	5690	7450	3840	5360	2820	—	—	4350*	2490
8'2"	lb	13,803*	13,803*	23,263*	12,546	16,427	8467	11,819	6218	—	—	9592*	5490
2.9 m	kg	11 650*	11 650*	7440*	6570	5880*	4300	5130*	3040	—	—	3040*	2370
9'6"	lb	25,688*	25,688*	16,405*	14,487	12,965*	9482	11,312*	6703	—	—	6703*	5226

323D SA ● VA Boom ● 550 mm (22") Track Shoes

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
1.9 m	kg	14 610*	10 460	10 110*	5820	7340*	3820	5120	2510	—	—	4550*	2270
6'3"	lb	32,215*	23,064	22,293*	12,833	16,185*	8423	11,290	5535	—	—	10,033*	5005
2.5 m	kg	15 150*	10 990	10 300*	6140	7460	4080	5350	2750	—	—	4160*	2160
8'2"	lb	33,406*	24,233	22,712*	13,539	16,449	8996	11,797	6064	—	—	9173*	4763
2.92 m	kg	15 270*	11 230	10 280*	6250	7420*	4130	5410	2800	—	—	3450*	2000
9'6"	lb	33,670*	24,762	22,667*	13,781	16,361*	9107	11,929	6174	—	—	7607*	4410

*Load limited by hydraulic capacity rather than tipping.

Japan/U.S. Sourced

324D ● Reach Boom ● 600 mm (24") Track Shoes

Stick	Bucket		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach	
			Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2500 mm 8'2"	S1355X 4'5"	kg lb	—	—	10 650 22,800	6550 14,100	6650 14,300	4250 9150	4700 10,050	3000 6400	—	—	3500 7700	2200 4850
2950 mm 9'8"	S1225X 4'1"	kg lb	5150* 11,900*	5150* 11,900*	10 750 23,050	6650 14,300	6700 14,400	4300 9250	4700 10,100	3050 6450	—	—	3250 7150	2050 4500
3600 mm 11'10"	B1220X 4'0"	kg lb	6000* 13,700*	6000* 13,700*	10 900 23,300	6750 14,550	6800 14,600	4400 9400	4800 10,250	3100 6600	3550 7600	2250 4850	3000 6650	1900 4200

324D ● Mass Boom ● 600 mm (24") Track Shoes

Stick	Bucket		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach	
			Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2500 mm 8'2"	D1345X 4'5"	kg lb	—	—	10 500 22,500	6400 13,700	6450 13,800	4000 8550	4400 9400	2700 5750	—	—	3600 7950	2200 4800

324D L ● Reach Boom ● 800 mm (32") Track Shoes

Stick	Bucket		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach	
			Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2500 mm 8'2"	HD 36"	kg lb	—	—	13 930* 30,150*	8270 17,800	8710 18,700	5340 11,500	6080 13,050	3770 8100	—	—	5030 11,100	3100 6850
2950 mm 9'8"	HD 36"	kg lb	4830* 11,200*	4830* 11,200*	13 710* 29,650*	8330 17,900	8730 18,750	5350 11,500	6070 13,050	3750 8050	—	—	4620 10,200	2830 6250
3600 mm 11'10"	HDP 42"	kg lb	6530* 14,950*	6530* 14,950*	13 130* 28,400*	8370 18,000	8760 18,800	5380 11,550	6100 13,100	3780 8100	4530 9700	2770 5950	3960* 8700*	2560 5650

324D L ● Mass Boom ● 800 mm (32") Track Shoes

Stick	Bucket		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach	
			Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2500 mm 8'2"	HD 48"	kg lb	—	—	13 420* 29,050*	7850 16,850	8320 17,850	4940 10,600	5680 12,200	3360 7200	—	—	4600 10,150	2670 5900

*Load limited by hydraulic capacity rather than tipping.

Belgium Sourced

324D L ● Reach Boom ● 800 mm (32") Track Shoes

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2500 mm 8'2"	kg lb	—	—	14 210* 31,350*	8710 19,200	9130 20,150	5740 12,700	6510 14,350	4180 9200	—	—	5560 12,300	3590 7900
2950 mm 9'8"	kg lb	6100* 13,450*	6100* 13,450*	13 970* 30,800*	8750 19,300	9150 20,200	5750 12,700	6490 14,300	4160 9200	—	—	5140 11,300	3300 7300

324D L ● Mass Boom ● 800 mm (32") Track Shoes

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2000 mm 6'7"	kg lb	—	—	14 150* 31,200*	8660 19,100	9100 20,050	5680 12,500	—	—	—	—	6750 14,900	4290 9450
2500 mm 8'2"	kg lb	9490* 20,900*	9490* 20,900*	13 930* 30,700*	8680 19,150	9080 20,000	5660 12,500	6420 14,150	4070 8950	—	—	6090 13,400	3860 8500

324D L ● VA Boom ● 800 mm (32") Track Shoes

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2500 mm 8'2"	kg lb	15 540* 34,250*	15 540* 34,250*	14 190* 31,300*	9620 21,200	9660 21,300	6270 13,850	6720 14,800	4310 9500	—	—	5360 11,800	3410 7500
2950 mm 9'8"	kg lb	17 330* 38,200*	17 330* 38,200*	14 140* 31,200*	9740 21,500	9640* 21,250*	6310 13,900	6770 14,900	4350 9600	4960 10,940	3140 6900	4950 10,900	3140 6900

324D LN ● Reach Boom ● 600 mm (24") Track Shoes

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2500 mm 8'2"	kg lb	—	—	14 210* 31,350*	7650 16,850	8890 19,600	5080 11,200	6330 13,950	3700 8150	—	—	5410 11,950	3170 7000
2950 mm 9'8"	kg lb	6100* 13,450*	6100* 13,450*	13 970* 30,800*	7690 19,950	8900 19,600	5090 11,200	6320 13,950	3680 8100	—	—	4990 11,000	2920 6450

324D LN ● Mass Boom ● 600 mm (24") Track Shoes

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2000 mm 6'7"	kg lb	—	—	14 150* 31,200*	7600 16,750	8860 19,550	5010 11,050	—	—	—	—	6560 14,450	3790 8350
2500 mm 8'2"	kg lb	9490* 20,950*	9490* 20,950*	13 930* 30,700*	7610 16,750	8840 19,500	4990 11,000	6250 13,750	3590 7900	—	—	5920 13,050	3410 7500

324D LN ● VA Boom ● 600 mm (24") Track Shoes

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2500 mm 8'2"	kg lb	15 540* 34,250*	15 540* 34,250*	14 190* 31,300*	8510 18,750	9410 20,750	5580 12,300	6540 14,400	3820 8400	—	—	5210 11,500	3010 6650
2950 mm 9'8"	kg lb	17 330* 38,200*	16 400 36,150	14 140* 31,300*	8630 19,000	9410 20,750	5620 13,400	6590 14,550	3860 8500	—	—	4810 10,600	2760 6100

*Load limited by hydraulic capacity rather than tipping.

All weights are without bucket, with quick coupler, heavy lift on.

Japan/U.S. Sourced

328D LCR • Reach Boom • 850 mm (34") Track Shoes

Stick	Bucket		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach	
			Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2650 mm 8'8"	1.2 m³ 1.57 yd³	kg lb	—	—	15 550* 33,700*	10 150 21,800	11 300* 24,450*	6600 14,200	8450 18,100	4750 10,150	—	—	4500* 9950*	3300 7250
3200 mm 10'6"	1.2 m³ 1.57 yd³	kg lb	5900* 13,450*	5900* 13,450*	15 450* 33,400*	10 100 21,750	11 100* 24,000*	6550 14,050	8400 18,000	4650 10,000	6300* 13,100*	3500 7710	3600* 7900*	2950 6500

329D • Reach Boom • 600 mm (24") Track Shoes

Stick	Bucket		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach	
			Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2000 mm 6'7"	D1430X 4'8"	kg lb	—	—	12 500 26,800	7700 16,500	7800 16,800	5000 10,700	5500 11,800	3550 7550	—	—	4200 9250	2650 5850
2650 mm 8'8"	C1470X 4'10"	kg lb	—	—	13 000 27,850	8150 17,500	8150 17,500	5300 11,400	5750 12,350	3800 8100	—	—	4000 8850	2600 5750
3000 mm 9'10"	C1370X 4'6"	kg lb	—	—	13 050 27,900	8150 17,550	8150 17,550	5350 11,450	5750 12,350	3800 8100	4300 9450	2800 6150	3700 8200	2450 5400
3200 mm 10'6"	C1370X 4'6"	kg lb	4600 10,650	4600 10,650	13 050 27,950	8200 17,600	8150 17,550	5350 11,450	5750 12,350	3800 8100	4300 9200	2800 5950	3450 7600	2350 5150

329D • Mass Boom • 600 mm (24") Track Shoes

Stick	Bucket		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach	
			Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2500 mm 8'2"	D1500X 4'11"	kg lb	—	—	13 000 27,850	8100 17,350	8050 17,250	5200 11,100	5600 12,000	3600 7700	—	—	4400 9650	2800 6150

329D L • Reach Boom • 800 mm (32") Track Shoes

Stick	Bucket		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach	
			Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2000 mm 6'7"	D1520MX 5'0"	kg lb	—	—	14 900 32,800	9100 19,550	9400 20,200	5850 12,600	6600 14,100	4150 8850	—	—	5050 11,050	3150 6900
2650 mm 8'8"	HD 36"	kg lb	—	—	16 000* 35,600*	9650 20,750	10 620 22,800	6280 13,500	7450 16,000	4480 9650	—	—	5720 12,600	3440 7600
3200 mm 10'6"	HD 36"	kg lb	4870* 11,250*	4870* 11,250*	16 150* 34,950*	9650 20,750	10 590 22,750	6230 13,400	7380 15,850	4410 9500	5500 11,800	3270 7000	4870* 10,750*	3120 6900
3750 mm 12'4"	HDP 36"	kg lb	6190* 14,200*	6190* 14,200*	15 450* 33,400*	9660 20,800	10 590 22,750	6220 13,400	7350 15,800	4380 9400	5460 11,750	3220 6900	3920* 8650*	2740 6050

329D L • Mass Boom • 800 mm (32") Track Shoes

Stick	Bucket		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach	
			Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2500 mm 8'2"	HD 48"	kg lb	8240* 19,000*	8240* 19,000*	16 040* 34,700*	9450 20,300	10 410 22,350	6010 12,900	7160 15,350	4160 8950	—	—	6210 13,700	3610 7950
3200 mm 10'6"	HD 36"	kg lb	9430* 21,600*	9430* 21,600*	16 070* 34,750*	9950 21,400	10 790 23,200	6400 13,750	7500 16,100	4510 9700	—	—	4680* 10,300*	3530 7800

*Load limited by hydraulic capacity rather than tipping.

Belgium Sourced

329D L ● Reach Boom ● 800 mm (32") Track Shoes

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach Front Side	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side		
2000 mm 6'7"	kg lb	—	—	16 530* 36,450*	9730 21,450*	10 720 23,650	6370 14,050	7600 16,750	4620 10,200	—	—	6680 14,700	4090 9000
2650 mm 8'8"	kg lb	—	—	16 870* 37,200*	10 190 22,450	11 100 24,450	6730 14,850	7890 17,400	4920 10,850	—	—	6160 13,600	8550 18,850
3200 mm 10'6"	kg lb	5850* 12,900*	5850* 12,900*	16 490* 36,360*	10 160 22,400	11 060 24,500	6690 14,750	7840 17,250	4860 10,700	5960 13,150	3720 8200	4990* 11,000*	3510 7750

329D L ● Mass Boom ● 800 mm (32") Track Shoes

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach Front Side	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side		
2500 mm 8'2"	kg lb	8880* 19,550*	8880* 19,550*	16 650* 39,700	10 080 22,250	10 970 24,200	6560 14,450	7720 17,050	4720 10,400	—	—	6990 15,400	4290 9450

329D L ● VA Boom ● 800 mm (32") Track Shoes

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach Front Side	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side		
2000 mm 6'7"	kg lb	18 350* 19,580*	18 350* 19,580*	16 270* 35,900*	10 300 22,700	11 200 24,700	6710 14,800	7660 16,750	4590 10,100	—	—	6380 14,100	3790 8350
2650 mm 8'8"	kg lb	15 240* 33,600*	15 240* 33,600*	16 630* 36,650*	10 860 23,946	11 500 25,350	7110 15,700	8100 17,850	5010 11,050	5940 13,100	3640 8050	5900 13,000	3620 7800

329D LN ● Reach Boom ● 600 mm (24") Track Shoes

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach Front Side	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side		
2000 mm 6'7"	kg lb	—	—	16 530* 36,450*	8450 18,650	10 340 22,800	5560 12,250	7320 16,150	4040 8900	—	—	6440 14,200	3570 7850
2650 mm 8'8"	kg lb	—	—	16 870* 37,200	8900 19,600	10 720 23,650	5930 13,100	7610 16,750	4340 9550	—	—	5940 13,100	3410 7500
3200 mm 10'6"	kg lb	5850* 12,900*	5850* 12,900*	16 490* 36,350	8870 19,550	10 680 23,550	5880 12,950	7560 16,650	4280 9450	5740 12,650	3270 7200	4990* 11,000*	3080 6800

329D LN ● Mass Boom ● 600 mm (24") Track Shoes

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach Front Side	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side		
2500 mm 8'2"	kg lb	8880* 19,600*	8880* 19,600*	16 650* 36,700*	8780 19,350	10 580 23,350	5750 12,650	7440 16,400	4130 9100	—	—	6740 14,850	3750 8250

329D LN ● VA Boom ● 800 mm (32") Track Shoes

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach Front Side	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side		
2500 mm 8'2"	kg lb	15 240* 33,600*	15 240* 33,600*	16 630* 36,700*	10 860 23,950	11 500 25,350	7110 15,650	8100 17,850	5010 11,050	5940 13,100	3640 7800	5900 13,000	3620 8000

*Load limited by hydraulic capacity rather than tipping.

All weights are without bucket, with quick coupler, heavy lift on.

Japan/U.S./Brazil Sourced

336D • Reach Boom • 600 mm (24") Track Shoes

Stick	Bucket		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach	
			Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2150 mm 7'1"	E1470X 4'10"	kg lb	—	—	16 250 34,800	10 450 22,450	10 100 21,700	6750 14,500	7100 15,250	4750 10,200	—	—	5000 11,000	3300 7300
2800 mm 9'2"	D1500X 4'11"	kg lb	—	—	16 850 36,150	11 050 23,700	10 500 22,550	7150 15,300	7400 15,850	5050 10,850	5500 11,800	3750 8000	4700 10,300	3150 6950
3200 mm 10'6"	D1430X 4'8"	kg lb	—	—	16 850 36,100	11 000 23,650	10 500 22,550	7100 15,300	7400 15,850	5050 10,800	5500 11,800	3750 8000	4450 9750	3000 6650
3900 mm 12'10"	D1345X 4'5"	kg lb	6750 15,400	6750 15,400	16 900 36,550	11 200 24,050	10 600 22,750	7200 15,500	7400 15,900	5100 10,900	5500 11,800	3750 7950	3600 7850	2600 5700

336D • Mass Boom • 600 mm (24") Track Shoes

Stick	Bucket		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach	
			Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2550 mm 8'4"	E1470X 4'10"	kg lb	—	—	16 750 35,900	10 900 23,450	10 350 22,250	7000 15,000	7250 15,500	4900 10,500	—	—	4950 10,900	3300 7250

336D L • Reach Boom • 800 mm (32") Track Shoes

Stick	Bucket		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach	
			Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
3200 mm 10'6"	GP 36"	kg lb	7130 16,350	7130 16,350	18 080 39,150	11 760 25,300	12 920 27,950	7660 16,500	9330 20,050	5470 11,800	6990 15,000	4090 8750	4860 10,700	3210 7100
3900 mm 12'10"	GP 36"	kg lb	7700 17,550	7700 17,550	17 490 37,800	11 890 25,600	12 400 26,850	7710 16,600	9330 20,050	5460 11,750	6960 14,950	4040 8650	3720 8200	2780 6150

336D L • Mass Boom • 800 mm (32") Track Shoes

Stick	Bucket		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach	
			Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2150 mm 7'1"	E1470X 4'10"	kg lb	—	—	16 800 36,450	10 950 23,500	12 300 26,600	7050 15,200	8800 18,900	5000 10,750	—	—	6200 13,650	3500 7700
2550 mm 8'4"	HD 36"	kg lb	—	—	17 550* 38,000*	11 090 23,850	12 570* 27,200*	7110 15,300	8840 19,000	4980 10,700	—	—	6850 15,100	3810 8400

*Load limited by hydraulic capacity rather than tipping.

Belgium Sourced

336D L ● Reach Boom ● 700 mm (28") Track Shoes

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach Front Side	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side		
2150 mm 7'1"	kg lb	—	—	18 310* 40,350*	11 700 25,800	13 220 29,150	7680 16,950	9390 20,700	5600 12,350	—	—	7670 16,900	4610 10,150
2800 mm 9'2"	kg lb	—	—	18 780* 41,400*	12 170 26,850	13 570* 29,900	8010 17,650	9620 21,200	5830 12,650	7320 16,150	4460 9850	6890 15,200	4260 9400
3200 mm 10'5"	kg lb	7490* 16,500*	7490* 16,500*	18 590* 39,600*	12 200 26,900	13 350* 29,450	8020 17,700	9610 21,200	5820 12,850	7290 16,100	4430 9750	6630 14,600	4020* 8850*
3900 mm 12'10"	kg lb	8120* 17,900*	8120* 17,900*	17 960* 39,600*	12 280 27,100	12 820* 28,250	8050 17,750	9610 21,200	5800 12,800	7250 16,000	4390 9700	5140* 11,350*	3520 7750

336D L ● Mass Boom ● 700 mm (28") Track Shoes

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach Front Side	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side		
2150 mm 7'1"	kg lb	—	—	18 560* 40,950*	11 970 26,400	13 430* 29,600*	7860 17,350	9530 21,000	5730 12,650	—	—	8210 18,100	4960 10,950
2550 mm 8'4"	kg lb	—	—	18 560* 40,950*	12 000 26,450	13 440 29,650	7860 17,350	9500 20,950	5690 12,550	—	—	7550 16,650	4550 10,000

336D LN ● Reach Boom ● 600 mm (24") Track Shoes

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach Front Side	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side		
2150 mm 7'1"	kg lb	—	—	18 310* 40,350*	10 390 22,900	13 050 28,800	6870 15,150	9260 20,400	5020 11,050	—	—	7570 16,700	4130 9100
2800 mm 9'2"	kg lb	—	—	18 780* 41,400*	10 850 23,900	13 400 29,550	7200 15,900	9490 20,900	5240 11,550	7220 15,900	4010 8850	6890 15,200	3830 8450
3200 mm 10'5"	kg lb	7490* 16,500*	7490* 16,500*	18 590* 41,000*	10 870 23,950	13 350* 29,450*	7210 15,900	9490 20,900	5230 11,550	7190 15,850	3980 8750	6540 14,400	3610 7950
3900 mm 12'10"	kg lb	8120* 17,900*	8120* 17,900*	17 960* 39,600*	10 950 24,150	12 820* 28,250*	7230 15,900	9480 20,900	5220 11,500	7150 15,750	3940 8700	5140* 11,350*	3150 6950

336D LN ● Mass Boom ● 600 mm (24") Track Shoes

Stick		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach Front Side	
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side		
2150 mm 7'1"	kg lb	—	—	18 560* 40,950*	10 650 23,500	13 260 29,250	7050 15,550	9410 20,750	5140 11,350	—	—	8100 17,850	4460 9850
2550 mm 8'4"	kg lb	—	—	18 560* 40,950*	10 670 23,550	13 270 29,250	7050 15,550	9380 20,700	5110 11,250	—	—	7450 16,450	4080 9000

*Load limited by hydraulic capacity rather than tipping.

All weights are without bucket, with quick coupler, heavy lift on.

Japan Sourced

345D ● Reach Boom ● 600 mm (24") Track Shoes

Bucket Type	Front Length			Heavy Lift		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"	
	mm	ft	Front			Side	Front	Side	Front	Side	Front	Side	
TB1325XN	Stick Bucket	3900 1325	12'10" 4'4"	on	kg lb	8650* 19,600*	8650* 19,600*	23 000* 49,750*	15 700 33,750	16 300* 35,000	10 100 21,750	11 350 24,400	7150 15,400
	Stick Bucket	3900 1325	12'10" 4'4"	off	kg lb	8350* 18,900*	8350* 18,900*	22 150* 47,950*	15 700 33,750	15 650* 33,850*	10 100 21,750	11 350 24,400	7150 15,400
TB1525XN	Stick Bucket	3400 1525	11'2" 5'0"	on	kg lb	— 16,100*	— 16,100*	20 800* 48,300*	15 550 33,350	16 150 34,700	10 000 21,500	11 300 24,250	7100 15,250
	Stick Bucket	3400 1525	11'2" 5'0"	off	kg lb	— 15,500*	— 15,500*	20 200* 46,850*	15 550 33,350	15 950* 34,450*	10 000 21,500	11 300 24,250	7100 15,250
TB1628X	Stick Bucket	2900 1628	9'6" 5'4"	on	kg lb	— —	— —	19 800* 46,050*	15 250 32,750	15 950 34,300	9800 21,100	11 200 24,000	7000 15,000
	Stick Bucket	2900 1628	9'6" 5'4"	off	kg lb	— —	— —	19 200* 44,650*	15 250 32,750	15 950 34,300	9800 21,100	11 200 24,000	7000 15,000

Bucket Type	Front Length			Heavy Lift		9 m 30'0"		10.5 m 35'0"		At Max. Reach	
	mm	ft	Front			Side	Front	Side	Front	Side	
TB1325XN	Stick Bucket	3900 1325	12'10" 4'4"	on	kg lb	8450 18,150	5300 11,350	6550	4050	5400* 11,850*	3450 7600
	Stick Bucket	3900 1325	12'10" 4'4"	off	kg lb	8450 18,150	5300 11,350	6550	4050	5200* 11,400*	3450 7600
TB1525XN	Stick Bucket	3400 1525	11'2" 5'0"	on	kg lb	8400 18,050	5250 11,250	6550	4050	5400* 11,900*	3700 8150
	Stick Bucket	3400 1525	11'2" 5'0"	off	kg lb	8400 18,050	5250 11,250	6550	4050	5200* 11,450*	3700 8150
TB1628X	Stick Bucket	2900 1628	9'6" 5'4"	on	kg lb	8350 17,950	5200 11,150	6550	4050	6350* 14,000*	4000 8750
	Stick Bucket	2900 1628	9'6" 5'4"	off	kg lb	8350 17,950	5200 11,150	6550	4050	6150* 13,500*	4000 8750

*Load limited by hydraulic capacity rather than tipping.

Japan Sourced

345D ● Mass Boom ● 600 mm (24") Track Shoes

Bucket Type	Front Length		Heavy Lift		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"	
	mm	ft			Front	Side	Front	Side	Front	Side	Front	Side
UB1550X	Stick Bucket	3000 9'10"	on	kg lb	—	—	22 350*	14 900	15 700	9450	10 850	6600
	Bucket	1550 5'1"					48,350*	31,950	33,700	20,350	23,250	14,150
	Stick Bucket	3000 9'10"	off	kg lb	—	—	21 500*	14 900	15 300*	9450	10 850	6600
	Bucket	1550 5'1"					46,500*	31,950	33,050*	20,350	23,250	14,150
UB1729X	Stick Bucket	2500 8'2"	on	kg lb	—	—	22 300*	14 900	15 750	9500	10 900	6700
	Bucket	1729 5'8"					48,400*	31,950	33,750	20,450	23,400	14,300
	Stick Bucket	2500 8'2"	off	kg lb	—	—	21 450*	14 900	15 550*	9500	10 900	6700
	Bucket	1729 5'8"					46,550*	31,950	33,650*	20,450	23,400	14,300

Bucket Type	Front Length		Heavy Lift		9 m 30'0"		10.5 m 35'0"		At Max. Reach	
	mm	ft			Front	Side	Front	Side	Front	Side
UB1550X	Stick Bucket	3000 9'10"	on	kg lb	7950	4750	6550	4050	5900*	3600
	Bucket	1550 5'1"			17,000	10,150	—	—	12,950*	7950
	Stick Bucket	3000 9'10"	off	kg lb	7950	4750	6550	4050	5650*	3600
	Bucket	1550 5'1"			17,000	10,150	—	—	12,450*	7950
UB1729X	Stick Bucket	2500 8'2"	on	kg lb	8050	4850	6550	4050	6900	4100
	Bucket	1729 5'8"			—	—	—	—	15,150	9050
	Stick Bucket	2500 8'2"	off	kg lb	8050	4850	6550	4050	6900	4100
	Bucket	1729 5'8"			—	—	—	—	15,150	9050

345D L – FIX ● Long Reach Boom ● 900 mm (36") Track Shoes

Bucket Type	Front Length		Heavy Lift		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"	
	mm	ft			Front	Side	Front	Side	Front	Side	Front	Side
TB1325XN	Stick Bucket	4300 14'1"	on	kg lb	6650*	6650*	17 750*	15 950	15 800*	10 300	12 100*	7350
	Bucket	1325 4'4"			15,050*	15,050*	41,000*	34,300	34,150*	22,200	26,100*	15,750
	Stick Bucket	4300 14'1"	off	kg lb	6400*	6400*	17 150*	15 950	15 200*	10 300	11 600*	7350
	Bucket	1325 4'4"			14,500*	14,500*	39,750*	34,300	32,850*	22,200	25,050*	15,750
TB1325XN	Stick Bucket	3900 12'10"	on	kg lb	—	—	16 700*	15 800	16 050*	10 200	12 300*	7300
	Bucket	1325 4'4"			—	—	38,600*	33,950	34,700*	21,950	26,550*	15,650
	Stick Bucket	3900 12'10"	off	kg lb	—	—	16 150*	15 800	15 450*	10 200	11 800*	7300
	Bucket	1325 4'4"			—	—	37,400*	33,950	33,350*	21,950	25,500*	15,650

Bucket Type	Front Length		Heavy Lift		9 m 30'0"		10.5 m 35'0"		At Max. Reach	
	mm	ft			Front	Side	Front	Side	Front	Side
TB1325XN	Stick Bucket	4300 14'1"	on	kg lb	9800*	5450	7600	4150	5100*	3100
	Bucket	1325 4'4"			21,000	11,700	16,300	8850	11,250*	6800
	Stick Bucket	4300 14'1"	off	kg lb	9350*	5450	7600	4150	4900*	3100
	Bucket	1325 4'4"			20,250*	11,700	16,300	8850	10,800*	6800
TB1325XN	Stick Bucket	3900 12'10"	on	kg lb	9750	5450	7600	4150	5750*	3300
	Bucket	1325 4'4"			20,950	11,650	16,250	8850	12,700*	7250
	Stick Bucket	3900 12'10"	off	kg lb	9500*	5450	7600	4150	5550*	3300
	Bucket	1325 4'4"			20,550*	11,650	16,250	8850	12,200*	7250

*Load limited by hydraulic capacity rather than tipping.

Japan Sourced

345D L – FIX ● Reach Boom ● 900 mm (36") Track Shoes

Bucket Type	Front Length mm ft		Heavy Lift		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"	
					Front	Side	Front	Side	Front	Side	Front	Side
TB1325XN	Stick	3900	12'10"	on	kg	8650*	8650*	23 000*	16 550	16 300*	12 500*	7600
	Bucket	1325	4'4"		lb	19,600*	19,600*	49,750*	35,500	35,200*	27,050*	16,250
	Stick	3900	12'10"	off	kg	8350*	8350*	22 150*	16 550	15 650*	12 050*	7600
	Bucket	1325	4'4"		lb	18,900*	18,900*	47,950*	35,500	33,850*	26,000*	16,250
TB1628X	Stick	3400	11'2"	on	kg	—	—	20 800*	16 350	16 600*	12 750*	7500
	Bucket	1628	5'4"		lb	16,100*	16,100*	48,350*	35,150	35,850*	27,550*	16,150
	Stick	3400	11'2"	off	kg	—	—	20 200*	16 350	15 950*	12 250*	7500
	Bucket	1628	5'4"		lb	15,500*	15,500*	46,850*	35,150	34,500*	26,500*	16,150
TB1758X	Stick	2900	9'6"	on	kg	—	—	19 750*	16 000	16 550*	12 750*	7350
	Bucket	1758	5'9"		lb	—	—	45,900*	34,350	35,800*	27,550*	15,800
	Stick	2900	9'6"	off	kg	—	—	19 150*	16 000	15 900*	12 250*	7350
	Bucket	1758	5'9"		lb	—	—	44,500*	34,350	34,400*	26,450*	15,800

Bucket Type	Front Length		Heavy Lift		9 m 30'0"		10.5 m 35'0"		At Max. Reach		
	mm	ft			Front	Side	Front	Side	Front	Side	
TB1325XN	Stick Bucket	3900 1325	12'10" 4'4"	on	kg lb	10 000 21,400	5650 12,100	7750 —	4300 —	5400* 11,850*	3700 8150
	Stick Bucket	3900 1325	12'10" 4'4"	off	kg lb	9750* 21,100*	5650 12,100	7750 —	4300 —	5200* 11,400*	3700 8150
TB1628X	Stick Bucket	3400 1628	11'2" 5'4"	on	kg lb	9950 21,350	5600 12,000	— —	— —	5450* 11,950*	4000 8750
	Stick Bucket	3400 1628	11'2" 5'4"	off	kg lb	9900* 21,350	5600 12,000	— —	— —	5250* 11,500*	4000 8750
TB1758X	Stick Bucket	2900 1758	9'6" 5'9"	on	kg lb	9850 21,100	5500 11,800	— —	— —	6300* 13,900*	4200 9250
	Stick Bucket	2900 1758	9'6" 5'9"	off	kg lb	9850 21,100	5500 11,800	— —	— —	6100* 13,400*	4200 9250

345D L – FIX ● Mass Boom ● 900 mm (36") Track Shoes

Bucket Type	Front Length mm ft		Heavy Lift		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"	
					Front	Side	Front	Side	Front	Side	Front	Side
UB1600X	Stick	3000	9'10"	on	kg	—	—	19 150*	18 300	13 650*	10 850*	7900
	Bucket	1600	5'3"		lb	—	—	41,100*	39,450	29,400*	23,500*	16,950
	Stick	3000	9'10"	off	kg	—	—	21 600*	15 800	15 400*	11 750*	7100
	Bucket	1600	5'3"		lb	—	—	46,750*	33,950	33,250*	25,400*	15,150
UB1729X	Stick	2500	8'2"	on	kg	—	—	22 300*	15 700	16 200*	12 400*	7100
	Bucket	1729	5'8"		lb	—	—	48,400*	33,700	35,000*	26,850*	15,200
	Stick	2500	8'2"	off	kg	—	—	21 450*	15 700	15 550*	11 900*	7100
	Bucket	1729	5'8"		lb	—	—	46,550*	33,700	33,650*	25,750*	15,200

Bucket Type	Front Length			Heavy Lift		9 m 30'0"		10.5 m 35'0"		At Max. Reach	
	mm	ft				Front	Side	Front	Side	Front	Side
UB1600X	Stick Bucket	3000 1600	9'10" 5'3"	on	kg lb	9200* 20,000*	5600 11,900	—	—	4900* 10,700*	3750 8250
	Stick Bucket	3000 1600	9'10" 5'3"	off	kg lb	9400* 20,200*	5150 11,000	—	—	5750* 12,700*	4000 8750
UB1729X	Stick Bucket	2500 1729	8'2" 5'8"	on	kg lb	9600 —	5200 —	—	—	7650* 16,850*	4400 9700
	Stick Bucket	2500 1729	8'2" 5'8"	off	kg lb	9400* —	5200 —	—	—	7650* 16,850*	4400 9700

*Load limited by hydraulic capacity rather than tipping.

Japan Sourced

345D L – VG ● Long Reach Boom ● 900 mm (36") Track Shoes

Bucket Type	Front Length			Heavy Lift		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"	
	mm	ft	Front			Side	Front	Side	Front	Side	Front	Side	
TB1325XN	Stick Bucket	4300	14'1"	on	kg	7000*	7000*	17 750*	17 750*	15 900*	11 600	12 150*	8250
		1325	4'4"		lb	15,850*	15,850*	41,050*	38,750	34,350*	24,950	26,250*	17,750
	Stick Bucket	4300	14'1"	off	kg	6750*	6750*	17 200*	17 200*	15 250*	11 600	11 650*	8250
		1325	4'4"		lb	15,250*	15,250*	39,800*	38,750	33,000*	24,950	25,200*	17,750
TB1325XN	Stick Bucket	3900	12'10"	on	kg	—	—	16 900*	16 900*	16 100*	11 500	12 350*	8200
		1325	4'4"		lb	14,600*	14,600*	39,000*	38,450	34,800*	24,750	26,650*	17,650
	Stick Bucket	3900	12'10"	off	kg	—	—	16 350*	16 350*	15 500*	11 500	11 850*	8200
		1325	4'4"		lb	14,050*	14,050*	37,750*	37,750*	33,450*	24,750	25,600*	17,650

Bucket Type	Front Length			Heavy Lift		9 m 30'0"		10.5 m 35'0"		At Max. Reach	
		mm	ft			Front	Side	Front	Side	Front	Side
TB1325XN	Stick Bucket	4300	14'1"	on	kg	9800*	6200	7950	4750	5150*	3600
		1325	4'4"		lb	21,200*	13,250	17,050	10,150	11,350*	7950
	Stick Bucket	4300	14'1"	off	kg	9400*	6200	7850*	4750	4950*	3600
		1325	4'4"		lb	20,350*	13,250	16,950*	10,150	10,950*	7950
TB1325XN	Stick Bucket	3900	12'10"	on	kg	9950*	6150	7950	4750	5850*	3850
		1325	4'4"		lb	21,500*	13,200	17,050	10,150	12,850*	8450
	Stick Bucket	3900	12'10"	off	kg	9550*	6150	7950*	4750	5600*	3850
		1325	4'4"		lb	20,600*	13,200	17,050	10,150	12,350*	8450

345D L – VG ● Reach Boom ● 750 mm (30") Track Shoes

Bucket Type	Front Length			Heavy Lift		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"	
	mm	ft				Front	Side	Front	Side	Front	Side	Front	Side
TB1325XN	Stick	3900	12'10"	on	kg	8950*	8950*	22 950*	19 850	16 250*	12 750	12 450*	9100
	Bucket	1325	4'4"		lb	20,300*	20,300*	49,600*	42,700	35,100*	27,400	26,950*	19,500
	Stick	3900	12'10"	off	kg	8650*	8650*	22 100*	19 850	15 600*	12 750	11 950*	9100
	Bucket	1325	4'4"		lb	19,600*	19,600*	47,750*	42,700	33,750*	27,400	25,850*	19,500
TB1672EXN	Stick	3400	11'2"	on	kg	7300*	7300*	20 600*	19 400	16 150*	12 350	12 350*	8750
	Bucket	1672	5'6"		lb	16,650*	16,650*	47,750*	41,600	34,900*	26,550	26,650*	18,750
	Stick	3400	11'2"	off	kg	7050*	7050*	19 950*	19 400	15 550*	12 350	11 850*	8750
	Bucket	1672	5'6"		lb	16,000*	16,000*	46,250*	41,600	33,550*	26,550	25,550*	18,750
TB1758X	Stick	2900	9'6"	on	kg	—	—	19 850*	19 050	16 150*	12 150	12 350*	8650
	Bucket	1758	5'9"		lb	—	—	46,050*	40,900	34,900*	26,150	26,700*	18,550
	Stick	2900	9'6"	off	kg	—	—	19 200*	19 050	15 500*	12 150	11 850*	8650
	Bucket	1758	5'9"		lb	—	—	44,600*	40,900	33,500*	26,150	25,600*	18,550

Bucket Type	Front Length		Heavy Lift		9 m 30'0"		10.5 m 35'0"		At Max. Reach		
	mm	ft			Front	Side	Front	Side	Front	Side	
TB1325XN	Stick Bucket	3900 1325	12'10" 4'4"	on	kg lb	10 100* 21,800*	6800 14,600	8050* —	5250 —	5350* 11,700*	4600 10,050
	Stick Bucket	3900 1325	12'10" 4'4"	off	kg lb	9700* 20,900*	6800 14,600	7800* —	5250 —	5100* 11,250*	4600 10,050
TB1672EXN	Stick Bucket	3400 1672	11'2" 5'6"	on	kg lb	9900* 21,300*	6500 13,900	— —	— —	5000* 11,000*	4550 10,000
	Stick Bucket	3400 1672	11'2" 5'6"	off	kg lb	9450* 20,400*	6500 13,900	— —	— —	4800* 10,550*	4550 10,000
TB1758X	Stick Bucket	2900 1758	9'6" 5'9"	on	kg lb	9850* 21,250*	6450 13,800	— —	— —	5950* 13,100*	4900 10,750
	Stick Bucket	2900 1758	9'6" 5'9"	off	kg lb	9450* 20,350*	6450 13,800	— —	— —	5700* 12,550*	4900 10,750

*Load limited by hydraulic capacity rather than tipping.

Japan Sourced

345D L – VG • Mass Boom • 750 mm (30") Track Shoes

Bucket Type	Front Length		Heavy Lift		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"	
	mm	ft			Front	Side	Front	Side	Front	Side	Front	Side
UB1729X	Stick	3000	on	kg	7850*	7850*	21 850*	18 800	15 500*	11 850	11 750*	8250
	Bucket	1729			17,900*	17,900*	47,300*	40,350	33,550*	25,450	25,400*	17,700
	Stick	3000	off	kg	7550*	7550*	21 000*	18 800	14 900*	11 850	11 250*	8250
	Bucket	1729			17,250*	17,250*	45,450*	40,350	32,150*	25,450	24,300*	17,700
UB1829X	Stick	2500	on	kg	—	—	22 200*	19 150	16 150*	12 200	12 350*	8650
	Bucket	1829			—	—	48,100*	41,100	34,900*	26,300	26,700*	18,600
	Stick	2500	off	kg	—	—	21 350*	19 150	15 500*	12 200	11 850*	8650
	Bucket	1829			—	—	46,250*	41,100	33,500*	26,300	25,600*	18,600

Bucket Type	Front Length		Heavy Lift		9 m 30'0"		10.5 m 35'0"		At Max. Reach	
	mm	ft			Front	Side	Front	Side	Front	Side
UB1729X	Stick	3000	on	kg	9250*	6000	—	—	5500*	4550
	Bucket	1729			19,900*	12,800	—	—	12,050*	10,050
	Stick	3000	off	kg	8850*	6000	—	—	5250*	4550
	Bucket	1729			19,000*	12,800	—	—	11,550*	10,050
UB1829X	Stick	2500	on	kg	9700*	6450	—	—	7700*	5550
	Bucket	1829			—	—	—	—	16,950*	12,250
	Stick	2500	off	kg	9300*	6450	—	—	7450*	5550
	Bucket	1829			—	—	—	—	16,350*	12,250

Japan/U.S. Sourced

345D L – FIX • Reach Boom • 900 mm (36") Triple Grouser

Stick	Bucket		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"	
			Front	Side	Front	Side	Front	Side	Front	Side
3350 mm 11'0"	1219 mm GP-C 4'0"	kg lb	—	—	21 560* 50,150*	17 490* 37,650*	17 550* 38,000*	11 340 24,400	13 520* 29,250*	8100 17,400
3900 mm 12'10"	1219 mm GP-C 4'0"	kg lb	—	—	24 410 52,800*	17 810 38,300*	17 290 37,400	11 530 24,850	13 320* 28,850	8220 17,700

Stick	Bucket		9 m 30'0"		10.5 m 35'0"		At Max. Reach	
			Front	Side	Front	Side	Front	Side
3350 mm 11'0"	1219 mm GP-C 4'0"	kg lb	10 550 22,650*	6050 13,000	—	—	8940 19,700*	5000 11,030
3900 mm 12'10"	1219 mm GP-C 4'0"	kg lb	10 630 22,850	6130 13,150	8250 16,650	4680 10,000	8070 17,800	4680 10,320

345D L – FIX • Mass Boom • 900 mm (36") Triple Grouser

Stick	Bucket		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"	
			Front	Side	Front	Side	Front	Side	Front	Side
2500 mm 8'2"	1905 mm HDR V-edge 5'4"	kg lb	—	—	23 080 50,100*	16 370 35,150	16 710* 36,150*	10 350 22,250	12 680* 27,400*	7150 15,350
3000 mm 9'10"	1905 mm HDR V-edge 5'4"	kg lb	—	—	23 280* 50,400*	16 430 35,300	16 500* 35,650*	10 330 22,200	12 470* 26,950*	7080* 15,150*

Stick	Bucket		9 m 30'0"		10.5 m 35'0"		At Max. Reach	
			Front	Side	Front	Side	Front	Side
2500 mm 8'2"	1905 mm HDR V-edge 5'4"	kg lb	—	—	—	—	9920* 21,870*	5130 11,320
3000 mm 9'10"	1905 mm HDR V-edge 5'4"	kg lb	9510* 20,400*	5000 10,650	—	—	8920* 19,650*	4500 9920

*Load limited by hydraulic capacity rather than tipping.

Excavators

Lifting Capacity At Ground Level

- 345D L – VG
- 345D L – W-VG

U.S. Sourced

345D L – VG ● Reach Boom ● 900 mm (36") Triple Grouser

Stick	Bucket		3 m 9'10"		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"	
			Front	Side	Front	Side	Front	Side	Front	Side
3350 mm 11'0"	1219 mm GP-C 4'8" GP-C	kg lb	7750*	7750*	21 830*	19 660	17 600*	12 660	13 560*	9050
			17,700*	17,700*	50,650*	42,250	38,100*	27,250	29,350*	19,450
3900 mm 12'10"	1219 mm GP-C 4'8" GP-C	kg lb	—	—	24 480*	19 960	17 380*	12 850	13 380*	9160
					52,950*	42,900	37,600*	27,650	28,950*	19,700

Stick	Bucket		9 m 30'0"		10.5 m 35'0"		At Max. Reach	
			Front	Side	Front	Side	Front	Side
3350 mm 11'0"	1219 mm GP-C 4'8" GP-C	kg lb	10 970*	6800	—	—	9110*	5710
			23,600	14,600			20,080*	12,590
3900 mm 12'10"	1219 mm GP-C 4'0" GP-C	kg lb	10 880*	6870	8610	5290	8190*	5350
			23,550*	14,750	16,150*	11,350	18,050*	11,790

345D L – W-VG ● Reach Boom ● 900 mm (36") Track Shoes

Stick	Bucket		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"	
			Front	Side	Front	Side	Front	Side	Front	Side
3900 mm 12'10"	1219 mm GP-C 4'8" GP-C	kg lb	24 480*	23 950	17 380*	15 140	13 380*	10 750	10 880*	8080
			52,950*	51,400	37,600*	32,600	28,950*	23,150	23,550*	17,350

Stick	Bucket		10.5 m 35'0"		At Max. Reach	
			Front	Side	Front	Side
3900 mm 12'10"	1219 mm GP-C 4'8" GP-C	kg lb	8760	6260	8190*	6350
			16,150*	13,450	18,050*	14,010

Belgium Sourced

345D L – VG ● Reach Boom ● 600 mm (24") Track Shoes ● Heavy Lift On

Stick	Bucket		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach	
			Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2900 mm 9'6"	2.75 m³ 3.6 yd³	kg lb	19 970	18 830	17 110	11 980	13 070	8430	10 330	6200	6060	4570
			44,035	41,520	37,730	26,420	28,820	18,590	22,780	13,670	13,360	10,075
3350 mm 11'0"	2.75 m³ 3.6 yd³	kg lb	20 930	19 020	16 990	12 080	12 940	8470	10 330	6210	5120	4200
			46,150	41,940	37,460	26,635	28,535	18,675	22,780	13,695	11,290	9260

345D L – VG ● Mass Boom ● 600 mm (24") Track Shoes ● Heavy Lift On

Stick	Bucket		4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach	
			Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2500 mm 9'2"	3.2 m³ 4.2 yd³	kg lb	22 950	18 330	16 560	11 530	12 520	7950	9640	5660	7190	4610
			50,605	40,420	36,515	25,425	27,605	17,530	21,255	12,480	15,855	10,165
3000 mm 9'10"	3.2 m³ 4.2 yd³	kg lb	23 130	18 420	16 350	11 520	12 320	7890	9620	5580	5420	4070
			51,000	40,615	36,050	25,400	27,165	17,400	21,210	12,305	11,950	8975

*Load limited by hydraulic capacity rather than tipping.

Belgium Sourced

**365C L ● Heavy Lift ● 7.8 m (25'7") Reach Boom
● 750 mm (30") Double Grousers**

			6 m 20'0"		7.5 m 25'0"		9 m 30'0"		10.5 m 35'0"		12 m 40'0"		At Max. Reach	
Stick	Bucket		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2840 mm 9'4"	3.2 m³ 4.2 yd³	kg lb	24 360* 53,714	17 940 39,558	18 900* 41,675	12 620 27,827	15 070* 33,229	9360 20,639	11 610 25,600	7100 15,656	—	—	7820* 17,243	5920 13,054
3600 mm 11'10"	3.6 m³ 4.71 yd³	kg lb	24 540* 54,111	18 070 39,844	18 760* 41,366	12 650 27,893	14 930* 32,921	9320 20,551	11 550 25,468	7030 15,501	—	—	7170* 15,810	5200 11,466
4150 mm 13'7"	2.6 m³ 3.4 yd³	kg lb	24 710* 54,486	18 450 40,682	18 850* 41,564	12 960 28,577	15 070* 33,229	9600 21,168	11 820 26,063	7300 16,097	—	—	6290* 13,869	5030 11,091
4670 mm 15'4"	2.6 m³ 3.4 yd³	kg lb	24 340* 53,670	18 570 40,947	18 480* 40,748	13 000 28,665	14 780* 32,590	9590 21,146	11 780 25,975	7250 15,986	9270 20,440	5550 12,238	5160* 11,378	4520 9967

**365C L ● Heavy Lift ● 6.6 m (21'8") Mass Boom
● 750 mm (30") Double Grousers**

			4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach	
Stick	Bucket		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2570 mm 8'5"	4.4 m³ 5.8 yd³	kg lb	29 800* 65,710	29 630 65,330	24 250* 53,470	18 180 40,090	18 400* 40,570	12 450 27,450	14 070* 31,020	8890 19,600	6620* 14,600	6620* 14,600
3000 mm 9'10"	4.0 m³ 5.2 yd³	kg lb	30 540* 67,340	29 770 65,640	24 200* 53,360	18 220 40,180	18 320* 40,400	12 450 27,450	14 280* 31,490	8880* 19,580	5520* 12,170	5520* 12,170

**365C L ● Heavy Lift ● 7 m (23'0") Mass Boom
● 750 mm (30") Double Grousers**

			4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"		At Max. Reach	
Stick	Bucket		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
2570 mm 8'5"	4.0 m³ 5.2 yd³	kg lb	21 240* 46,830	21 240* 46,830	23 810* 52,500	17 700 39,030	18 140* 40,000	12 190 26,880	14 120* 31,140	8760 19,320	6650* 14,670	6440 14,200
3000 mm 9'10"	3.8 m³ 5.0 yd³	kg lb	22 400* 49,390	22 400* 49,390	23 810* 52,500	17 750 39,140	18 050* 39,800	12 190 26,880	14 160* 31,220	8740 19,270	5570* 12,280	5570* 12,280

*Load limited by hydraulic capacity rather than tipping.

Belgium Sourced

385C ● Heavy Lift ● 10 m (32'10") Reach Boom

● 650 mm (26") Track Shoes

Stick	Bucket	4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"	
		Front	Side	Front	Side	Front	Side	Front	Side
4400 mm 14'5"	2.6 m ³ 3.4 yd ³	kg lb	— —	11 420* 25,180	11 420* 25,180	21 830 48,140	15 330 33,800	16 380 36,120	11 560 25,490
5500 mm 18'1"	2.0 m ³ 2.6 yd ³	kg lb	— —	14 770* 32,570	14 770* 32,570	22 290 49,150	15 760 34,750	16 710 36,850	11 870 26,170

			10.5 m 35'0"		12 m 40'0"		13.5 m 45'0"		At Max. Reach	
Stick	Bucket		Front	Side	Front	Side	Front	Side	Front	Side
4400 mm 14'5"	2.6 m³ 3.4 yd³	kg lb	12 770 28,160	8970 19,780	10 170 22,430	7030 15,500	8190 18,060	5530 12,190	6540 14,420	4280 9440
5500 mm 18'1"	2.0 m³ 2.6 yd³	kg lb	10 350 22,820	9190 20,260	8330 18,370	7200 15,880	6740 14,860	5660 12,480	5790 12,770	3720 8200

385C ● Heavy Lift ● 8.4 m (27'2") GP Boom

● 650 mm (26") Track Shoes

			4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"	
Stick	Bucket		Front	Side	Front	Side	Front	Side	Front	Side
3400 mm 11'2"	3.8 m³ 5 yd³	kg lb	—	—	29 120* 64,210	23 530 51,880	22 980 50,670	16 380 36,120	16 920 37,310	12 060 26,590
4400 mm 14'4"	3.5 m³ 4.6 yd³	kg lb	13 430* 29,610	13 430* 29,610	34 300* 75,630	24 980 55,080	24 150 53,250	17 540 38,680	17 900 39,470	13 040 28,750
5500 mm 18'0"	3.5 m³ 4.6 yd³	kg lb	15 780* 34,800	15 780* 34,800	33 500* 73,870	25 520 56,270	24 500 54,020	17 840 39,340	18 080 39,870	13 190 29,080

			10.5 m 35'0"		12 m 40'0"		13.5 m 45'0"		At Max. Reach	
Stick	Bucket		Front	Side	Front	Side	Front	Side	Front	Side
3400 mm 11'2"	3.8 m³ 5 yd³	kg lb	12 910 28,470	9090 20,040	—	—	—	—	7340* 16,190	5910 13,030
4400 mm 14'4"	3.5 m³ 4.6 yd³	kg lb	13 800 30,430	9980 22,010	10 870 23,970	7730 18,050	—	—	6670* 14,710	6000 13,230
5500 mm 18'0"	3.5 m³ 4.6 yd³	kg lb	13 870 30,580	10 040 22,140	10 880 23,990	7740 17,070	8140* 17,950	5980 13,190	4620* 10,190	4620* 10,190

385C ● Heavy Lift ● 7.25 m (23'9") Mass Boom

● 650 mm (26") Track Shoes

			4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"	
Stick	Bucket		Front	Side	Front	Side	Front	Side	Front	Side
2920 mm 9'5"	5.2 m³ 6.8 yd³	kg lb	21 360* 47,100	21 360* 17,100	33 250* 73,320	24 610 54,270	23 620 52,080	16 920 37,310	17 160 37,840	12 240 26,990
3400 mm 11'2"	5.2 m³ 6.8 yd³	kg lb	22 830* 50,340	22 830* 50,340	33 560* 74,000	24 710 54,490	23 640 52,130	16 930 37,330	17 120 37,750	12 200 26,900

Stick	Bucket	10.5 m 35'0"		12 m 40'0"		13.5 m 45'0"		At Max. Reach	
		Front	Side	Front	Side	Front	Side	Front	Side
2920 mm 9'5"	5.2 m ³ 6.8 yd ³	kg lb	— —	— —	— —	— —	— —	8860* 19,540	7920 17,460
3400 mm 11'2"	5.2 m ³ 6.8 yd ³	kg lb	12 820 28,270	8960 19,760	— —	— —	— —	8070* 17,790	7200 15,880

*Load limited by hydraulic capacity rather than tipping.

Belgium Sourced

**385C L ● Heavy Lift ● 10 m (32'10") Reach Boom
● 750 mm (30") Track Shoes**

			4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"	
Stick	Bucket		Front	Side	Front	Side	Front	Side	Front	Side
4400 mm 14'4"	2.6 m³ 3.4 yd³	kg lb	—	—	11 420* 25,180	11 420* 25,180	24 480* 53,980	15 940 35,150	19 660* 43,350	12 050 26,570
5500 mm 18'0"	2.0 m³ 2.6 yd³	kg lb	—	—	14 770* 32,570	14 770* 32,570	24 310* 53,600	16 370* 36,100	19 370* 42,710	12 360 27,250

			10.5 m 35'0"		12 m 40'0"		13.5 m 45'0"		At Max. Reach	
Stick	Bucket		Front	Side	Front	Side	Front	Side	Front	Side
4400 mm 14'4"	2.6 m³ 3.4 yd³	kg lb	15 840 34,930	9370 20,660	12 680 27,960	7370 16,250	10 310 22,730	5820 12,830	8330 18,370	4540 10,010
5500 mm 18'0"	2.0 m³ 2.6 yd³	kg lb	15 950* 35,170	9590 21,150	12 860 28,360	7540 16,630	10 450 23,040	5960 13,140	6390* 14,090	3950 8710

**385C L ● Heavy Lift ● 8.4 m (27'2") GP Boom
● 650 mm (26") Track Shoes**

			4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"	
Stick	Bucket		Front	Side	Front	Side	Front	Side	Front	Side
3400 mm 11'2"	3.8 m³ 5.0 yd³	kg lb	—	—	29 120* 64,210	24 370 53,740	25 370* 56,600	17 000 37,490	12 540 27,650	12 540 27,650
4400 mm 14'5"	3.5 m³ 4.6 yd³	kg lb	13 430* 29,610	13 430* 29,610	34 300* 75,630	25 820 56,930	26 260* 57,900	18 150 40,020	21 010* 46,330	13 520 29,810
5500 mm 18'1"	3.5 m³ 4.6 yd³	kg lb	15 780* 34,800	15 780* 34,800	33 500* 75,630	26 360 58,120	25 400* 56,000	18 450 40,680	20 290* 44,740	13 670 30,140

			10.5 m 35'0"		12 m 40'0"		13.5 m 45'0"		At Max. Reach	
Stick	Bucket		Front	Side	Front	Side	Front	Side	Front	Side
3400 mm 11'2"	3.8 m³ 5.0 yd³	kg lb	15 990 35,260	9490 20,930	—	—	—	—	7340* 16,190	6220 13,720
4400 mm 14'5"	3.5 m³ 4.6 yd³	kg lb	16 880 37,220	10 380 22,890	13 380 29,500	8070 17,790	—	—	6670* 14,710	6300 13,890
5500 mm 18'1"	3.5 m³ 4.6 yd³	kg lb	16 800* 37,040	10 440 23,020	13 400 29,550	8080 17,820	8140* 17,950	6270 13,830	4620* 10,190	4620* 10,190

**385C L ● Heavy Lift ● 7.25 m (23'9") Mass Boom
● 750 mm (30") Track Shoes**

			4.5 m 15'0"		6 m 20'0"		7.5 m 25'0"		9 m 30'0"	
Stick	Bucket		Front	Side	Front	Side	Front	Side	Front	Side
2920 mm 9'6"	5.2 m³ 6.8 yd³	kg lb	21 360* 47,100	21 360* 47,100	33 250* 73,320	25 450 56,120	25 570* 56,380	17 540 38,680	20 010* 44,120	12 730 28,070
3400 mm 11'2"	5.2 m³ 6.8 yd³	kg lb	22 830* 50,340	22 830* 50,340	33 560* 74,000	25 550 56,340	25 630* 56,510	17 540 38,680	20 140* 44,410	12 690 27,980

			10.5 m 35'0"		12 m 40'0"		13.5 m 45'0"		At Max. Reach	
Stick	Bucket		Front	Side	Front	Side	Front	Side	Front	Side
2920 mm 9'6"	5.2 m³ 6.8 yd³	kg lb	—	—	—	—	—	—	8860* 19,540	8290 18,280
3400 mm 11'2"	5.2 m³ 6.8 yd³	kg lb	15 470* 34,110	9360 20,640	—	—	—	—	8070* 17,790	7550 16,650

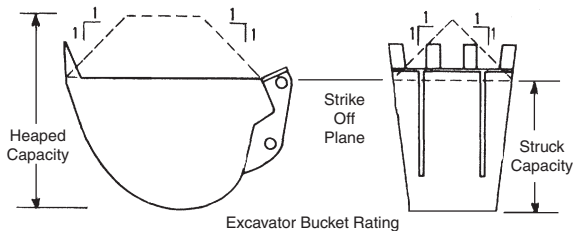
*Load limited by hydraulic capacity rather than tipping.

EXCAVATOR BUCKET CAPACITIES

Caterpillar rates excavator buckets to conform with both PCSA standard No. 3 and SAE standard J-296. Buckets are rated on both their struck and heaped capacities as follows:

Struck Capacity

Volume actually enclosed inside the outline of the sideplates and rear and front bucket enclosures without any consideration for any material supported or carried by the spillplate or bucket teeth.



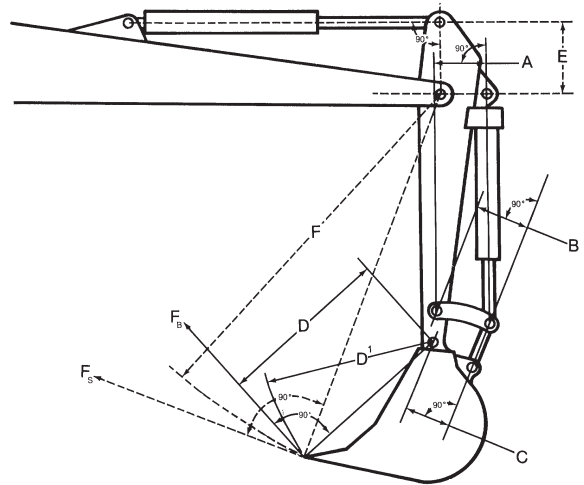
Heaped Capacity

Volume in the bucket under the strike off plane plus the volume of the heaped material above the strike off plane, having an angle of repose of 1:1 without any consideration for any material supported or carried by the spillplate or bucket teeth.

The Committee on European Construction Equipment (CECE) rates heaped bucket pay loads on a 2:1 angle of repose for material above the strike off plane.

CURL AND CROWD FORCES

Bucket penetration into a material is achieved by the bucket curling force (F_B) and stick crowd force (F_S). Rated digging forces are the digging forces that can be exerted at the outermost cutting point. These forces can be calculated by applying working relief hydraulic pressure to the cylinder(s) providing the digging force. The digging forces listed on next page conform with SAE Standard J1179 and PCSA Standard No. 3. The values may not be directly comparable to forces for machines rated by other methods than those described below.



$$F_B = \text{Radial tooth force due to bucket cylinder} \\ = \frac{\text{Bucket cylinder force}}{\text{Arm D length}} \left(\frac{\text{Arm A} \times \text{Arm C}}{\text{Arm B}} \right)$$

$$\text{Cylinder force} = (\text{Pressure}) \times (\text{End area of cylinder head}) \\ \text{Arm D} = \text{Bucket tip radius}$$

Maximum radial tooth force due to bucket cylinder (bucket curling force) is the digging force generated by the bucket cylinder(s) and tangent to the arc of radius D' . The bucket shall be positioned to obtain maximum output moment from the bucket cylinder(s) and connecting linkages. When calculating, maximum F_B occurs when the factor — Arm A times Arm C divided by Arm B — becomes the maximum.

$$F_S = \text{Radial tooth force due to stick cylinder} \\ = \frac{(\text{Stick cylinder force}) \times (\text{Arm E length})}{(\text{Arm F length})}$$

$$\text{Arm F} = \text{Bucket tip radius} + \text{stick length}$$

Maximum radial tooth force due to stick cylinder (stick crowd force) is the digging force generated by the stick cylinder(s) and tangent to the arc of radius F . The stick shall be positioned to obtain the maximum output moment from the arm cylinder and the bucket positioned as described in the bucket force rating. When calculating, maximum F_S occurs when the axis in the stick cylinder working direction is at a right angle to the line connecting the stick cylinder pin and the boom nose pin.

Bucket Selection Considering Bucket Curl and Stick Crowd Forces

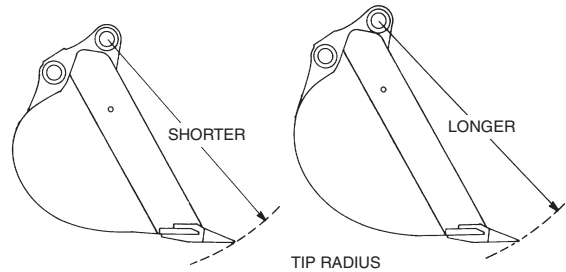
The combination of the excavator's stick crowd force and bucket curling force give this machine configuration more effective bucket penetration force per mm (inch) of bucket cutting edge than is available with other machine types such as wheel and track loaders.

As a result of high penetration force, an excavator bucket is comparatively easy to load. Also, the higher unit breakout forces allow the excavator's economic application range to be extended farther into the tougher soils (coral, caliche, shale, limestone) before blasting or ripping is required.

To take full advantage of an excavator's high penetration forces, buckets should be selected so they are well matched to soil conditions that are encountered. The two important things to consider are bucket width and bucket tip radius.

As a general rule, wide buckets are used in easily dug soil and narrow buckets in harder material. In hard rocky soils, tip radius also has to be considered in bucket selection. Because the shorter tip radius buckets provide more total bucket curling force than the long tip radius buckets, they are generally the easiest to load. A good rule of thumb when selecting a Cat bucket for hard material is to choose the narrowest bucket that has a short tip radius.

Other factors such as trench bottom width specifications, manbox size, or the desire to conserve bedding material may also influence excavator bucket selection.



NOTE: See the following pages for listing of Cat buckets by tip radius and cutting edge width.

Model	Source	Bucket Tip Radius		Bucket Curling Forces		Stick Crowd Forces						Extra Long	
						Short		Medium		Long			
		mm	ft	kN	lb	kN	lb	kN	lb	kN	lb	kN	lb
301.6C	U.K.	500	1'7"	15.4	3462	9.9	2226	—	—	8.8	1978	—	—
301.8C	U.K.	500	1'7"	15.4	3462	9.9	2226	—	—	8.8	1978	—	—
302.5C	U.K.	650	2'2"	25	5620	15.3	3440	—	—	13.1	2945	—	—
303C CR	Japan	737	2'4"	33	7419	18.9	4249	—	—	16.9	3799	—	—
303.5C CR	Japan	737	2'4"	37.8	8498	21.6	4856	—	—	19.5	4384	—	—
304C CR	Japan	813	2'7"	44.7	10,049	24.7	5553	—	—	21.3	4788	—	—
305C CR	Japan	813	2'7"	50.9	11,443	28.9	6497	—	—	24.8	5575	—	—
305.5	China	900	2'11"	38.6	8678	25.5	5733	—	—	—	—	—	—
307C	Japan	1070	3'6"	44	9830	—	—	35	7850	31	6900	—	—
307D	Japan	1070	3'6"	49.2	11,061	—	—	36.2	8138	—	—	—	—
308D CR	Japan	1014	3'3"	44	9830	—	—	39	8768	—	—	—	—
308D CR SB	Japan	1014	3'3"	60	13,489	—	—	39	8768	—	—	—	—
311D LRR	Japan	1220	4'0"	90	20,175	—	—	60	13,560	55	12,270	52	11,690
312D, 312D L	Japan	1220	4'0"	85	19,100	—	—	64	14,400	60	13,500	57	12,800
312D, 312D L	France	1000	3'3"	96	21,600	66	14,850	62	13,950	59	13,275	—	—
313C SR	Japan	1220	4'0"	88	19,780	—	—	63	14,160	—	—	—	—
313C CR	Japan	1220	4'0"	94	21,120	—	—	64	14,380	57	12,810	—	—
314D CR, 314D LCR	Japan	1220	4'0"	85	19,100	—	—	64	14,400	60	13,500	57	12,800

Japan Sourced 315D L

Boom		1-Piece Boom			
Stick		Short	Medium	Long	Extra Long
Bucket Tip Radius	mm ft	1350 4'5"	1350 4'5"	1350 4'5"	1350 4'5"
Bucket Curling Forces	kN lb	100 22,530	100 22,530	100 22,530	100 22,530
Stick Crowd Forces	kN lb	85 19,200	78 17,470	73 16,410	70 15,670

Japan/France Sourced 315D L (EAME)

Boom		1-Piece Boom			
Stick		Short	Medium	Long	Extra Long
Bucket Tip Radius	mm ft	1117 3'7"	1117 3'7"	1117 3'7"	1117 3'7"
Bucket Curling Forces	kN lb	102 22,930	90 20,230	82 18,430	74 16,630
Stick Crowd Forces	kN lb	98 22,030	80 17,980	69 15,510	62 13,930

France Sourced 319D L, 319D LN

Boom		1-Piece Boom			
Stick		Short	Medium	Long	Extra Long
Bucket Tip Radius	mm ft	1461 4'10"	1461 4'10"	1461 4'10"	1461 4'10"
Bucket Curling Forces	kN lb	148 33,300	146 32,850	124 27,900	126 28,350
Stick Crowd Forces	kN lb	125 28,125	108 24,300	92 20,700	83 18,675

M313D

Boom		1-Piece/VA Boom			
Stick		2300 mm7'5"		2600 mm8'6"	
Bucket Tip Radius	mm	1236		1236	
	ft	4'1"		4'1"	
Bucket Curling Forces	kN	93		93	
	lb	20,925		20,925	
Stick Crowd Forces	kN	67		62	
	lb	15,075		13,950	

M315D, M316D

Boom		1-Piece/VA Boom			
Stick		2400 mm7'10"		2600 mm8'6"	
Bucket Tip Radius	mm	1405		1405	
	ft	4'7"		4'7"	
Bucket Curling Forces	kN	101		101	
	lb	22,725		22,725	
Stick Crowd Forces	kN	74		71	
	lb	16,650		15,975	

M318D

Boom		1-Piece/VA Boom			
Stick		2500 mm8'2"		2800 mm9'2"	
Bucket Tip Radius	mm	1405		1405	
	ft	4'7"		4'7"	
Bucket Curling Forces	kN	126		126	
	lb	28,350		28,350	
Stick Crowd Forces	kN	91		85	
	lb	20,475		19,125	

M322D

Boom		1-Piece/VA Boom			
Stick		2500 mm8'2"		2900 mm9'6"	
Bucket Tip Radius	mm	1511		1511	
	ft	4'11"		4'11"	
Bucket Curling Forces	kN	140		140	
	lb	31,500		31,500	
Stick Crowd Forces	kN	114		104	
	lb	25,650		23,400	

Europe/Africa/Middle East Sourced
320D, 320D L

Boom		Reach Boom	
Stick		Medium (R2.5B)	Long (R2.9B)
Bucket Tip Radius	mm ft	1554 5'1"	1554 5'1"
Bucket Curling Forces	kN lb	141 31,725	141 31,725
Stick Crowd Forces	kN lb	118 26,650	106 23,850

Europe/Africa/Middle East Sourced
320D RR

Boom		Reach Boom	
Stick		Medium	Long
Bucket Tip Radius	mm ft	1554 5'1"	1554 5'1"
Bucket Curling Forces	kN lb	141 31,725	141 31,725
Stick Crowd Forces	kN lb	118 26,650	106 23,850

Excavators

- Curl and Crowd Forces
- 320D

● 320D L

● 320D RR

● 320D LRR

● 321D LCR

● SAE

Japan/China/Indonesia/Brazil Sourced 320D, 320D L per SAE

Boom		Reach Boom			Mass Boom
Stick		Medium (R2.5B)	Long (R2.9B)	Extra Long (R3.9B)	Medium
Bucket Tip Radius	mm	1477	1477	1477	1555
	ft	4'10"	4'10"	4'10"	4'11"
Bucket Curling Forces	kN	131	131	131	166
	lb	29,450	29,450	29,450	37,318
Stick Crowd Forces	kN	117	105	86	125
	lb	26,303	23,605	19,334	28,100

Japan Sourced 320D RR, 320D LRR per SAE

Boom		Reach Boom		
Stick		Medium	Long	Extra Long
Bucket Tip Radius	mm	1477	1477	1477
	ft	4'10"	4'10"	4'10"
Bucket Curling Forces	kN	131	131	131
	lb	29,450	29,450	29,450
Stick Crowd Forces	kN	117	105	86
	lb	26,303	23,605	19,334

Japan Sourced 321D LCR

Boom		Reach Boom	Reach Boom/VA Boom
Stick		Long	Long
Bucket Tip Radius	mm	1477	1554
	ft	4'10"	5'1"
Bucket Curling Forces	kN	131	141
	lb	29,450	31,725
Stick Crowd Forces	kN	105	106
	lb	23,605	26,650

Europe/Africa/ Middle East Sourced 321D LCR

**Belgium/Brazil/France Sourced
323D L**

Boom		Reach Boom		
Stick		R1.9CB	R2.5B1	R2.9B1
Bucket Tip Radius	mm ft	1610 5'3"	1554 5'1"	1554 5'1"
Bucket Curling Forces	kN lb	179 40,275	141 31,725	141 31,725
Stick Crowd Forces	kN lb	147 33,075	118 26,550	106 26,650
Boom		Mass Boom		
Stick		M2.4CB2		
Bucket Tip Radius	mm ft	1610 5'3"		
Bucket Curling Forces	kN lb	188 42,300		
Stick Crowd Forces	kN lb	130 29,250		
Boom		VA Boom		
Stick		R1.9CB	R2.5B1	R2.9B1
Bucket Tip Radius	mm ft	1610 5'3"	1554 5'1"	1554 5'1"
Bucket Curling Forces	kN lb	179 40,275	141 31,725	141 31,725
Stick Crowd Forces	kN lb	147 33,075	118 26,550	106 26,650

**China Sourced
323D L**

Boom		Reach Boom	
Stick		R2.5B1	R2.9B1
		B1360HD-CXL	
Bucket Tip Radius	mm ft	1579 5'2"	1579 5'2"
Bucket Curling Forces	kN lb	140.4/124.9 31,563/28,079	140.4/124.9 31,563/28,079
Stick Crowd Forces	kN lb	117.9/113.9 26,505/25,606	106.4/103.2 23,920/23,200
Boom		Mass Boom	
Stick		M2.4CB2	
Bucket Tip Radius	mm ft	1683 5'6"	
Bucket Curling Forces	kN lb	174.2/155.1 39,162/34,868	
Stick Crowd Forces	kN lb	126.4/121.7 28,416/27,359	

**Japan/U.S. Sourced
324D**

Boom		Reach Boom		
Stick		Medium	Long	Extra Long
Bucket Tip Radius	mm ft	1551 5'1"	1551 5'1"	1477 4'10"
Bucket Curling Forces	kN lb	186 41,814	186 41,814	172 38,667
Stick Crowd Forces	kN lb	148 33,272	127 28,551	113 25,471
Boom		Mass Boom		
Stick		Short	Medium	
Bucket Tip Radius	mm ft	1663 5'5"	1663 5'5"	
Bucket Curling Forces	kN lb	189 42,470	239 53,729	
Stick Crowd Forces	kN lb	151 33,930	147 33,047	

**Belgium Sourced
324D L, 324D LN, 324D L VA**

Boom		Reach Boom	
Stick		R2.5CB1	R2.95CB1
Bucket Tip Radius	mm ft	1610 5'3"	1610 5'3"
Bucket Curling Forces	kN lb	160 36,000	149 33,525
Stick Crowd Forces	kN lb	149 33,525	132 29,700
Boom		Mass Boom	
Stick		M2.0DB	M2.5DB
Bucket Tip Radius	mm ft	2000 6'7"	2500 8'2"
Bucket Curling Forces	kN lb	186 41,850	177 39,825
Stick Crowd Forces	kN lb	171 38,475	154 34,650
Boom		VA Boom	
Stick		M2.5CB1	M2.9CB1
Bucket Tip Radius	mm ft	2500 8'2"	2950 9'8"
Bucket Curling Forces	kN lb	160 36,000	149 33,525
Stick Crowd Forces	kN lb	149 33,525	132 29,700

**Japan/U.S. Sourced
328D LCR**

Boom		Reach Boom	
Stick		Short	Medium
Bucket Tip Radius	mm ft	1660 5'5"	1487 4'11"
Bucket Curling Forces	kN lb	201 45,187	200 44,962
Stick Crowd Forces	kN lb	152 34,171	133 29,900

**Japan/U.S. Sourced
329D**

Boom		Reach Boom			
Stick		Short	Medium	Long	Extra Long
Bucket Tip Radius	mm ft	1660 5'5"	1487 4'11"	1487 4'11"	1488 4'11"
Bucket Curling Forces	kN lb	201 45,187	200 44,962	201 45,187	160 36,000
Stick Crowd Forces	kN lb	152 34,171	133 29,900	120 26,977	124 27,900
Boom		Mass Boom			
Stick		Medium			
Bucket Tip Radius	mm ft	1660 5'5"			
Bucket Curling Forces	kN lb	239 53,729			
Stick Crowd Forces	kN lb	162 36,419			

**Belgium Sourced
329D**

Boom		Reach Boom		
Stick		R2.0DB	R2.6CB2	R3.2CB2
Bucket Tip Radius	mm ft	1764 5'9"	1610 5'3"	1610 5'3"
Bucket Curling Forces	kN lb	198 44,550	168 37,800	159 35,775
Stick Crowd Forces	kN lb	188 42,300	155 34,875	138 31,050
Boom		Mass Boom	VA Boom	
Stick		M2.5DB	M2.0DB	R3.2CB2
Bucket Tip Radius	mm ft	2500 8'2"	1764 5'9"	1610 5'3"
Bucket Curling Forces	kN lb	185 41,625	198 44,550	168 37,800
Stick Crowd Forces	kN lb	167 37,575	188 42,300	155 34,875

Japan/U.S. Sourced
336D

Boom		Reach Boom			
Stick		Short	Medium	Long	Extra Long
Bucket Tip Radius	mm ft	1845 6'0"	1660 5'5"	1660 5'5"	1660 5'5"
Bucket Curling Forces	kN lb	238 53,437	238 53,572	190 42,700	191 42,900
Stick Crowd Forces	kN lb	170 38,218	152 34,148	161 36,200	140 31,500
Boom		Mass Boom			
Stick		M2.6E			
Bucket Tip Radius	mm ft	1845 6'1"			
Bucket Curling Forces	kN lb	271 60,923			
Stick Crowd Forces	kN lb	195 43,883			

Belgium Sourced
336D L

Boom		Reach Boom			
Stick		R2.1TB	R2.8DB	R3.2DB	R3.9DB
Bucket Tip Radius	mm ft	1897 6'3"	1761 5'9"	1761 5'9"	1761 5'9"
Bucket Curling Forces	kN lb	249 56,025	204 45,900	194 43,650	184 41,400
Stick Crowd Forces	kN lb	235 52,875	194 43,650	177 39,825	158 35,550
Boom		Mass Boom			
Stick		M2.15TB		M2.6TB	
Bucket Tip Radius	mm ft	1897 6'3"		1897 6'3"	
Bucket Curling Forces	kN lb	249 56,025		233 52,425	
Stick Crowd Forces	kN lb	235 52,875		208 46,800	

Japan Sourced 345D per SAE

Boom		Reach Boom		
Stick		Short	Medium	Long
Bucket Tip Radius	mm ft	1725 5'8"	1725 5'8"	1725 5'8"
Bucket Curling Forces	kN lb	258 58,000	258 58,000	258 58,000
Stick Crowd Forces	kN lb	220 49,500	201 45,100	186 41,800
Boom		Mass Boom		
Stick		Short	Medium	
Bucket Tip Radius	mm ft	2050 6'9"	2050 6'9"	
Bucket Curling Forces	kN lb	203 45,680	203 45,680	
Stick Crowd Forces	kN lb	228 51,300	203 45,680	

Japan Sourced 345D

Boom		Reach Boom		
Stick		Short	Medium	Long
Bucket Tip Radius	mm ft	1820 6'0"	1820 6'0"	1820 6'0"
Bucket Curling Forces	kN lb	234 52,580	234 52,580	234 52,580
Stick Crowd Forces	kN lb	216 48,540	197 44,270	183 41,120
Boom		Mass Boom		
Stick		Medium	Long	
Bucket Tip Radius	mm ft	2020 6'8"	2020 6'8"	
Bucket Curling Forces	kN lb	263 59,100	263 59,100	
Stick Crowd Forces	kN lb	230 51,690	204 45,840	

Japan/U.S. Sourced

345D L – FIX

Boom		Long Reach Boom		
Stick		Long		Extra Long
Bucket Tip Radius	mm	1820		1820
	ft	6'0"		6'0"
Bucket Curling Forces	kN	234		235
	lb	52,580		52,810
Stick Crowd Forces	kN	183		170
	lb	41,120		38,200
Boom		Reach Boom		
Stick		Short	Medium	Long
Bucket Tip Radius	mm	1820	1820	1820
	ft	6'0"	6'0"	6'0"
Bucket Curling Forces	kN	234	234	234
	lb	52,580	52,580	52,580
Stick Crowd Forces	kN	216	197	183
	lb	48,540	44,270	41,120
Boom		Mass Boom		
Stick		Medium		Long
Bucket Tip Radius	mm	2020		2020
	ft	6'8"		6'8"
Bucket Curling Forces	kN	263		263
	lb	59,100		59,100
Stick Crowd Forces	kN	230		204
	lb	51,690		45,840

345D L – VG

Boom		Long Reach Boom		
Stick		Long		Extra Long
Bucket Tip Radius	mm	1820		1820
	ft	6'0"		6'0"
Bucket Curling Forces	kN	234		235
	lb	52,580		52,810
Stick Crowd Forces	kN	183		170
	lb	41,120		38,200
Boom		Reach Boom		
Stick		Short	Medium	Long
Bucket Tip Radius	mm	1820	1820	1820
	ft	6'0"	6'0"	6'0"
Bucket Curling Forces	kN	234	234	234
	lb	52,580	52,580	52,580
Stick Crowd Forces	kN	216	197	183
	lb	48,540	44,270	41,120
Boom		Mass Boom		
Stick		Medium		Long
Bucket Tip Radius	mm	2020		2020
	ft	6'8"		6'8"
Bucket Curling Forces	kN	263		263
	lb	59,100		59,100
Stick Crowd Forces	kN	230		204
	lb	51,690		45,840

Belgium Sourced 345D L per ISO

Boom		Reach Boom		Mass Boom	
Stick		R2.9TB	R3.35TB	M2.5UB	M3.0UB
Bucket Tip Radius	mm	1704	1704	1862	1862
	ft	5'7"	5'7"	6'1"	6'1"
Bucket Curling Forces	kN	249	239	275	261
	lb	56,030	53,780	61,875	58,725
Stick Crowd Force	kN	235	217	259	234
	lb	52,880	48,830	58,050	52,430

Belgium Sourced 365C L per ISO

Boom		7.80 m (25'7") Reach Boom			
Stick		R2.84VB	R3.6VB	R4.15VB	R4.67VB
Bucket Tip Radius	mm	1903	1862	1862	1862
	ft	6'2"	5'9"	5'9"	5'9"
Bucket Curling Forces	kN	295	284	271	264
	lb	66,380	63,900	60,980	59,400
Stick Crowd Forces	kN	287	265	243	229
	lb	64,580	59,630	54,680	51,530
Boom		6.6 m (21'8") Mass Boom		7 m (23'0") Mass Boom	
Stick		M2.57WB	M3.0WB	M2.57WB	M3.0WB
Bucket Radius at Cutting Edge	mm	2015	2015	2015	2015
	ft	6'6"	6'6"	6'6"	6'6"
Bucket Force	kN	332	321	332	321
	lb	74,700	72,230	74,700	72,230
Stick Force	kN	309	289	309	288
	lb	69,530	65,030	69,530	64,800

Belgium Sourced
385C/385C L per ISO

Boom		Reach Boom 10 m (32'10")		
Stick		R4.4HB		R5.5HB
Bucket Radius at Cutting Edge	mm ft	1959 6'5"		1959 6'5"
Bucket Digging Force	kN lb	335 75,380		316 71,100
Stick Digging Force	kN lb	293 65,930		256 57,600
Boom		General Purpose Boom 8.4 m (27'2")		
Stick		G3.4JB	G4.4HB	G5.5HB
Bucket Radius at Cutting Edge	mm ft	2175 7'2"	1959 6'5"	1959 6'5"
Bucket Digging Force	kN lb	384 86,400	334 75,150	315 70,880
Stick Digging Force	kN lb	342 76,950	293 65,930	257 57,830
Boom		Mass Boom 7.25 m (23'9")		
Stick		M2.92JB		M3.4JB
Bucket Radius at Cutting Edge	mm ft	2233 7'4"		2233 7'4"
Bucket Digging Force	kN lb	394 88,650		385 86,630
Stick Digging Force	kN lb	362 81,450		344 77,400

Caterpillar offers a very comprehensive list of high strength steel buckets. High strength steel allows thinner components which helps keep the weight down, maintains durability and improves loadability. The wrong bucket can reduce production 30-40% or more. Caterpillar's in-depth knowledge of machine design, bucket design and application experience

allows offering **machine matched** packages that optimize performance.

Additional buckets may be available and the listed buckets may not be available in all sales areas. Contact your Cat dealer for your specific bucket needs.

Model	Bucket Type	Teeth	Bucket Bite Width		Bucket Tip Radius		Heaped Capacity		Bucket Weight With Teeth	
			mm	in	mm	in	L	yd ³	kg	lb
301.6C, 301.8C	Digging	0	230	9.0	440	17.0	18	0.023	25	55
		3	230	9.0	500	20.0	18	0.023	29	64
		0	300	12.0	440	17.0	22	0.029	27	60
		3	300	12.0	500	20.0	22	0.029	31	68
		0	400	16.0	440	17.0	33	0.043	31	68
		3	400	16.0	500	20.0	33	0.043	35	77
		0	457	18.0	440	17.0	40	0.052	34	75
		3	457	18.0	500	20.0	40	0.052	38	84
		0	500	20.0	440	17.0	45	0.059	36	79
		4	500	20.0	500	20.0	45	0.059	41	90
		0	600	24.0	440	17.0	56	0.073	40	88
		4	600	24.0	500	20.0	56	0.073	45	99
	Ditching	0	800	32.0	353	14.0	44	0.057	41	90
		0	1000	40.0	353	14.0	56	0.073	43	95
302.5C	Digging	0	260	10.0	568	22.0	35	0.046	43	96
		3	260	10.0	640	26.0	35	0.046	48	105
		0	300	12.0	568	22.0	41	0.053	44	97
		3	300	12.0	640	26.0	41	0.053	51	112
		0	400	16.0	568	22.0	54	0.070	49	107
		3	400	16.0	640	26.0	54	0.070	55	121
		0	457	18.0	568	22.0	65	0.085	53	116
		3	457	18.0	650	26.0	65	0.085	59	130
		0	500	20.0	568	22.0	73	0.095	55	122
		4	500	20.0	640	26.0	73	0.095	64	140
		0	600	24.0	568	22.0	92	0.120	62	136
		4	600	24.0	640	26.0	92	0.120	70	155
		0	700	28.0	568	22.0	111	0.145	69	152
		4	700	28.0	640	26.0	111	0.145	77	170
	Ditching	0	800	32.0	482	19.0	80	0.105	82	178
		0	1000	40.0	482	19.0	102	0.133	78	172
		0	1200	48.0	482	19.0	116	0.217	88	193

Model	Bucket Type	Teeth	Bucket Bite Width		Bucket Tip Radius		Heaped Capacity		Bucket Weight With Teeth	
			mm	in	mm	in	L	yd³	kg	lb
303C CR, 303.5C CR	Digging	3	300	12.0	737	29.0	48	0.06	63	139
		3	400	16.0	737	29.0	69	0.09	72	158
		4	457	18.0	737	29.0	82	0.11	80	176
		5	500	20.0	737	29.0	94	0.12	88	193
		5	600	24.0	737	29.0	119	0.15	99	217
		5	750	30.0	737	29.0	157	0.20	115	253
304C CR, 305C CR	Digging	3	300	12.0	813	32.0	57	0.07	69	151
		3	400	16.0	813	32.0	75	0.10	77	169
		4	457	18.0	813	32.0	89	0.11	86	189
		5	500	20.0	813	32.0	103	0.13	94	207
		5	600	24.0	813	32.0	130	0.17	106	234
		5	750	30.0	813	32.0	172	0.23	125	274
		6	915	36.0	813	32.0	215	0.28	145	319
		3	300	12.0	880	34.6	81	0.11	82	179
		3	400	16.0	880	34.6	105	0.14	91	200
		4	457	18.0	880	34.6	124	0.16	100	220
		5	500	20.0	880	34.6	143	0.19	109	241
		5	600	24.0	880	34.6	182	0.24	123	271
		5	750	30.0	880	34.6	242	0.32	144	316
		6	915	36.0	880	34.6	301	0.39	166	366
307D, 308D CR, 308D CR SB	Heavy Duty	3	330	13.0	1014	40.0	99	0.13	125	276
		4	457	18.0	1014	40.0	153	0.20	151	333
		4	610	24.0	1014	40.0	229	0.30	178	392
		5	762	30.0	1014	40.0	306	0.40	207	455
		5	914	36.0	1014	40.0	390	0.51	230	507
	Heavy Duty Rock	4	610	24.0	1014	40.0	229	0.30	194	427
		5	762	30.0	1014	40.0	306	0.40	223	490
	Ditch Cleaning	0	1219	48.0	787	31.0	329	0.43	216	476
		0	1372	54.0	787	31.0	375	0.49	235	516
		0	1524	60.0	787	31.0	421	0.55	253	556
		0	1500	59.1	659	26.0	237	0.31	145	320
		0	1800	70.9	659	26.0	298	0.39	166	366

Model	Bucket Type	Available in:	Bucket Family	Bite Width Using Long Tips		Heaped Capacity		Tip Radius		G.E.T. Size	Tips	Bucket Weight w/o Tips	
				mm	in	m ³	yd ³	mm	in			kg	lb
M313D, M315D, M316D	General Purpose	NACD	N/A	617	24	0.35	0.45	1350	53	K80	3	389	858
		NACD	N/A	770	30	0.47	0.62	1350	53	K80	4	442	974
		NACD	N/A	922	36	0.61	0.80	1350	53	K80	5	496	1093
		NACD	N/A	1074	42	0.74	1.02	1350	53	K80	5	540	1190
		NACD	N/A	1219	48	0.88	1.15	1350	53	K80	6	593	1307
	General Purpose (wide tip included with bucket)	NACD	N/A	610	24	0.44	0.58	1481	58	K80	3	407	898
		NACD	N/A	762	30	0.58	0.76	1481	58	K80	4	460	1014
		NACD	N/A	914	36	0.76	0.99	1481	58	K80	5	524	1155
		NACD	N/A	1067	42	0.92	1.20	1481	58	K80	6	581	1282
		NACD	N/A	1220	48	1.07	1.40	1481	58	K80	7	636	1402
	Heavy Duty Rock	NACD	N/A	619	24	0.35	0.45	1361	54	K90	3	474	1046
		NACD	N/A	770	30	0.47	0.62	1361	54	K90	4	542	1194
		NACD	N/A	924	36	0.61	0.80	1361	54	K90	5	610	1344
		NACD	N/A	1076	42	0.74	1.02	1361	54	K90	5	666	1468
		NACD	N/A	1228	48	0.88	1.15	1361	54	K90	6	733	1617
	General Purpose — Pin Grabber Performance	NACD	N/A	601	24	0.33	0.43	1477	58	K80	3	413	911
		NACD	N/A	756	30	0.45	0.59	1477	58	K80	4	488	1076
		NACD	N/A	904	36	0.57	0.75	1477	58	K80	5	544	1199
		NACD	N/A	1058	42	0.70	0.92	1477	58	K80	5	594	1310
		NACD	N/A	1210	48	0.83	1.08	1477	58	K80	6	655	1443
	Heavy Duty Rock — Pin Grabber Performance	NACD	N/A	610	24	0.33	0.43	1489	59	K90	3	481	1061
		NACD	N/A	762	30	0.45	0.59	1489	59	K90	4	566	1248
		NACD	N/A	914	36	0.57	0.75	1489	59	K90	5	632	1394
		NACD	N/A	1067	42	0.70	0.92	1489	59	K90	5	691	1524
		NACD	N/A	1219	48	0.83	1.08	1489	59	K90	6	761	1677
	Ditch Cleaning	NACD	N/A	1524	60	0.80	1.23	1107	44	BOCE	BOCE	499	1100
		NACD	N/A	1829	72	1.15	1.50	1107	44	BOCE	BOCE	608	1340
	Ditch Cleaning — Tilt	NACD	N/A	1524	60	0.70	0.87	—	—	BOCE	BOCE	542	1195
M313D	Excavation	EAME	N/A	450	18	0.18	0.24	1245	49	J250	3	301	665
		EAME	N/A	500	20	0.21	0.27	1245	49	J250	3	310	685
		EAME	N/A	600	24	0.28	0.37	1245	49	J250	3	334	740
		EAME	N/A	750	30	0.38	0.50	1245	49	J250	4	349	770
		EAME	N/A	900	35	0.49	0.64	1245	49	J250	5	388	860
		EAME	N/A	1000	39	0.56	0.73	1245	49	J250	5	412	910
		EAME	N/A	1100	43	0.64	0.84	1245	49	J250	6	445	980
		EAME	N/A	1200	47	0.72	0.94	1245	49	J250	6	468	1032
	Extreme Excavation	EAME	N/A	450	18	0.18	0.24	1245	49	J250	3	304	670
		EAME	N/A	1200	47	0.72	0.94	1245	49	J250	6	478	1055

EAME — Europe, Africa and Middle East
NACD — North American Commercial Division
BOCE — Bolt-on Cutting Edge

Model	Bucket Type	Available in:	Bucket Family	Bite Width Using Long Tips		Heaped Capacity		Tip Radius		G.E.T. Size	Tips	Bucket Weight w/o Tips	
				mm	in	m ³	yd ³	mm	in			kg	lb
M315D, M316D	Excavation	EAME	N/A	450	18	0.24	0.31	1440	57	K80	3	395	875
		EAME	N/A	600	24	0.38	0.50	1440	57	K80	3	443	980
		EAME	N/A	750	30	0.52	0.68	1440	57	K80	3	479	1060
		EAME	N/A	900	35	0.65	0.85	1440	57	K80	4	536	1185
		EAME	N/A	1000	39	0.75	0.98	1440	57	K80	4	570	1260
		EAME	N/A	1100	43	0.84	1.10	1440	57	K80	4	601	1325
		EAME	N/A	1200	47	0.94	1.23	1440	57	K80	5	642	1420
		EAME	N/A	1300	51	1.03	1.35	1440	57	K80	5	673	1490
		EAME	N/A	1400	55	1.13	1.48	1440	57	K80	5	705	1560
	Extreme Excavation	EAME	N/A	1200	47	0.94	1.23	1440	57	K80	5	676	1490
		EAME	N/A	1300	51	1.03	1.35	1440	57	K80	5	709	1565
	Heavy Duty	NACD	B	616	24	0.44	0.57	1427	56	K90	3	595	1312
		NACD	B	757	30	0.58	0.76	1427	56	K90	4	664	1463
		NACD	B	924	36	0.77	1.00	1427	56	K90	5	739	1629
		NACD	B	1082	42	0.92	1.20	1427	56	K90	5	785	1730
		NACD	B	1230	48	1.07	1.40	1427	56	K90	6	850	1873
	Excavation	EAME	B	600	24	0.38	0.50	1447	57	K80	3	465	1025
		EAME	B	750	30	0.52	0.68	1447	57	K80	3	494	1090
		EAME	B	900	35	0.65	0.85	1447	57	K80	4	551	1220
		EAME	B	1000	39	0.75	0.98	1447	57	K80	4	585	1290
		EAME	B	1100	43	0.84	1.10	1447	57	K80	4	617	1360
		EAME	B	1200	47	0.94	1.23	1447	57	K80	5	657	1450
		EAME	B	1300	51	1.03	1.35	1447	57	K80	5	689	1520
		EAME	B	1400	55	1.13	1.48	1447	57	K80	5	723	1600
	Extreme Excavation	EAME	B	1200	47	0.94	1.23	1447	57	K80	5	691	1525
		EAME	B	1300	51	1.03	1.35	1447	57	K80	5	724	1600
		EAME	B	1400	55	1.13	1.48	1447	57	K80	5	757	1670
M322D	General Purpose	NACD	B	601	24	0.55	0.72	1565	62	K80	3	629	1387
		NACD	B	756	30	0.75	0.98	1565	62	K80	4	718	1583
		NACD	B	904	36	0.95	1.24	1565	62	K80	5	790	1742
		NACD	B	1058	42	1.16	1.52	1565	62	K80	5	853	1880
		NACD	B	1210	48	1.38	1.80	1565	62	K80	6	926	2042
		NACD	B	1362	54	1.59	2.08	1565	62	K80	7	1000	2204
	General Purpose (wide tip included with bucket)	NACD	B	604	24	0.55	0.72	1565	62	K80	3	640	1411
		NACD	B	759	30	0.75	0.98	1565	62	K80	4	735	1619
		NACD	B	907	36	0.95	1.24	1565	62	K80	5	812	1791
		NACD	B	1061	42	1.16	1.52	1565	62	K80	6	890	1961
		NACD	B	1213	48	1.38	1.80	1565	62	K80	7	969	2137
		NACD	B	1365	54	1.59	2.08	1565	62	K80	8	1049	2312

EAME — Europe, Africa and Middle East

NACD — North American Commercial Division

Model	Bucket Type	Available in:	Bucket Family	Bite Width Using Long Tips		Heaped Capacity		Tip Radius		G.E.T. Size	Tips	Bucket Weight w/o Tips	
				mm	in	m ³	yd ³	mm	in			kg	lb
M322D (cont'd)	Heavy Duty	NACD	B	615	24	0.47	0.61	1577	62	K90	3	650	1434
		NACD	B	770	30	0.64	0.84	1577	62	K90	4	743	1637
		NACD	B	918	36	0.82	1.07	1577	62	K90	5	813	1792
		NACD	B	1072	42	1.00	1.31	1577	62	K90	5	866	1910
		NACD	B	1224	48	1.19	1.55	1577	62	K90	6	956	2108
		NACD	B	1376	54	1.37	1.80	1577	62	K90	7	1010	2227
	Heavy Duty — Pin Grabber Performance	NACD	B	610	24	0.44	0.57	1671	66	K90	3	666	1469
		NACD	B	762	30	0.60	0.79	1671	66	K90	4	772	1702
		NACD	B	914	36	0.76	1.00	1671	66	K90	5	850	1874
		NACD	B	1067	42	0.93	1.22	1671	66	K90	5	914	2015
		NACD	B	1219	48	1.11	1.45	1671	66	K90	6	994	2191
		NACD	B	1372	54	1.28	1.67	1671	66	K90	7	1074	2367
		NACD	B	610	24	0.44	0.57	1671	66	K90	3	716	1578
		NACD	B	762	30	0.60	0.79	1671	66	K90	4	832	1833
		NACD	B	1067	42	0.93	1.22	1671	66	K90	5	994	2190
	Heavy Duty Rock	NACD	B	615	24	0.47	0.61	1577	62	K90	3	706	1556
		NACD	B	770	30	0.64	0.84	1577	62	K90	4	808	1781
		NACD	B	918	36	0.82	1.07	1577	62	K90	5	888	1960
		NACD	B	1072	42	1.00	1.31	1577	62	K90	5	951	2097
	Heavy Duty Power	NACD	B	918	36	0.79	1.03	1458	57	K90	5	811	1788
		NACD	B	1072	42	0.96	1.26	1458	57	K90	5	875	1930
		NACD	B	1224	48	1.14	1.49	1458	57	K90	6	954	2102
	Ditch Cleaning	NACD	B	1524	60	1.02	1.33	1139	45	BOCE	BOCE	726	1601
		NACD	B	1830	72	1.24	1.63	1139	45	BOCE	BOCE	823	1815
	Ditch Cleaning — Tilt	NACD	B	1524	60	0.86	1.12	—	—	BOCE	BOCE	1032	2275
		NACD	B	1829	72	0.96	1.25	—	—	BOCE	BOCE	1104	2433
	Excavation	EAME	B	450	18	0.28	0.37	1537	60	K80	3	498	1098
		EAME	B	600	24	0.44	0.58	1537	60	K80	3	585	1290
		EAME	B	750	30	0.59	0.77	1537	60	K80	3	577	1275
		EAME	B	1000	39	0.86	1.12	1537	60	K80	4	677	1495
		EAME	B	1200	47	1.08	1.41	1537	60	K80	5	757	1670
		EAME	B	1250	49	1.13	1.48	1537	60	K80	5	774	1710
		EAME	B	1300	51	1.19	1.56	1537	60	K80	5	792	1450
		EAME	B	1400	55	1.30	1.70	1537	60	K80	5	827	1825
		EAME	B	1500	59	1.41	1.84	1537	60	K80	5	862	1905
	Extreme Excavation	EAME	B	600	24	0.44	0.58	1547	61	K90	3	569	1260
		EAME	B	750	30	0.59	0.77	1547	61	K90	3	600	1325
		EAME	B	1250	49	1.13	1.48	1547	61	K90	4	801	1770
		EAME	B	1300	51	1.19	1.56	1547	61	K90	5	831	1835
		EAME	B	1400	55	1.30	1.70	1547	61	K90	5	868	1815

EAME — Europe, Africa and Middle East
NACD — North American Commercial Division
BOCE — Bolt-on Cutting Edge

Model	Bucket Type	Available in:	Bucket Family	Bite Width Using Long Tips		Heaped Capacity		Tip Radius		G.E.T. Size	Tips	Bucket Weight w/o Tips	
				mm	in	m ³	yd ³	mm	in			kg	lb
311D LRR, 312D, 314D CR	General Purpose	NACD	312	458	18	0.25	0.33	1220	48	J250	3	267	589
		NACD	312	610	24	0.29	0.39	1220	48	J250	4	303	667
		NACD	312	760	30	0.38	0.53	1220	48	J250	5	344	758
		NACD	312	915	36	0.52	0.68	1220	48	J250	6	386	850
		NACD	312	1067	42	0.63	0.82	1220	48	J250	7	427	942
		NACD	312	1218	48	0.74	0.97	1220	48	J250	7	464	1024
	General Purpose (wide tip included with bucket)	NACD	312	458	18	0.27	0.35	1407	55	J250	4	308	678
		NACD	312	610	24	0.41	0.54	1407	55	J250	5	354	780
		NACD	312	762	30	0.55	0.72	1407	55	J250	6	400	882
		NACD	312	915	36	0.71	0.92	1407	55	J250	7	428	944
		NACD	312	1067	42	0.86	1.12	1407	55	J250	8	471	1039
		NACD	312	1220	48	1.00	1.33	1407	55	J250	9	569	1252
	Heavy Duty Rock	NACD	312	610	24	0.29	0.39	1220	48	J300	3	346	763
		NACD	312	760	30	0.38	0.53	1220	48	J300	4	396	872
		NACD	312	915	36	0.52	0.68	1220	48	J300	5	447	985
		NACD	312	1067	42	0.63	0.82	1220	48	J300	5	489	1079
	Ditch Cleaning	NACD	312	1230	48	0.57	0.75	925	36	BOCE	BOCE	376	829
		NACD	312	1524	60	0.73	0.95	1016	40	BOCE	BOCE	454	1000
	Ditch Cleaning — Tilt	NACD	312	1524	60	0.57	0.75	—	—	—	—	706	320
	Excavation	EAME	312	450	18	0.18	0.24	1235	49	J250	3	276	610
		EAME	312	500	20	0.21	0.27	1235	49	J250	3	289	640
		EAME	312	600	24	0.28	0.37	1235	49	J250	3	316	700
		EAME	312	750	30	0.38	0.50	1235	49	J250	4	336	745
		EAME	312	900	35	0.49	0.64	1235	49	J250	5	375	830
		EAME	312	1000	39	0.56	0.73	1235	49	J250	5	397	880
		EAME	312	1100	43	0.64	0.84	1235	49	J250	6	430	950
		EAME	312	1200	47	0.72	0.94	1235	49	J250	6	453	1000
		CJL/APD	312	564	22	0.32	0.42	1220	48	J250	3	308	681
		CJL/APD	312	664	26	0.38	0.50	1220	48	J250	4	326	720
		CJL/APD	312	785	30	0.45	0.59	1220	48	J250	5	352	776
		CJL/APD	312	880	34	0.52	0.68	1220	48	J250	5	374	825
		CJL/APD	312	964	37	0.57	0.75	1220	48	J250	5	392	864
		CJL/APD	312	1056	41	0.63	0.82	1220	48	J250	5	415	916
	Extreme Excavation	EAME	312	500	20	0.21	0.27	1235	49	J250	3	292	645
		EAME	312	600	24	0.28	0.37	1235	49	J250	3	320	710
		EAME	312	1200	47	0.72	0.94	1235	49	J250	6	463	1025

EAME — Europe, Africa and Middle East

NACD — North American Commercial Division

CJL — Caterpillar Japan Limited

APD — Asia Pacific Division

BOCE — Bolt-on Cutting Edge

Model	Bucket Type	Available in:	Bucket Family	Bite Width Using Long Tips		Heaped Capacity		Tip Radius		G.E.T. Size	Tips	Bucket Weight w/o Tips	
				mm	in	m ³	yd ³	mm	in			kg	lb
315D L	General Purpose	NACD	315	617	24	0.35	0.45	1350	53	K80	3	389	858
		NACD	315	770	30	0.47	0.62	1350	53	K80	4	442	974
		NACD	315	922	36	0.61	0.80	1350	53	K80	5	496	1093
		NACD	315	1074	42	0.74	1.02	1350	53	K80	5	540	1190
		NACD	315	1219	48	0.88	1.15	1350	53	K80	6	593	1307
	General Purpose (wide tip included with bucket)	NACD	315	610	24	0.44	0.58	1481	58	K80	3	407	898
		NACD	315	762	30	0.58	0.76	1481	58	K80	4	460	1014
		NACD	315	914	36	0.76	0.99	1481	58	K80	5	524	1155
		NACD	315	1067	42	0.92	1.20	1481	58	K80	6	581	1282
		NACD	315	1220	48	1.07	1.40	1481	58	K80	7	636	1402
	Heavy Duty Rock	NACD	315	619	24	0.35	0.45	1361	54	K90	3	474	1046
		NACD	315	770	30	0.47	0.62	1361	54	K90	4	542	1194
		NACD	315	924	36	0.61	0.80	1361	54	K90	5	610	1344
		NACD	315	1076	42	0.74	1.02	1361	54	K90	5	666	1468
		NACD	315	1228	48	0.88	1.15	1361	54	K90	6	733	1617
	General Purpose — Pin Grabber Performance	NACD	315	601	24	0.33	0.43	1477	58	K80	3	413	911
		NACD	315	756	30	0.45	0.59	1477	58	K80	4	488	1076
		NACD	315	904	36	0.57	0.75	1477	58	K80	5	544	1199
		NACD	315	1058	42	0.70	0.92	1477	58	K80	5	594	1310
		NACD	315	1210	48	0.83	1.08	1477	58	K80	6	655	1443
	Heavy Duty Rock — Pin Grabber Performance	NACD	315	610	24	0.33	0.43	1489	59	K90	3	481	1061
		NACD	315	762	30	0.45	0.59	1489	59	K90	4	566	1248
		NACD	315	914	36	0.57	0.75	1489	59	K90	5	632	1394
		NACD	315	1067	42	0.70	0.92	1489	59	K90	5	691	1524
		NACD	315	1219	48	0.83	1.08	1489	59	K90	6	761	1677
	Ditch Cleaning	NACD	315	1524	60	0.80	1.23	1107	44	BOCE	BOCE	499	1100
		NACD	315	1829	72	1.15	1.50	1107	44	BOCE	BOCE	608	1340
	Ditch Cleaning — Tilt	NACD	315	1524	60	0.70	0.87	—	—	BOCE	BOCE	542	1195
	Excavation	EAME	315	600	24	0.38	0.50	1414	56	K80	3	450	995
		EAME	315	750	30	0.52	0.68	1414	56	K80	3	489	1080
		EAME	315	900	35	0.65	0.85	1414	56	K80	4	546	1205
		EAME	315	1000	39	0.75	0.98	1414	56	K80	4	580	1280
		EAME	315	1100	43	0.84	1.10	1414	56	K80	4	612	1350
		EAME	315	1200	47	0.94	1.23	1414	56	K80	5	652	1440
		EAME	315	1300	51	1.03	1.35	1414	56	K80	5	684	1510
		EAME	315	1400	55	1.13	1.48	1414	56	K80	5	715	1580
		CJL/APD	315	960	37	0.65	0.85	1352	53	J300	5	485	1069
		CJL/APD	315	1115	43	0.80	1.00	1352	53	J300	6	543	1197
	Extreme Excavation	EAME	315	1200	47	0.94	1.23	1414	56	K80	5	686	1515
		EAME	315	1300	51	1.03	1.35	1414	56	K80	5	719	1590

EAME — Europe, Africa and Middle East
 NACD — North American Commercial Division
 CJL — Caterpillar Japan Limited
 APD — Asia Pacific Division
 BOCE — Bolt-on Cutting Edge

Model	Bucket Type	Available in:	Bucket Family	Bite Width Using Long Tips		Heaped Capacity		Tip Radius		G.E.T. Size	Tips	Bucket Weight w/o Tips	
				mm	in	m ³	yd ³	mm	in			kg	lb
319D	Heavy Duty	NACD	B	616	24	0.44	0.57	1427	56	K90	3	595	1312
		NACD	B	757	30	0.58	0.76	1427	56	K90	4	664	1463
		NACD	B	924	36	0.77	1.00	1427	56	K90	5	739	1629
		NACD	B	1082	42	0.92	1.20	1427	56	K90	5	785	1730
		NACD	B	1230	48	1.07	1.40	1427	56	K90	6	850	1873
	Excavation	EAME	B	600	24	0.38	0.50	1447	57	K80	3	465	1025
		EAME	B	750	30	0.52	0.68	1447	57	K80	3	494	1090
		EAME	B	900	35	0.65	0.85	1447	57	K80	4	551	1220
		EAME	B	1000	39	0.75	0.98	1447	57	K80	4	585	1290
		EAME	B	1100	43	0.84	1.10	1447	57	K80	4	617	1360
		EAME	B	1200	47	0.94	1.23	1447	57	K80	5	657	1450
		EAME	B	1300	51	1.03	1.35	1447	57	K80	5	689	1520
		EAME	B	1400	55	1.13	1.48	1447	57	K80	5	723	1600
	Extreme Excavation	EAME	B	1200	47	0.94	1.23	1447	57	K80	5	691	1525
		EAME	B	1300	51	1.03	1.35	1447	57	K80	5	724	1600
		EAME	B	1400	55	1.13	1.48	1447	57	K80	5	757	1670
320D, 324D, 329D	General Purpose	NACD	A	915	36	0.52	0.68	1220	48	J250	6	386	850
	Ditch Cleaning	NACD	A	1142	45	0.60	0.78	1085	43	—	—	291	642
		NACD	A	1219	48	0.57	0.75	1013	40	—	—	454	1001
320D, 320D RR, 321D LCR, 324D	General Purpose	NACD	B	601	24	0.55	0.72	1565	62	K80	3	629	1387
		NACD	B	756	30	0.75	0.98	1565	62	K80	4	718	1583
		NACD	B	904	36	0.95	1.24	1565	62	K80	5	790	1742
		NACD	B	1058	42	1.16	1.52	1565	62	K80	5	853	1880
		NACD	B	1210	48	1.38	1.80	1565	62	K80	6	926	2042
		NACD	B	1362	54	1.59	2.08	1565	62	K80	7	1000	2204
	General Purpose (wide tip included with bucket)	NACD	B	604	24	0.55	0.72	1565	62	K80	3	640	1411
		NACD	B	759	30	0.75	0.98	1565	62	K80	4	735	1619
		NACD	B	907	36	0.95	1.24	1565	62	K80	5	812	1791
		NACD	B	1061	42	1.16	1.52	1565	62	K80	6	890	1961
		NACD	B	1365	54	1.59	2.08	1565	62	K80	8	1049	2312
	Heavy Duty	NACD	B	615	24	0.47	0.61	1577	62	K90	3	650	1434
		NACD	B	770	30	0.64	0.84	1577	62	K90	4	743	1637
		NACD	B	918	36	0.82	1.07	1577	62	K90	5	813	1792
		NACD	B	1072	42	1.00	1.31	1577	62	K90	5	866	1910
		NACD	B	1224	48	1.19	1.55	1577	62	K90	6	956	2108
		NACD	B	1376	54	1.37	1.80	1577	62	K90	7	1010	2227

EAME — Europe, Africa and Middle East

NACD — North American Commercial Division

Model	Bucket Type	Available in:	Bucket Family	Bite Width Using Long Tips		Heaped Capacity		Tip Radius		G.E.T. Size	Tips	Bucket Weight w/o Tips	
				mm	in	m ³	yd ³	mm	in			kg	lb
320D, 320D RR, 321D LCR, 324D (cont'd)	Heavy Duty — Pin Grabber Performance	NACD	B	610	24	0.44	0.57	1671	66	K90	3	666	1469
		NACD	B	762	30	0.60	0.79	1671	66	K90	4	772	1702
		NACD	B	914	36	0.76	1.00	1671	66	K90	5	850	1874
		NACD	B	1067	42	0.93	1.22	1671	66	K90	5	914	2015
		NACD	B	1219	48	1.11	1.45	1671	66	K90	6	994	2191
		NACD	B	1372	54	1.28	1.67	1671	66	K90	7	1074	2367
		NACD	B	610	24	0.44	0.57	1671	66	K90	3	716	1578
		NACD	B	762	30	0.60	0.79	1671	66	K90	4	832	1833
		NACD	B	1067	42	0.93	1.22	1671	66	K90	5	994	2190
	Heavy Duty Power	NACD	B	918	36	0.79	1.03	1458	57	K90	5	811	1788
		NACD	B	1072	42	0.96	1.26	1458	57	K90	5	875	1930
		NACD	B	1224	48	1.14	1.49	1458	57	K90	6	954	2102
	Ditch Cleaning	NACD	B	1524	60	1.02	1.33	1139	45	BOCE	BOCE	726	1601
		NACD	B	1830	72	1.24	1.63	1139	45	BOCE	BOCE	823	1815
	Ditch Cleaning — Tilt	NACD	B	1524	60	0.86	1.12	—	—	BOCE	BOCE	1032	2275
		NACD	B	1829	72	0.96	1.25	—	—	BOCE	BOCE	1104	2433
	Excavation	APD	B	972	38	0.80	1.05	1477	58	K80	5	610	1340
		APD	B	1092	43	0.90	1.18	1477	58	K80	5	647	1430
		APD	B	1150	45	1.00	1.31	1477	58	K80	6	666	1470
		APD	B	1320	52	1.10	1.44	1477	58	K90	5	873	1920
		EAME	B	450	18	0.28	0.37	1537	60	K80	3	498	1098
		EAME	B	600	24	0.44	0.58	1537	60	K80	3	585	1290
		EAME	B	750	30	0.59	0.77	1537	60	K80	3	577	1275
		EAME	B	1000	39	0.86	1.12	1537	60	K80	4	677	1495
		EAME	B	1200	47	1.08	1.41	1537	60	K80	5	757	1670
		EAME	B	1250	49	1.13	1.48	1537	60	K80	5	774	1710
		EAME	B	1300	51	1.19	1.56	1537	60	K80	5	792	1450
		EAME	B	1400	55	1.30	1.70	1537	60	K80	5	827	1825
		EAME	B	1500	59	1.41	1.84	1537	60	K80	5	862	1905
		CJL/APD	B	972	38	0.80	1.00	1490	59	J300	5	589	1299
		CJL/APD	B	1092	42	0.90	1.20	1490	59	J300	5	625	1379
		CJL/APD	B	1152	45	1.00	1.30	1490	59	J300	6	651	1436
		CJL/APD	B	1252	49	0.90	1.20	1423	56	J300	6	675	1488
		CJL/APD	B	1362	53	1.00	1.30	1423	56	J300	6	700	1544
	Extreme Excavation	EAME	B	600	24	0.44	0.58	1547	61	K90	3	569	1260
		EAME	B	750	30	0.59	0.77	1547	61	K90	3	600	1325
		EAME	B	1250	49	1.13	1.48	1547	61	K90	4	801	1770
		EAME	B	1300	51	1.19	1.56	1547	61	K90	5	831	1835
		EAME	B	1400	55	1.30	1.70	1547	61	K90	5	868	1815
	Excavation for Demolition	CJL/APD	B	986	38	0.80	1.00	1494	59	J350	5	706	1557
		CJL/APD	B	1106	43	0.90	1.20	1544	61	J350	5	761	1678
	Heavy Duty	APD	B	980	39	0.80	1.05	1555	61	K90	6	702	1550
		APD	B	1100	43	0.90	1.18	1555	61	K90	6	767	1690

EAME — Europe, Africa and Middle East

NACD — North American Commercial Division

CJL — Caterpillar Japan Limited

APD — Asia Pacific Division

BOCE — Bolt-on Cutting Edge

Model	Bucket Type	Available in:	Bucket Family	Bite Width Using Long Tips		Heaped Capacity		Tip Radius		G.E.T. Size	Tips	Bucket Weight w/o Tips	
				mm	in	m ³	yd ³	mm	in			kg	lb
320D-MX, 324D, 329D	General Purpose	NACD	CB	762	30	0.86	1.13	1656	65	K90	4	809	1784
		NACD	CB	914	36	1.09	1.43	1656	65	K90	5	903	1991
		NACD	CB	1067	42	1.34	1.75	1656	65	K90	5	976	2153
		NACD	CB	1219	48	1.58	2.07	1656	65	K90	6	1063	2344
		NACD	CB	1372	54	1.83	2.40	1656	65	K90	7	1150	2537
	General Purpose (wide tip included with bucket)	NACD	CB	610	24	0.63	0.83	1656	65	K90	3	755	1665
		NACD	CB	762	30	0.86	1.13	1656	65	K90	4	843	1859
		NACD	CB	914	36	1.09	1.43	1656	65	K90	5	946	2086
		NACD	CB	1067	42	1.34	1.75	1656	65	K90	5	1019	2247
		NACD	CB	1219	48	1.59	2.07	1656	65	K90	6	1115	2458
		NACD	CB	1372	54	1.83	2.40	1656	65	K90	7	1210	2668
	Heavy Duty	NACD	CB	610	24	0.53	0.70	1686	66	K100	3	780	1718
		NACD	CB	762	30	0.73	0.95	1686	66	K100	3	857	1886
		NACD	CB	914	36	0.93	1.22	1686	66	K100	4	943	2076
		NACD	CB	1067	42	1.14	1.49	1686	66	K100	5	1025	2255
		NACD	CB	1219	48	1.35	1.77	1686	66	K100	5	1095	2409
		NACD	CB	1372	54	1.57	2.05	1686	66	K100	6	1181	2599
		NACD	CB	1524	60	1.78	2.33	1686	66	K100	7	1267	2788
		NACD	CB	1676	66	1.99	2.61	1686	66	K100	7	1340	2947
	Heavy Duty Rock	NACD	CB	762	30	0.73	0.95	1686	66	K100	3	2936	2060
		NACD	CB	914	36	0.93	1.22	1686	66	K100	4	1035	2280
		NACD	CB	1067	42	1.14	1.49	1686	66	K100	5	1126	2480
		NACD	CB	1219	48	1.35	1.77	1686	66	K100	5	1211	2670
	Heavy Duty — Pin Grabber Performance	NACD	CB	762	30	0.70	0.91	1835	72	K100	3	851	1876
		NACD	CB	1219	48	1.28	1.68	1835	72	K100	5	1134	2499
		NACD	CB	1372	54	1.49	1.94	1835	72	K100	6	1227	2704
		NACD	CB	1524	60	1.69	2.21	1835	72	K100	7	1320	2910
	Heavy Duty Rock — Pin Grabber Performance	NACD	CB	610	24	0.51	0.66	1835	72	K100	3	812	1789
		NACD	CB	914	36	0.88	1.16	1835	72	K100	4	1042	2296
		NACD	CB	1067	42	1.08	1.42	1835	72	K100	5	1139	2511
		NACD	CB	1219	48	1.28	1.68	1835	72	K100	5	1228	2708
		NACD	CB	1372	54	1.49	1.94	1835	72	K100	6	1330	2933
	Heavy Duty Power	NACD	CB	1067	42	1.12	1.47	1592	63	K100	5	1013	2233
		NACD	CB	1219	48	1.33	1.73	1592	63	K100	5	1089	2402
		NACD	CB	1372	54	1.53	2.01	1592	63	K100	6	1180	2602
	Ditch Cleaning	NACD	CB	1524	60	1.25	1.63	1262	50	BOCE	BOCE	793	1627
		NACD	CB	1830	72	1.53	2.00	1262	50	BOCE	BOCE	897	1973
	Ditch Cleaning — Tilt	NACD	CB	1829	72	1.14	1.50	—	—	BOCE	BOCE	1531	3374

NACD — North American Commercial Division

BOCE — Bolt-on Cutting Edge

Model	Bucket Type	Available in:	Bucket Family	Bite Width Using Long Tips		Heaped Capacity		Tip Radius		G.E.T. Size	Tips	Bucket Weight w/o Tips	
				mm	in	m ³	yd ³	mm	in			kg	lb
320D-MX, 324D, 329D (cont'd)	Excavation	APD	CB	1420	56	1.20	1.57	1477	58	K90	5	912	2010
		EAME	CB	600	24	0.49	0.64	1603	63	K90	3	644	1420
		EAME	CB	750	30	0.67	0.88	1603	63	K90	3	678	1495
		EAME	CB	1250	49	1.29	1.69	1603	63	K90	4	903	1995
		EAME	CB	1300	51	1.35	1.77	1603	63	K90	5	935	2065
		EAME	CB	1350	53	1.42	1.86	1603	63	K90	5	956	2110
		EAME	CB	1400	55	1.48	1.94	1603	63	K90	5	977	2155
		EAME	CB	1500	59	1.61	2.11	1603	63	K90	5	1019	2250
		EAME	CB	1600	63	1.74	2.28	1603	63	K90	5	1061	2340
		CJL/APD	CB	1375	54	1.10	1.40	1488	59	J350	6	824	1818
		CJL/APD	CB	1470	57	1.20	1.60	1488	59	J350	6	860	1896
	Extreme Excavation	EAME	CB	750	30	0.67	0.88	1629	64	K100	3	704	1555
		EAME	CB	1150	45	1.16	1.52	1629	64	K100	4	898	1980
		EAME	CB	1350	53	1.42	1.86	1629	64	K100	4	987	2180
		EAME	CB	1450	57	1.55	2.03	1629	64	K100	5	1044	2305
		EAME	CB	1500	59	1.61	2.11	1629	64	K100	5	1067	2355
		EAME	CB	1600	63	1.74	2.28	1629	64	K100	5	1111	2450
	Rock	EAME	CB	1350	53	1.45	1.90	1629	64	K100	4	1067	2367
324D-MX, 329D-MX, 336D	General Purpose	NACD	DB	762	30	0.94	1.23	1753	69	K100	3	957	2111
		NACD	DB	914	36	1.19	1.56	1753	69	K100	4	1040	2293
		NACD	DB	1067	42	1.46	1.91	1753	69	K100	5	1141	2516
		NACD	DB	1219	48	1.73	2.26	1753	69	K100	5	1228	2709
		NACD	DB	1372	54	2.00	2.62	1753	69	K100	6	1330	2933
		NACD	DB	1524	60	2.27	2.98	1753	69	K100	7	1432	3157
		NACD	DB	1676	66	2.55	3.33	1753	69	K100	7	1519	3350
	General Purpose (wide tip included with bucket)	NACD	DB	813	32	1.18	1.54	1942	76	K100	3	1071	2361
		NACD	DB	965	38	1.49	1.95	1942	76	K100	4	1169	2579
		NACD	DB	1118	44	1.46	1.91	1753	69	K100	5	1193	2630
		NACD	DB	1270	50	1.72	2.26	1753	69	K100	5	1280	2823
		NACD	DB	1422	56	2.00	2.62	1753	69	K100	6	1393	3072
		NACD	DB	1575	62	2.27	2.98	1753	69	K100	7	1506	3322
	Heavy Duty	NACD	DB	762	30	0.74	0.96	1779	70	K110	3	1034	2275
		NACD	DB	914	36	0.95	1.25	1779	70	K110	4	1169	2572
		NACD	DB	1067	42	1.18	1.54	1779	70	K110	4	1263	2779
		NACD	DB	1220	48	1.41	1.84	1779	70	K110	5	1382	3041
		NACD	DB	1372	54	1.64	2.14	1779	70	K110	5	1480	3256
		NACD	DB	1524	60	1.87	2.45	1779	70	K110	6	1601	3522
		NACD	DB	1676	66	2.10	2.75	1779	70	K110	7	1722	3788
		NACD	DB	1829	72	2.34	3.06	1779	70	K110	7	1821	4006

EAME — Europe, Africa and Middle East

NACD — North American Commercial Division

CJL — Caterpillar Japan Limited

APD — Asia Pacific Division

Model	Bucket Type	Available in:	Bucket Family	Bite Width Using Long Tips		Heaped Capacity		Tip Radius		G.E.T. Size	Tips	Bucket Weight w/o Tips	
				mm	in	m ³	yd ³	mm	in			kg	lb
324D-MX, 329D-MX, 336D (cont'd)	Heavy Duty Rock	NACD	DB	762	30	0.74	0.96	1779	70	K110	3	1095	2409
		NACD	DB	914	36	0.95	1.25	1779	70	K110	4	1245	2739
		NACD	DB	1067	42	1.18	1.54	1779	70	K110	4	1352	2975
		NACD	DB	1220	48	1.41	1.84	1779	70	K110	5	1488	3274
		NACD	DB	1373	54	1.64	2.14	1779	70	K110	5	1600	3522
	Heavy Duty Power	NACD	DB	914	36	0.95	1.24	1682	66	K110	4	1145	2524
		NACD	DB	1219	48	1.40	1.83	1682	66	K110	5	1361	3002
		NACD	DB	1372	54	1.63	2.13	1682	66	K110	5	1458	3215
		NACD	DB	1524	60	1.86	2.43	1682	66	K110	6	1578	3481
	Heavy Duty — Pin Grabber Performance	NACD	DB	762	30	0.68	0.88	1900	75	K110	3	1012	2232
		NACD	DB	914	36	0.87	1.14	1900	75	K110	4	1175	2590
		NACD	DB	1067	42	1.08	1.42	1900	75	K110	4	1279	2820
		NACD	DB	1219	48	1.29	1.69	1900	75	K110	5	1398	3082
		NACD	DB	1372	54	1.50	1.97	1900	75	K110	5	1501	3309
		NACD	DB	1524	60	1.72	2.25	1900	75	K110	6	1627	3586
		NACD	DB	1676	66	1.93	2.52	1900	75	K110	7	1752	3862
	Heavy Duty Rock — Pin Grabber Performance	NACD	DB	762	30	0.68	0.88	1900	75	K110	3	1092	2407
		NACD	DB	914	36	0.87	1.14	1900	75	K110	4	1267	2793
		NACD	DB	1067	42	1.08	1.42	1900	75	K110	4	1384	3050
		NACD	DB	1219	48	1.29	1.69	1900	75	K110	5	1516	3342
		NACD	DB	1372	54	1.50	1.97	1900	75	K110	5	1631	3596
		NACD	DB	1524	60	1.72	2.25	1900	75	K110	6	1769	3900
		NACD	DB	1676	66	1.93	2.52	1900	75	K110	7	1908	4206
	Ditch Cleaning	NACD	DB	1524	60	1.63	2.13	1524	60	BOCE	BOCE	1088	2394
		NACD	DB	1829	72	1.91	2.50	1410	56	BOCE	BOCE	1216	2677
	Excavation	EAME	DB	1000	39	1.11	1.45	1752	69	K100	4	1111	2450
		EAME	DB	1350	53	1.62	2.12	1752	69	K100	4	1320	2915
		EAME	DB	1500	59	1.84	2.41	1752	69	K100	5	1420	3135
		EAME	DB	1600	63	1.99	2.60	1752	69	K100	5	1477	3260
		EAME	DB	1650	65	2.07	2.71	1752	69	K100	5	1506	3325
		EAME	DB	1700	67	2.14	2.80	1752	69	K100	5	1535	3385
		EAME	DB	1800	71	2.29	3.00	1752	69	K100	5	1593	3515
	Extreme Excavation	EAME	DB	750	30	0.76	0.99	1783	70	K110	3	1064	2350
		EAME	DB	1350	53	1.62	2.12	1783	70	K110	4	1433	3160
		EAME	DB	1500	59	1.84	2.41	1783	70	K110	4	1527	3370
		EAME	DB	1600	63	1.99	2.60	1783	70	K110	5	1614	3560
		EAME	DB	1650	65	2.07	2.71	1783	70	K110	5	1645	3630
		EAME	DB	1700	67	2.14	2.80	1783	70	K110	5	1677	3700
		EAME	DB	1900	75	2.44	3.19	1783	70	K110	5	1803	3980
	Rock	EAME	DB	1000	39	1.11	1.45	1783	70	K110	3	1247	2750
		EAME	DB	1400	55	1.74	2.28	1847	73	K110	4	1584	3495
		EAME	DB	1650	65	2.07	2.71	1847	73	K110	5	1787	3940

EAME — Europe, Africa and Middle East

NACD — North American Commercial Division

BOCE — Bolt-on Cutting Edge

Model	Bucket Type	Available in:	Bucket Family	Bite Width Using Long Tips		Heaped Capacity		Tip Radius		G.E.T. Size	Tips	Bucket Weight w/o Tips	
				mm	in	m ³	yd ³	mm	in			kg	lb
336D-MX, 345D	General Purpose	NACD	TB	762	30	1.01	1.32	1871	74	K110	3	1270	2799
		NACD	TB	914	36	1.22	1.60	1871	74	K110	4	1490	3285
		NACD	TB	1067	42	1.51	1.98	1871	74	K110	4	1582	3488
		NACD	TB	1219	48	1.80	2.36	1871	74	K110	5	1728	3809
		NACD	TB	1372	54	2.09	2.74	1871	74	K110	5	1850	4078
		NACD	TB	1524	60	2.39	3.13	1871	74	K110	6	1930	4255
		NACD	TB	1727	68	2.78	3.64	1871	74	K110	7	2149	4738
		NACD	TB	1880	74	3.08	4.04	1871	74	K110	7	2308	5088
	General Purpose (wide tip included with bucket)	NACD	TB	914	36	1.35	1.77	1871	74	K110	4	1504	3315
		NACD	TB	1067	42	1.63	2.13	1871	74	K110	4	1617	3563
		NACD	TB	1219	48	1.92	2.51	1871	74	K110	5	1762	3885
		NACD	TB	1372	54	2.22	2.90	1871	74	K110	6	1910	4211
		NACD	TB	1524	60	2.52	3.29	1871	74	K110	6	2032	4480
		NACD	TB	1676	66	2.29	3.68	1871	74	K110	7	2178	4801
		NACD	TB	1829	72	3.11	4.07	1871	74	K110	7	2302	5075
		NACD	TB	1981	78	3.41	4.46	1871	74	K110	8	2448	5397
	Heavy Duty	NACD	TB	914	36	1.06	1.38	1871	74	K110	4	1549	3414
		NACD	TB	1067	42	1.30	1.71	1871	74	K110	4	1664	3668
		NACD	TB	1219	48	1.56	2.04	1871	74	K110	5	1806	3981
		NACD	TB	1373	54	1.81	2.37	1871	74	K110	5	1931	4257
		NACD	TB	1524	60	2.07	2.71	1871	74	K110	6	2080	4584
		NACD	TB	1727	68	2.40	3.14	1871	74	K110	7	2242	4946
		NACD	TB	1880	74	2.68	3.50	1871	74	K110	7	2397	5283
	Heavy Duty Rock	NACD	TB	762	30	0.87	1.14	1871	74	K110	3	1410	3107
		NACD	TB	914	36	1.06	1.38	1871	74	K110	4	1644	3624
		NACD	TB	1067	42	1.31	1.71	1871	74	K110	4	1769	3899
		NACD	TB	1219	48	1.56	2.04	1871	74	K110	5	1923	4238
		NACD	TB	1373	54	1.81	2.37	1871	74	K110	5	2061	4542
		NACD	TB	1524	60	2.07	2.71	1871	74	K110	6	2221	4896
		NACD	TB	1727	68	2.40	3.14	1871	74	K110	7	2370	5225
		NACD	TB	1880	74	2.68	3.50	1871	74	K110	7	2567	5658
	Heavy Duty — Pin Grabber Performance	NACD	TB	914	36	1.02	1.33	2053	81	K110	4	1424	3139
		NACD	TB	1067	42	1.25	1.64	2053	81	K110	4	1624	3581
		NACD	TB	1219	48	1.49	1.95	2053	81	K110	5	1776	3916
		NACD	TB	1372	54	1.74	2.27	2053	81	K110	5	1911	4214
		NACD	TB	1524	60	1.98	2.59	2053	81	K110	6	2069	4561
		NACD	TB	1676	66	2.23	2.91	2053	81	K110	7	2226	4909
		NACD	TB	1880	74	2.56	3.34	2053	81	K110	7	2407	5307
	Heavy Duty Rock — Pin Grabber Performance	NACD	TB	762	30	0.87	1.14	1871	74	K110	3	1410	3107
		NACD	TB	914	36	1.06	1.38	1871	74	K110	4	1644	3624
		NACD	TB	1067	42	1.31	1.71	1871	74	K110	4	1769	3899
		NACD	TB	1219	48	1.56	2.04	1871	74	K110	5	1923	4238
	Heavy Duty Power	NACD	TB	1372	54	1.73	2.27	1725	68	K130	4	1894	4175
	Rock Ripping	NACD	TB	965	38	0.90	1.25	1782	70	J550	5	2070	4553

NACD — North American Commercial Division

Model	Bucket Type	Available in:	Bucket Family	Bite Width Using Long Tips		Heaped Capacity		Tip Radius		G.E.T. Size	Tips	Bucket Weight w/o Tips	
				mm	in	m ³	yd ³	mm	in			kg	lb
336D-MX	Excavation	EAME	TB	1500	59	1.93	2.52	1852	73	K110	4	1641	3620
		EAME	TB	1700	67	2.24	2.93	1852	73	K110	5	1825	4025
		EAME	TB	1800	71	2.40	3.14	1852	73	K110	5	1891	4170
		EAME	TB	1700	67	2.24	2.93	1852	73	K110	5	1855	4090
	Rock	EAME	TB	1500	59	1.93	2.52	1878	74	K110	4	1823	4020
		EAME	TB	1800	71	2.40	3.14	1878	74	K110	5	2078	4585
345D	Excavation	CJL/APD	TB	1390	55	1.60	2.09	1220	48	J460	4	1563	3450
		CJL/APD	TB	1590	63	1.90	2.49	1220	48	J460	5	1724	3800
		CJL/APD	TB	1650	65	2.00	2.62	1220	48	J460	5	1706	3760
		CJL/APD	TB	1780	70	2.20	2.88	1220	48	J460	6	1774	3910
		CJL/APD	TB	1560	61	1.90	2.49	1860	73	J550	5	2184	4810
		CJL/APD	TB	1610	63	1.90	2.49	1860	73	J550	5	2120	4670
		CJL/APD	TB	1620	64	2.00	2.62	1860	73	J550	5	2236	4930
		CJL/APD	TB	1670	66	2.00	2.62	1860	73	J550	5	2164	4770
		CJL/APD	TB	1680	66	2.10	2.75	1860	73	J550	5	2288	5040
		CJL/APD	TB	1730	68	2.10	2.75	1860	73	J550	5	2220	4890
		EAME	TB	1500	59	2.20	2.88	1890	74	K110	4	2189	4830
	Extreme Excavation	EAME	TB	1380	54	2.00	2.62	1890	74	K110	4	2100	4635
		EAME	TB	1500	59	2.20	2.88	1890	74	K110	4	2200	4855
		EAME	TB	1600	63	2.40	3.14	1890	74	K110	5	2368	5225
		EAME	TB	1650	65	2.56	3.35	1890	74	K110	5	2414	5325
		EAME	TB	1750	69	2.80	3.66	1890	74	K110	5	2502	5520
	Rock	EAME	TB	1380	54	2.00	2.62	1958	77	K110	4	2311	5100
		EAME	TB	1500	59	2.20	2.88	1958	77	K110	4	2435	5370
		EAME	TB	1550	61	2.80	3.66	1958	77	K130	4	3004	6625
345D-MX	Excavation	EAME	UB	1500	59	2.80	3.66	2032	80	K110	4	2450	5405
		EAME	UB	1700	67	3.20	4.19	2032	80	K110	5	2641	5825
		EAME	UB	1900	75	3.60	4.71	2032	80	K110	5	2821	6220
		CJL/APD	UB	1560	61	2.10	2.75	1960	77	J550	5	2029	4470
		CJL/APD	UB	1610	63	2.20	2.88	1960	77	J550	5	2064	4550
		CJL/APD	UB	1730	68	2.40	3.14	1960	77	J550	5	2153	4750
	Extreme Excavation	EAME	UB	1550	61	2.80	3.66	2076	82	K130	4	2777	6135
		EAME	UB	1750	69	3.20	4.19	2076	82	K130	4	2975	6560
		EAME	UB	1850	73	3.40	4.45	2076	82	K130	5	3113	6865
	Rock	EAME	UB	1450	57	2.60	3.40	2133	84	K130	4	2925	6450
		EAME	UB	1550	61	2.80	3.66	2133	84	K130	4	3000	6615
		EAME	UB	1700	67	3.20	4.19	2133	84	K130	4	3208	7075
		EAME	UB	1800	71	3.40	4.45	2133	84	K130	5	3367	7425

EAME — Europe, Africa and Middle East

CJL — Caterpillar Japan Limited

APD — Asia Pacific Division

Model	Bucket Type	Available in:	Bucket Family	Bite Width Using Long Tips		Heaped Capacity		Tip Radius		G.E.T. Size	Tips	Bucket Weight w/o Tips	
				mm	in	m ³	yd ³	mm	in			kg	lb
345D-MX (cont'd)	Heavy Duty Rock	EAME	UB	1450	57	2.60	3.40	2133	84	K130	4	3256	7180
		EAME	UB	1550	61	2.80	3.66	2133	84	K130	4	3400	7500
	General Purpose	NACD	UB	1981	78	3.47	4.54	2047	81	K130	6	2762	6077
	Heavy Duty	NACD	UB	1981	78	3.11	4.07	1880	74	K130	6	2675	5885
	Heavy Duty Rock — Spade	NACD	UB	1981	60	2.42	3.16	2093	82	K130	4	2569	5664
		NACD	UB	1981	76	3.11	4.07	2147	85	K130	6	3050	6724
	Mass Excavation	CJL/APD	UB	1830	72	2.60	3.40	1960	77	J550	5	2226	4910
365C Series II	General Purpose	CJL/APD	UB	1540	61	2.10	2.75	1960	77	J550	5	2453	5410
		CJL/APD	UB	1640	65	2.20	2.88	1960	77	J550	5	2431	5360
		CJL/APD	UB	1710	67	2.40	3.14	1960	77	J550	5	2655	5850
	Heavy Duty	NACD	VB	998	39	1.55	2.02	2154	85	K130	3	1857	4093
		NACD	VB	1524	60	2.76	3.61	2154	85	K130	5	2554	5628
		NACD	VB	1972	78	3.82	4.99	2154	85	K130	6	2917	6429
		NACD	VB	1972	78	3.28	4.29	2061	81	K130	6	2823	6221
	Heavy Duty Rock	NACD	VB	998	39	1.34	1.75	2061	81	K130	3	1879	4142
		NACD	VB	1524	60	2.37	3.10	2061	81	K130	5	2465	5432
		NACD	VB	1972	78	3.28	4.29	2061	81	K130	6	2942	6484
	Heavy Duty Rock Ripping	NACD	VB	1190	47	1.38	1.80	1833	72	J550	5	2778	6125
	Excavation	EAME	VB	1950	77	3.60	4.71	2075	82	K130	4	3377	7450
	Extreme Excavation	EAME	VB	1500	59	2.60	3.40	2075	82	K130	3	2930	6465
		EAME	VB	1950	77	3.60	4.71	2133	84	K130	4	3466	7645
		CJL/APD	VB	1679	66	2.50	3.20	2057	81	J550	5	2346	5174
		CJL/APD	VB	1887	74	2.90	3.70	2057	81	J550	5	2577	5683
		CJL/APD	VB	1530	60	2.30	3.00	2057	81	J550N	5	2290	5050
		CJL/APD	VB	1630	64	2.50	3.20	2057	81	J550N	5	2365	5215
		CJL/APD	VB	1734	68	2.70	3.50	2057	81	J550N	5	2459	5423
		CJL/APD	VB	1744	68	2.70	3.50	2057	81	J550N	5	2731	6022
		CJL/APD	VB	1838	72	2.90	3.70	2057	81	J550N	5	2596	5725
		CJL/APD	VB	1848	72	2.90	3.70	2057	81	J550N	5	2884	6360
	Rock	EAME	VB	1500	59	2.60	3.40	2133	84	K130	4	3164	6980
		EAME	VB	1750	69	3.20	4.19	2133	84	K130	4	3476	7665

EAME — Europe, Africa and Middle East
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CJL — Caterpillar Japan Limited
APD — Asia Pacific Division

Model	Bucket Type	Available in:	Bucket Family	Bite Width Using Long Tips		Heaped Capacity		Tip Radius		G.E.T. Size	Tips	Bucket Weight w/o Tips	
				mm	in	m ³	yd ³	mm	in			kg	lb
365C Series II-MX	General Purpose	NACD	WB	2100	83	4.60	6.02	2199	87	K150	4	3949	8687
	Heavy Duty	NACD	WB	2000	79	4.20	5.49	2199	87	K150	4	3935	8657
	Heavy Duty Rock	NACD	WB	2000	79	4.40	5.75	2280	90	K150	4	4545	10,044
	Excavation	EAME	WB	1900	75	4.00	5.23	2199	87	K150	4	3720	8205
		EAME	WB	2100	83	4.60	6.02	2199	87	K150	4	3950	8710
		EAME	WB	2300	91	5.00	6.54	2199	87	K150	5	4230	9330
	Extreme Excavation	EAME	WB	1900	75	4.00	5.23	2199	87	K150	4	3818	8420
		EAME	WB	2000	79	4.20	5.49	2199	87	K150	4	3935	8680
		EAME	WB	2200	87	4.80	6.28	2199	87	K150	4	4177	9210
		CJL/APD	WB	1930	75	3.20	4.10	2098	83	J600N	5	3030	6681
		CJL/APD	WB	2090	82	3.50	4.60	2098	83	J600N	5	3245	7155
	Rock	EAME	WB	1700	67	3.60	4.71	2258	89	K150	4	4121	9090
		EAME	WB	1800	71	3.80	4.97	2258	89	K150	4	4260	9395
		EAME	WB	1900	75	4.00	5.23	2258	89	K150	4	4400	9705
		EAME	WB	2000	79	4.40	5.76	2258	89	K150	4	4542	10,015
		EAME	WB	2100	83	4.60	6.02	2258	89	K150	4	4685	10,330
		EAME	WB	2200	87	4.80	6.28	2258	89	K150	4	4825	10,640
	Heavy Duty Rock	EAME	WB	1900	75	4.00	5.23	2258	89	K150	4	5057	11,150
		EAME	WB	2000	79	4.40	5.76	2258	89	K150	4	5230	11,535
		EAME	WB	2100	83	4.60	6.02	2258	89	K150	4	5388	11,880
		EAME	WB	2200	87	4.80	6.28	2258	89	K150	4	5482	12,090
	V-Type Excavation	CJL/APD	WB	2280	89	3.50	4.60	2098	83	J600	6	3760	8290
	VXN	CJL/APD	WB	2045	80	3.20	4.10	2101	83	J600N	4	3513	7746
		CJL/APD	WB	2280	89	3.50	4.60	2098	83	J600N	6	3777	8328
385C	General Purpose	NACD	HB	1067	42	2.05	2.69	2418	95	K150	3	2361	5205
		NACD	HB	1372	54	2.90	3.80	2418	95	K150	4	2781	6131
		NACD	HB	1677	66	3.78	4.94	2418	95	K150	4	3111	6859
		NACD	HB	1981	78	4.66	6.10	2418	95	K150	5	3507	7732
	Heavy Duty Rock	NACD	HB	1067	42	2.05	2.69	2310	91	K150	3	2667	5879
		NACD	HB	1372	54	2.63	3.45	2310	91	K150	4	3135	6911
		NACD	HB	1677	66	3.35	4.38	2310	91	K150	4	3484	7681
		NACD	HB	1981	78	4.22	5.52	2310	91	K150	5	3939	8684
	Heavy Duty Rock Ripping	NACD	HB	1194	47	1.53	2.00	2051	81	J600	5	3162	6972
	Excavation	EAME	HB	1150	45	2.00	2.62	2199	87	K150	3	2800	6175
		EAME	HB	1350	53	2.60	3.40	2199	87	K150	3	3030	6685
		EAME	HB	1750	69	3.50	4.58	2199	87	K150	4	3555	7840
		EAME	HB	1900	75	4.00	5.23	2199	87	K150	4	3728	8220
		EAME	HB	2100	83	4.60	6.02	2199	87	K150	4	3958	8730
	Extreme Excavation	EAME	HB	2100	83	4.60	6.02	2199	87	K150	4	4066	8970
		CJL/APD	HB	2132	83	3.50	4.50	2145	84	J600	5	3046	6716
		CJL/APD	HB	2075	81	3.50	4.50	2145	84	J600N	5	3154	6954
		CJL/APD	HB	2090	82	3.50	4.50	2145	84	J600N	5	3548	7823

EAME — Europe, Africa and Middle East

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Model	Bucket Type	Available in:	Bucket Family	Bite Width Using Long Tips		Heaped Capacity		Tip Radius		G.E.T. Size	Tips	Bucket Weight w/o Tips	
				mm	in	m ³	yd ³	mm	in			kg	lb
385C-MX	General Purpose	NACD	JB	2310	91	5.54	7.25	2385	94	K170	6	5740	12,652
		NACD	JB	2440	96	5.92	7.75	2385	94	K170	6	5858	12,912
	Heavy Duty Rock	NACD	JB	2310	91	4.58	6.00	2286	90	K170	6	5322	11,733
	Heavy Duty Rock — Spade	NACD	JB	2310	91	4.77	6.25	2410	95	K170	5	5208	11,481
	Heavy Duty Rock Ripping	NACD	JB	1194	47	1.68	2.20	2051	81	J600	5	3578	7900
	Excavation	EAME	JB	2250	89	5.80	7.59	2431	96	K170	4	5350	11,800
	Extreme Excavation	EAME	JB	1600	63	3.80	4.97	2431	96	K170	3	4390	9680
		EAME	JB	2150	85	5.50	7.19	2431	96	K170	4	5310	11,710
		EAME	JB	2250	89	5.80	7.59	2431	96	K170	4	5480	1210
		CJL/APD	JB	1940	76	3.50	4.50	2235	88	J600	5	3701	8160
		CJL/APD	JB	2342	92	4.30	5.60	2235	88	J600	5	3662	8074
	Rock	EAME	JB	1900	75	4.80	6.28	2466	97	K170	4	5250	11,580
		EAME	JB	2000	79	5.20	6.80	2466	97	K170	4	5372	11,845
		EAME	JB	2150	85	5.60	7.32	2466	97	K150	5	5578	12,300
		EAME	JB	2250	89	6.00	7.85	2466	97	K150	5	5858	12,920
	Heavy Duty Rock	EAME	JB	1900	75	4.80	6.28	2466	97	K170	4	5912	13,040
		EAME	JB	2000	79	5.20	6.80	2466	97	K170	4	6100	13,455
		EAME	JB	2150	85	5.60	7.32	2466	97	K170	4	6365	14,035
	Mass Excavation	CJL/APD	JB	2591	102	5.80	7.50	2235	88	J600	7	5002	11,028
	Extreme Service Mass Excavation	CJL/APD	JB	2209	86	4.70	6.10	2235	88	J600	6	3955	8720
	V-Type Excavation	CJL/APD	JB	2180	85	3.90	5.10	2271	89	J600	6	4107	9055
		CJL/APD	JB	2420	95	4.30	5.60	2271	89	J600	6	4371	9637
		CJL/APD	JB	2180	85	3.90	5.10	2271	89	J600N	6	4058	8947
		CJL/APD	JB	2420	95	4.30	5.60	2271	89	J600N	6	4430	9767

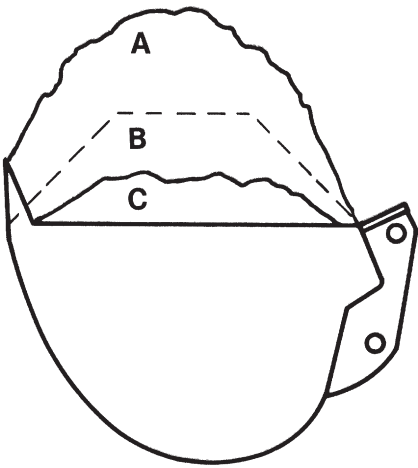
EAME — Europe, Africa and Middle East
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BUCKET PAYLOAD

An excavator’s bucket payload (actual amount of material in the bucket on each digging cycle) is dependent on bucket size, shape, curl force, and certain soil characteristics, i.e., the fill factor for that soil. Fill factors for several types of material are listed below.

Average Bucket Payload =
(Heaped Bucket Capacity) × (Bucket Fill Factor)

Material	Fill Factor Range (Percent of heaped bucket capacity)
Moist Loam or Sandy Clay	A — 100-110%
Sand and Gravel	B — 95-110%
Hard, Tough Clay	C — 80-90%
Rock — Well Blasted	60-75%
Rock — Poorly Blasted	40-50%



Working Weights — Bucket & Payload

The following tables give maximum “bucket plus payload” weights to assist in selecting the correct bucket for a specific application. These weights are based on actual job conditions. In better than average conditions the excavator may be able to achieve rated lift capacities listed in this section.

NOTE: Bucket sizes are suitable for a maximum material density of 1800 kg/m³ (3035 lb/yd³). Payloads shown are calculated at 1500 kg/m³ (2530 lb/yd³).

Model	Boom	Stick Length		Working Weights† Buckets & Payload	
		m	ft	kg	lb
301.6C/ 301.8C	Swing	0.89	2'11"	234	516
		1.09	3'6"	210	463
302.5C	Swing	1.11	3'7"	—	—
		1.40	4'4"	—	—
303C CR	Swing	1.26	4'2"	274	604
		1.56	5'1"	225	496
303.5C CR	Swing	1.32	4'4"	274	604
		1.62	5'4"	225	496
304C CR	Swing	1.38	4'6"	513	1130
		1.78	5'10"	464	1020
305C CR	Swing	1.43	4'8"	513	1130
		1.83	6'0"	464	1020
307C	Fixed	1.67	5'6"	1153	2540
		2.21	7'3"	946	2090
307D	Fixed	1.67	5'6"	1153	2540
		2.21	7'3"	946	2090
308D CR	Swing	1.67	5'6"	1100	2430
		2.21	7'3"	899	1980
308D CR SB	Swing	1.67	5'6"	1100	2430
		2.21	7'3"	899	1980
311D LRR	Reach	2.25	7'5"	1537	3390
		2.60	8'6"	1295	2850
		2.80	9'2"	1295	2850
312D	Reach	2.10	6'11"	1720	3790
		2.50	8'2"	1592	3510
		2.80	9'2"	1402	3090
		3.00	9'10"	1402	3090
312D L	Reach	2.10	6'11"	1764	3890
		2.50	8'2"	1633	3600
		2.80	9'2"	1439	3170
		3.00	9'10"	1439	3170
313C SR	Parallel Offset	2.13	7'0"	2060	4540
		2.13	7'0"	1537	3390
313C CR	Reach	2.50	8'2"	1240	2730
		3.00	9'10"	1075	2370

†Working weights may vary depending on machine configuration and geographic location. Contact your Cat dealer for specific information.

Model	Boom	Stick Length		Working Weights† Buckets & Payload	
		m	ft	kg	lb
314D CR		2.50	8'2"	1538	3390
		2.80	9'2"	1351	2980
		3.00	9'10"	1351	2980
314D LCR	Reach	2.50	8'2"	1560	3440
		2.80	9'2"	1372	3020
		3.00	9'10"	1372	3020
315D L	Reach	1.85	6'1"	2141	4720
		2.25	7'5"	2018	4450
		2.60	8'6"	1862	4110
		2.90	9'6"	1719	3790
		3.10	10'2"	1719	3790
319D L		1.80	5'11"	3158	6963
		2.25	7'5"	2883	6357
		2.70	8'10"	2649	5841
		3.20	10'6"	2309	5091
319D LN		1.80	5'11"	2759	6084
		2.25	7'5"	2522	5561
		2.70	8'10"	2317	5109
		3.20	10'6"	2010	4432
320D	Reach	1.90	6'3"	2450	5390
		2.50	8'2"	2560	5632
		2.90	9'7"	2460	5412
		3.90	12'10"	2020	4444
	Mass	2.40	7'10"	2730	6006
320D L	Reach	1.90	6'3"	2850	6270
		2.50	8'2"	2900	6380
		2.90	9'7"	2750	6050
		3.90	12'10"	2320	5104
	Mass	2.40	7'10"	3170	6974
320D RR	Reach	2.50	8'2"	2700	5940
		2.90	9'7"	2600	5720
		3.90	12'10"	2200	4840
320D LRR	Reach	2.50	8'2"	3100	6820
		2.90	9'7"	2900	6380
		3.90	12'10"	2400	5280
321D LCR	Reach	2.90	9'6"	2830	6250

†Working weights may vary depending on machine configuration and geographic location. Contact your Cat dealer for specific information.

Model	Boom	Stick Length m ft		Working Weights† Buckets & Payload kg lb	
323D L	Reach	1.90	6'3"	3606	7951
		2.50	8'2"	3344	7374
		2.90	9'6"	3096	6827
	Mass	2.40	7'10"	4152	9155
	VA	1.90	6'3"	3106	6849
		2.50	8'2"	2910	6417
2.90		9'6"	2695	5942	
323D LN	Reach	1.90	6'3"	3005	6626
		2.50	8'2"	2815	6207
		2.90	9'6"	2745	6053
	VA	1.90	6'3"	2531	5581
		2.50	8'2"	2406	5305
		2.90	9'6"	2218	4891
323D L China	Reach	2.9 HD	9'6"	23 100/ 25 510	50,926/ 56,240
		2.5 HD	8'2"	23 070/ 25 490	50,860/ 56,195
	Mass	M2.4	7'9"	23 170/ 25 600	51,081/ 56,438
	324D Belgium	Reach	2.50	8'2"	2910
2.95			9'8"	2690	5930
3.60			11'10"	2320	5120
Mass		2.00	6'7"	3390	7480
		2.50	8'2"	3030	6680
324D L Belgium	Reach	2.50	8'2"	3410	7520
		2.95	9'8"	3160	6970
		3.60	11'10"	2760	6090
	Mass	2.00	6'7"	4010	8840
		2.50	8'2"	3630	8010
	VA	2.00	6'7"	3750	8270
	2.50	8'2"	3390	7470	
324D LN Belgium	Reach	2.00	6'7"	3240	7140
		2.50	8'2"	3150	6940
		2.95	9'8"	2910	6420
		3.60	11'10"	2710	5970
	Mass	2.00	6'7"	3850	8490
		2.50	8'2"	3430	7560
	VA	2.00	6'7"	3260	7190
		2.50	8'2"	2950	6500

†Working weights may vary depending on machine configuration and geographic location. Contact your Cat dealer for specific information.

NOTE: Maximum load (payload plus bucket) without quick coupler.

Model	Boom	Stick Length m ft		Working Weights† Buckets & Payload kg lb	
329D L Belgium	Reach	2.00	6'7"	3450	7610
		2.65	8'8"	3140	6930
		3.20	10'6"	2840	6270
	Mass	2.00	6'7"	4090	9020
		2.50	8'2"	3650	8050
	VA	2.00	6'7"	3430	7560
	2.50	8'2"	3130	6900	
	3.20	10'6"	2820	6220	
329D L Belgium	Reach	2.00	6'7"	4060	8950
		2.65	8'8"	3680	8120
		3.20	10'6"	3360	7410
	Mass	2.00	6'7"	4810	10,610
		2.50	8'2"	4290	9460
	VA	2.00	6'7"	4090	9020
	2.50	8'2"	3740	8250	
	3.20	10'6"	3360	7410	
329D L	Reach	2.00	6'7"	3450	7610
		2.65	8'8"	3140	6930
		3.20	10'6"	2840	6270
	Mass	2.00	6'7"	4090	9020
		2.50	8'2"	3650	8050
	VA	2.00	6'7"	3430	7560
	2.50	8'2"	3130	6900	
	3.20	10'6"	2820	6220	
329D LN Belgium	Reach	2.00	6'7"	3530	7790
		2.65	8'8"	3210	7080
		3.20	10'6"	2910	6420
	Mass	2.00	6'7"	4180	9220
		2.50	8'2"	3730	8230
	VA	2.00	6'7"	3490	7690
	2.50	8'2"	3190	7030	
	3.20	10'6"	2870	6330	

†Working weights may vary depending on machine configuration and geographic location. Contact your Cat dealer for specific information.

Model	Boom	Stick Length		Working Weights† Buckets & Payload	
		m	ft	kg	lb
336D Belgium	Reach	2.15	7'1"	4500	9920
		2.80	9'2"	4000	8820
		3.30	10'10"	3690	8140
		3.90	12'10"	3250	7170
	Mass	2.15	7'1"	5030	11,090
		2.55	8'4"	4440	9790
336D L Belgium	Reach	2.15	7'1"	4700	10,360
		2.80	9'2"	4160	9170
		3.30	10'10"	3830	8440
		3.90	12'10"	3240	7540
	Mass	2.15	7'1"	5210	11,490
		2.55	8'4"	4640	10,230
336D L	Reach	2.15	7'1"	4700	10,360
		2.80	9'2"	4160	9170
		3.30	10'10"	3830	8440
		3.90	12'10"	3240	7540
	Mass	2.15	7'1"	5210	11,490
		2.55	8'4"	4640	10,230
336D LN Belgium	Reach	2.15	7'1"	4150	9150
		2.80	9'2"	3700	8160
		3.30	10'10"	3410	7520
		3.90	12'10"	3000	6610
	Mass	2.15	7'1"	4660	10,270
		2.55	8'4"	4100	9040
		3.50	11'6"	3530	7780
345B Series II – ES	Reach	2.90	9'6"	8417	18,560
		3.40	11'2"	7886	17,390
	Mass	2.50	8'2"	9636	21,240
		3.00	9'10"	8986	19,810
345D L – FIX	Long Reach	3.90	12'10"	4250	9370
		4.30	14'1"	3940	8690
	Reach	2.90	9'6"	5550	12,240
		3.35	11'0"	5180	11,420
		3.90	12'10"	4850	10,690
	Mass	2.50	8'2"	6260	13,800
		3.00	9'10"	5790	12,760
345D L – VG	Long Reach	3.90	12'10"	4540	10,010
		4.30	14'1"	4880	10,760
	Reach	2.90	9'6"	6830	15,060
		3.35	11'0"	6930	15,280
		3.90	12'10"	6000	13,230
	Mass	2.50	8'2"	7550	16,640
		3.00	9'10"	6790	14,970

†Working weights may vary depending on machine configuration and geographic location. Contact your Cat dealer for specific information.

Model	Boom	Stick Length m ft		Working Weights† Buckets & Payload kg lb	
365C L Belgium	Reach	2.84	9'3"	9965	21,970
		3.60	11'8"	9026	19,900
		4.15	13'6"	8262	18,220
		4.67	15'3"	7544	16,640
	Mass 6.6 m (21'9")	2.57	8'4"	12 955	28,570
		3.00	9'8"	11 956	26,360
	Mass 7 m (23'0")	2.57	8'4"	11 798	26,020
		3.00	9'8"	10 907	24,050
385C Belgium	Reach	4.40	14'4"	6851	15,110
		5.50	18'0"	5917	13,050
	General Purpose	3.40	11'1"	10 359	22,840
		3.70	12'1"	10 018	22,090
		4.40	14'4"	9725	21,440
		5.50	18'0"	8412	18,550
	Mass	2.92	9'6"	14 209	31,330
		3.40	11'2"	13 257	29,230
385C L Belgium	Reach	4.40	14'4"	7169	15,810
		5.50	18'0"	6209	13,690
	General Purpose	3.40	11'2"	10 755	23,720
		3.70	12'1"	10 411	22,960
		4.40	14'4"	10 089	22,250
		5.50	18'0"	8742	19,280
	Mass	2.92	9'6"	14 309	31,550
		3.40	11'2"	13 380	29,500

†Working weights may vary depending on machine configuration and geographic location. Contact your Cat dealer for specific information.

Excavators

Long Reach — Japan Sourced

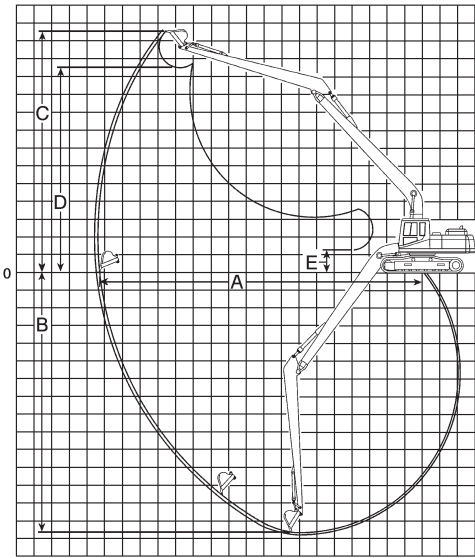
- Introduction
- Range Dimensions
- Bucket Information

INTRODUCTION

Long reach excavators are designed purposely for light duty digging that requires reach capability well above that of normal digging machines. To be able to have high enough digging forces together with an acceptable size bucket, the long reach excavators have a smaller digging envelope than the ditch cleaning machines. Long reach excavators are ideally suited for deep digging in gravel or sand pits then feeding directly into a hopper.

Caterpillar’s long reach hydraulic excavators use purpose-built booms and sticks designed by Caterpillar for maximum performance and durability in light duty applications.

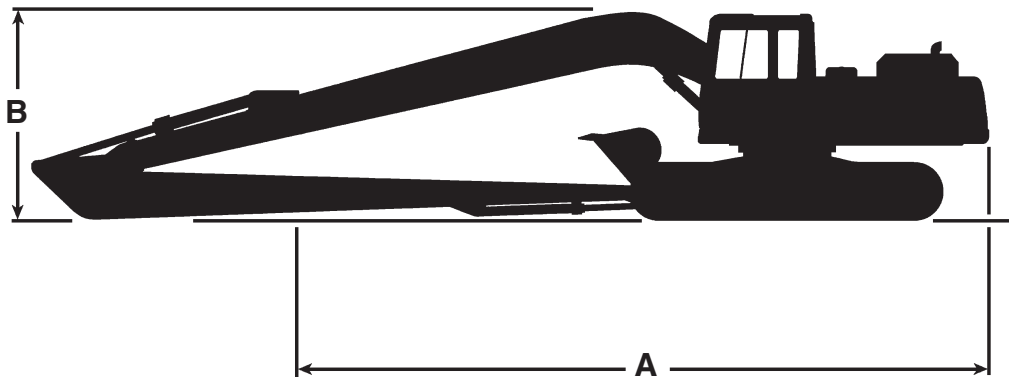
Long Reach Excavation Fronts include: boom, stick, linkage cylinders (boom, stick, and bucket), hydraulic lines, additional counterweight for stability over the side and heavy duty wide undercarriage. Dimensions include light excavation bucket.



Long Reach, Range Dimensions		320D L	
		m	ft
A	Maximum Reach at Ground Level	15.73	51'7"
B	Maximum Digging Depth	11.88	39'0"
C	Maximum Cutting Height	13.29	43'7"
D	Maximum Dumping Height	11.01	36'1"
E	Minimum Loading Height	1.97	6'6"

Long Reach, Bucket Information

Model	Bucket Type	Bucket Width		SAE Heaped Cap.		Bucket Weight		No. of Teeth	Bucket Curl Force		Stick Crowd Force	
		mm	ft	L	yd³	kg	lb		kN	lb	kN	lb
320D L	Excavation	810	2'8"	450	0.59	340	750	5	54	12,100	47	10,600



Long Reach, Shipping Dimensions	320D L	
	m	ft
A Overall Length (Front Folded)	12.66	41'6"
B Overall Height	3.21	10'6"
C Overall Width	3.18	10'5"

Long Reach, Component Weights	320D L	
	kg	lb
Total Component Weight		
Includes additional over standard	4810	10,600
Long Reach Boom	2185	4820
Long Reach Stick	1260	2780

- Introduction
- Range Dimensions
- Bucket Information

INTRODUCTION

Long Reach Excavation machines are designed specifically for jobs requiring longer reach than standard excavators, combined with digging capabilities.

The boom and the stick are purposely designed to perform digging operations with an acceptable bucket size.

The performances of the machine are attained through the use of bigger boom cylinders, heavy-duty wide undercarriage and significant additional counterweight. A heavy-duty upper-frame is also used in order to guarantee durability and resistance to the extra stresses generated by that demanding application.

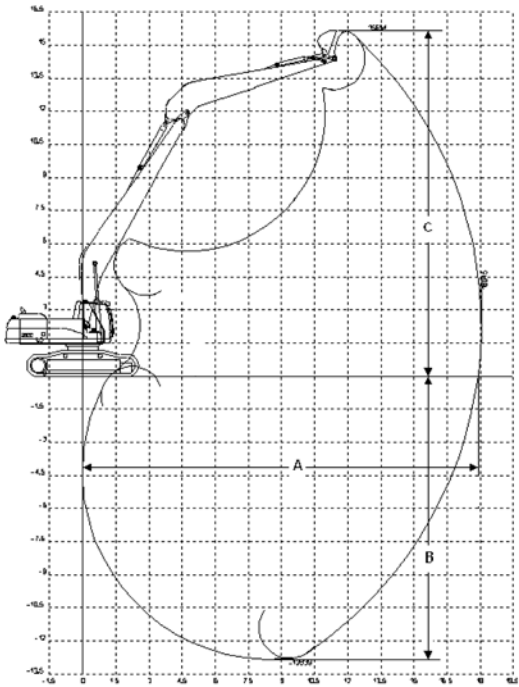
Long Reach Excavation machines are ideally suited for deep or long distance digging in sand or gravel pits, slope forming, cleaning of settling banks, river conservation and other work formerly reserved for draglines.

These excavators can of course feed directly into a hopper or load a truck that would stand by their side.

The boom and the stick are designed following Caterpillar's standards, in order to provide the maximum performance and durability in digging applications.

Long Reach Excavation Fronts include: boom, stick, linkage (boom, stick, and bucket cylinders), hydraulic lines and additional counterweight.

Dimensions include the bucket.

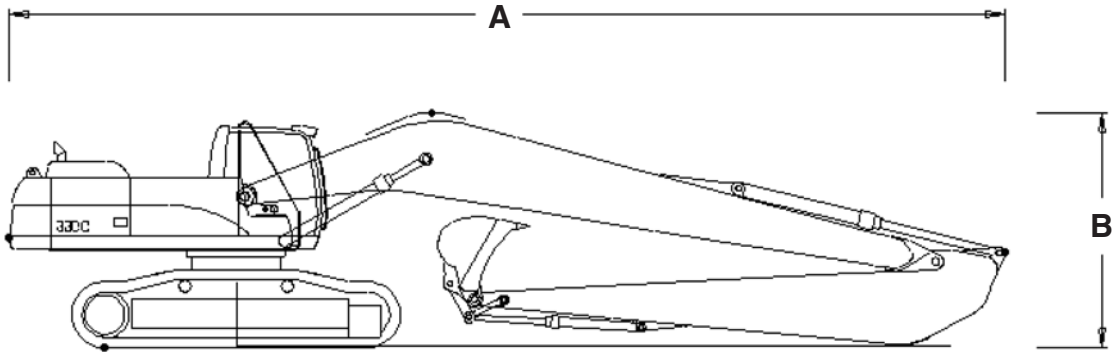


Long Reach Excavation, Range Dimensions	336D LRE Long	385C LRE Long
Undercarriage	Heavy Duty Wide	Long
Boom Length	10 660 mm	12 500 mm
Stick Length	7100 mm	9500 mm
A Maximum Reach	18 044 mm	21 310 mm
B Maximum Digging Depth	12 890 mm	15 830 mm
C Maximum Cutting Height	15 582 mm	16 020 mm

Long Reach Excavation — Belgium Sourced

- Shipping Dimensions
- Major Component Dimensions and Weights

Excavators



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Long Reach Excavation, Shipping Dimensions and Weight	336D HW LRE Long	385C L LRE Long
Undercarriage	Heavy Duty Wide	Long
Shoes	700 mm	750 mm
Boom Length	10 660 mm	12 500 mm
Stick Length	7100 mm	9500 mm
A Overall Length (Front Folded)	15 310 mm	18 780 mm
B Overall Height (Front Folded)	3594 mm	4280 mm
Overall Width	3620 mm	3500 mm
Operating Weight	39 676 kg	88 490 kg

Long Reach Excavation Lift Capacities at Ground Level

Lift Capacities at Ground Level		3 m		4.5 m		6 m		7.5 m		9 m	
		Front Load	Side Load	Front Load	Side Load	Front Load	Side Load	Front Load	Side Load	Front Load	Side Load
336D L LRE Long	kg	2250*	2250*	4850*	4850*	9940*	8610	7490*	6340	5940*	4880
385C L LRE Long	kg	5480*	5480*	9290*	9290*	16 720*	16 720*	18 040*	17 340	14 370*	13 490

Lift Capacities at Ground Level		10.5 m		12 m		13.5 m		15 m		16.5 m	
		Front Load	Side Load	Front Load	Side Load	Front Load	Side Load	Front Load	Side Load	Front Load	Side Load
336D L LRE Long	kg	4890*	3860	4040*	3080	3570*	2480	3120*	2000	2590*	1560
385C L LRE Long	kg	11 840*	10 800	10 000*	8780	8600*	7210	7500*	5950	6600*	4910

Lift Capacities at Ground Level		18 m		19.5 m		Max. Reach		Maximum Reach Radius
		Front Load	Side Load	Front Load	Side Load	Front Load	Side Load	
336D L LRE Long	kg	—	—	—	—	1940*	1410	17.62 m
385C L LRE Long	kg	5840*	4050	4340*	3320	3250*	2900	20.77 m

*Load limited by hydraulic capacity rather than tipping.

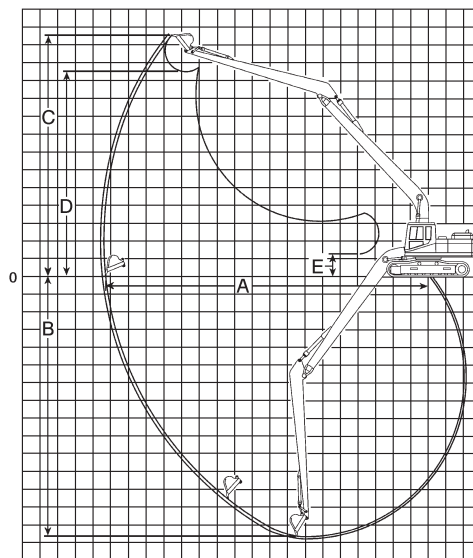
- Introduction
- Range Dimensions
- Bucket Information

INTRODUCTION

Super long reach excavators are designed specifically for those jobs requiring maximum reach well beyond the range of normal excavators. Those machines are designed to drag a small bucket at about 90 degrees over the side of the tracks towards the excavator; they are not suited for digging work. Caterpillar offers the Long Reach excavators for light digging applications with a much larger digging envelope than normal excavators. Super long reach excavators are suited for ditch cleaning, slope finishing, river conservation and other work formerly reserved to draglines.

Caterpillar's super long reach hydraulic excavators use purpose-built booms and sticks designed by Caterpillar for maximum performance and durability in dragging applications.

Super long reach fronts include: boom, stick, linkage cylinders (boom, stick, and bucket), hydraulic lines and additional counterweight for stability while working over the side. Dimensions include bucket.



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Super Long Reach, Range Dimensions	312C L*		315C L, 317B L*		320D L	
	m	ft	m	ft	m	ft
A Maximum Reach at Ground Level	12.54	41'2"	13.00	42'8"	15.60	51'2"
B Maximum Digging Depth	9.80	32'2"	10.10	33'2"	11.75	38'7"
C Maximum Cutting Height	10.96	35'11"	11.64	38'2"	13.24	43'5"
D Maximum Dumping Height	9.01	29'9"	9.58	31'5"	11.14	36'7"
E Minimum Loading Height	2.15	7'1"	2.55	8'4"	2.10	6'10"

	324D L		329D L	
	m	ft	m	ft
A Maximum Reach at Ground Level	18.60	61'0"	18.60	61'0"
B Maximum Digging Depth	14.60	47'11"	14.60	48'0"
C Maximum Cutting Height	15.40	50'7"	14.80	48'8"
D Maximum Dumping Height	13.30	43'7"	12.70	41'9"
E Minimum Loading Height	1.50	4'10"	1.50	4'10"

Super Long Reach, Bucket Information

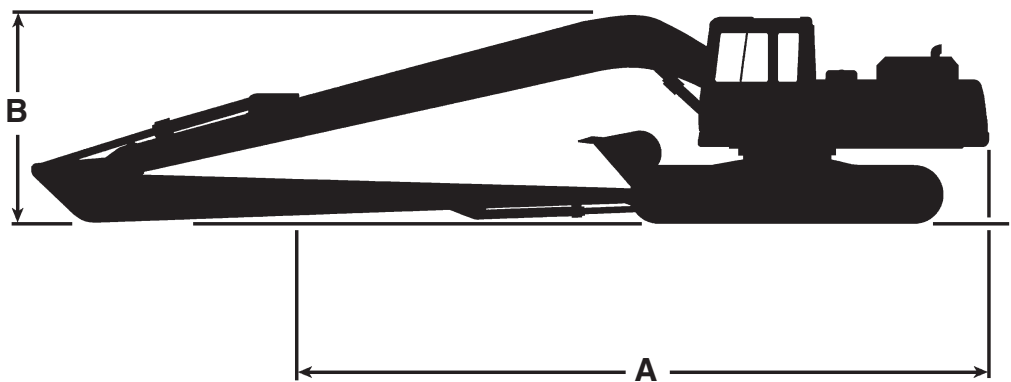
Model	Bucket Type	Bucket Width		SAE Heaped Cap.		Bucket Weight		No. of Teeth	Bucket Curl Force		Stick Crowd Force	
		mm	ft	L	yd ³	kg	lb		kN	lb	kN	lb
312C*	Ditch Cleaning	920	3'0"	480	0.63	230	510	4	44	9900	37	8300
320C L	Ditch Cleaning	1140	3'9"	600	0.78	290	640	0	60	13,500	46	10,300
320D L	Ditch Cleaning	1140	3'9"	600	0.78	290	640	0	60	13,500	46	10,300
324D L	Ditch Cleaning	1140	3'9"	600	0.78	290	640	0	61	13,700	51	11,500
329D L*	Ditch Cleaning	1140	3'9"	600	0.78	290	640	5	61	13,700	51	11,500

*Custom product.

Excavators

Super Long Reach — Japan/U.S. Sourced

- Shipping Dimensions
- Major Component Weights



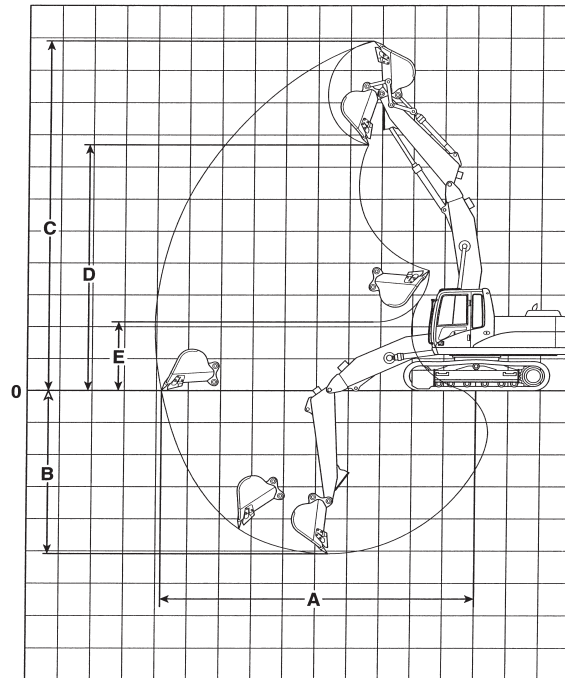
Super Long Reach, Shipping Dimensions	312C*		315D L*		320D L	
	m	ft	m	ft	m	ft
A Overall Length (Front Folded)	10.22	33'6"	11.23	36'10"	12.66	41'6"
B Overall Height	2.80	9'2"	2.92	9'7"	3.21	10'6"
C Overall Width	2.76	9'1"	2.75	9'0"	3.18	10'5"

	324D L		329D L	
	m	ft	m	ft
A Overall Length (Front Folded)	14.30	47'1"	14.40	47'2"
B Overall Height	3.15	10'4"	3.23	10'7"
C Overall Width	3.40	11'1"	3.39	11'1"

Super Long Reach, Component Weights	312C*		315D L*		320D L	
	kg	lb	kg	lb	kg	lb
Total Component Weight						
Includes additional over standard	2450	5400	3050	6725	4840	10,670
Long Reach Boom	1140	2510	1210	2670	2185	4820
Long Reach Stick	640	1410	780	1720	1260	2780

	324D L		329D L	
	kg	lb	kg	lb
Total Component Weight				
Includes additional over standard	6950	15,320	6500	14,330
Long Reach Boom	3580	7893	3730	8223
Long Reach Stick	1610	3549	1610	3549

*Custom product.



**Short Reach,
Range Dimensions**

	314C CR*		336D L*	
	m	ft	m	ft
A Maximum Reach at Ground Level	6.54	21'5"	8.88	29'2"
B Maximum Digging Depth	8.15	26'9"	9.95	32'8"
C Maximum Cutting Height	2.22	7'3"	3.76	12'4"
D Maximum Dumping Height	5.56	18'3"	6.64	21'9"
E Minimum Loading Height	1.91	6'3"	1.80	5'11"

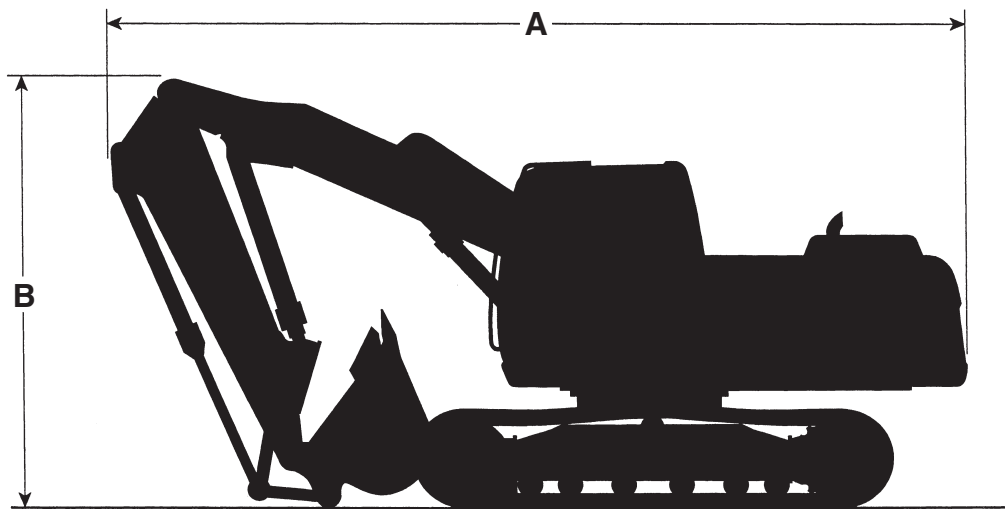
Short Reach, Front Attachment Information

Model	Boom Length		Stick Length		Heaped Capacity	
	mm	ft	mm	ft	L	yd ³
314C CR*	3200	10'6"	2400	7'10"	500	0.7
336D L*	4350	14'3"	3200	10'6"	1400	1.83

*Custom product.

Excavators

- Short Reach
- Shipping Dimensions
 - Major Component Weights



Short Reach,
Shipping Dimensions

	314C CR*		336D L*	
	m	ft	m	ft
A Overall Length (Front Folded)	5.35	17'7"	8.27	27'2"
B Overall Height	2.73	8'11"	3.87	12'8"
C Overall Width	2.49	8'2"	3.35	11'0"

Short Reach,
Component Weights

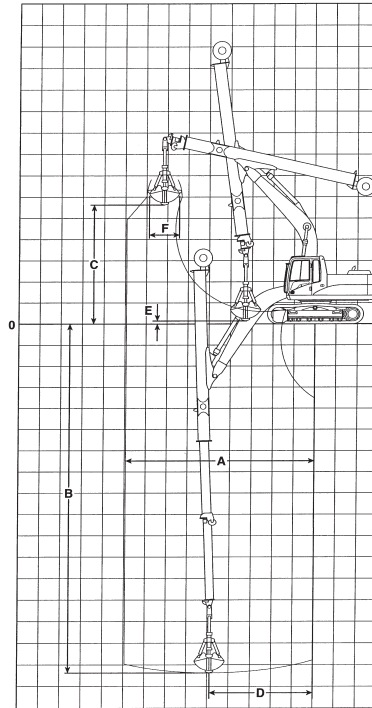
	314C CR*		336D L*	
	kg	lb	kg	lb
Total Component Weight				
Includes additional over standard	3350	7390	6000	13,230
Short Reach Boom	1140	2510	2170	4780
Short Reach Stick	600	1320	1300	2870

*Custom product.

Telescopic Stick
 ● Range Dimensions
 ● Front Attachment Information
 (Japan Sourced)

Excavators

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Telescopic Stick, Range Dimensions	320C L*		322C L*		329D L*		336D L*	
	m	ft	m	ft	m	ft	m	ft
A Maximum Operating Radius	9.50	31'2"	9.50	31'2"	9.50	31'2"	9.50	31'2"
B Maximum Digging Depth	20.89	68'6"	20.55	67'5"	20.89	68'6"	25.69	84'3"
C Maximum Dumping Height	5.29	17'4"	5.20	17'1"	5.29	17'4"	5.66	18'7"
D Reach at Maximum Digging Depth	4.57	15'0"	4.51	14'10"	4.57	15'0"	4.76	15'7"
E Reach at Maximum Dumping Height	7.09	23'3"	6.43	21'1"	7.09	23'3"	7.24	23'9"
F Bucket Width	5.70	18'8"	5.90	19'4"	6.15	20'2"	6.50	21'4"

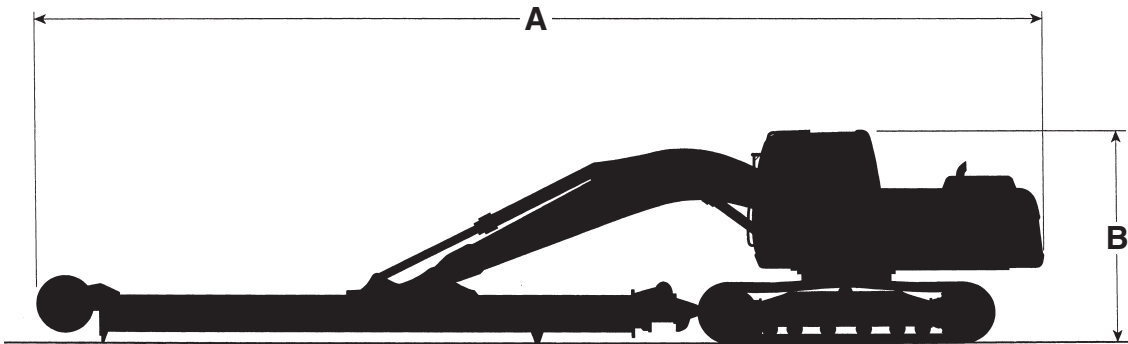
Telescopic Stick, Front Attachment Information

Model	Boom Length		Heaped Capacity	
	mm	ft	L	yd³
320C L*	5700	18'8"	430	0.6
322C L*	5900	19'4"	520	0.7
329D L*	6150	20'2"	700	0.9
336D L*	6500	21'4"	1000	1.3

*Custom product.

Excavators

- Telescopic Stick
- Shipping Dimensions
 - Major Component Weights



Telescopic Stick, Shipping Dimensions	320C L*		322C L*		329D L*		336D L*	
	m	ft	m	ft	m	ft	m	ft
A Overall Length (Front Folded)	13.96	45'10"	14.39	47'3"	14.58	47'10"	10.13	33'3"
B Overall Height	2.93	9'7"	2.98	9'9"	3.09	10'2"	3.35	11'0"
C Overall Width	3.18	10'5"	3.39	11'1"	3.39	11'1"	3.34	10'11"

Telescopic Stick, Component Weights	320C L*		322C L*		329D L*		336D L*	
	kg	lb	kg	lb	kg	lb	kg	lb
Total Component Weight Includes additional over standard	1040	2290	1180	2600	6500	14,330	6000	13,230
Rated Boom	2050	4520	2480	5470	2750	6060	3830	8440
Telescopic Stick	3100	6830	3170	6990	3110	6860	5540	12,210
Telescopic Bucket	940	2070	1120	2470	1360	3000	1620	3570

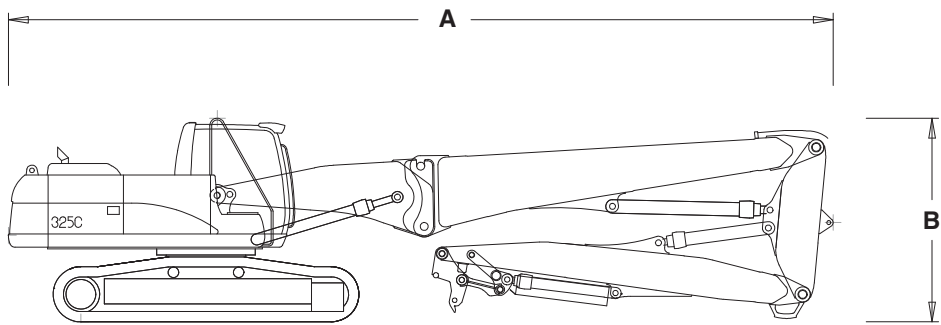
*Custom product.

Features

The ultra-high demolition (UHD) machines, 325D UHD, 330D UHD, 345C UHD, 365C UHD and 385C UHD are all equipped with the following features:

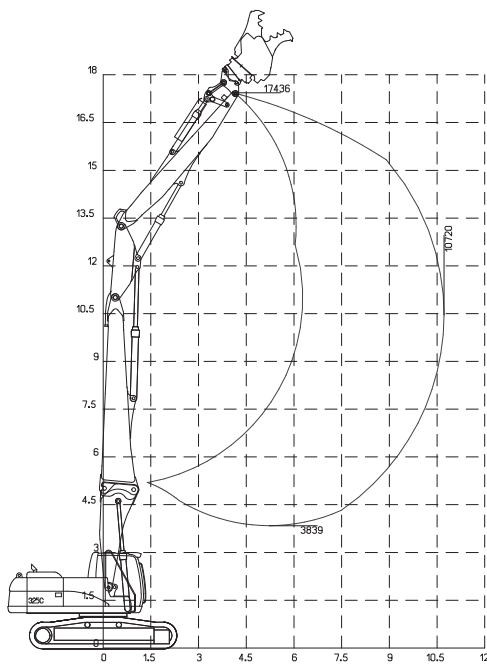
- **Integrated Tilttable Cab.** The large C-Series and core D-Series tilt cabs are integrated into the upper-frame. The tilting mechanism of the cab is completely protected against debris, scrap, etc. The main advantage of this is that it does not increase the shipping height compared to the standard cab.
- **Boom Hook System.** The front parts are equipped with a reliable and safe hook system between the boom foot and boom nose. Compared to the traditional pin-mounted joint, the hook system significantly reduces the time needed to change between the Ultra-High front parts and the short retrofit configuration, or the long-reach excavation configuration. In principle, the boom hook system consists of a hook system to pick up the front parts and a mechanical expander pin to secure these front parts onto the boom foot. The absence of any hydraulic parts, as well as a full-length heavy-duty one-piece securing pin, ensures a safe and reliable operation.
- **Hydraulic Quick Disconnects or face-to-face ball valves (new generation).** The hydraulic lines between boom foot and boom nose are fitted with hydraulic quick disconnects or Ball Valves (new generation) to even further reduce the time needed to change the front parts. Oil spillage and contamination is reduced through the flat-face design.
- **Dedicated Ultra-High Demolition Linkage.** Because Ultra-High Demolition applications require a different working envelope than standard applications, a purpose-designed linkage is standard on the Ultra-High Demolition front parts.
Besides providing an optimized working envelope, this linkage also greatly improves controllability in nearly every position.

- 325D L UHD Shipping Dimensions
- 325D L UHD Range Dimensions



325D L with UHD Front Parts

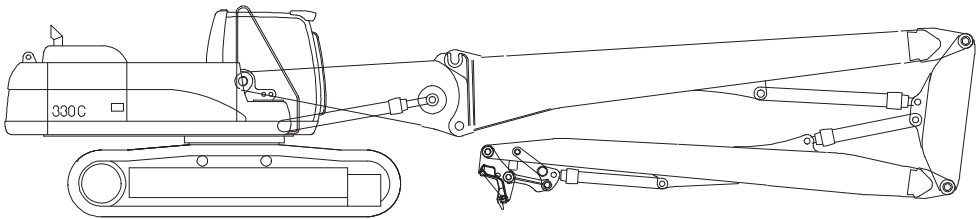
A Shipping Length	12 500 mm
B Shipping Height	2920 mm
Operating Weight	36 200 kg



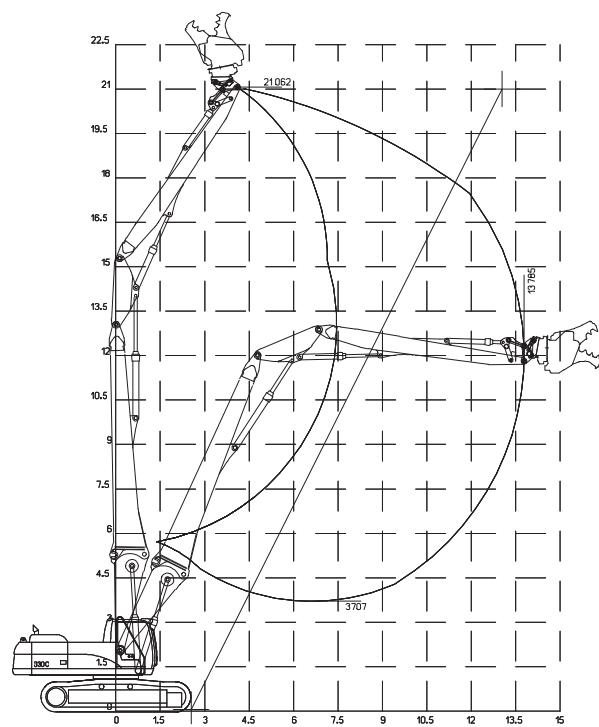
325D L with UHD Front Parts — Reaches

Maximum Allowable Angle from Vertical	20°
Maximum Pin Height	17 310 mm
Maximum Horizontal Reach	10 730 mm
Maximum Tool Weight Over the Front*	3000 kg
Operating Weight	36 200 kg

*Tool weight includes mounting bracket and quick coupler.

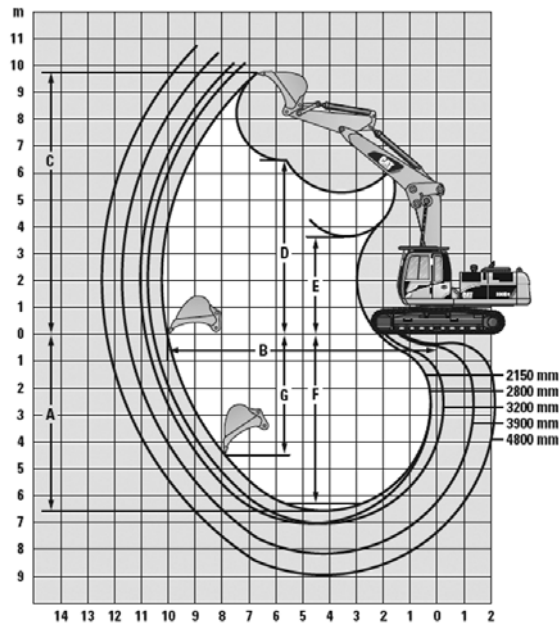
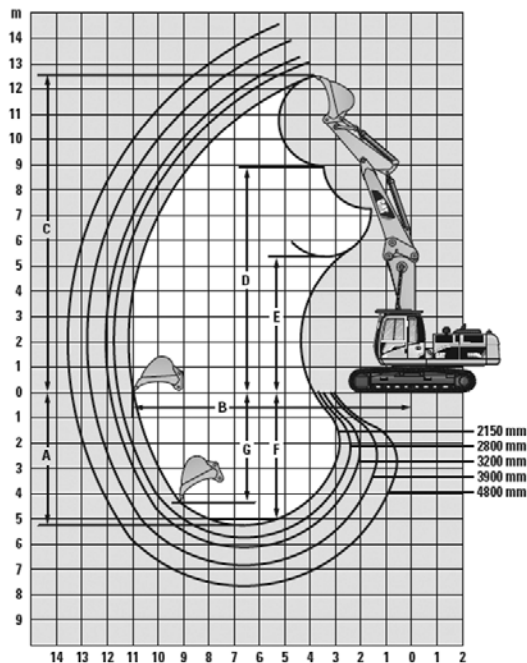


330D L with UHD Front Parts	Undercarriages				
	L	LN	Hydraulic Variable Gauge	Heavy Duty High Wide	345C L
Shoes	700 mm	600 mm	700 mm	700 mm	600 mm
Shipping Length	14 830 mm	14 830 mm	14 830 mm	14 830 mm	14 830 mm
Shipping Height	3100 mm	3100 mm	3100 mm	3100 mm	3100 mm
Shipping Width	3290 mm	2990 mm	3100 mm	3620 mm	2990 mm
Operating Weight	42 360 kg	41 910 kg	47 870 kg	43 930 kg	46 940 kg



330D L with UHD Front Parts — Reaches	330D L UHD	330D LN UHD	330D L HVG UHD	330D L HDHW UHD	330D UHD with 345C L chassis
Maximum Allowable Angle from Vertical	25°	25°	25°	25°	25°
Maximum Horizontal Reach	13 850 mm	13 850 mm	13 850 mm	13 850 mm	13 850 mm
Maximum Vertical Pin Height	21 060 mm	21 060 mm	21 120 mm	21 290 mm	21 270 mm
Maximum Tool Weight Over the Front*	3000 kg	3000 kg	3000 kg	3000 kg	3000 kg
Maximum Tool Weight Over the Side*	1800 kg	—	2700 kg	2450 kg	2700 kg

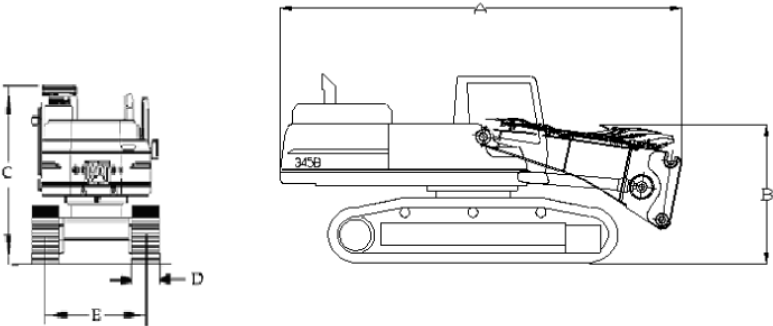
*Tool weight includes mounting bracket and quick coupler.



330D L HVG UHD Retrofit — Straight Position	Stick Length			
	2150 mm	2800 mm	3200 mm	3900 mm
A Maximum Digging Depth	-4465 mm	-4979 mm	-5379 mm	-6079 mm
B Maximum Reach at Ground Level	11 298 mm	11 870 mm	12 209 mm	12 933 mm
C Maximum Cutting Height	12 778 mm	13 359 mm	13 562 mm	14 219 mm
D Maximum Loading Height	9016 mm	9838 mm	10 043 mm	10 698 mm
E Minimum Loading Height	5454 mm	4989 mm	4474 mm	3844 mm

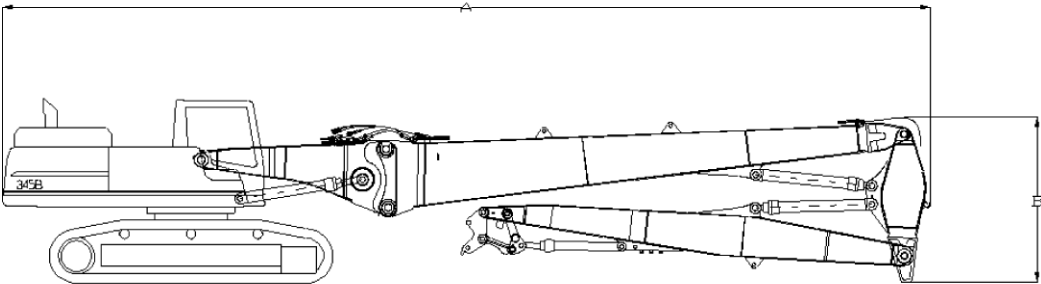
330D L HVG UHD Retrofit — Bent Position	Stick Length			
	2150 mm	2800 mm	3200 mm	3900 mm
A Maximum Digging Depth	-6029 mm	-6542 mm	-6942 mm	-7642 mm
B Maximum Reach at Ground Level	10 374 mm	10 949 mm	11 239 mm	11 951 mm
C Maximum Cutting Height	9939 mm	10 508 mm	10 431 mm	10 886 mm
D Maximum Loading Height	6626 mm	7257 mm	7243 mm	7655 mm
E Minimum Loading Height	3770 mm	3256 mm	2856 mm	2156 mm

330D L HVG LRE Retrofit — Straight Position	Length	330D L HVG LRE Retrofit — Bent Position	Length
	17 585 mm		16 695 mm
A Maximum Digging Depth	-11 080 mm	A Maximum Digging Depth	-12 745 mm
B Maximum Reach at Ground Level	17 585 mm	B Maximum Reach at Ground Level	16 695 mm
C Maximum Cutting Height	15 685 mm	C Maximum Cutting Height	11 350 mm

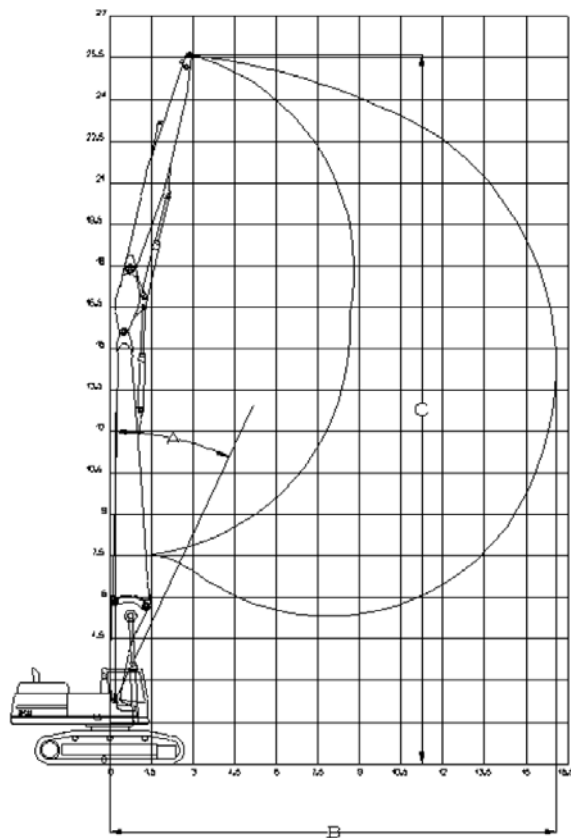


345C L UHD Base Machine	Undercarriages	
	L	Hydraulic Variable Gauge
Shoes	600 mm	600 mm
Length	7810 mm	7810 mm
Height with Overhead Guard*	3740 mm	3720 mm
Working Width	3490 mm	3611 mm
Shipping Width	2990 mm	3000 mm
Operating Weight	47 320 kg	53 280 kg

*Hydraulic lines are included.

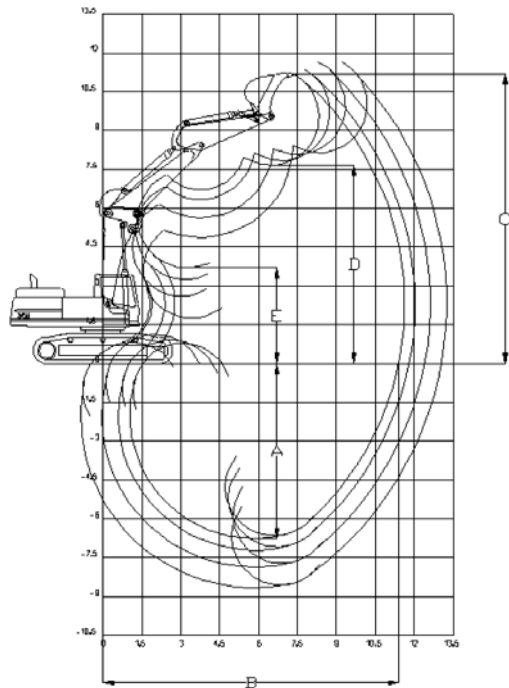
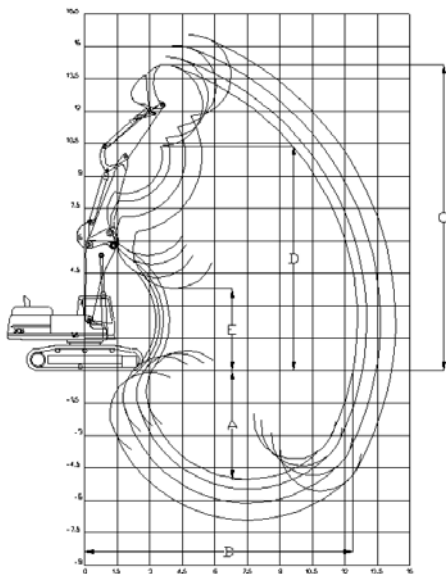


345C L with UHD Front Parts	UHD 26M, Undercarriages		UHD 28M, Undercarriages	
	L	Hydraulic Variable Gauge	L	Hydraulic Variable Gauge
Shoes	600 mm	600 mm	600 mm	600 mm
Shipping Length	17 800 mm	17 800 mm	17 800 mm	17 800 mm
Shipping Height	3740 mm	3720 mm	3740 mm	3720 mm
Shipping Width	2990 mm	3000 mm	2990 mm	3000 mm
Operating Weight	57 900 kg	63 800 kg	58 200 kg	64 200 kg



345C L with UHD Front Parts — Reaches	345C L UHD 26M	345C L HVG UHD 26M	345C L UHD 28M	345C L HVG UHD 28M
Maximum Allowable Angle from Vertical	25°	25°	25°	25°
Maximum Horizontal Reach	16 400 mm	16 400 mm	18 150 mm	18 150 mm
Maximum Vertical Pin Height	26 100 mm	26 100 mm	27 900 mm	27 900 mm
Maximum Tool Weight Over the Front*	3300 kg	3300 kg	2500 kg	2500 kg
Maximum Tool Weight Over the Side*	2500 kg	3000 kg	2000 kg	2500 kg

*Tool weight includes mounting bracket and quick coupler.



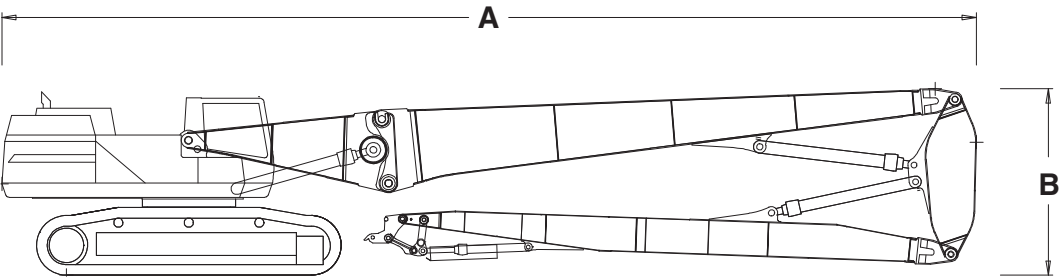
345C L UHD Retrofit — Straight Position	Stick Length	
	R2.9T	R3.4T
A Maximum Digging Depth	-4895 mm	-5345 mm
B Maximum Reach at Ground Level	12 368 mm	12 804 mm
C Maximum Cutting Height	13 712 mm	14 038 mm
D Maximum Loading Height	9977 mm	10 303 mm
E Minimum Loading Height	5055 mm	4618 mm

345C L UHD Retrofit — Bent Position	Stick Length	
	R2.9T	R3.4T
A Maximum Digging Depth	-6350 mm	-6800 mm
B Maximum Reach at Ground Level	11 465 mm	11 878 mm
C Maximum Cutting Height	10 770 mm	10 921 mm
D Maximum Loading Height	7418 mm	7569 mm
E Minimum Loading Height	3544 mm	3095 mm

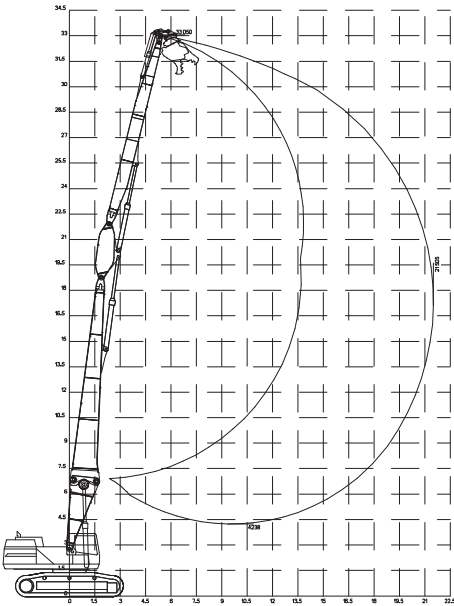
Excavators

Ultra-High Demolition Arrangements — Belgium Sourced

- 365C L UHD Shipping Dimensions
- 365C L UHD Range Dimensions

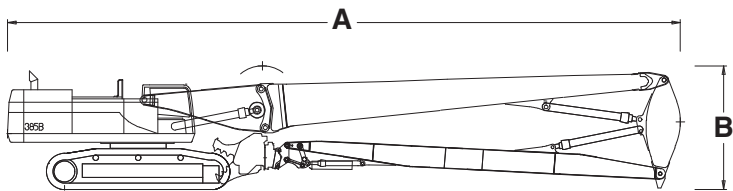


365C L with UHD Front Parts	With 385C L Undercarriage
A Storage Length	20 720 mm
B Boom Height	4320 mm
Operating Weight	85 690 kg



365C L with UHD Front Parts — Reaches	With 385C L Undercarriage
Maximum Allowable Angle from Vertical	25°
Maximum Pin Height	33 100 mm
Maximum Horizontal Reach	21 600 mm
Maximum Tool Weight Over the Front*	3000 kg
Operating Weight	85 690 kg

*Tool weight includes mounting bracket and quick coupler.

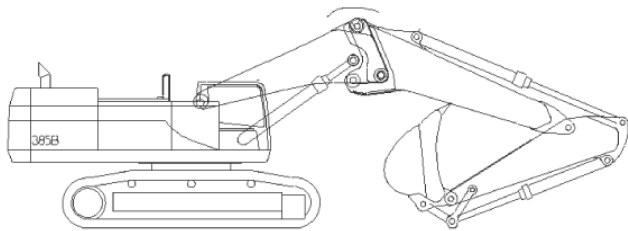


385C L with UHD Front Parts

40 m version

A Storage Length	22 710 mm
B Boom Height	8120 mm
Operating Weight	98 720 kg

*With front parts extended (boom foot + LRD boom nose + stick).

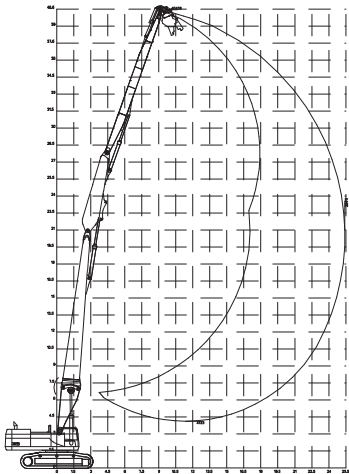


**385C L with Retrofit Front Parts —
Straight Position**

	R3.4JB	R3.7HB	R4.4HB	R5.5HB
Shipping Length	4950 mm	4930 mm	5230 mm	5995 mm
Shipping Height	16 295 mm	16 220 mm	16 125 mm	15 860 mm
Operating Weight	94 885 kg	92 955 kg	93 180 kg	93 240 kg

**385C L with Retrofit Front Parts —
Bent Position**

	R3.4JB	R3.7HB	R4.4HB	R5.5HB
Shipping Length	5465 mm	5340 mm	5565 mm	6005 mm
Shipping Height	15 490 mm	15 475 mm	15 490 mm	15 400 mm
Operating Weight	94 885 kg	93 725 kg	93 730 kg	93 490 kg

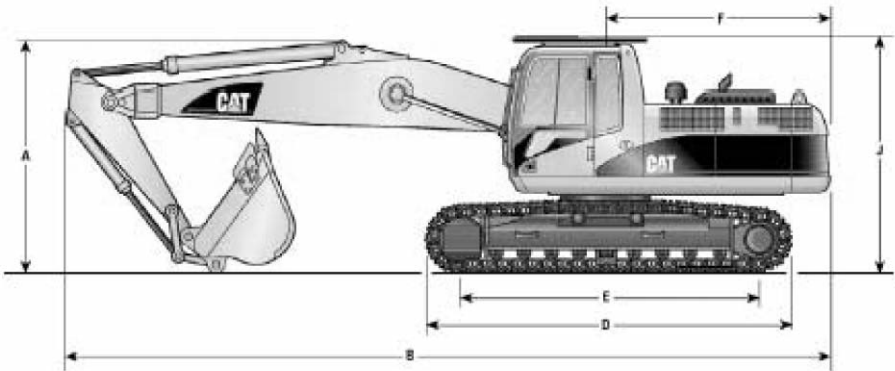


385C L with UHD Front Parts — Reaches		40 m version
Maximum Allowable Angle from Vertical		15°
Maximum Pin Height		39 500 mm
Maximum Horizontal Reach		25 200 mm
Maximum Tool Weight Over the Front*		2100 kg
Operating Weight		98 720 kg

*Maximum authorized tool weight over the front only; includes a dedicated quick coupler.

385C L UHD Retrofit — Straight Position	Stick Length			
	R3.4JB	R3.7HB	R4.4HB	R5.5HB
Maximum Digging Depth	−4570 mm	−4725 mm	−5425 mm	−6525 mm
Maximum Reach	15 525 mm	15 595 mm	16 285 mm	17 365 mm
Maximum Cutting Height	17 620 mm	17 405 mm	17 970 mm	18 825 mm

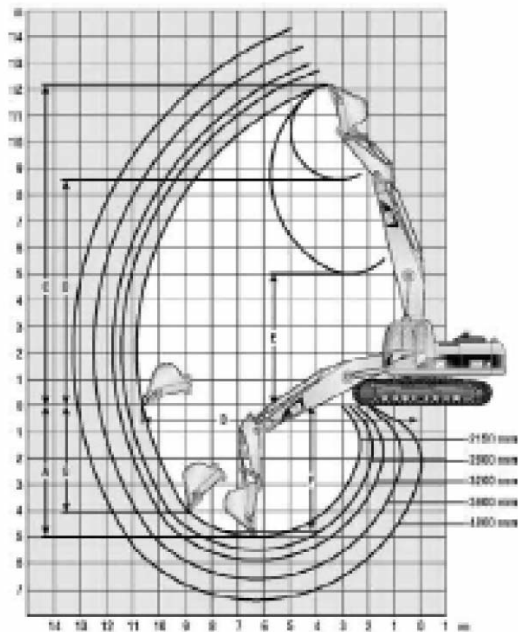
385C L UHD Retrofit — Bent Position	Stick Length			
	R3.4JB	R3.7HB	R4.4HB	R5.5HB
Maximum Digging Depth	−7040 mm	−7195 mm	−7895 mm	−8995 mm
Maximum Reach at Ground Level	14 480 mm	14 475 mm	15 140 mm	16 175 mm
Maximum Cutting Height	13 860 mm	13 195 mm	13 495 mm	13 890 mm



Model	325D L/LN		330D L/LN	
	stick	mm	stick	mm
A Shipping Height*	R2.0DB	3170	R2.15TB	3280
	R2.65CB2	3170	R2.8DB	3280
	R3.2CB2	3170	R3.2DB	3280
			R3.9DB	3770
B Shipping Length*	R2.0DB	10 835	R2.15TB	11 915
	R2.65CB2	10 625	R2.8DB	11 505
	R3.2CB2	10 615	R3.2DB	11 500
			R3.9DB	11 365
C Shipping Width				
	L	3390		3290
LN		2990		2990

*With stick cylinder fully extended. For some configurations, retracting the stick cylinder will result in a lower shipping height but increased shipping length.

- Straight Booms
- Range Dimensions



325D L

Stick			R2.0D	R2.65C	R3.2C
A	Maximum Digging Depth	mm	−4720	−5225	−5775
	Maximum Reach at Ground Level	mm	10 095	10 640	11 145
	Maximum Cutting Height	mm	11 540	12 050	12 435
	Maximum Loading Height	mm	8020	8815	9195
	Minimum Loading Height	mm	4725	4200	3600
	Operating Weight	kg	29 930	29 250	29 390

330D L

Stick			R2.15E	R2.8D	R3.2D	R3.9D
A	Maximum Digging Depth	mm	–5040	–5550	–5950	–6650
	Maximum Reach at Ground Level	mm	10 715	11 285	11 635	12 365
	Maximum Cutting Height	mm	12 315	12 890	13 120	13 790
	Maximum Loading Height	mm	8535	9380	9600	10 275
	Minimum Loading Height	mm	4955	4505	3975	3370
	Operating Weight	kg	35 660	35 090	35 160	35 310

MACHINE SELECTION: TRACKS VERSUS WHEELS

Features:

Tracks	Wheels
● Flotation ● Traction ● Maneuverability ● Severe underfoot ● Faster machine repositioning	● Mobility and speed ● No pavement damage ● Better stability with outriggers or dozers ● Leveling machine with outriggers ● Dozing capability

307–385

Unless the application calls for a lot of travel to, from, and around the job sites, a track-type excavator could be the better choice. Track-type excavators provide good traction and flotation in almost all kinds of underfoot conditions. Consistently good drawbar power provides excellent maneuverability. The tracked undercarriage also provides good overall stability. If the job calls for frequent machine repositioning, a track-type excavator will provide better operating efficiency — where raising and lowering outriggers would take extra time.

Wheels (M313D–M322D)

Looking for a highly versatile machine? A machine that can do more than mass excavation and trenching. Consider a Wheel Excavator.

A Wheel Excavator combines traditional excavator features such as 360° swing, long reach, deep digging depth, high loading height, high digging forces and high lift capacities, with the mobility of

a wheeled undercarriage. The rubber tires allow the excavator to travel paved roads, work in shopping malls, squares, parking lots and other paved areas without damaging the pavement. It's mobility allows fast independent travel between jobsites as well as on the jobsite giving you more job planning flexibility. The Wheel Excavator is the ideal tool for truck loading in tight quarters, undercutting concrete or asphalt, patching, shoulder work, curb and gutter repair, landscaping, spreading top soil, fine grading, laying pipe, placing manholes or ditch cleaning.

A Wheel Excavator is also an ideal machine in material handling. It can load or unload trucks and carry loads around the job site. Stabilizers and a dozer blade can be pinned to the undercarriage increasing the machines stability during lifting.

Equip the Wheel Excavator with dedicated special attachments such as cab riser, material handling stick and boom. Add the additional hydraulic circuit option and your ready for a complete range of special tools. Ditch cleaning bucket, clamshell, grapples, hammers to name a few.

Cat Wheel Excavators offer a load independent, load-sensing, flow distribution hydraulic system that gives the operator absolute precision and control no matter what the application.

Machine weight is the key to selecting a Wheel Excavator. Following are some additional factors that need to be considered.

Choose the proper boom and stick for your reach, digging depth and lifting requirements. Stability can be greatly enhanced by adding outriggers and/or a dozer blade. Additional hydraulic circuits can be added depending on your application and stick end attachments.

Acceptable Bucket/Stick Combinations

The following charts identify the acceptable bucket and stick combinations for Cat Wheel Excavators and are based on stability. Minimum stability occurs with the linkage oriented over the side and positioned as shown in the visual. Dozer and/or stabilizers (if equipped) are raised and the bucket contains a full load. The longest stick is shown that has acceptable stability for each bucket. That stability is 1.1 moment ratio or better. Once this stability factor is established, all shorter sticks are then acceptable with the listed bucket.

EXCAVATOR SHOE SELECTION

Undercarriage life can be extended by equipping the machine properly for the application.

Many excavators work on pavement or flat, soft ground and experience few undercarriage problems. But if those same machines (usually equipped with wide track pads) were placed in severe underfoot conditions, undercarriage destruction could occur very rapidly.

The rule, used for other track-type machines — *“Whenever possible use the narrowest shoes available”* — is even more valid for excavators.

The best general purpose track shoe is the triple grouser. It has a good section modulus and offers the best compromise between traction and minimum disturbance to paved surface.

The double grouser shoe has a better section modulus and is more aggressive than the triple grouser section. Single grouser shoes are offered for maximum traction. Some users like single grousers for added mobility in hilly terrain.

The following table lists ground pressures for various width shoes (reach boom, medium stick and bucket):

Model	Shoe Type	Shoe Width		Pressure	
		mm	in	kPa	psi
301.6C	Steel Double Grouser	230	9	28.2	4.09
	Rubber Belt	230	9	27.2	3.94
301.8C	Steel Double Grouser	230	9	28.8	4.17
	Rubber Belt	230	9	27.7	4.01
302.5C	Steel Double Grouser	300	12	26.6	3.85
	Rubber Belt	300	12	25.6	3.71
303C CR	Steel Double Grouser	300	12	30.9	4.48
	Rubber Belt	300	12	29.9	4.33
304C CR	Steel Double Grouser	400	15	28.5	4.13
	Rubber Belt	400	15	25.0	3.63
305C CR	Steel Double Grouser	400	16	28.5	4.10
	Rubber	400	16	27.9	4.05
305.5*	Steel Double Grouser	400	16	33.4	4.84
	Rubber Belt	400	16	32.4	4.70
307C**	Triple	450	18	30.0	4.35
	Triple	600	24	23.0	3.34
	Segmented Rubber	450	18	31.0	4.50
307D	Steel Triple Grouser	450	18	33.1	4.80
	Steel Triple Grouser	600	24	25.0	3.60
	Segmented Rubber	450	18	34.0	4.90
308D CR SB	Steel Triple Grouser	450	18	36.8	5.30
	Steel Triple Grouser	600	24	27.0	3.90
	Segmented Rubber	450	18	37.0	5.30
	Rubber Belt	450	18	36.0	5.20
308D CR	Steel Triple Grouser	450	18	32.4	4.70
	Steel Triple Grouser	600	24	24.0	3.50
	Segmented Rubber	450	18	33.0	4.80
	Rubber Belt	450	18	31.0	4.50

*China and Korea only.

**China only.

Model	Shoe Type	Shoe Width		Pressure	
		mm	in	kPa	psi
311D LRR	Triple	500	20	40.4	5.86
	Triple	600	24	34.3	4.97
	Triple	700	28	29.9	4.34
	Triple	770	30	27.5	3.99
	Segment Rubber	500	20	40.8	5.92
312D	Triple	500	20	41.8	6.08
	Triple	600	24	35.5	5.15
	Triple	700	28	31.0	4.50
	Triple	770	30	28.5	4.13
	Segment Rubber	500	20	44.0	6.38
312D L	Triple	500	20	39.4	5.71
	Triple	600	24	33.4	4.86
	Triple	700	28	29.2	4.25
	Triple	770	30	26.9	3.90
	Segment Rubber	500	20	41.5	6.02
313C SR	Triple	500	20	45.6	6.60
	Triple	600	24	38.7	5.60
	Triple	700	28	33.7	4.90
	Segment Rubber	500	20	45.5	6.60
313C CR	Triple	500	20	40.9	5.90
	Triple	600	24	34.7	5.00
	Triple	700	28	30.3	4.40
	Segment Rubber	500	20	41.0	5.90
314D CR	Triple	500	20	45.9	6.58
	Triple	600	24	38.8	5.56
	Triple	700	28	34.0	4.87
	Segment Rubber	500	20	48.0	6.95
314D LCR	Triple	500	20	42.3	6.02
	Triple	600	24	36.0	5.13
	Triple	700	28	31.3	4.45
	Segment Rubber	500	20	44.4	6.44
315D L	Triple	500	20	—	—
	Triple	600	24	40.7	5.90
	Triple	700	28	35.4	5.13
319D L	Triple	500	20	53.0	8.00
	Triple	600	24	44.0	6.00
319D LN	Triple	500	20	53.0	8.00
	Triple	600	24	44.0	6.00

Model	Shoe Type	Shoe Width		Pressure	
		mm	in	kPa	psi
320D	Triple	600	24	46.8	6.80
	Triple	700	28	40.8	5.90
	Triple	800	32	36.2	5.30
320D L	Triple	600	24	43.5	6.30
	Triple	700	28	38.0	5.50
	Triple	800	32	33.6	4.90
320D RR	Triple	600	24	51.6	7.50
	Triple	700	28	44.9	6.50
	Triple	800	32	39.8	5.80
320D LRR	Triple	600	24	47.8	6.90
	Triple	700	28	41.7	6.00
	Triple	800	32	36.8	5.30
321D LCR	Triple	600	24	48.6	7.10
	Triple	700	28	42.4	6.20
	Triple	800	32	37.5	5.50
323D L	Triple	600	24	46.0	6.67
	Triple	700	28	36.3	5.26
	Triple	800	31	31.9	4.63
	Triple	900	35	30.6	4.44
323D LN	Triple	500	20	55.0	7.98
	Triple	600	24	45.8	6.64
323D SA	Triple	550	22	58.5	8.48
324D	Triple	600	24	52.6	7.60
	Triple	700	28	43.8	6.40
	Triple	800	32	40.3	5.80
324D L	Triple	600	24	49.6	7.20
	Triple	700	28	40.9	5.90
	Triple	800	32	38.0	5.50

NOTE: Belgium sourced excavators have different ground pressures. See Technical Data Sheets.

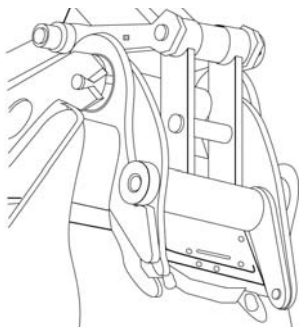
Model	Shoe Type	Shoe Width		Pressure	
		mm	in	kPa	psi
328D LCR	Triple	600	24	63.0	9.10
	Triple	700	28	55.0	8.00
	Triple	850	33	46.0	6.70
329D	Triple	600	24	54.2	7.90
	Triple	700	28	47.0	6.80
	Triple	800	32	42.1	6.10
329D L	Triple	600	24	54.2	7.90
	Triple	700	28	47.0	6.80
	Triple	800	32	42.1	6.10
336D	Triple	600	24	70.1	10.20
	Triple	700	28	60.6	8.80
	Triple	800	32	54.0	7.80
336D L	Triple	600	24	64.9	9.40
	Triple	700	28	56.1	8.10
	Triple	800	32	50.1	7.30
	Triple	800	32	48.2	7.00
336D – ES	Triple	600	24	71.0	10.30
345D	Triple	600	24	81.2	11.80
	Triple	750	30	66.3	9.60
	Double	600	24	81.7	11.80
	Double	750	30	66.5	9.60
345D L – FIX	Triple	600	24	76.8	11.10
	Triple	750	30	62.5	9.10
	Triple	900	35	53.0	7.70
	Double	600	24	77.0	11.20
345D L – VG	Triple	600	24	85.2	12.40
	Triple	900	35	58.7	8.50
	Double	600	24	85.7	12.40
	Double	750	30	69.8	10.10
365C L	Double	750	30	97.8	14.18
385C	Double	650	26	126.2	18.30
385C L	Double	750	30	117.6	17.06

NOTE: Belgium sourced excavators have different ground pressures. See Technical Data Sheets.

QUICK COUPLER SYSTEMS

Quick couplers can greatly increase a machine's versatility and productivity. They make it much easier to switch attachments which can increase utilization. Quick couplers also encourage changing buckets when the application changes, rather than continue to use a less efficient bucket. Example: An application that is predominately dirt with occasional pockets or seams of rock. Without a quick coupler the owner may choose to live with a rock bucket but, rock buckets are normally smaller and heavier which reduces performance in a dirt application. A quick coupler allows the use of the rock bucket in the rock and a GP bucket in the dirt.

Caterpillar offers two main types of quick couplers. The first is a dedicated type. A typical system substitutes hooks on the bucket for the pin-on hinges used with conventional buckets. The mating portion is pinned on the stick and bucket linkage. It slips into the hooks to secure the bucket or other attachment.



Dedicated
Hook-type

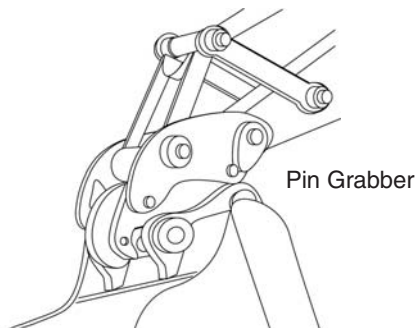
Advantages:

Bucket tip radius (distance from the bucket pivot point to the bucket tip) does not increase. Increased tip radius reduces curl and stick forces which can reduce the loadability of the bucket. The hook type coupler also does not add appreciable weight at the end of the stick. Keeping the tip radius and weight the same ensure no compromise in performance. The machine portion of the hook type coupler can be designed to allow more than one machine to use the same buckets.

Disadvantages:

The hook type system requires special buckets. Conventional pin-on buckets cannot be used. The ability to use buckets on more than one machine requires careful application analysis. Larger machines generate forces that can destroy the wrong buckets. Smaller machines with the wrong bucket may develop loads in excess of the machine's capability. Even if the machine can handle the loads, the tip radius may be too large to allow the bucket to load properly. With the flexibility of a quick coupler comes the responsibility to make sure the bucket or other attachments are properly sized for each application.

The second type of quick coupler is the pin grabber type. This device pins on the stick and bucket linkage and grabs the bucket pins on standard pin-on buckets.



Pin Grabber

Advantages:

The advantage of the pin grabber is that it will pick up standard pin-on buckets. No need to purchase new attachments that will fit the system.

Disadvantages:

The pin grabber is mounted between the stick and the bucket which increases the tip radius. The amount of increase depends on the pin grabber's manufacturer. Increasing tip radius can compromise performance by decreasing bucket forces. The coupler also adds weight and reduces the payload capability.

Pin grabbers are required to mate up with existing bucket pins. Because different machines require different pin spreads and diameters, they offer very limited ability to match with buckets from other machines.

Both types of quick couplers offer cab activated ... this allows an attachment change in 30 seconds or less.

Pin grabber couplers allow work tools to be changed quickly — improving overall production and increasing machine versatility. A coupler is pinned on in place of the bucket with standard pins, and can be easily removed should the need arise to mount a tool directly to the stick.

Caterpillar has recently released the Center-Lock coupler, replacing the previous third-party offering designed by Miller. The Center-Lock™ Pin Grabber Coupler is designed for use on machines sized from 311-385 — and is designed to engage and disengage the same range of work tools as previous pin grabber couplers.

No dimensional or interface changes have been made to this coupler. However, a new patent-pending concept in the locking mechanism inside Center-Lock brings many benefits to the operator.

Confidence

The Cat Center-Lock Pin Grabber Coupler gives operators confidence through its patent pending locking system and visible locking mechanism. The heart of the Center-Lock Coupler is the over center lock. This lock uses proven physical principles to keep the coupler locked tight.

Productivity

A highly visible secondary lock gives operators confidence to make tool changes safely and quickly — saving time with every tool change. The action of Center-Lock is simpler and quicker than other pin grabber couplers and requires only curling the bucket cylinder to unlock and lock. The coupler action also allows the operator the change tools even in limited overhead conditions such as under power lines, bridge decks and street signs.

How Over-Center Technology Works

Over-Center Locking Technology found only in the Center-Lock Coupler works on the same principle as a set of Vise-Grip® locking pliers. As you squeeze the handles to close the jaws there is some resistance until just past halfway, then the jaws seem to snap shut — automatically. That is the over center lock taking place.

The locking mechanism found inside the Center-Lock Pin Grabber Coupler works on the same principle. Once the lock is engaged and over center, the operator can only open the coupler, by moving a switch in the cab and extending the bucket cylinder.

While the coupler is locked, any forces applied from the front or rear pin will only cause the over center lock to close even tighter. This lock is integral to the design, not an afterthought. If the coupler is working, the lock is working.

Visible Secondary Lock

The Center-Lock Pin Grabber Coupler was designed with the operator in mind. The secondary lock is clearly visible from the cab, providing an obvious indicator of coupler status: open or closed. The ability to see the lock on the front pin give the operator confidence and makes changing tools faster, while giving everyone on the job site reassurance that the Center-Lock is locked tight.

Secure Lock

Once engaged, this arrangement is so secure that even if the hydraulic cylinder were removed entirely, the coupler would stay locked. Center-Lock Coupler uses proven principles of physics to stay tight. This concept has been proven with rigorous testing. Either the primary hook or secondary lock on its own is strong enough to hold the full weight of the work tool, keeping the locking system absolutely secure. And, the physical lock is backed up by positive “always on” hydraulic pressure and a counterbalance valve on the cylinder for additional layers of protection.

Productivity

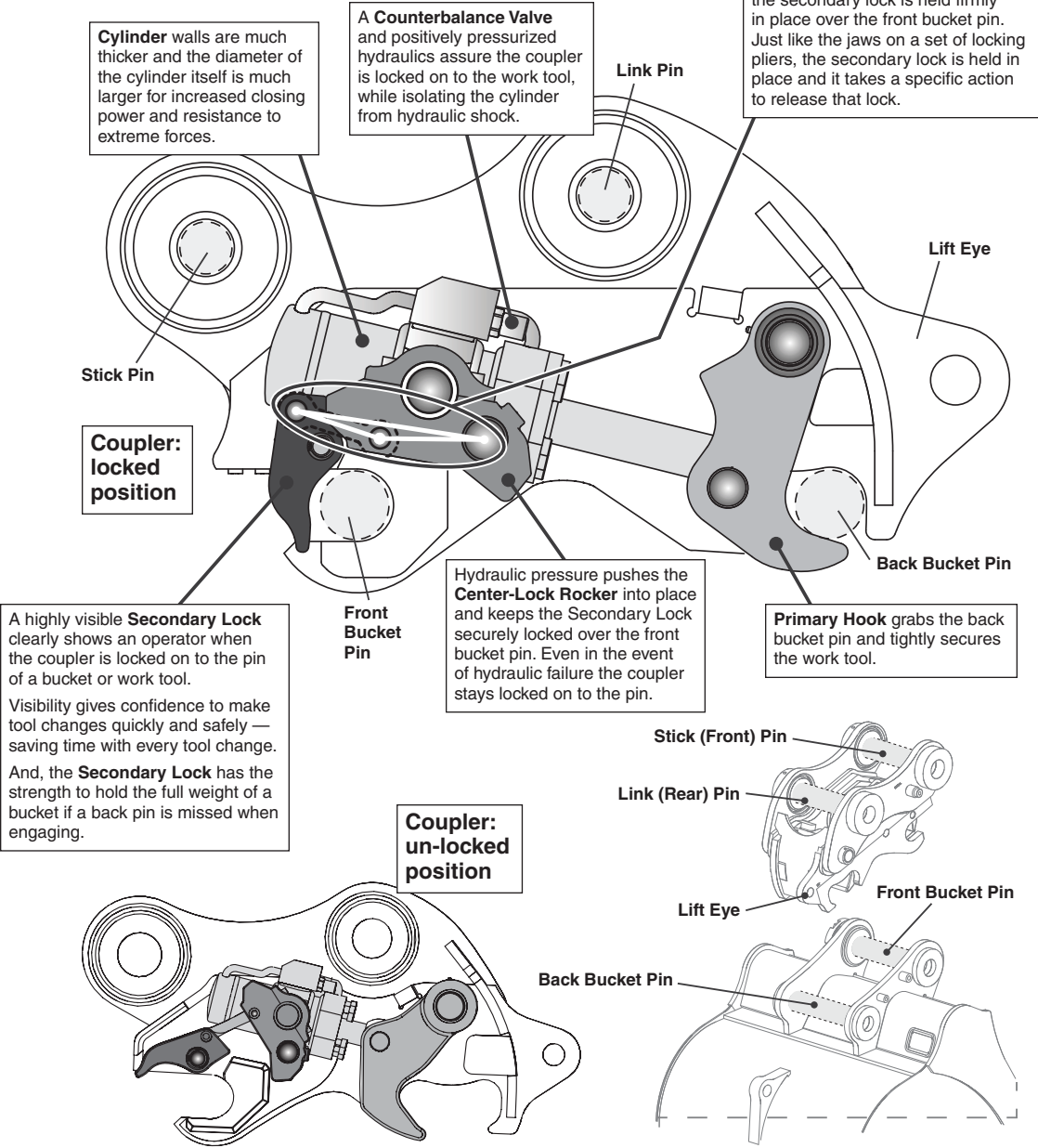
As with any quick coupler, the Center-Lock changes between attachments in seconds, allowing one machine to be used for multiple tasks on the job site. But Center-Lock offers many more productivity advantages.

The ease of operation and quickness of tool change-over maximizes productivity on the job site. The coupler is easy to operate, regardless of user skill level, and it's easier to train new operators to use. The ability to see when the coupler is open and closed saves time whenever a tool is changed. The elimination of the locking bar allows for operation regardless of boom, stick and machine position.

The Center-Lock Coupler can pick up many buckets in reverse “front shovel” position for better control in utility work and precise digging and grading operations. Many competitive buckets can be engaged, making the Center-Lock invaluable in mixed fleets or rental fleets.

Improved Pin Grabber Coupler

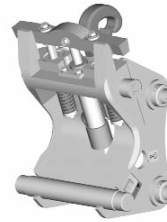
Center-Lock engages and disengages tools in a similar fashion to other pin grabber couplers. The difference with the Center-Lock Pin Grabber Coupler is found in the patent pending locking mechanism inside the coupler.



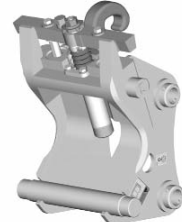
The Cat CW-series is available in a spindle and hydraulic version. A spindle version can easily be modified into a hydraulic version and vice versa.

Additional Benefit:

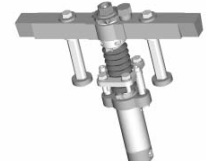
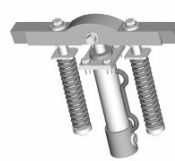
Hoisting hooks — To make the CW-series more versatile, hoisting hooks are available from 2 metric tons (2.2 tons) up to 20 metric tons (22 tons) capacity for maximum lifting capacity.



Hydraulic Version



Spindle Version



Specifications

		CW-05	CW-10	CW-20	CW-20S	CW-30	CW-30S	
Weight	kg	25	75	190	180	230	220	
	lb	55	165	419	397	507	485	
Dimensions								
Width	mm	175	310	550	420	550	420	
	in	6.9	12.2	21.7	16.5	21.7	16.5	
Length	mm	200	300	475	475	475	475	
	in	7.9	11.8	18.7	18.7	18.7	18.7	
Hoisting-hook	metric ton	2	4	5/10	5/10	5/10	5/10	
	ton	2.2	4.4	5.5/11.0	5.5/11.0	5.5/11.0	5.5/11.0	
Excavator-class	metric ton	<3.5	3.5-10.5	7.5-15	7.5-15	15-25	15-25	
	ton	<3.9	3.9-11.6	8.3-16.5	8.3-16.5	16.5-27.6	16.5-27.6	
Spindle Version		X	X	X	X	X	X	
Hydraulic Version		X	X	X	X	X	X	
		CW-40	CW-40S	CW-45	CW-45S	CW-55	CW-55S	CW-70
Weight	kg	240	230	440	400	760	580	1300
	lb	529	507	970	882	1676	1279	2866
Dimensions								
Width	mm	550	420	690	550	830	560	840
	in	21.7	16.5	27.2	21.7	32.7	22.0	33.1
Length	mm	475	475	570	570	650	650	875
	in	18.7	18.7	22.4	22.4	25.6	25.6	34.4
Hoisting-hook	metric ton	5/10	5/10	14	14	20	20	20
	ton	5.5/11.0	5.5/11.0	15.4	15.4	22.0	22.0	22.0
Excavator-class	metric ton	20-30	20-30	25-40	25-40	35-65	35-65	65-90
	ton	22.0-33.1	22.0-33.1	27.6-44.1	27.6-44.1	38.6-71.7	38.6-71.7	71.7-99.2
Spindle Version		X	X	X	X	X	X	N/A
Hydraulic Version		X	X	X	X	X	X	X

CW-40 and CW-40S are not suitable for machine exceeding 27 metric tons (29.8 ton), which are used under heavy working conditions like rocky soils and demolition work, we highly recommend the usage of quick coupler CW-45(S).

Matching Guide

Machine	Linkage Family	Quick Coupler Model	
		Standard	Narrow
301.6C		CW-05	N/A
301.8C		CW-05	N/A
302.5C		CW-05	N/A
303C CR		CW-05	N/A
303.5C CR		CW-05	N/A
304C CR		CW-10	N/A
305C CR		CW-10	N/A
307C, 307D		CW-10	N/A
312D		CW-20	CW-20S
315D L		CW-30	CW-30S
319D		CW-30	CW-30S
320D	B1, CB	CW-40	CW-40S
320D RR	B1	CW-40	N/A
321D CR	B1	CW-40	N/A
323D L	B, C	CW-40	CW-40S
329D**	C	CW-40	CW-40S
329D	D	CW-45	CW-45S

Machine	Linkage Family	Quick Coupler Model	
		Standard	Narrow
336D	D	CW-45	CW-45S
336D	E	CW-45	CW-45S
345D	TB, UB	CW-55	CW-55S
365C L	VB, WB	CW-70	N/A
385C	HJ, JB	CW-70	N/A
M313D		CW-20	CW-20S
M315D		CW-20	CW-20S
M316D		CW-20	CW-20S
M318D		CW-30	CW-30S
M322D		CW-40	CW-40S
330C UHD*	UHD linkage	CW-40	CW-40S
345C L UHD*	UHD linkage	CW-40	CW-40S
365C L UHD*	UHD linkage	CW-40	CW-40S
385C L UHD*	UHD linkage	CW-40	CW-40S

*Take note that UHD quick couplers have a special shape for optimal working range with Cat demolition work tools. Please contact your Cat dealer for UHD couplers for non-current Cat machines.

**For operation under heavy working conditions, like rocky soils and demolition work, we highly recommend the usage of quick coupler CW-45(S).

Machine Linkage

		307	312	315	B1	S	C	D	F/T	U/V/G
Pin diameters										
Front (stick)	mm	50	65	70	80	80	80	90	100	110
	in	2.0	2.6	2.8	3.1	3.1	3.1	3.5	3.9	4.3
Rear (link)	mm	50	65	70	80	80	80	90*	100**	90**
	in	2.0	2.6	2.8	3.1	3.1	3.1	3.5*	3.9**	3.5**
Pin spread range										
Minimum	mm	290	360	390	441	441	470	470	550	580
	in	11.4	14.2	15.4	17.4	17.4	18.5	18.5	21.7	22.8
Maximum	mm	312	420	463	516	516	520	520	600	640
	in	12.3	16.5	18.2	20.3	20.3	20.5	20.5	23.6	25.2
Face spread range										
Minimum	mm	178	220	277	306	306	347	380	420	495
	in	7.0	8.7	10.9	12.0	12.0	13.7	15.0	16.5	19.5
Maximum without shims	mm	186	226	281	312	312	353	386	441	511
	in	7.3	8.9	11.1	12.3	12.3	13.9	15.2	17.4	20.1
Maximum with shims	mm	216	258	315	344	344	385	418	458	557
	in	8.5	10.2	12.4	13.5	13.5	15.2	16.5	18.0	21.9
Other specifications										
Weight	kg	122	286	326	443	443	594	640	1035	1130
	lb	269	631	719	977	977	1310	1411	2282	2491
Weight without pins	kg	113	265	295	400	400	549	579	949	1025
	lb	249	584	650	882	882	1210	1276	2092	2260
Pressure rating	bar	400	400	400	400	400	400	400	400	400
	psi	5802	5802	5802	5802	5802	5802	5802	5802	5802

*Requires (2) sleeves.

**Requires (3) sleeves.

RIPPING & LOADING IN QUARRIES

The “Rip & Load” concept includes a large mass excavator equipped with a hydraulic quick coupler, a rock bucket and a ripper tine. The ripper tine is used to disrupt the in-situ rock formation, after which same excavator switches to the bucket to load the rock. This system is used where economical, environmental or legal issues prevent or restrict the use of explosives. In these situations, depending on geology, ripping either reduces the amount of explosives necessary, or replaces explosives all together.

Advantages:

- Reduction or elimination of blasting costs.
- Reduced safety risks.
- Smaller environmental impact (less noise and vibrations).
- Less exposure to precipitation, resulting in less water damage.
- Less waste (up to 35% reduction).
- Less internal cracks, resulting in higher quality product.
- Work areas can be closer to existing infrastructures.
- Fewer machines and personnel.
- Increased versatility with quick coupler (different buckets, hammers).
- Lower Cost per Ton.

Rip and Load Hourly Production

(With Hydraulic Quick Coupler)

Model	Metric Tons/Hour	Short Tons/Hour
345C/345D	150 - 300	165 - 330
365C	200 - 400	220 - 440
385C	300 - 500	330 - 550
5110B	400 - 600	440 - 660
5130B	600 - 800	660 - 880

Rippability

Refer to “Tip Selection”, “Estimating Ripping Production” and “Use of Seismic Velocity Charts” in the Track-type Tractors section. This information generally applies to usage of a ripper tine on the mass excavator.

Rippability Comparison between LHEX and LTTT

The excavator ripping technique is different from production ripping with a track-type tractor. The track-type tractor pulls the ripper(s) through the rock mass at a constant rate, whereas the excavator uses its stick- and curl forces to break material away from a horizontal or vertical face. Forward visibility in the excavator allows the operator to position the ripper tooth and attack geological discontinuities to assist the ripping process.

In ripping and loading, the ripper is typically used between 15% and 20% of the hour preparing the material. Tool change time, when using the hydraulic quick coupler, is insignificant with 2% to 6%. The remainder of the time is used for loading.

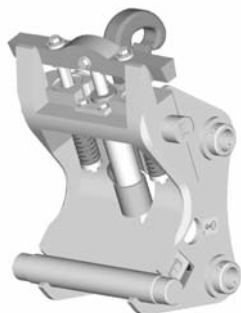
The ripping process improves bucket penetration which will increase service life of the bucket.

Cat Hydraulic Quick Couplers for Mass Excavators

Source: Caterpillar Work Tools and Product Solutions — May not be available in all areas

(S) indicates narrow width version

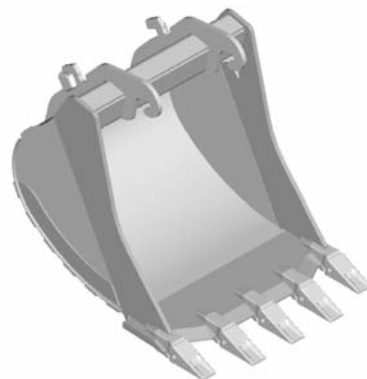
		CW-30 (S)	CW-40 (S)	CW-45 (S)	CW-55 (S)	CW-70
Width	mm	550 (420)	550 (420)	690 (550)	830 (560)	840
	in	21.7 (16.5)	21.7 (16.5)	27.2 (21.7)	32.7 (22.0)	33.1
Length	mm	475	475	570	650	875
	in	18.7	18.7	22.4	25.6	34.4
Models Available						
M – Mechanical		M	M	M	M	
S – Spindle		S	S	S	S	H
H – Hydraulic		H	H	H	H	
M318D						
320D		B linkage	CB linkage			
322C			S linkage	D linkage		
M322D						
323D		B linkage	C linkage			
329D			C linkage	D linkage		
336D						
345D						
365C						
385C						



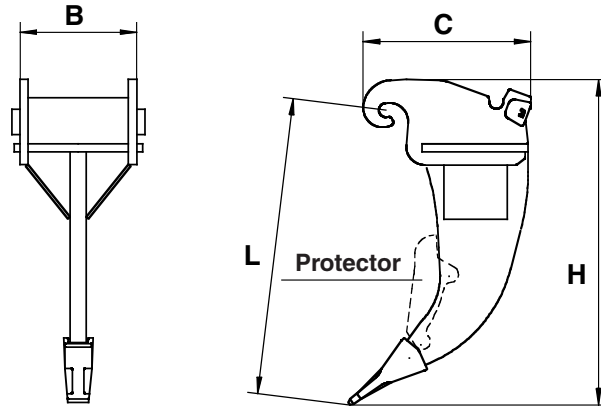
Cat CW-70
Quick Coupler



Cat TR-70
Ripper with QC



Cat Bucket with
Quick Coupler Brackets



Specifications

		TR-20-N		TR-30-N		TR-40-N		TR-45-N		TR-55-N		TR-70-N
Hinge Plate		CA-20	CA-20S	CA-30	CA-30S	CA-40	CA-40S	CA-45	CA-45S	CA-55	CA-55S	CA-70
Weight*	kg	300	270	400	370	460	420	820	770	1200	1140	1760
	lb	661	595	882	816	1014	926	1808	1698	2646	2513	3880
Dimensions*												
B	mm	630	500	630	500	630	500	800	660	965	695	1000
	in	24.8	19.7	24.8	19.7	24.8	19.7	31.5	26.0	38.0	27.4	39.4
L	mm	940		1105		1270		1435		1600		1700
	in	37.0		43.5		50.0		56.5		63.0		66.9
C	mm	725		725		725		900		1050		1325
	in	28.5		28.5		28.5		35.4		41.3		52.2
H	mm	1150		1250		1400		1650		1800		1980
	in	45.3		49.2		55.1		65.0		70.9		78.0
Wear parts												
Tip size (family)		R300		R350		R450		R500		R500		R550
Shank-protector**		N/A		N/A		X		X		X		X
Excavator-class	metric ton	7.5-15		15-25		20-30		25-40		35-65		65-90
	ton	8.3-16.5		16.5-27.6		22.0-33.1		27.6-44.1		38.6-71.7		71.7-99.2

*Weight and dimensions include standard Quick-Coupler hinge plates and exclude shank-protector.

**Shank-protector is optional.

Cat Ripper Tine for CW Hydraulic Quick Couplers

Source: Caterpillar Work Tools and Product Solutions — May not be available in all areas

	TR-30	TR-40	TR-45	TR-55	TR-70
320D					
322C					
323D					
329D					
336D					
345D					
365C					
385C					

EQUIPMENT FOR ...	301.6C	301.8C	302.5C
Undercarriage:			
Standard	●	—	●
Variable Width	—	●	—
Booms:			
Swing	●	●	●
Sticks:			
Medium	—	●	●
Long	●	●	●
Buckets (No. of)	14	14	17
Teeth:			
Long	●	●	●
Side Cutters:			
One-Piece Blade	●	●	●
Augers	●	●	●
Hydraulic Hammers	●	●	●
Crushers	—	—	●
Track Shoes:	Steel Double Grouser 230 mm (9") Rubber Belt 230 mm (9")	Steel Double Grouser 230 mm (9") Rubber Belt 230 mm (9")	Steel Double Grouser 300 mm (12") Rubber Belt 300 mm (12")

NOTE: Number of buckets includes General Purpose, Trenching and Rock. Other types of buckets have not been included.
All attachments may not be available in all sales areas.

EQUIPMENT FOR ...	303C CR	304C CR	305C CR
Undercarriage:			
Standard	●	●	●
Booms:			
Swing	●	●	●
Parallel Offset	●	—	—
Sticks:		mm ft	
Medium	●	1380 4'6"	●
Long	●	—	●
Long HD	—	1780 5'10"	—
Buckets (No. of)	13	13	13
Teeth:			
Long	●	●	●
Light Duty Long	●	●	●
Short	—	—	—
Wide	●	●	●
Penetration	●	●	●
Sharp — Corner	●	●	●
Sharp — Center	●	●	●
Sharp — Twin	●	●	●
Heavy Duty Long	—	—	—
Heavy Duty Abrasion	—	—	—
Abrasion	●	●	●
Side Cutters:			
One-Piece Blade	●	●	●
Track Shoes:	Steel Double Grouser 300 mm (12") Rubber 300 mm (12")	Triple Grouser 400 mm (16") Rubber Belt 400 mm (16")	Triple Grouser 400 mm (16") Rubber Belt 400 mm (16")

NOTE: Number of buckets includes General Purpose, Trenching and Rock. Other types of buckets have not been included.
 All attachments may not be available in all sales areas.

EQUIPMENT FOR ...	307C		307D		308D CR SB	
Undercarriage:						
Standard	●		●		●	
Booms:						
One-Piece Reach	●		●		—	
Swing	—		—		●	
Parallel Offset	●		●		—	
Variable Adjustable	—		—		—	
Sticks:	mm	ft	mm	ft	mm	ft
Medium	1670	5'6"	1670	5'6"	1670	5'6"
Long	2210	7'3"	2210	7'3"	2210	7'3"
Buckets (No. of)	10		10		10	
Teeth:						
Long	●		●		●	
Light Duty Long	—		—		—	
Short	●		●		●	
Wide	●		●		●	
Penetration	●		●		●	
Sharp — Corner	●		●		●	
Sharp — Center	●		●		●	
Sharp — Twin	●		●		●	
Heavy Duty Long	●		●		●	
Heavy Duty Abrasion	●		●		●	
Abrasion	—		—		—	
Side Cutters:						
One-Piece Blade	●		●		●	
Track Shoes:	Triple Grouser 450, 600 mm (18", 24") Rubber Segments 450 mm (18")		Triple Grouser 450, 600 mm (18", 24") Rubber Segments 450 mm (18")		Triple Grouser 450, 600 mm (18", 24") Rubber Segments 450 mm (18") Rubber Belt 450 mm (18")	

NOTE: Number of buckets includes General Purpose, Trenching and Rock. Other types of buckets have not been included.
All attachments may not be available in all sales areas.

EQUIPMENT FOR ...	308D CR		311D LRR		312D	
Undercarriage: Standard	●		●		●	
Booms: One-Piece Reach Parallel Offset	● —		● —		● —	
Sticks:	mm	ft	mm	ft	mm	ft
Short	—	—	—	—	2100	6'11"
Medium	1670	5'6"	2250	7'5"	2500	8'2"
Intermediate	—	—	2600	8'6"	2800	9'2"
Long	2210	7'3"	2800	9'2"	3000	9'10"
Buckets (No. of)	10		5		5	
Teeth (J – GET): Abrasion — HD Long (G.P.) Long — HD Short Short (Rock) Penetration Wide (Spade) Sharp — Center Sharp — Corner	— ● — — — — — — —		● ● ● — ● ● ● ● ●		● ● ● — ● ● ● ● ●	
Side Cutters: One-Piece Blade	●		●		●	
Hydraulic Hammers	●		—		—	
Track Shoes:	Triple Grouser 450, 600 mm (18", 24") Rubber Segments 450 mm (18") Rubber Belt 450 mm (18")		Triple Grouser 500, 600, 700, 770 mm (20", 24", 28", 30") Rubber Segments 500 mm (20")		Triple Grouser 500, 600, 700, 770 mm (20", 24", 28", 30") Rubber Segments 500 mm (20")	
Blade	●		●		●	

NOTE: Number of buckets includes General Purpose, Trenching and Rock. Other types of buckets have not been included.
 All attachments may not be available in all sales areas.

Excavators

Summary of Major Attachments

- 312D ● 312D L ● 313C CR
- 313C SR ● 314D CR ● 314D LCR

EQUIPMENT FOR ...	312D L		312D* 312D L*		313C SR		313C CR		314D CR 314D LCR	
Undercarriage:										
Standard	—		●		●		●		●	
Long (L) — FIX	●		●		—		—		—	
Booms:										
One-Piece Reach	●		●		—		●		●	
Parallel Offset	—		—		●		—		—	
Sticks:	mm	ft	mm	ft	mm	ft	mm	ft	mm	ft
Short	2100	6'11"	2100	6'11"	—		—		—	
●	—		2500	8'2"	—		—		—	
●	—		3000	9'10"	—		—		—	
Medium	2500	8'2"	—		2130	7'0"	2500	8'2"	2500	8'2"
Intermediate	2800	9'2"	—		—		—		2800	9'2"
Long	3000	9'10"	—		—		3000	9'10"	3000	9'10"
Medium HD	—		—		—		2500	8'2"	—	
Booms:										
Two-Piece VA	—		●		—		—		—	
Buckets (No. of)	5		5		3		5		5	
Teeth:										
Abrasion — HD	●		●		●		●		●	
Long (G.P.)	●		●		●		●		●	
Long — HD	●		—		●		●		●	
Short (Rock)	●		●		●		●		●	
Penetration	●		●		●		●		●	
Wide (Spade)	●		●		●		●		●	
Sharp — Center	●		●		●		●		●	
Sharp — Corner	●		—		●		●		●	
Side Cutters:										
One-Piece Blade	●		●		●		●		●	
Track Shoes:	Triple Grouser 600, 700, 770 mm (24", 28", 30")		Triple Grouser 500, 600, 700, 850, 900, 1400 mm (20", 24", 28", 34", 35", 56")		Triple Grouser 600, 700 mm (24", 28")		Triple Grouser 600, 700 mm (24", 28")		Triple Grouser 500, 600, 700 mm (20", 24", 28")	
	Rubber Segments 500 mm (20")				Rubber Segments 500 mm (20")		Rubber Segments 500 mm (20")		Rubber Segments 500 mm (20")	
Blade	●		—		●		●		●	

*France sourced.

NOTE: Number of buckets includes General Purpose, Trenching and Rock. Other types of buckets have not been included.
All attachments may not be available in all sales areas.

EQUIPMENT FOR ...	315D L		315D L**		319D L 319D LN	
Undercarriage:						
Long (L) — FIX	●		●		●	
Narrow (N)	—		—		●*	
Long Narrow (LN)	—		—		●	
Extra Long (EL)	—		—		●	
Booms:						
One-Piece Reach	●		●		●	
Sticks:	mm	ft	mm	ft	mm	ft
Short	1850	6'1"	1850	6'1"	1800	5'11"
●	2250	7'5"	2250	7'5"	2250	7'5"
●	2600	8'6"	2600	8'6"	—	—
Medium	2900	9'6"	2900	9'6"	2700	8'10"
Long	3100	10'2"	3100	10'2"	3200	10'6"
Booms:						
One-Piece Mass	●		●		—	
Two-Piece VA	—		—		●*	
Buckets (No. of)	5		5		5	
Teeth (J – GET):						
Abrasion	—		—		●*	
Abrasion — HD	●		●		●	
Long (G.P.)	●		●		●	
Long — HD	●		—		●	
Short (Rock)	●		—		●	
Penetration	●		●		●	
Wide (Spade)	●		●		●	
Sharp	—		●		●*	
Sharp — Center	●		●		●	
Sharp — Corner	●		●		●	
Teeth (K – GET):						
General Duty	●		—		●	
Penetration	●		—		●	
Penetration Plus	●		—		●	
Wide	●		—		●	
Extra Duty	●		—		●	
Spike	●		—		●	
Double Spike	●		—		●	
Side Cutters:						
One-Piece Blade	●		—		●	
Track Shoes:	Triple Grouser 600, 700 mm (24", 28")		Triple Grouser 500, 600, 700 mm (20", 24", 28")		Triple Grouser 500, 600, 700 mm (20", 24", 28")	

*France sourced.

**EAME only.

NOTE: Number of buckets includes General Purpose, Trenching and Rock. Other types of buckets have not been included.
 All attachments may not be available in all sales areas.

Excavators

Summary of Major Attachments

- 320D ● 320D L/LN ● 320D RR/LRR
- 321D LCR ● 323D L/LN ● 324D ● 324D L/LN

EQUIPMENT FOR ...	320D, 320D L 320D LN, 320D RR 320D LRR				321D LCR		323D L 323D LN		324D 324D L 324D LN			
Undercarriage:												
Standard	●				—		●		●			
Long (L) — FIX	●				●		●		●			
Long Narrow (LN)	●				—		●		●			
Booms:												
One-Piece Reach	●				●		●		●			
One-Piece Reach — HD	●				—		●		—			
Sticks:	mm	ft		mm	ft		mm	ft		mm	ft	
Short	1900	6'3"		2900	9'6"		1900	6'3"		2500	8'2"	
●	2500	8'2"		—	—		2500	8'2"		—	—	
●	2900	9'6"		—	—		2900	9'6"		—	—	
Medium	—	—		—	—		—	—		2950	9'8"	
Long	3900	12'10"		—	—		—	—		3600	11'10"	
Short — HD	2500	8'2"		—	—		2500	8'2"		—	—	
● — HD	2900	9'6"		—	—		2900	9'6"		—	—	
Booms:												
One-Piece Mass	●				—		●		●			
Two-Piece VA	●				●		●		—			
Sticks:	mm	ft					mm	ft		mm	ft	
Short	1900	6'3"		—	—		1900	6'3"		2500	8'2"	
●	2400	7'10"		—	—		2500	8'2"		—	—	
●	2900	9'6"		—	—		2900	9'6"		—	—	
Bucket Family	B1, C				B1		B, C		B1, CB1, DB			
Buckets (No. of)	18				4		18		7			
Teeth:												
Abrasion — HD	●				●		●		●			
Long (G.P.)	●				●		●		●			
Long — HD	●				●		●		●			
Short (Rock)	●				●		●		●			
Penetration	●				●		●		●			
Wide (Spade)	●				●		●		●			
Sharp — Center	●				●		●		●			
Sharp — Corner	●				●		●		●			
Side Cutters:												
One-Piece Blade	●				●		●		●			
Side Bar Protector	—				●		—		●			
Track Shoes:	Triple Grouser 600, 700, 800, 900 mm (24", 28", 31", 35") Double Grouser 600, 700 mm (24", 28")				Triple Grouser 600, 700*, 800 mm (24", 28", 32")		Triple Grouser 600, 700, 800, 900 mm (24", 28", 32", 35") Double Grouser 600, 700 mm (24", 28")		Triple Grouser 600, 700, 800 mm (24", 28", 32")			
Quick Couplers	●				●		●		●			
Grapples	●				●		●		●			
Multi-Processors	●				●		●		●			
Hammers	●				●		●		●			

*Not available in Europe, Africa or Middle East.

NOTE: Number of buckets includes General Purpose, Trenching and Rock. Other types of buckets have not been included.

All attachments may not be available in all sales areas.

Summary of Major Attachments

● 329D ● 329D L/LN ● 336D ● 336D L/LN
● 345D ● 345D L ● 365C L ● 385C ● 385C L

Excavators

4

EQUIPMENT FOR ...	329D 329D L 329D LN	336D 336D L 336D LN	345D 345D L	365C L	385C 385C L
Undercarriage:					
Standard	●	●	—	—	●
Long (L) — VG	—	—	●	●	●
Long (L) — FIX	●	●	●	—	—
Long Narrow (LN)	●	●	—	—	—
Extreme Service (ES)	—	—	—	●	—
Long — HVG	—	—	●	—	—
Booms:					
One-Piece Reach	●	●	—	●	●
One-Piece Reach — HD	—	—	●	—	—
One-Piece GP	—	—	—	—	●
Sticks:	mm ft	mm ft	mm ft	mm ft	mm ft
Short	2500 8'2"	—	—	2840 9'2"	2920 9'5"
●	—	—	—	3600 11'8"	3400 11'2"
●	—	3200 10'6"	—	4150 13'8"	3700 12'1"
●	—	3900 12'10"	—	4670 15'4"	4400 14'4"
Short — HD	—	—	2900 9'5"	—	5500 18'1"
● — HD	—	—	3400 11'2"	—	—
Medium	2950 9'8"	—	—	—	—
Long	3600 11'10"	—	—	—	—
Booms:					
One-Piece Mass	●	●	—	●	●
One-Piece Mass — HD	—	—	●	—	—
Sticks:	mm ft	mm ft	mm ft	mm ft	mm ft
Short	2500 8'2"	2550 8'5"	2500 8'2"	2570 8'5"	2920 9'5"
●	—	—	3000 9'8"	3000 9'8"	3400 11'2"
Bucket Family	B1, CB1, DB	DB, TB1	TB, UB	VB, WB	HB, JB
Buckets (No. of)	8	18	16	24	14
Teeth:					
Abrasion — HD	●	●	●	—	—
Long (G.P.)	●	●	●	●	●
Long — HD	●	●	●	●	●
Short (Rock)	●	●	●	●	●
Penetration	●	●	●	●	●
Penetration Plus	—	—	●	●	●
Wide (Spade)	●	●	—	—	—
Sharp — Center	●	●	—	—	—
Sharp — Corner	●	●	—	—	—
Side Cutters:					
One-Piece Blade	●	●	CWTS	—	—
Track Shoes:	Triple Grouser 600, 700, 800 mm (24", 28", 32")	Triple Grouser 600, 750, 850 mm (24", 30", 33")	Double Grouser 600, 750 mm (24", 30") Triple Grouser 750, 900 mm (30", 35")	Double Grouser 650, 900 mm (26", 35")	Double Grouser 650, 750, 900 mm (26", 30", 35")
Quick Couplers	●	●	●	●	●
Grapples	●	●	CWTS	—	—
Multi-Processors	●	●	CWTS	—	—
Hammers	●	●	CWTS	—	—

NOTE: Number of buckets includes General Purpose, Trenching and Rock. Other types of buckets have not been included.
All attachments may not be available in all sales areas.

EQUIPMENT FOR ...	M313D	M315D	M316D	M318D	M322D
Undercarriage:					
Wheeled	●	●	●	●	●
Booms:					
One-piece	●	●	●	●	●
VA	●	●	●	●	●
Backhoe Sticks:	mm ft	mm ft	mm ft	mm ft	mm ft
Short	2000 6'7"	2100 6'11"	2100 6'11"	2200 7'3"	2200 7'3"
Medium	2300 7'7"	2400 7'10"	2400 7'10"	2500 8'2"	2500 8'2"
Long	2600 8'6"	2600 8'6"	2600 8'6"	2800 9'2"	2900 9'6"
Buckets (No. of)	12	12	11	12	7
Teeth:					
Abrasion	●	●	●	●	●
Long (G.P.)	●	●	●	●	●
Short (Rock)	●	●	●	●	●
Penetration	●	●	●	●	●
Wide	●	●	●	●	●
Sharp	●	●	●	●	●
Cab Riser:					
Fixed	●	●	●	●	●
Hydraulic	—	—	—	—	—
Tires:	10.00-20 16 PR 18R 19.5 XF 10.00-20 SR 600/40-22.5 11.00-20	10.00-20 16 PR 18R 19.5 XF 10.00-20 SR 600/40-22.5 11.00-20	10.00-20 16 PR 18R 19.5 XF 10.00-20 SR 600/40-22.5 11.00-20	10.00-20 16 PR 18R 19.5 XF 10.00-20 SR 600/40-22.5 11.00-20	10.00-20 16 PR 10.00-20 SR

Work Tools	M313D	M315D	M316D	M318D	M322D
Clamshell	●	●	●	●	●
Ditch Cleaning Bucket	●	●	●	●	●
Grapples	●	●	●	●	●
Hammer Installation Kit	●	●	●	●	●

Work Tools	301 8C, 301 8C,	302 5C	303C CR, 303 5C CR,	304C CR, 305C CR	307D CR,	308D CR	311D LRR, 312D L,	314D CR, 314D LCR	315D L	319D L, 319D LN	M313D, M315D	M316D, M318D,	M322D	320D, 320D RR,	321D CR, 323D	322C, 324D	329D	336D	345D	365C L	385C
Quick Coupler	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Ditch Cleaning Bucket	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
General Purpose Bucket	x	x			x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Heavy Duty Bucket			x																		
Rock Bucket			x		x							x	x	x	x	x	x	x	x	x	x
Tilt Bucket		x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Thumb	x	x	x	x	x	x	x					x	x	x	x	x	x	x	x	x	x
Contractor's Grapple			x	x	x	x						x	x	x	x	x	x	x	x	x	x
Sorting & Demolition Grapple																					
Trash Grapple				x	x	x						x	x	x	x	x	x	x	x	x	x
Orange Peel Grapple																					
Hydraulic Hammer			x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Vibratory Plate Compactor																					
Shear			x	x	x	x						x	x	x	x	x	x	x	x	x	x
Multi-Processor							x					x	x	x	x	x	x	x	x	x	x

NOTE: Other attachments available upon request. Contact your Cat dealer.

CYCLE TIME ESTIMATING CHARTS

The digging cycle of the excavator is composed of four segments:

1. Load Bucket
3. Dump Bucket
2. Swing Loaded
4. Swing Empty

Total excavator cycle time is dependent on machine size (small machines can cycle faster than large machines) and job conditions. With excellent job conditions the excavator can cycle fast. As job conditions become more severe (tougher digging, deeper trench, more obstacles, etc.), the excavator slows down accordingly. As the soil gets harder to dig, it takes longer to fill the bucket. As the trench gets deeper and the spoil pile larger, the bucket has to travel farther and the upper structure has to swing farther on each digging cycle.

Spoil pile or truck location also affects cycle time. If a truck is located on the floor of the excavation beside material being moved, 10 to 17 second cycles are practical. The other extreme would be a truck or spoil pile located above the excavator 180° from the excavation.

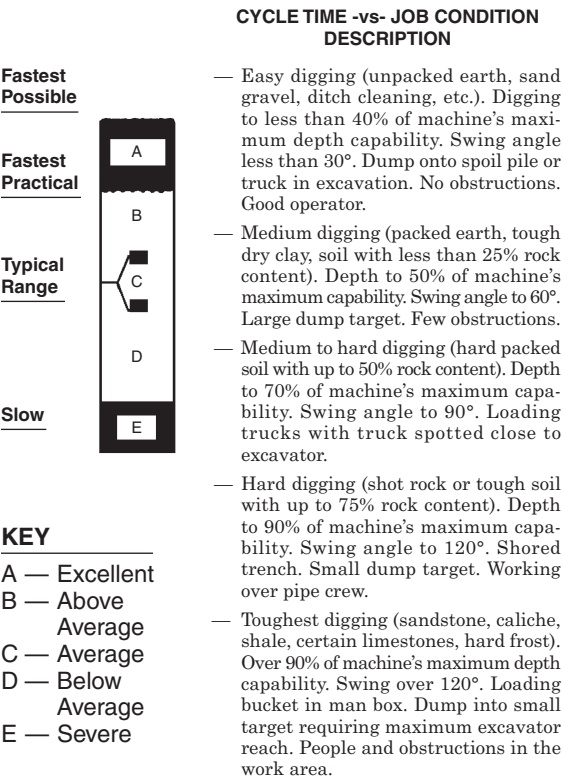
In sewer construction work the operator may not be able to work at full speed because he has to dig around existing utilities, load the bucket inside a trench shield, or avoid people working in the area.

The Cycle Time Estimating Chart outlines the range of total cycle time that can be expected as job conditions range from excellent to severe. Many variables affect how fast the excavator is able to work. The chart defines the range of cycle times frequently experienced with a machine and provides a guide to what is an “easy” or a “hard” job. The estimator can then evaluate the conditions of his job and use the Cycle Time Estimating Chart to select the appropriate working range. A practical method of further calibrating the Cycle Time Estimating Chart is to observe excavators working in the field and correlate measured cycle times to job conditions, operator ability, etc.

The following table breaks down what experience has shown to be typical Cat excavator cycle times with

- no obstruction in the right of way
- above average job conditions
- an operator of average ability and
- 60°-90° swing angle.

These times would decrease as job conditions or operator ability improved and would get slower as conditions become less favorable.



Cycle Time Estimating Chart

Model		307C	308D CR	308D CR SB	311D LRR	312D, 312D L	315D L	319D L, 319D LN	M312, M313C, M315C, M313D, M315D	M315, M316C, M316D	M318C, M318D	M322C, M322D
Bucket Size	L yd ³	280 0.37	220 0.30	220 0.30	450 0.59	520 0.68	520 0.68	800 1.05	610 0.80	750 0.98	900 1.18	1050 1.37
Soil Type		← Packed Earth →						← Sand/Gravel →				
Digging Depth	m ft	1.5 5'0"	1.8 6'0"	1.8 6'0"	1.5 5'0"	1.8 6'0"	3.0 10'0"	3.0 10'0"	3.0 10'0"	3.0 10'0"	3.0 10'0"	3.0 10'0"
Load Bucket	min	0.08	0.09	0.08	0.07	0.07	0.07	0.09	0.05	0.06	0.06	0.08
Swing Loaded	min	0.05	0.03	0.03	0.06	0.06	0.08	0.09	0.05	0.05	0.06	0.06
Dump Bucket	min	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04
Swing Empty	min	0.06	0.06	0.08	0.05	0.05	0.06	0.07	0.04	0.04	0.05	0.05
Total Cycle Time	min	0.22	0.21	0.22	0.21	0.21	0.24	0.28	0.17	0.18	0.20	0.23

Cycle Time Estimating Chart

Model		320D	320D RR, 321D CR, 323D	324D	328D LCR	329D	336D	345D	365C L	385C
Bucket Size	L yd ³	800 1.05	800 1.05	1000 1.31	N/A	1100 1.44	1400 1.83	2400 3.0	1900 2.5	3760 5.0
Soil Type		← Hard Clay →								
Digging Depth	m ft	2.3 8	2.3 8	3.2 10	N/A	3.2 10	3.4 11	4.0 13	4.2 14	5.6 18
Load Bucket	min	0.09	0.09	0.09	N/A	0.09	0.09	0.13	0.10	0.19
Swing Loaded	min	0.06	0.06	0.06	N/A	0.06	0.07	0.07	0.09	0.06
Dump Bucket	min	0.03	0.03	0.04	N/A	0.04	0.04	0.02	0.04	0.03
Swing Empty	min	0.05	0.05	0.06	N/A	0.06	0.07	0.06	0.07	0.07
Total Cycle Time	min	0.23	0.23	0.25	N/A	0.25	0.27	0.28	0.30	0.35

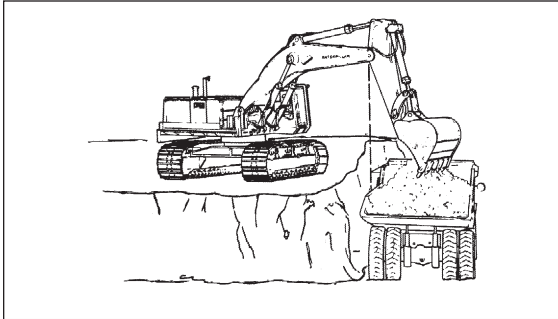
N/A = Not Applicable

CYCLE TIME ESTIMATING CHART															
CYCLE TIME	MACHINE SIZE CLASS														CYCLE TIME
	307C 308D CR 308D CR SB	311D	M312 M313C M313D 312D	M315C M316C M315D M316D 315D L	M318C 319D L 319D LN	M322C M322D 320D 320D RR 321D CR 323D	324D	328D LCR	329D	336D	345D	365C L	385C		
10 SEC.								N/A						0.17 min.	
15								N/A						0.25 min.	
20 SEC.								N/A						0.33 min.	
25														0.42 min.	
30 SEC.														0.50 min.	
35														0.58 min.	
40 SEC.														0.67 min.	
45														0.75 min.	
50 SEC.														0.83 min.	
55														0.92 min.	
60 SEC.														1.0 min.	

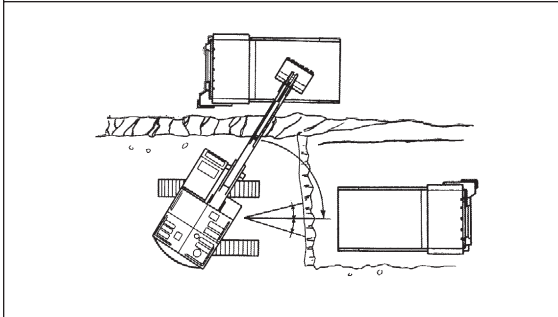
N/A = Not Applicable

Cat 300 Series Mass Excavation booms and buckets coupled with the proper stick will help you move material faster and more efficiently in production excavation and loading applications. With the largest bucket, shortest stick and long undercarriage your excavator can often do the work of a larger machine. A longer stick and standard undercarriage make it ideal for loading on-highway trucks and general construction jobs.

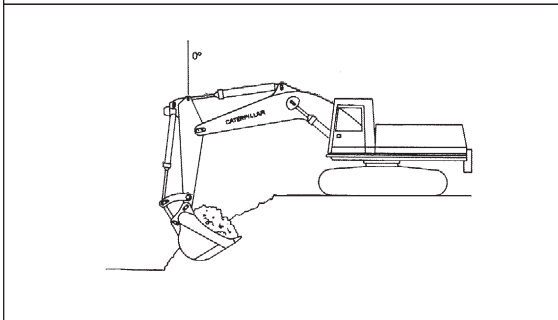
MAXIMIZING PRODUCTION WITH A MASS EXCAVATOR



Ideal Bench Height and Truck Distance — For stable or consolidated materials, bench height should be about equal to stick length. For unstable materials it should be less. The most useful truck position is when the inside truck body rail is below the boomstick hinge pin.



Optimum Work Zone and Swing Angle — For maximum production, the work zone should be limited to 15° either side of machine center or about equal to undercarriage width. Trucks should be positioned as close as possible to machine centerline. Two alternatives shown here.



Best Distance from the Edge — The machine should be positioned so that the stick is vertical when the bucket reaches full load. If the unit is farther back, breakout force is reduced. If it is closer to the edge, undercutting may occur and time is wasted bringing the stick back out. Also, the operator should begin boom-up when the bucket is 75% of the way through the curl cycle. This should be as the stick nears the vertical position.

This example reflects the ideal situation. Not all points are usable on each job, but incorporation of as many of these points as possible will positively affect production.

SELECTING A MASS EXCAVATOR

Selecting a mass excavator model for optimum production requires matching the machine and bucket to the customer's production requirements, material, and haulers. The following 6-Step selection process will help you to consider the key factors which will impact machine selection. Failure to consider these key elements in the selection process may result in choosing a machine that is too small to efficiently handle the desired bucket size or to meet the production requirement. Selecting a mass excavator which is too large may lead to excessive loader wait time, creating excessive "load shocks" into the hauler, and/or overloading the hauler capacity.

Step 1

Determine the material type and bucket fill factor

Refer to the bucket fill factors table.

Example:

Average Blasted Rock = 75 to 90%

Step 2

Estimate the Cycle Time

Refer to the cycle time estimating chart.

Example:

$\frac{365\text{B in Hard Rock Digging}}{\text{Shot Rock}} = .43 \text{ to } .52 \text{ minute}$

Step 3

Calculate the Effective Cycles per Hour

Divide the 60 minute hour by cycle time and adjust for availability and efficiencies.

Example:

<i>Cycle Time</i>	0.48 minute
$\frac{60 \text{ minute hour}}{\text{Cycle Time}}$	$\frac{60}{0.48} = 125$
<i>Operator Skill/Efficiency</i>	0.9 (90%)
<i>Machine Availability</i>	0.95 (95%)
<i>Gen Operational Efficiency</i>	0.83 (50 min/hr)
<i>Effective Cycles per Hour</i>	$125 \times .9 \times .95 \times .83 = 89$

Step 4

Calculate the Required Bucket Capacity

Divide hourly production requirement by effective cycles per hour, adjust for material density and fill factor.

Example (Metric):

Hourly Production Required 500 Tons/hour

Effective cycles/hour 89

$$\frac{\text{Hourly Production Required}}{\text{Effective cycles/hour}} = \frac{\text{Required Payload}}{\text{}} \quad \frac{500}{89} = 5.6$$

Material Density/Loose 1.6 Ton/m³

$$\frac{\text{Required Payload}}{\text{Material Density/Loose}} = \frac{\text{Bucket Payload Volume}}{\text{}} \quad \frac{5.6}{1.6} = 3.5 \text{ m}^3$$

Fill Factor 0.85 (85%)

$$\frac{\text{Bucket Payload Volume}}{\text{Fill Factor}} = \frac{\text{Nominal Bucket Size}}{\text{}} \quad \frac{3.5}{.85} = 4.1 \text{ m}^3$$

Example (English):

Hourly Production Required 550 tons/hour

Effective cycles/hour 89

$$\frac{\text{Hourly Production Required}}{\text{Effective cycles/hour}} = \frac{\text{Required Payload}}{\text{}} \quad \frac{550 \times 2000}{89} = 12,360 \text{ lb}$$

Material Density/Loose 2700 lb/yd³

$$\frac{\text{Required Payload}}{\text{Material Density/Loose}} = \frac{\text{Bucket Payload Volume}}{\text{}} \quad \frac{12,360}{2700} = 4.6 \text{ yd}^3$$

Fill Factor 0.85 (85%)

$$\frac{\text{Bucket Payload Volume}}{\text{Fill Factor}} = \frac{\text{Nominal Bucket Size}}{\text{}} \quad \frac{4.6}{.85} = 5.4 \text{ yd}^3$$

Step 5

Select Mass Excavator for required bucket size

Refer to Performance Handbook to compare machine models and bucket ranges. Confirm bucket type, size, and maximum material density in Specalog for desired model.

Example:

Required bucket capacity approximately
4.1 m³ (5.4 yd³)

345B L Series II ME bucket capacity
to 3.5 m³ (4.6 yd³)

365B L Series II ME bucket capacity
to 5.3 m³ (6.9 yd³)

385B L ME bucket capacity to 5.6 m³ (7.3 yd³)

Best Choice 365B Series II with 4.0 m³ (5.2 yd³)
Rock Bucket rated to 1.8 Ton/m³ (3000 lb/yd³)
material density in Specalog

Important: Re-calculate Steps 2 - 5 based on cycle
times of model selected.

Step 6

Select Haulers

General rule for matching trucks is based on
number of cycles to fill the truck.

ME: 4 to 6 passes

Front Shovels: 3 to 5 passes

Example (Metric):

Bucket Selected 4 m³

Volume in 5 passes $5 \times 4 \times .85 = 17 \text{ m}^3$

Payload $17 \times 1.6 = 27.2 \text{ Tons}$

Consider weight of Liners $27.2 + 2 = 29.2 \text{ Tons}$

Suitable Truck Match Options:

735 with capacity 19.2 m³/31.8 t

769D with capacity 24.2 m³/37.9 t

Example (English):

Bucket Selected 5.2 yd³

Volume in 5 passes $5 \times 5.2 \times .85$
 $= 22.1 \text{ yd}^3$

Payload 22.1×2700
 $= 59,670 \text{ lb}$

Consider weight of Liners $59,670 + 4400 \text{ lb}$
 $= 64,070 \text{ lb}$

Suitable Truck Match Options:

735 with capacity 25.1 yd³/70,000 lb

769D with capacity 31.7 yd³/83,570 lb

EARTHMOVING PRODUCTION

As with any other piece of material handling equipment, excavator earthmoving production is dependent on average bucket payload, average cycle time and job efficiency. If an estimator can accurately predict excavator cycle time and bucket payload, a machine's earthmoving production can be derived from the following formula.

$$\begin{aligned} \text{m}^3 (\text{yd}^3)/60 \text{ min hr} &= \text{Cycles}/60 \text{ min hr} \times \text{Avg. Bucket Payload in m}^3 (\text{yd}^3) \\ \frac{\text{m}^3 (\text{yd}^3)/60 \text{ min hr}}{60 \text{ min/hr}} &= \frac{\text{Cycles}}{\text{Cycle Time} - \text{min}} \times \text{Avg. Bucket Payload in m}^3 (\text{yd}^3) \\ \text{Avg. Bucket Payload} &= \frac{\text{Heaped Bucket Capacity} \times \text{Bucket Fill Factor}}{\text{Cycles}} \\ \text{Actual m}^3 (\text{yd}^3)/\text{hr} &= \text{m}^3 (\text{yd}^3)/60 \text{ min hr} \times \text{Job Efficiency Factor} \end{aligned}$$

The Production Estimating Tables (next page) will provide theoretical earthmoving production in cubic meters (yards) per hour if bucket size and cycle time can be estimated. The use of an average cycle time allows adjusting the estimated production for specific job sites and applications. For instance, estimating truck loading applications should include truck exchange times which extends the average cycle time and reduces production potential. The values in the table are based on a 60 minute work hour or 100% efficiency (a condition that is never achieved in reality). The estimator should apply a job efficiency factor to the figures in the table based on his judgment or knowledge of actual job conditions.

Areas outlined on the Production Estimating Table define the work ranges of excavators in the size classes of Cat 307 through 5230 ME Excavators. The upper limit on each area corresponds to the "fastest practical" cycle time for the machines. The width of each area corresponds to the range of bucket payload sizes the machine can handle. An unshaded box has been provided in each machine area to provide a guide indicating that the upper limit of earthmoving production is being approached. When working beyond the values in the white area, the estimator should be certain that excellent job conditions will be encountered (easy digging, shallow trench, good operator, etc.).

The Production Estimating Table can also serve as a guide when selecting the proper size machine to do a job, as is shown in the following example.

Example problem (Metric)

Contractor has a job to move 15 300 Bm³ (19 100 Lm³ considering 25% swell factor) of wet sandy loam material in rear dump on-highway trucks which will be loaded by an excavator. Average face depth will be 2.4 m with 60-90 degree average swing angle. Ten days are available to do the work. Contractor plans to work 10 hrs/day and estimates a 50 min. work hour (83% job efficiency). He has two excavators that could be made available to do the work — a 320 with 1.0 m³ bucket or a 336 with 1.9 m³ bucket. Experience has shown that either machine can get its rated capacity in the sandy loam soil. Could this job be done with either machine or will the 336 have to be used?

Solution: The excavator must produce 1900 Lm³/Day (19 100 Lm³ ÷ 10 Days) which means the required average hourly rate will be 190 Lm³/60 Min. Hr. (1900 Lm³/Day ÷ 10 hrs/day). Further considering the 83% job efficiency, the excavator's capability will have to be 230 Lm³/50 min hr.

The production estimating table shows that the 320 with a 1.0 m³ bucket would have to achieve a 17.1 sec. average cycle time to produce the required 190 Lm³/60 min. hr. With job efficiency applied a 15.0 second average cycle time is required to produce the 230 Lm³/50 min. hr. The 336 with a 1.9 m³ bucket could obtain the same 60 min. hr. production level with a 35 second average cycle, or 30 second cycles to meet the 50 min. hr. production requirement. The cycle times estimating chart shows that the 320 would be working near its maximum capability to meet the production requirement, whereas, the 336 could handle the job easily. This information can then be weighed against what else is known about the job (reach requirements, job conditions, operator ability, etc.) to decide whether or not the larger machine is needed.

Example problem (English)

Substitute these English values in the preceding problem:

Job — 20,000 BCY (25,000 LCY considering 25% swell).

Average face depth — 8-12 ft

320 L with 1.25 yd³ bucket or 336 with 2.5 yd³ bucket.

Solution: The excavator must produce 2500 LCY/Day, which means the required average hourly rate will be 250 LCY/60 min hr. Further considering the 83% job efficiency the excavator's capability will have to be 300 LCY/50 min hr.

The same concluding comments regarding the Production Estimating Table apply here as in the Metric example.

Cubic Meters per 60 Minute Hour*

ESTIMATED CYCLE TIMES		ESTIMATED BUCKET PAYLOAD** — LOOSE CUBIC METERS																		ESTIMATED CYCLE TIMES			
Cycle Time																						Cycles Per Min.	Cycles Per Hr.
Seconds	Min.	0.2	0.3	0.5	0.7	0.9	1.1	1.3	1.5	1.7	1.9	2.1	2.3	2.5	2.7	2.9	3.1	3.3	3.5	4.0			
10.0	0.17																				6.0	360	
11.0	0.18																				5.5	330	
12.0	0.20	60	90	150	210	270															5.0	300	
13.3	0.22	54	81	135	189	243	297	351	405	459	513	567	621	675	729	783	837	891	945	1080	4.5	270	
15.0	0.25	48	72	120	168	216	264	312	360	408	456	504	552	600	648	696	744	792	840	960	4.0	240	
17.1	0.29	42	63	105	147	189	231	273	315	357	399	441	483	525	567	609	651	693	735	840	3.5	210	
20.0	0.33	36	54	90	126	162	198	234	270	306	342	378	414	450	486	522	558	544	630	720	3.0	180	
24.0	0.40	30	45	75	105	135	165	195	225	255	285	315	345	375	405	435	465	495	525	600	2.5	150	
30.0	0.50	24	36	60	84	108	132	156	180	204	228	252	276	300	324	348	372	396	420	480	2.0	120	
35.0	0.58	20	31	51	71	92	112	133	153	173	194	214	235	255	275	296	316	337	357	408	1.7	102	
40.0	0.67					81	99	177	135	153	171	189	207	225	243	261	279	297	315	360	1.5	90	
45.0	0.75									133	148	164	179	195	211	226	242	257	273	312	1.3	78	
50.0	0.83																				1.2	72	

Cubic Yards per 60 Minute Hour*

ESTIMATED CYCLE TIMES		ESTIMATED BUCKET PAYLOAD** — LOOSE CUBIC YARDS																			ESTIMATED CYCLE TIMES		
Cycle Time																						Cycles Per Min.	Cycles Per Hr.
Seconds	Min.	0.25	0.50	0.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.50	5.00	5.25			
10.0	0.17																				6.0	360	
11.0	0.18																				5.5	330	
12.0	0.20	75	150	225	300	375															5.0	300	
13.3	0.22	67	135	202	270	337	404	472	540	607	675	742	810	877	945	1012	1080	1215	1350	1417	4.5	270	
15.0	0.25	60	120	180	240	300	360	420	480	540	600	660	720	780	840	900	960	1080	1200	1260	4.0	240	
17.1	0.29	52	105	157	210	262	315	367	420	472	525	577	630	682	735	787	840	945	1050	1102	3.5	210	
20.0	0.33	45	90	135	180	225	270	315	360	405	450	495	540	585	630	675	720	810	900	945	3.0	180	
24.0	0.40	37	75	112	150	187	225	262	300	337	375	412	450	487	525	562	600	675	750	787	2.5	150	
30.0	0.50	30	60	90	120	150	180	210	240	270	300	330	360	390	420	450	480	510	600	630	2.0	120	
35.0	0.58	36	51	77	102	128	154	180	205	231	256	282	308	333	360	385	410	462	513	535	1.7	102	
40.0	0.67					112	135	157	180	202	225	247	270	292	315	337	360	405	450	472	1.5	90	
45.0	0.75									180	200	220	240	260	280	300	320	360	400	409	1.3	78	
50.0	0.83																				1.2	72	

Job Efficiency Estimator

Work Time/Hour	Efficiency
60 Min	100%
55	91%
50	83%
45	75%
40	67%

*Actual hourly production = (60 min. hr. production) × (Job Efficiency Factor)

**Estimated Bucket Payload = (Amount of Material in the Bucket)
= (Heaped Bucket Capacity) × (Bucket Fill Factor)

Unshaded area indicates average production.

Cubic Meters/Yards per 60 Minute Hour*

ESTIMATED CYCLE TIMES		ESTIMATED BUCKET PAYLOAD** — LOOSE CUBIC METERS/YARDS											ESTIMATED CYCLE TIMES	
Cycle Time		5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0	13.0	14.0	15.0	Cycles Per Min.	Cycles Per Hr.
Seconds	Min.													
15.0	0.25	1200	1440	1680	1920	2160	2400	2640	2880	3120	3360	3600	4.0	240
17.1	0.29	1050	1260	1470	1680	1890	2100	2310	2520	2730	2940	3150	3.5	210
20.0	0.33	900	1080	1260	1440	1620	1800	1980	2160	2340	2520	2700	3.0	180
24.0	0.40	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2.5	150
30.0	0.50	600	720	840	960	1080	1200	1320	1440	1560	1680	1800	2.0	120
35.0	0.58	510	612	714	816	918	1020	1122	1224	1326	1428	1530	1.7	102
40.0	0.67	450	540	630	720	810	900	990	1080	1170	1260	1350	1.5	90
45.0	0.75	390	468	546	624	702	780	858	936	1014	1092	1170	1.3	78
50.0	0.83	360	432	504	576	648	720	792	864	936	1008	1080	1.2	72
55.0	0.92	330	396	462	528	594	660	726	792	858	924	990	1.1	66
60.0	1.00	300	360	420	480	540	600	660	720	780	840	900	1.0	60

Cubic Meters/Yards per 60 Minute Hour*

ESTIMATED CYCLE TIMES		ESTIMATED BUCKET PAYLOAD** — LOOSE CUBIC METERS/YARDS										ESTIMATED CYCLE TIMES	
Cycle Time		16.0	17.0	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	Cycles Per Min.	Cycles Per Hr.
Seconds	Min.												
15.0	0.25	3840	4080	4320	4560	4800	5040	5280	5520	5760	6000	4.0	240
17.1	0.29	3360	3570	3780	3990	4200	4410	4620	4830	5040	5250	3.5	210
20.0	0.33	2880	3060	3240	3420	3600	3780	3960	4140	4320	4500	3.0	180
24.0	0.40	2400	2550	2700	2850	3000	3150	3300	3450	3600	3750	2.5	150
30.0	0.50	1920	2040	2160	2280	2400	2520	2640	2760	2880	3000	2.0	120
35.0	0.58	1632	1734	1836	1938	2040	2142	2244	2346	2448	2550	1.7	102
40.0	0.67	1440	1530	1620	1710	1800	1890	1980	2070	2160	2250	1.5	90
45.0	0.75	1248	1326	1404	1482	1560	1638	1716	1794	1872	1950	1.3	78
50.0	0.83	1152	1224	1296	1368	1440	1512	1584	1656	1728	1800	1.2	72
55.0	0.92	1056	1122	1188	1254	1320	1386	1452	1518	1584	1650	1.1	66
60.0	1.00	960	1020	1080	1140	1200	1260	1320	1380	1440	1500	1.0	60

Job Efficiency Estimator

Work Time/Hour	Efficiency
60 Min	100%
55	91%
50	83%
45	75%
40	67%

*Actual hourly production = (60 min. hr. production) × (Job Efficiency Factor)

**Estimated Bucket Payload = (Amount of Material in the Bucket)
= (Heaped Bucket Capacity) × (Bucket Fill Factor)

NOTE: For estimating truck loading production include approximately 0.7 minutes for truck exchange time.

EXCAVATOR TRENCHING PRODUCTION

When an excavator is used for trenching applications, a meaningful expression of work produced is the machine's trenching rate expressed in meters or lineal feet per hour or per day. Trenching rate depends on the earthmoving production of the excavator being used and the size of the trench being excavated. Earthmoving production converts to trenching production as follows:

$$\begin{aligned} \text{Lineal Meters of Trench per Hour} &= \frac{\text{Cubic Meters Excavated per Hour}}{\text{Cubic Meters per Lineal Meter of Trench}} \\ \text{Lineal Meters of Trench per day} &= (\text{Lineal Meters per Hour}) \times (\text{Trenching Hours per Day}) \\ \text{Lineal Feet of Trench per Hour} &= \frac{\text{Yd}^3 \text{ Excavated Per Hour}}{\text{Yd}^3 \text{ Per Lineal Foot of Trench}} \\ \text{Lineal Feet of Trench Per Day} &= (\text{Lineal Ft Per Hour}) \times (\text{Trenching Hours Per Day}) \end{aligned}$$

For machines that work in trenching applications where they dig all of the time, the *Trenching Conversion Chart* provides easy conversion from m³ (yd³) per hour to m (lineal feet) per hour, if the excavating rate m³/hr (yd³/hr) and trench volume m³/m (yd³/ft) are known. The following examples demonstrate how the Trenching Conversion Chart can be used.

Example problem (Metric)

Contractor estimates that the 329 Excavator will produce 200 Lm³/hour. Trench survey shows that the trench contains 2.5 Lm³/meter. What trenching rate will the 329 produce?

Solution: Enter the horizontal axis of the Trenching Conversion Chart at 200 m³/Hour and move up to the 2.5 m³/m diagonal line. Then move left to the vertical axis of chart and read answer of 80 m/hour.



Example problem 2 (Metric)

Contractor knows he must produce 1000 meters of trench in every 10 hour work day. Survey shows that trench contains 1.5 Bm³ per lineal meter and soil swell factor is estimated at 30%. How much earthmoving production will the excavator have to provide in order to get the job done on time assuming a 50 min work hour? What Cat excavator will provide needed production at 6 meter maximum depth in sandy loam soil?

Solution: Determine trenching requirement 1000 meters in 10 hrs = 100 m/h. Convert Bm³ to Lm³ (excavator handles Lm³) 1.5 Bm³/m × 1.30 = 2.0 Lm³/m. Enter vertical axis of trenching conversion chart at m/h and travel horizontally to diagonal line representing 2.0 m³/m. Next move down to horizontal axis and read answer to 200 Lm³/50 min hr. Convert 200 Lm³/50 min hr to Lm³/60 min hr = 200 = 241 Lm³/60 min hr.

Production estimating tables in this section show that 241 Lm³/60 min hr is within the capability of a 329 Excavator. Job should then be checked for reach and lifting requirements to make sure that the 329 could handle these aspects of the work.



Example problem (English)

Contractor estimates that a 329 Excavator will produce 250 LCY/Hour. Trench survey shows that the trench contains 2.5 LCY/Foot. What trenching rate will the 329 produce?

Solution: Enter the horizontal axis of the Trenching Conversion Chart at 250 yd³/hr. Then move to the vertical axis of chart and read answer of 100 ft/hr.

The Trenching Conversion Chart can also be used to determine the required excavating rate if the contractor can define his trenching production requirement and the trench volume per lineal foot.



Example problem 2 (English)

Contractor knows he must produce 1000 ft of trench in every 10 hr work day. Survey shows that trench contains 1.6 BCY per lineal ft and soil swell factor is estimated at 25%. How much earthmoving production will excavator have to provide in order to get the job done on time assuming 50 min work hour? What Cat model will provide needed production at 8 ft depth in sandy loam soil?

Solution: Determine trenching requirement —
1000 ft in 10 Hrs. = 100 ft/hr
Convert BCY to LCY — $1.6 \text{ BCY/ft} \times 1.25 = 2.0 \text{ LCY/ft}$

Enter vertical axis of trenching conversion chart at 100 ft/hr and travel over to diagonal line representing $2.0 \text{ yd}^3/\text{ft}$. Next move down to horizontal axis and read answer of 200 LCY/50 min hr.

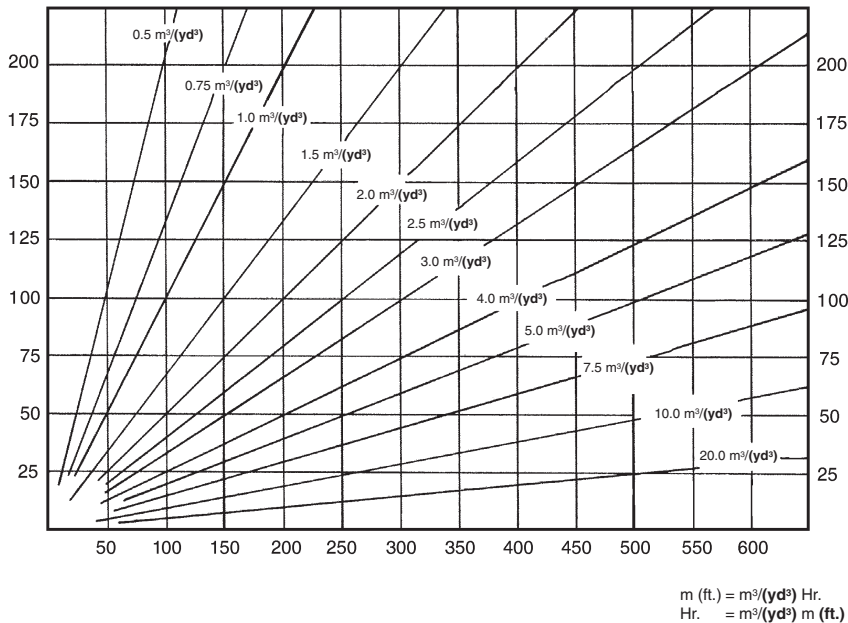
Convert 200 LCY/50 min hr to LCY/60 min hr =

$$\frac{200}{0.83} = 241 \text{ LCY/60 min hr}$$

Production estimating tables in this section show that 241 LCY/60 min. hr. is within capability of a 329 Excavator. Job should then be checked for reach and lifting requirements to make sure that the 329 could handle these aspects of the work.



TRENCHING CONVERSION CHART — CUBIC METERS (yd³) PER HOUR TO METER (ft) PER HOUR



Values in m^3/m or yd^3/ft

If excavating rate has been calculated in Bm^3/h use Bm^3/m for Trench Volume/m.
 " " " " " " " " Lm^3/h use Lm^3/m for Trench Volume/m.
 " " " " " " " " BCY/Hr use BCY/ft for Trench Volume/ft.
 " " " " " " " " LCY/Hr use LCY/ft for Trench Volume/ft.

Estimating Bucket Size

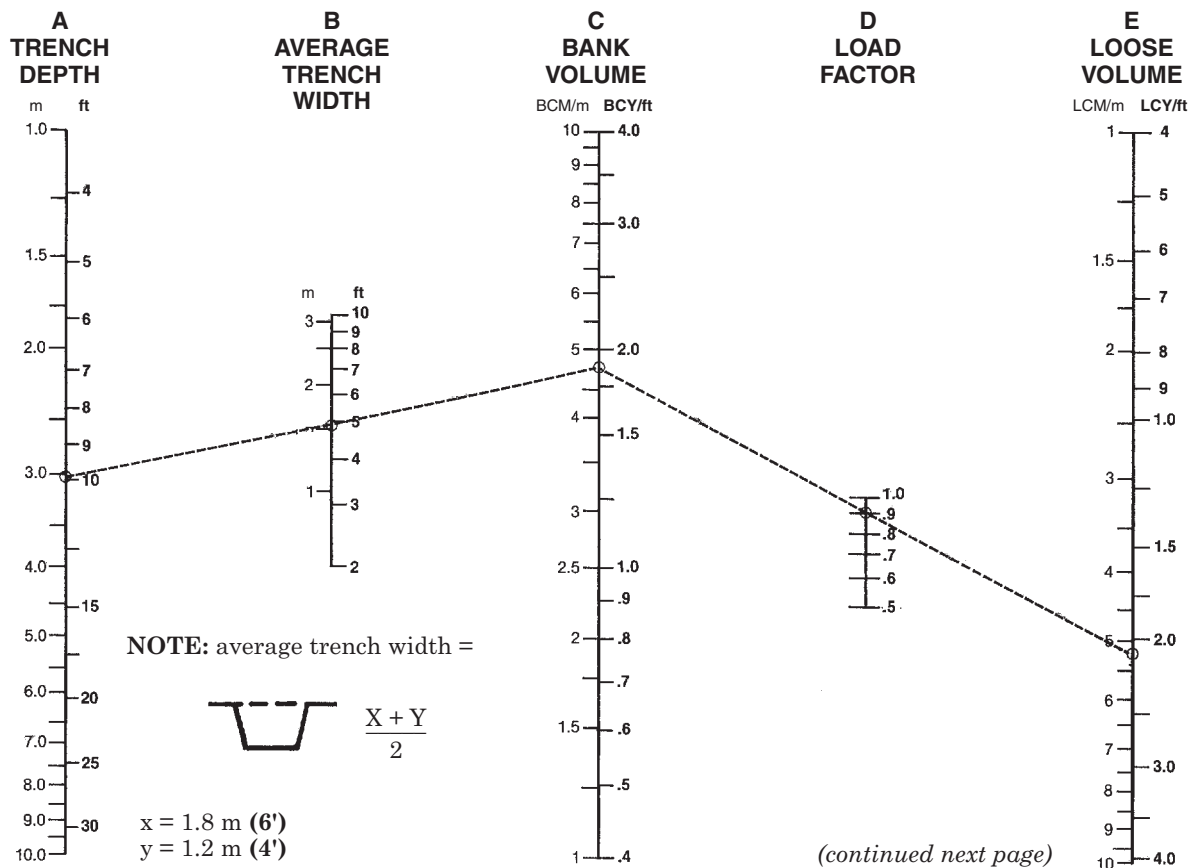
In addition to the trenching calculations on the previous pages, an alternative method of figuring trenching production is the nomograph. Shown on the following pages, this particular nomograph can be used for estimating bucket size when given trench dimensions and linear production rate. The nomograph is quicker and easier than the preceding example because it does not require as many calculations, yet the accuracy is about the same within the normal limits of input data.

Be careful when entering and reading data from the nomographs because some scales increase from bottom to top, while others are the reverse. Do not be overly concerned with the precision as affected by pencil line width or reading to the hundredth of a m³ (yd³). Remember that bucket fill factor, material density and cycle time are at best close estimates.

Example problem:

A sewer contractor owns a 329 with 2 piece boom and short stick. He wants to bid a contract for a 3.1 m (10') deep trench which measures 1.8 m (6') at the top and 1.2 m (4') at the bottom. He must dig 9 m/hr (30 ft/hr) to finish on time. The material is sand and gravel with a load factor of 0.90 and 100% bucket fill factor. He works 54 minutes per hour, half the time digging and half setting pipe. Cycle time is estimated at 23 seconds which includes a 90° swing angle.

- 1) Enter trench depth 3.1 m (10') on scale A and average trench width 1.5 m (5') on scale B.
- 2) Connect A and B and extend to scale C for bank volume per m (ft).
- 3) Enter estimated load factor (0.90) on scale D.
- 4) Connect C & D and extend to scale E for loose volume per m (ft).

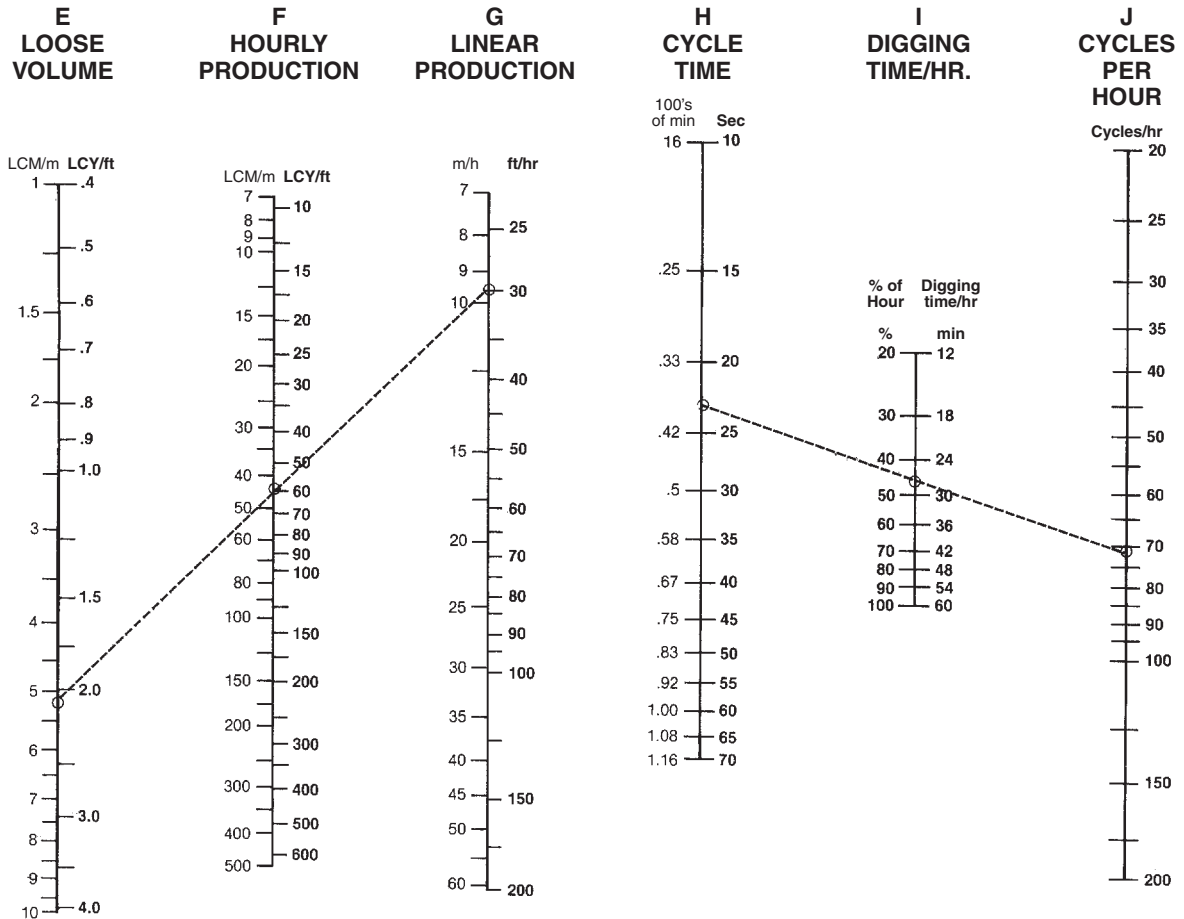


(get loose volume from scale E and enter on this page scale E)

- 5) Enter required linear production rate 9 m/h (30 t/hr) on scale G.
- 6) Connect E and G. Transfer hourly production rate from scale F to scale K (next page).

- 7) Estimate cycle time (23 sec) based on anticipated conditions and enter on scale H.
- 8) Estimate hourly digging time (27 min) and enter on scale I.
- 9) Connect H through I to scale J for cycles per hour.

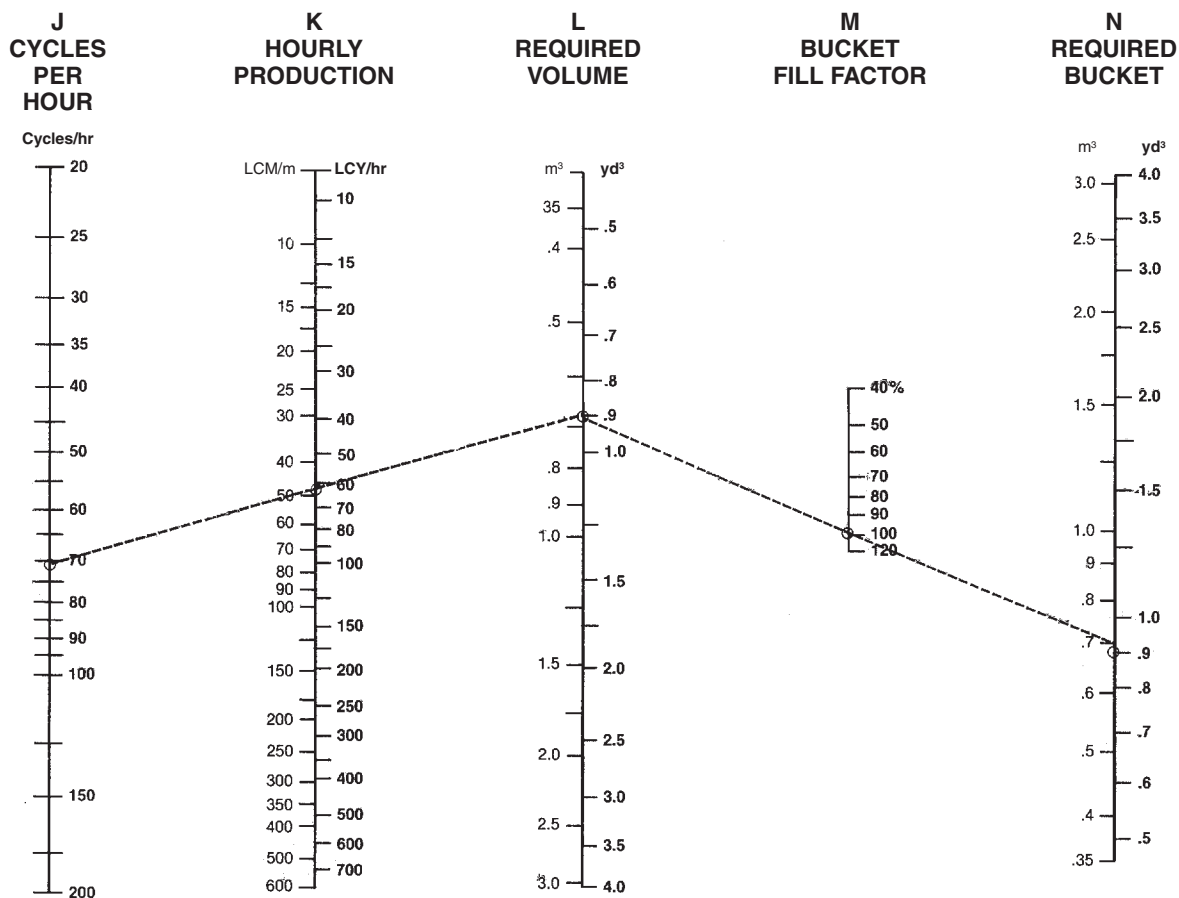
4

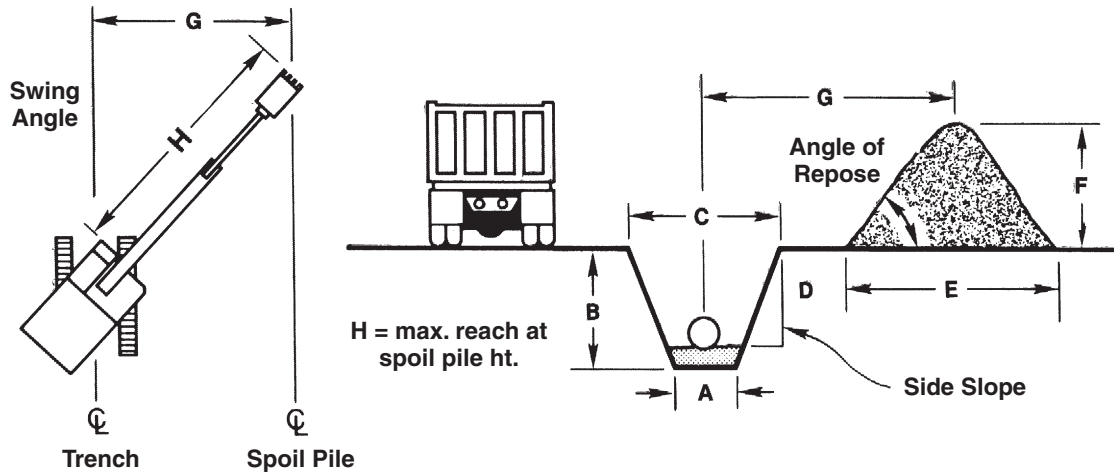


(get cycles per hour from scale J and enter on this page scale J)

- 10) Connect J through K to scale L for required volume per cycle.
- 11) Enter estimated bucket fill factor (100%) on scale M.
- 12) Connect L through M to scale N for required bucket size.

NOTE: Ensure bucket width does not exceed minimum trench width and also that weight of bucket and payload does not exceed machine working weight capacity (see lift capacity charts in this section).





Excavation Volumes Per Meter or Foot of Trench Length

Metric version

Bank $\text{m}^3/\text{meter} = (\text{Trench end area } \text{m}^2) \times (\text{one m})$

Trench volume (Bm^3/m) = $\frac{1}{2} (A + C) \times B$

Spoil pile volume (Lm^3/m) = (Bm^3/m) $\times$ (1.00 + % Swell)

English version

Bank $\text{yd}^3/\text{foot} = \frac{(\text{Trench end area } \text{ft}^2) \times (\text{one ft})}{27}$

Trench volume (BCY/ft) = $\frac{\frac{1}{2} (A + C) \times B}{27}$

Spoil pile volume (LCY/ft) = (BCY/ft) $\times$ (1.00 + % Swell)

The following table provides a general guide to trench bottom width for various outside diameters of pipe.

Pipe Diameter		Trench Width		Pipe Diameter		Trench Width	
mm	ft/in	m	ft/in	mm	ft/in	m	ft/in
102	4"	0.49	1'7"	1524	5'0"	2.59	8'6"
152	6"	0.55	1'10"	1676	5'6"	2.80	9'2"
203	8"	0.61	2'0"	1829	6'0"	3.05	10'0"
254	10"	0.70	2'4"	1981	6'6"	3.26	10'8"
305	12"	0.76	2'6"	2134	7'0"	3.47	11'5"
381	15"	0.91	3'0"	2286	7'6"	3.69	12'1"
457	18"	1.03	3'5"	2438	8'0"	3.93	12'11"
533	1'9"	1.16	3'10"	2591	8'6"	4.15	13'7"
610	2'0"	1.25	4'1"	2743	9'0"	4.36	14'4"
686	2'3"	1.37	4'6"	2896	9'6"	4.54	14'11"
838	2'9"	1.58	5'2"	3048	10'0"	4.75	15'7"
914	3'0"	1.70	5'7"	3200	10'6"	4.99	16'5"
1067	3'6"	1.92	6'4"	3353	11'0"	5.21	17'1"
1219	4'0"	2.13	7'0"	3505	11'6"	5.43	17'10"
1372	4'6"	2.38	7'10"	3658	12'2"	5.64	18'6"

NOTE: Trench widths based on $1.25 B_c + 1.0$ where B_c is the outside diameter of the pipe in feet.

Table courtesy of American Concrete Pipe Association

- Trenching Rate With Pipesetting
- Pipesetting Example Problem

Trenching Production with Pipesetting

On many sewer construction jobs the excavator does more than just dig the trench. Other tasks include handling the shoring system, placing bedding material, and lowering the pipe. The normal work procedure is to open a section of trench and then stop and make a pipe installation before going on to dig the next section of trench. At that point the key to trenching production is the total amount of time required to install each section of pipe. Pipe installation time can be broken down as follows:
Digging time + other time = Total pipe installation time

Total Pipe Installation Time	Pipe Installed Per Hour
60 min	1 Pipe/hr
30 min	2 Pipe/hr
15 min	4 Pipe/hr
10 min	6 Pipe/hr

Digging Time can be calculated once the trenching rate has been calculated using the methods described earlier in this section. Once Digging Time has been calculated, it can be added to an estimate of “Other Time” to determine Total Pipe Installation Time. “Other Time” can be estimated based on a contractor’s judgment, experience, or actual measurement on a job. The following formula and table relate the trenching rate of the excavator to the time required to open a section of trench for pipe of various lengths.

$$\text{Digging Time (Min.)} = \frac{\text{Pipe Length (ft)}}{\text{Trenching Rate (ft/hr)}} \times 60 \text{ (Min/hr)}$$

Trenching Rate Ft. Per Hour	Time Required to Dig for Pipe of Various Lengths							
	8 ft Pipe		12 ft Pipe		16 ft Pipe		20 ft Pipe	
	Hours	Min.	Hours	Min.	Hours	Min.	Hours	Min.
20 ft/hr	0.400	24.00	0.600	36.00	0.800	48.00	1.000	60.00
40	0.200	12.00	0.300	18.00	0.400	24.00	0.500	30.00
60	0.130	8.00	0.200	12.00	0.260	16.00	0.333	20.00
80	0.100	6.00	0.150	9.00	0.200	12.00	0.250	15.00
100	0.080	4.80	0.120	7.20	0.160	9.60	0.200	12.00
120	0.060	4.00	0.100	6.00	0.120	7.20	0.167	10.00
140	0.057	3.43	0.086	5.14	0.114	6.86	0.143	8.57
160	0.050	3.00	0.075	4.50	0.100	6.00	0.125	7.50
180	0.044	2.66	0.067	4.00	0.089	5.33	0.111	6.67
200	0.040	2.40	0.060	3.60	0.080	4.80	0.100	6.00

This table can be used to show how an excavator that is capable of more trenching production will provide significant advantages even on jobs where the

machine does not dig all of the time. Consider 12,000' job with 12' sections of pipe (1000 pipe to be installed). Excavator “A” can work at 60 ft/hr while Excavator “B” is capable of producing 120 ft/hr. Table shows that Excavator “B” will only take 0.10 hr to do the same work. This means that over the course of installing the 1000 pipe the more productive machine will save 0.10 hr/pipe or 100 hours of working time.

Example problem (English)

The following example shows how trenching production can be calculated on a job where the excavator is also required to set pipe. This example is based on the assumption that the excavator’s earthmoving rate and the pipe installation time have already been estimated by the contractor.

Problem: Contractor estimates that the 350 Excavator will be able to produce 500 LCY/60 min. hr. Survey shows that an average cross section trench contains 3.2 BCY/ft and swell factor for sandy clay soil is estimated at 25%. How much trenching production can a contractor expect; assuming it takes 10.0 min. to install each 20 ft length of pipe after trench has been opened. Also assume 83% job efficiency — 50 min. work hour and 8 work hours out of a 9 hour shift. (0.5 hours for lunch and two 15 minute breaks.)

Solution:

Convert trench volume to LCY/ft:

$$1.25 (3.2 \text{ BCY/ft}) = 4.0 \text{ LCY/ft}$$

Convert Earthmoving rate to Trenching rate:

$$\frac{500 \text{ LCY/hr}}{4.0 \text{ LCY/ft}} = 125 \text{ ft/hr}$$

Calculate digging time for each pipe:

$$\frac{20 \text{ ft/pipe}}{125 \text{ ft/hr}} = 0.16 \text{ hr/pipe} = 9.6 \text{ min}$$

Calculate pipe installation time:

$$\begin{aligned} \text{Digging time} &= 9.6 \text{ min} \\ \text{Other time} &= 10.0 \text{ min} \\ \text{Pipe Installation time} &= 19.6 \text{ min} \end{aligned}$$

Calculate pipe installations/hour:

$$\frac{60 \text{ min/hr}}{19.6 \text{ min/pipe}} = 3.06 \text{ pipe/hr}$$

Calculate max. pipe installations/day:

$$8 \text{ hrs} (3.06 \text{ pipe/hr}) = 24.48 \text{ pipe/day}$$

Actual pipe/day:

$$0.83 (24.48 \text{ pipe/day}) = 20.3 - 20 \text{ pipe/day}$$

Actual feet/day:

$$(20 \text{ pipe/day}) \times (20 \text{ ft/pipe}) = 400 \text{ ft/day}$$



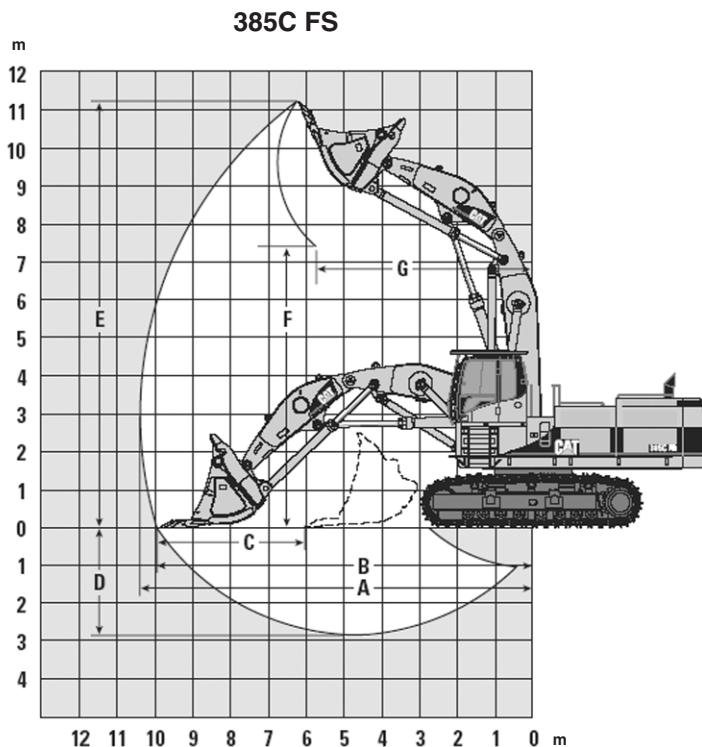
MODEL

385C FS

Sourcing	Belgium	
Flywheel Horsepower	390 kW	523 hp
Operating Weight*	90 600 kg	199,740 lb
Bucket Capacity Range (heaped)	5.7 m ³	7.4 yd ³
Engine Model	C18 ACERT	
Rated Engine RPM	1800	
No. of Cylinders	6	
Bore	145 mm	5.7"
Stroke	183 mm	7.2"
Displacement	18.1 L	1105 in ³
Max. Hydraulic Pump Output at Rated RPM	2 × 490 L/min	2 × 129 gpm
Relief Valve Settings:		
Implement Circuits	32 000 kPa	4640 psi
Swing	35 000 kPa	5075 psi
Travel Circuits	26 000 kPa	3770 psi
Pilot Circuits	4100 kPa	595 psi
Maximum Drawbar Pull	592 kN	133,200 lb
Maximum Travel Speed at Rated RPM	Two Speed	
Low	2.8 km/h	1.7 mph
High	4.5 km/h	2.8 mph
Overall Track Length**	5.84 m	19'2"
Track Gauge	2.75 m	9'0"
Extended	3.51 m	11'6"
Track Shoe Widths	650 mm	26"
Ground Contact Area with Standard Shoe	6.54 m ²	70.4 ft ²
Ground Pressures	138 kPa	20.0 psi
Fuel Tank Refill Capacity	1240 L	328 U.S. gal
Hydraulic System (includes tank)	995 L	263 U.S. gal
Hydraulic System	810 L	214 U.S. gal

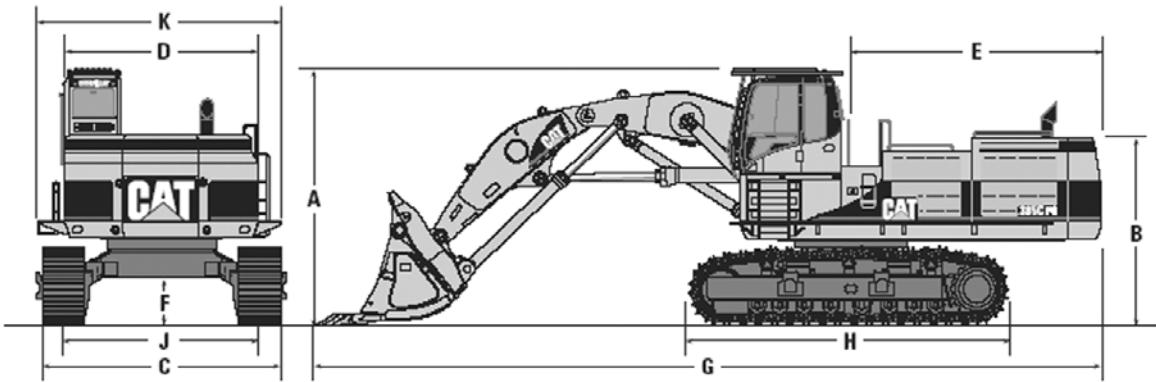
*Operating weight includes counterweight and full fuel.

**Track length measured from center of idler to center of sprocket.



385C FS

Stick Length	3480 mm	11'5"
Boom Length	4600 mm	15'1"
Rock Bucket	5.2 m	17'1"
A Maximum Reach	10 350 mm	33'11"
B Maximum Reach at Ground Level	9900 mm	32'6"
C Maximum Level Crowd Distance	3920 mm	12'10"
D Maximum Digging Depth	2840 mm	9'4"
E Maximum Digging Height	11 260 mm	36'11"
F Maximum Dump Height	7430 mm	24'5"
G Reach at Maximum Dump Height	5690 mm	18'8"
Bucket Breakout Force (ISO)	538 kN	121,050 lb
Stick Breakout Force (ISO)	429 kN	96,530 lb



385C FS

Boom	4600 mm	15'1"
Stick	3480 mm	11'5"
A Boom Top Height	4500 mm	14'9"
Cab Top Height with FOPS	4660 mm	15'3"
Cab Top Height without FOPS	4520 mm	14'10"
B Engine Hood Height without Handrail	3460 mm	11'4"
C Overall Width		
650 mm (26") Shoes (retracted)	3400 mm	11'2"
750 mm (30") Shoes (retracted)	3500 mm	11'6"
650 mm (26") Shoes (extended)	4160 mm	13'8"
750 mm (30") Shoes (extended)	4260 mm	14'0"
D Upperstructure Width	3470 mm	11'5"
E Tail swing Radius	4590 mm	15'1"
F Minimum Ground Clearance	850 mm	2'9"
G Overall Length	14 250 mm	46'9"
H Track Length	5840 mm	19'2"
J Track Gauge Width		
Extended Position	3510 mm	11'6"
Retracted Position	2750 mm	9'0"

MATERIAL HANDLING ARRANGEMENTS

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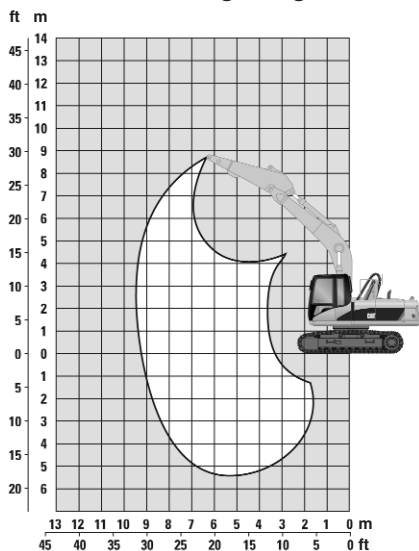
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(Scrap specifications and classifications can be found in the Institute of Scrap Iron and Steel Inc.'s "Handbook". The common unit measure for the scrap industry is the gross ton which is 2240 pounds. However, short tons, net tons and metric tons may also be used.)

The versatility of Cat Excavators, plus their ability to be equipped in any number of ways, make them an effective, low cost way to handle scrap and other materials.

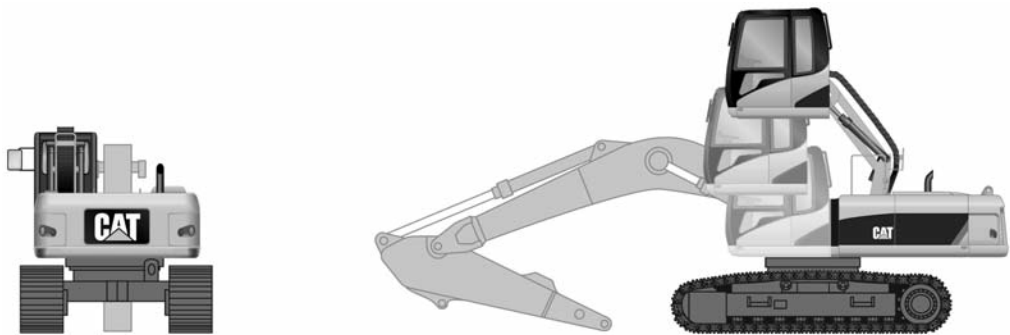
NOTE: Contact your Cat dealer for additional information on equipping Cat Excavators for material handling.

330D Waste Handler Range Diagram



Model	330D Waste Handler	
Maximum height	8.9 m	29.18 ft
Maximum reach	9.45 m	31 ft

330D Waste Handler Specifications



Model	330D Waste Handler	
Shipping Height	3255 mm	10.7 ft
Shipping Length	11 130 mm	36.5 ft
Tail Swing Radius	3500 mm	11.5 ft
Length to Centers of Rollers	4040 mm	13.25 ft
Track Length	5020 mm	16.5 ft
Ground Clearance	510 mm	1.67 ft
Track Gauge	2590 mm	8.5 ft
Shipping Width with 600 mm (23.5 in) Shoes	3190 mm	10.5 ft
Cab Height (with cab in raised position)	5775 mm	18.9 ft
Cab Height (with cab in lower position)	3180 mm	10.4 ft

Lift Capacities

330D Waste Handler

CONFIGURATION – HD Reach Boom, WH 3.2 D Stick
D Family Bucket Linkage and No Grapple

UNDERCARRIAGE – Long
SHOES – 600 mm (23.5 in) Triple Grouser



Load at
Maximum Reach



Load Radius
Over Front



Load Radius
Over Side

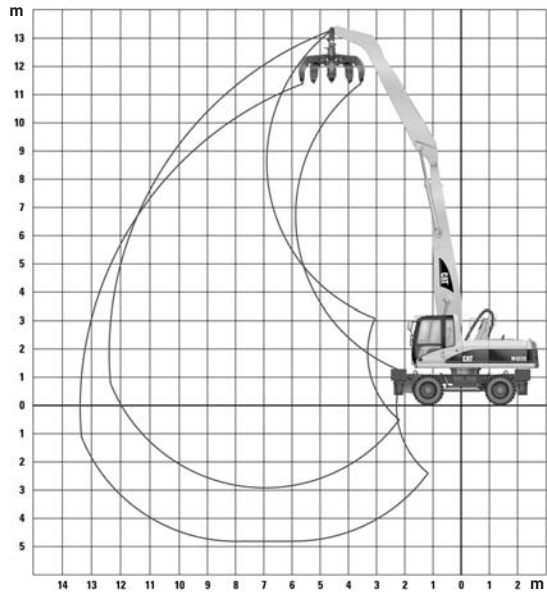
		3.0 m/10.0 ft		4.5 m/15.0 ft		6.0 m/20.0 ft		7.5 m/25.0 ft		9.0 m/30.0 ft				m ft
														
7.5 m 25.0 ft	kg lb							*7600	*7600					
6.0 m 20.0 ft	kg lb							*7700 *16,800	*7700 *16,800					
4.5 m 15.0 ft	kg lb			*11 700	*11 700	*9400 *20,300	*9400 *20,300	*8200 *17,900	7700 16,600	*7500	5800	*6500 *14,200	5700 12,500	9.12 29.85
3.0 m 10.0 ft	kg lb			*14 800 *31,700	*14 800 *31,700	*10 800 *23,400	10 200 22,100	*9000 *19,400	7400 16,000	*7900 *17,300	5600 12,200	*6700 *14,700	5300 11,600	9.40 30.83
1.5 m 5.0 ft	kg lb			*17 000 *36,600	14 500 31,200	*12 100 *26,200	9700 20,900	*9700 *21,000	7100 15,300	*8300 *17,900	5500 11,800	*7100 *15,700	5100 11,300	9.44 30.96
Ground Line	kg lb			*17 800 *38,400	14 000 30,200	*12 900 *27,900	9400 20,100	*10 200 *22,000	6900 14,900	*8400 *18,200	5400 11,600	*7900 *17,400	5200 11,400	9.23 30.27
-1.5 m -5.0 ft	kg lb	*12 800 *29,000	*12 800 *29,000	*17 400 *37,700	14 000 30,000	*13 000 *28,100	9200 19,800	*10 200 *22,000	6800 14,600					
-3.0 m -10.0 ft	kg lb	*20 300 *46,000	*20 300 *46,000	*16 100 *34,900	14 100 30,300	*12 300 *26,500	9200 19,900	*9500 *20,300	6800 14,800					
-4.5 m -15.0 ft	kg lb	*18 100 *39,000	*18 100 *39,000	*13 700 *29,300	*13 700 *29,300	*10 300 *22,000	9500 20,500							

* Indicates that the load is limited by hydraulic capacity rather than tipping capacity. Lift capacity ratings are based on SAE standard 2417. Rated loads are at 87% of hydraulic lifting capacity or 75% of tipping capacity over front and side.

Lift Point is at stick end pin.

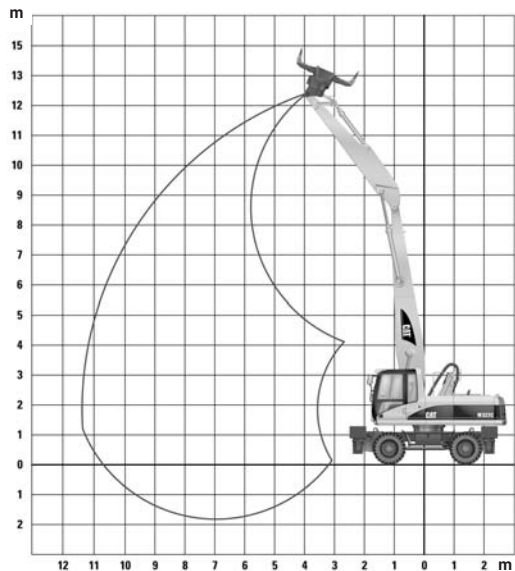
M322D MH Range Diagram

- Cat Material Handling Boom and MH Stick



M322D MH Range Diagram

- Cat Material Handling Boom and Straight Stick



Model	M318D MH		M322D MH			
	m	ft	m	ft	m	ft
Boom	6.2	20'3"	6.8	22'3"	6.8	22'3"
Stick	4.9	16'1"	4.9	16'1"	5.9	19'4"
Maximum Horizontal Reach	11.0	36'1"	11.5	37'7"	12.5	41'0"
Maximum Vertical Pin Height	12.1	39'7"	12.5	41'0"	13.3	43'6"

Lifting Capacities

Equipped with Cat material handling arrangement. Capacities are measured at the bare stick tip.

Capacities are based on level machine equipped as follows:

- Total machine weight including base machine, material handling front, cab riser, heavy duty axles, two sets of outriggers, lubricants, full fuel tank and operator.
M318D MH — 21 100-23 400 kg (46,517-51,588 lb)
M322D MH — 23 500-25 700 kg (51,809-56,659 lb)

Model	M318D MH		M322D MH	
	m	ft	m	ft
Boom	6.2	20'3"	6.8	22'3"
Stick	4.2	13'8"	4.8	15'7"
Maximum Horizontal Reach	10.3	33'8"	11.4	37'4"
Maximum Vertical Pin Height	11.5	37'7"	12.4	40'7"

M318D MH

- 6.2 m (20'3") Straight MH Boom
- 4.9 m (16'1") MH Stick
- Front and Rear Stabilizers and Standard Tires
- No Work Tool
- All weights are in metric tons

Height**	Undercarriage configuration	3.0 m		4.5 m		6.0 m		7.5 m		9.0 m		10.5 m				m
																
10.5 m	All stabilizers up All stabilizers down					5.75 6.50*	4.35 6.50*									
9.0 m	All stabilizers up All stabilizers down					5.85 7.85*	4.45 7.85*	4.10 6.30*	3.10 6.30*							
7.5 m	All stabilizers up All stabilizers down					5.85 8.20*	4.45 8.20*	4.10 7.15*	3.15 6.40	3.05 5.50*	2.30 4.75			2.80 4.45*	2.10 4.40	9.42
6.0 m	All stabilizers up All stabilizers down					5.75 8.45*	4.35 8.45*	4.05 7.25*	3.10 6.35	3.05 5.85	2.30 4.75			2.45 4.30*	1.85 3.90	10.18
4.5 m	All stabilizers up All stabilizers down			8.75 11.20*	6.45 11.20*	5.55 8.95*	4.15 8.95*	3.95 7.45*	2.95 6.25	3.00 5.80	2.25 4.70	2.35 4.55	1.70 3.70	2.25 4.35*	1.65 3.60	10.68
3.0 m	All stabilizers up All stabilizers down	16.20 18.65*	10.95 18.65*	8.15 12.45*	5.90 12.45*	5.25 9.45*	3.90 8.60	2.85 7.55	2.90 6.05	2.15 5.70	2.30 4.60	1.70 4.50	1.70 3.65	2.15 4.20	1.55 3.45	10.94
1.5 m	All stabilizers up All stabilizers down			7.55 13.10*	5.35 13.10*	5.00 9.65*	3.65 8.30	3.65 7.35	2.70 5.90	2.80 5.60	2.05 4.50	2.25 4.45	1.65 3.60	2.10 4.15	1.55 3.35	11.00
0 m	All stabilizers up All stabilizers down	3.50* 3.50*	3.50* 3.50*	7.10 12.20*	4.95 12.20*	4.75 9.30*	3.40 8.00	3.50 7.20	2.55 5.75	2.75 5.50	2.00 4.45	2.20 4.10*	1.60 3.55			
-1.5 m	All stabilizers up All stabilizers down			6.90 9.60*	4.80 9.60*	4.60 8.10*	3.30 7.85	3.40 6.30*	2.45 5.65	2.70 4.75*	1.95 4.35					

M318D MH Heavy Lift

- 6.2 m (20'3") Straight MH Boom
- 4.2 m (13'8") Straight Stick
- Front and Rear Stabilizers and Standard Tires
- No Work Tool
- All weights are in metric tons

Height**	Undercarriage configuration	3.0 m		4.5 m		6.0 m		7.5 m		9.0 m				m
														
10.5 m	All stabilizers up All stabilizers down			8.40* 8.40*	6.55 8.40*									
9.0 m	All stabilizers up All stabilizers down					5.65 8.35*	4.25 8.35*							
7.5 m	All stabilizers up All stabilizers down					5.65 8.60*	4.30 8.60*	3.95 7.35*	2.95 6.25			3.10 5.20*	2.30 4.90	8.64
6.0 m	All stabilizers up All stabilizers down			8.85 10.90*	6.55 10.90*	5.55 8.80*	4.20 8.80*	3.90 7.40*	2.95 6.20	2.90 5.70	2.15 4.60	2.65 5.05*	1.95 4.25	9.46
4.5 m	All stabilizers up All stabilizers down	14.80* 14.80*	11.75 14.80*	8.40 11.85*	6.15 11.85*	5.35 9.20*	4.00 8.75	3.80 7.50*	2.80 6.10	2.85 5.65	2.10 4.55	2.40 4.75	1.75 3.85	10.00
3.0 m	All stabilizers up All stabilizers down			7.80 12.85*	5.60 12.85*	5.10 9.55*	3.70 8.40	3.65 7.40	2.70 5.90	2.80 5.55	2.05 4.50	2.25 4.55	1.65 3.65	10.28
1.5 m	All stabilizers up All stabilizers down			7.25 12.90*	5.10 12.90*	4.80 9.50*	3.45 8.10	3.50 7.25	2.55 5.75	2.70 5.50	1.95 4.40	2.20 4.30*	1.60 3.60	10.34
0 m	All stabilizers up All stabilizers down			6.90 9.65*	4.80 9.65*	4.60 8.80*	3.30 7.85	3.40 6.80*	2.45 5.65	2.65 5.15*	1.90 4.35			

*Limited by hydraulic rather than tipping load.

**Height of stick pin.



Load Radius Over Front



Load Radius Over Side



Load at
Maximum Reach

The above loads are in compliance with hydraulic excavator lift capacity ratings standard ISO 10567. They do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity.

Weight of all lifting accessories must be deducted from the above lifting capacities.

M322D MH

- 6.8 m (22'3") Straight MH Boom
- 5.9 m (19'4") MH Stick
- 3900 kg (8600 lb) Counterweight
- No Work Tool
- All weights are in metric tons

Height**	Undercarriage configuration	3.0 m		4.5 m		6.0 m		7.5 m		9.0 m		10.5 m		12.0 m				m
																		
12.0 m	All stabilizers up All stabilizers down					7.00 7.45*	5.40 7.45*											
10.5 m	All stabilizers up All stabilizers down							5.00 7.25*	3.90 7.25*									
9.0 m	All stabilizers up All stabilizers down							5.10 7.50*	3.95 7.50*	3.75 6.75*	2.90 5.70							
7.5 m	All stabilizers up All stabilizers down							5.05 7.55*	3.95 7.55*	3.75 6.70*	2.90 5.70	2.85 5.35	2.20 4.40			2.60 4.40*	1.95 4.00	11.11
6.0 m	All stabilizers up All stabilizers down							4.95 7.75*	3.85 7.55	3.70 6.80*	2.85 5.60	2.85 5.30	2.15 4.40			2.30 4.35*	1.75 3.60	11.76
4.5 m	All stabilizers up All stabilizers down					6.80 9.55*	5.20 9.55*	4.80 8.05*	3.70 7.35	3.60 6.70	2.75 5.50	2.80 5.25	2.10 4.30	2.20 4.25	1.65 3.50	2.15 4.15	1.60 3.40	12.20
3.0 m	All stabilizers up All stabilizers down			9.95 13.45*	7.40 13.45*	6.40 10.30*	4.85 10.15	4.55 8.40*	3.45 7.10	3.45 6.55	2.60 5.35	2.70 5.15	2.05 4.25	2.20 4.20	1.60 3.45	2.05 4.00	1.50 3.25	12.43
1.5 m	All stabilizers up All stabilizers down			9.05 14.75*	6.60 14.75*	5.95 10.85*	4.45 9.65	4.30 8.50	3.25 6.85	3.30 6.40	2.50 5.20	2.65 5.10	1.95 4.15	2.15 4.15	1.55 3.40	2.00 3.90	1.45 3.20	12.48
0 m	All stabilizers up All stabilizers down	4.05* 4.05*	4.05* 4.05*	8.35 14.75*	5.95 14.75*	5.60 10.85*	4.10 9.25	4.10 8.25	3.05 6.60	3.20 3.25	2.35 5.05	2.55 5.00	1.90 4.05	2.10 4.10*	1.55 3.35			
-1.5 m	All stabilizers up All stabilizers down			8.00 10.45*	5.60 10.45*	5.35 10.05*	3.85 8.95	3.95 7.85*	2.90 6.45	3.10 6.15	2.25 4.95	2.50 4.80*	1.85 4.00					

M322D MH Heavy Lift

- 6.8 m (22'3") Straight MH Boom
- 4.9 m (16'1") Straight Stick
- 3900 kg (8600 lb) Counterweight
- No Work Tool
- All weights are in metric tons

Height**	Undercarriage configuration	4.5 m		6.0 m		7.5 m		9.0 m		10.5 m				m
														
10.5 m	All stabilizers up All stabilizers down			6.95 9.20*	5.35 9.20*	4.80 9.35*	3.70 6.35							
9.0 m	All stabilizers up All stabilizers down			7.00 9.30*	5.45 9.30*	5.90 8.10*	3.80 7.50							
7.5 m	All stabilizers up All stabilizers down			7.00 9.40*	5.40 9.40*	4.90 8.10*	3.80 7.50	3.65 6.80	2.80 5.55			3.05 5.45*	2.30 4.65	10.02
6.0 m	All stabilizers up All stabilizers down			6.80 9.75*	5.25 9.75*	4.85 8.25*	3.70 7.40	3.65 6.75	2.80 5.55	2.80 5.25	2.15 4.30	2.70 5.05	5.05 4.15	10.74
4.5 m	All stabilizers up All stabilizers down	10.25 13.20*	7.65 13.20*	6.55 10.30*	5.00 10.30	4.65 8.50*	3.60 7.20	3.55 6.65	2.70 5.45	2.80 5.20	2.10 4.30	2.50 4.70	1.85 3.85	11.22
3.0 m	All stabilizers up All stabilizers down	9.45 14.55*	7.00 14.55*	6.20 10.90*	4.65 9.90	4.50 8.65	3.40 7.00	3.45 6.50	2.60 5.30	2.75 5.15	2.05 4.25	2.40 4.50	1.75 3.70	11.47
1.5 m	All stabilizers up All stabilizers down	8.75 15.10*	6.30 15.10*	5.80 11.10*	4.30 9.50	4.30 8.45	3.20 6.80	3.30 6.40	2.50 5.20	2.65 5.10	2.00 4.15	2.35 4.45	1.75 3.65	11.52
0 m	All stabilizers up All stabilizers down	8.25 10.25*	5.90 10.25*	5.55 10.60*	4.05 9.20	4.10 8.25	6.05 6.60	3.25 6.30	2.40 5.10	2.60 5.05*	1.95 4.10			
-1.5 m	All stabilizers up All stabilizers down			5.40 9.20*	3.95 9.00	4.00 7.25*	2.95 6.50							

*Limited by hydraulic rather than tipping load.

**Height of stick pin.



Load Radius Over Front



Load Radius Over Side



Load at
Maximum Reach

The above loads are in compliance with hydraulic excavator lift capacity ratings standard ISO 10567. They do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity.

Weight of all lifting accessories must be deducted from the above lifting capacities.

Dimensions and Weights
Range Dimensions
● M325D MH ● M325D LMH
(Belgium Sourced)

Excavators —
Material Handling

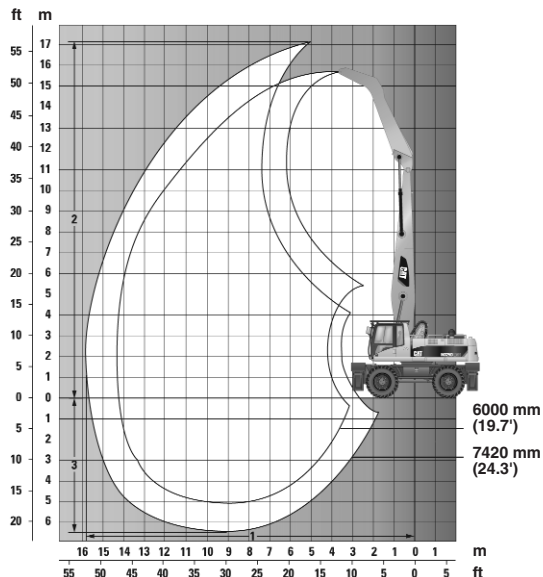
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Model	M325D MH		M325D LMH	
Horsepower (ISO 9249 Net) (EAME)	140 kW/190 hp		140 kW/190 hp	
Horsepower (ISO 9249 Net) (NACD)	140 kW/190 hp		152 kW/204 hp	
No. of Tires	8 (4 Duals)		4 Single	
Tire Size	12.00-20		17.00-25	
Maximum Travel Speed	20 km/h		18 km/h	
Hydraulic Cab Riser Maximum Height	2.6 m		2.6 m	
Boom Length	8.85 m	8.85 m	8.85 m	8.85 m
Stick Length	6.00 m	7.42 m	6.00 m	7.42 m
Overall Weight	29.80 t	30.00 t	34.54 t	34.80 t
Maximum Horizontal Reach	14.33 m	15.65 m	14.33 m	15.65 m
Maximum Vertical Pin Height	15.98 m	17.14 m	16.60 m	17.80 m
Maximum Vertical Pin Depth	5.00 m	6.40 m	4.10 m	5.50 m
Transport Length with Boom and Stick	12.21 m	11.80 m	12.18 m	11.99 m
Transport Length with Boom (No Stick)	12.18 m	12.18 m	12.18 m	12.18 m
Transport Height with Boom and Stick	3.55 m	5.10 m	3.80 m	4.75 m
Transport Height with Boom*	3.55 m		3.80 m	
Transport Width	2.95 m		3.02 m	

*Maximum height is at the hydraulic cab riser system.

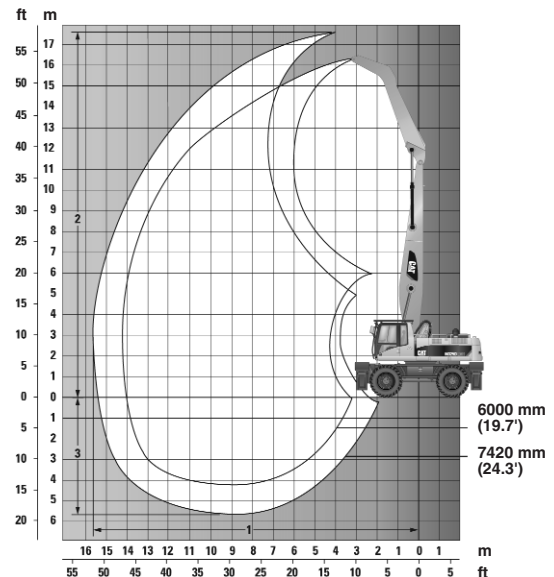
M325D MH Working Range

- Maximum Reach 14.3 m (46'11") or 15.6 m (51'2")



M325D LMH Working Range

- Maximum Reach 14.3 m (46'11") or 15.6 m (51'2")



M325D MH — Lift Capacities — 6000 mm/19'8"

With 6000 mm stick.

BOOM — 8850 mm

STICK — 6000 mm

MAXIMUM REACH/HEIGHT/DEPTH — 14 330 / 15 980 / 5000 mm

Metric Units/all weights are in kg

	Undercarriage configuration	3.0 m		4.5 m		6.0 m		7.5 m		9.0 m		10.5 m		12.0 m		13.5 m				m
																				
15.0 m	Stabilizers up					*5930	*5930											*5290	*5290	6.48
	Stabilizers down					*6130	*6130											*5180	*5180	6.74
13.5 m	Stabilizers up					*7330	*7330	*6210	5400	*4500	*4500							*4470	3980	8.87
	Stabilizers down					*7400	*7400	*6340	*6340									*4420	*4420	9.04
12.0 m	Stabilizers up							7080	5530	5210	4040	3920	2990					3910	2980	10.52
	Stabilizers down							*7380	*7380	*6290	*6290	*4350	*4350					*4050	*4050	10.65
10.5 m	Stabilizers up							7080	5540	5240	4070	4000	3060					3220	2420	11.75
	Stabilizers down							*7730	*7730	*6930	*6930	*6020	*6020					*3850	*3850	11.85
9.0 m	Stabilizers up					*9030	7770	6970	5430	5180	4010	3980	3050	3120	2340			2790	2070	12.68
	Stabilizers down					*9070	*9070	*7880	*7880	*7000	*7000	*6300	6240	*5280	4970			*3740	*3740	12.75
7.5 m	Stabilizers up					*9550	7460	6760	5230	5040	3880	3900	2970	3090	2310			2500	1830	13.38
	Stabilizers down					*9610	*9610	*8200	*8200	*7180	*7180	*6380	6150	*5720	4930			*3700	*3700	13.43
6.0 m	Stabilizers up			*12 760	10 900	9140	6970	6450	4940	4840	3690	3780	2850	3020	2240	2440	1770	2310	1670	13.88
	Stabilizers down			*13 210	*13 210	*10 400	*10 400	*8640	*8640	*7420	*7420	*6500	6010	*5750	4860	*4830	4000	*3720	*3720	13.92
4.5 m	Stabilizers up			13 180	9620	8460	6340	6060	4570	4610	3460	3630	2710	2930	2150	2390	1730	2180	1560	14.20
	Stabilizers down			*15 040	*15 040	*11 280	*11 280	*9110	*9110	*7660	7410	*6610	5840	*5770	4760	4810	3950	*3780	3630	14.22
3.0 m	Stabilizers up			*9240	8220	7730	5660	5650	4180	4350	3220	3470	2550	2820	2050	2330	1670	2100	1490	14.36
	Stabilizers down			*8110	*8110	*11 960	*11 960	*9460	9370	*7830	7130	*6660	5670	5670	4650	4740	3890	*3900	3530	14.37
1.5 m	Stabilizers up			*4180	*4180	7130	5100	5290	3840	4120	3000	3320	2410	2730	1960	2280	1620	2070	1460	14.36
	Stabilizers down			*4070	*4070	*12 090	*12 090	*9540	8970	*7840	6880	*6610	5510	5560	4540	4680	3830	*4070	3500	14.35
0.0 m	Stabilizers up			*3870	*3870	6740	4740	5020	3580	3940	2830	3190	2290	2650	1880	2240	1580	2080	1460	14.20
	Stabilizers down			*3900	*3900	*9160	*9160	*9270	8670	*7620	6680	*6380	5380	*5350	4460	*4370	3790	*3830	3540	14.18
-1.5 m	Stabilizers up			*4410	*4410	6550	4560	4850	3430	3820	2710	3110	2210	2600	1830	2220	1560	2140	1500	13.87
	Stabilizers down			*4470	*4470	*8250	*8250	*8580	8500	*7110	6550	*5930	5290	*4890	4410	*3790	3770	*3470	*3470	13.84
-3.0 m	Stabilizers up			*5170	*5170	6510	4520	4790	3360	3760	2650	3070	2170	2580	1820			2260	1590	13.37
	Stabilizers down					*8430	*8430	*7500	*7500	*6280	*6280	*5200	*5200	*4150	*4150					
-4.5 m	Stabilizers up							4800	3380	3760	2660	3080	2180							
	Stabilizers down							*6010	*6010	*5080	*5080	*4120	*4120							

*Rated by hydraulic capacity rather than stability capacity. Rated loads do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity.

All lifts with heavy lift on. Always refer to the appropriate Operation and Maintenance Manual for specific product information.

M325D MH — Lift Capacities — 6000 mm/19'8"

With 6000 mm stick.

BOOM — 29'0"

STICK — 19'8"

MAXIMUM REACH/HEIGHT/DEPTH — 47'0" / 52'5" / 16'5"

English Units/all weights are in lbs

4

	Undercarriage configuration	10.0 ft		15.0 ft		20.0 ft		25.0 ft		30.0 ft		35.0 ft		40.0 ft		45.0 ft				ft	
																					
50.0 ft	Stabilizers up Stabilizers down			*15,610	*15,610			*12,390	*12,390										*12,170 *11,880	*12,170 *11,880	19.59 20.54
45.0 ft	Stabilizers up Stabilizers down					*15,720 *15,920	*15,720 *15,920	*12,920 *13,250	11,510 *13,250										*10,030 *9920	9260 *9920	28.18 28.77
40.0 ft	Stabilizers up Stabilizers down					*17,370 *17,510	17,020 *17,510	15,170 *15,870	11,860 *15,870	11,130 *13,180	8620 *13,180								8890 *9020	6770 *9020	33.92 34.35
35.0 ft	Stabilizers up Stabilizers down							15,230 *16,870	11,910 *16,870	11,240 *15,120	8730 *15,120	8550 *12,480	6550 *12,480						7230 *8530	5450 *8530	38.16 38.48
30.0 ft	Stabilizers up Stabilizers down					*19,640 *19,710	16,760 *19,710	15,010 *17,150	11,710 *17,150	11,130 *15,230	8620 *15,230	8550 *13,740	6530 13,400	6660 *10,580	4980 *10,580				6240 *8270	4630 *8270	41.37 41.60
25.0 ft	Stabilizers up Stabilizers down					*20,720 *20,830	16,120 *20,830	14,570 *17,810	11,290 *17,810	10,850 *15,610	8360 *15,610	8400 *13,870	6370 13,230	6610 *12,430	4940 10,600				5560 *8160	4080 *8160	43.73 43.93
20.0 ft	Stabilizers up Stabilizers down			*27,490 *28,510	23,570 *28,510	19,750 *22,510	15,080 *22,510	13,910 *18,740	10,670 *18,740	10,450 *16,090	7960 *16,090	8140 *14,110	6130 12,940	6480 *12,480	4810 10,450	5230 *9280	3790 8600		5120 *8180	3700 *8180	45.44 45.57
15.0 ft	Stabilizers up Stabilizers down			28,510 *32,450	20,880 *32,450	18,280 *24,410	13,710 *24,410	13,100 *19,730	9880 *19,730	9940 *16,620	7470 15,960	7830 *14,330	5820 12,590	6280 12,460	4630 10,230	5140 10,340	3700 8490		4830 *6330	3440 8000	46.56 46.62
10.0 ft	Stabilizers up Stabilizers down			*23,520 *20,420	17,860 *20,420	16,710 *25,880	12,260 *25,880	12,210 *20,500	9040 20,190	9390 *16,980	6970 15,370	7470 *14,440	5490 12,210	6090 12,210	4410 10,010	5000 10,210	3590 8380		4630 *8580	3290 7780	47.11 47.15
5.0 ft	Stabilizers up Stabilizers down			*9860 *9590	*9860 *9590	15,390 *26,210	11,050 *26,210	11,420 *20,700	8290 19,340	8910 *17,000	6480 14,820	7140 *14,310	5180 11,880	5860 11,990	4210 9790	4890 10,100	3480 8250		4560 *8950	3220 7720	47.11 47.08
0.0 ft	Stabilizers up Stabilizers down			*8890 *8950	*8890 *8950	14,550 *21,450	10,250 *21,450	10,830 *20,080	7740 18,670	8510 *16,510	6110 14,400	6880 *13,800	4940 11,600	5710 *11,530	4060 9610	4830 *9280	3400 8160		4590 *8440	3220 7800	46.59 46.52
-5.0 ft	Stabilizers up Stabilizers down			*10,010 *10,140	*10,010 *10,140	14,130 *19,030	9860 *19,030	10,470 18,610	7410 18,300	8220 *15,390	5840 14,110	6700 *12,790	4760 11,400	5600 *10,470	3950 9500	4780 *7890	3370 *7890		4720 *7630	3310 *7630	45.51 45.37
-10.0 ft	Stabilizers up Stabilizers down			*11,660	*11,660	14,020 19,160	9770 *19,160	10,320 16,230	7250 *16,230	8110 *13,540	5730 13,540	6610 *11,160	4670 *11,160	5580 *8770	3920 *8770				4980	3510	43.80
-15.0 ft	Stabilizers up Stabilizers down							10,360 *12,920	7300 *12,920	8110 *10,870	5730 10,870	6660 *8990	4700 *8990								

*Rated by hydraulic capacity rather than stability capacity. Rated loads do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity.

All lifts with heavy lift on. Always refer to the appropriate Operation and Maintenance Manual for specific product information.

M325D MH — Lift Capacities — 7420 mm/24'4"

With 7420 mm stick.

BOOM — 8850 mm

STICK — 7420 mm

MAXIMUM REACH/HEIGHT/DEPTH — 15 650 / 17 140 / 6400 mm

Metric Units/all weights are in kg

	Undercarriage configuration	3.0 m		4.5 m		6.0 m		7.5 m		9.0 m		10.5 m		12.0 m		13.5 m		15.0 m				m
																						
16.5 m	Stabilizers up					*4960	*4960													*4520	*4520	6.43
	Stabilizers down					*5120	*5120													*4410	*4410	6.73
15.0 m	Stabilizers up							*5160	*5160	*3810	*3810									*3690	*3690	9.09
	Stabilizers down							*5250	*5250	*3980	*3980									*3640	*3640	9.28
13.5 m	Stabilizers up							*5110	*5110	*4230	*4230	*3840	*3130							*3300	*2870	10.92
	Stabilizers down							*5900	*5810	*5180	*5180	*3970	*3970							*3270	*3270	11.06
12.0 m	Stabilizers up									5500	4320	4180	3230	3220	2430					3050	2290	12.29
	Stabilizers down									*5850	*5850	*5020	*5020	*3630	*3630					*3060	*3060	12.40
10.5 m	Stabilizers up									5510	4320	4200	3250	3270	2480					2600	1920	13.36
	Stabilizers down									*6280	*6280	*5740	*5740	*4690	*4690					*2940	*2940	13.44
9.0 m	Stabilizers up							*7020	5790	5430	4250	4160	3210	3250	2470	2570	1900			2300	1670	14.18
	Stabilizers down							*7040	*7040	*6370	*6370	*5820	*5820	*5340	5120	*4000	*4000			*2860	*2860	14.25
7.5 m	Stabilizers up							7150	5590	5290	4110	4060	3120	3190	2410	2540	1870			2090	1490	14.81
	Stabilizers down							*7370	*7370	*6580	*6580	*5940	*5940	*5390	5060	*4820	4120			*2840	*2840	14.86
6.0 m	Stabilizers up					*8490	7590	6830	5290	5070	3900	3920	2980	3100	2320	2490	1820			1930	1360	15.26
	Stabilizers down					*8650	*8650	*7840	*7840	*6860	*6860	*6100	*5470	4950	*4920	4060		2010	1420	*3430	3370	15.30
4.5 m	Stabilizers up			*10 430	*10 430	9130	6950	6420	4900	4810	3650	3740	2810	2980	2200	2410	1750			1790	1390	15.56
	Stabilizers down			*11 040	*11 040	*10 150	*10 150	*8400	*8400	*7180	*7180	*6280	5980	*5560	4830	4850	3980			*4030	3330	15.58
3.0 m	Stabilizers up			12 940	9390	8310	6180	5940	4450	4510	3360	3540	2620	2850	2080	2330	1660			1920	1340	15.70
	Stabilizers down			*14 930	*14 930	*11 120	*11 120	*8930	*8930	*7470	7310	*6430	5760	*5610	4680	4750	3890			4020	3280	15.71
1.5 m	Stabilizers up			*9870	7950	7510	5440	5480	4010	4210	3080	3350	2430	2720	1950	2240	1580			1870	1290	15.70
	Stabilizers down			*8900	*8900	*11 770	*11 770	*9280	9200	*7660	6990	*6500	5550	5570	4550	4660	3800			3970	3230	15.69
0.0 m	Stabilizers up	*2090	*2090	*5270	*5270	6890	4870	5090	3640	3960	2840	3180	2270	2600	1840	2170	1510			1830	1250	15.55
	Stabilizers down	*2130	*2130	*5160	*5160	*11 850	*11 850	*9330	8770	*7650	6710	*6440	5370	5440	4420	4580	3720			*3830	3190	15.53
-1.5 m	Stabilizers up	*2620	*2620	*4740	*4740	6500	4510	4810	3380	3760	2650	3040	2130	2510	1750	2110	1450			1810	1230	15.26
	Stabilizers down	*2680	*2680	*4740	*4740	*9670	*9670	*9020	8460	*7410	6500	*6200	5230	*5220	4330	*4350	3660			*3380	3160	15.22
-3.0 m	Stabilizers up	*3270	*3270	*4950	*4950	6310	4320	4650	3220	3640	2530	2950	2050	2450	1690	2080	1420					14.80
	Stabilizers down	*3320	*3320	*4980	*4980	*8590	*8590	*8330	8290	*6880	6370	*5730	5130	*4760	4270	*3820	3630			*2860	*2860	14.75
-4.5 m	Stabilizers up			*5390	*5390	6250	4270	4580	3160	3580	2470	2910	2010	2430	1670	2090	1430					
	Stabilizers down			*5440	*5440	*8550	*8550	*7230	*7230	*6030	*6030	*4990	*4990	*4030	*4030	*2990	*2990					
-6.0 m	Stabilizers up							4600	3180	3580	2480	2920	2020									
	Stabilizers down							*5730	*5730	*4810	*4810	*3900	*3900									

*Rated by hydraulic capacity rather than stability capacity. Rated loads do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity.

All lifts with heavy lift on. Always refer to the appropriate Operation and Maintenance Manual for specific product information.

M325D MH — Lift Capacities — 7420 mm/24'4"

With 7420 mm stick.

BOOM — 29'0"

STICK — 24'4"

MAXIMUM REACH/HEIGHT/DEPTH — 51'4" / 56'3" / 21'0"

English Units/all weights are in lbs

4

	Undercarriage configuration	10.0 ft		15.0 ft		20.0 ft		25.0 ft		30.0 ft		35.0 ft		40.0 ft		45.0 ft		50.0 ft				ft		
																								
55.0 ft	Stabilizers up Stabilizers down					*10,300	*10,300													*10,560 *10,230	*10,560 *10,230	19.00 20.08		
50.0 ft	Stabilizers up Stabilizers down							*10,760 *11,000	*10,760 *11,000												*8330 *8220	*8330 *8220	28.67 29.33	
45.0 ft	Stabilizers up Stabilizers down							*12,700 *12,810	12,410 *12,810	*10,760 *10,940	9020 *10,940	*7430 *7800	6610 *7800								*7360 *7320	6570 *7320	35.07 35.53	
40.0 ft	Stabilizers up Stabilizers down							*13,780 *13,850	12,660 *13,850	11,800 *12,590	9240 *12,590	8930 *10,560	6900 *10,560		*6990 *6990						*6830 *6790	5180 *6790	39.83 40.19	
35.0 ft	Stabilizers up Stabilizers down							*14,600 *14,680	12,660 *14,680	11,820 *13,710	9260 *13,710	9000 *12,280	6970 *12,280	5270 *9720							5820 *6500	4300 *6500	43.47 43.77	
30.0 ft	Stabilizers up Stabilizers down							*15,300 *15,340	12,460 *15,340	11,680 *13,890	9130 *13,890	8930 *12,700	6880 *12,700	6970 *11,570	5270 11,000	5470 *7980	4010 *7980				5120 *6330	3730 *6330	46.29 46.52	
25.0 ft	Stabilizers up Stabilizers down							15,410 *16,030	12,060 *16,030	11,380 *14,310	8840 *14,310	8730 *12,920	6680 *12,920	6860 *11,730	5160 10,870	5450 *9940	3990 8840				4630 *6260	3310 *6260	48.46 48.62	
20.0 ft	Stabilizers up Stabilizers down							*18,610 *18,920	16,380 *18,920	14,730 *17,020	10,940 *17,020	8400 *14,900	8420 *13,250	6390 *13,250	6660 *11,880	4960 10,650	5340 10,580	3880 8730	4280 *6420	3020 *6420	50.00 *6260	50.00 *6260		
15.0 ft	Stabilizers up Stabilizers down							*22,550 *23,770	*22,550 *23,770	15,010 *21,960	13,850 *21,960	10,360 *18,210	7870 *15,590	8050 *15,590	6040 *13,630	6420 12,880	4720 *12,060	5180 10,380	3730 10,430	2950 8550	4030 *7870	2800 *7140	51.02 51.08	
10.0 ft	Stabilizers up Stabilizers down							27,930 *32,250	20,330 *32,250	17,920 *24,070	13,360 *19,340	12,830 *19,340	9610 *16,200	9720 15,740	7250 *13,930	7630 12,410	5640 *12,170	6130 10,080	4450 10,230	5000 8380	3550 8640	4120 7060	2840 *6530	3880 *6530
5.0 ft	Stabilizers up Stabilizers down							*23,960 *21,430	17,220 *21,430	16,200 *25,490	11,770 *25,490	11,820 *20,110	8660 19,800	9080 *16,600	6660 15,060	7210 *14,090	5230 11,970	5860 11,990	4190 9790	4830 10,030	3400 8180	4010 8530	2760 6950	3810 *6770
0.0 ft	Stabilizers up Stabilizers down	*4760 *4830	*4760 *4830	*12,150 *11,880	*12,150 *11,880	14,860 *25,680	10,520 *25,680	10,980 *20,240	7870 18,870	8530 *16,580	6130 14,460	6830 *13,930	4870 11,570	5600 11,730	3950 9520	4670 9860	3240 8030	3950 *8090	2690 6860	3810 *7120	2580 6680	51.02 50.95		
-5.0 ft	Stabilizers up Stabilizers down	*5910 *6020	*5910 *6020	*10,780 *10,780	*10,780 *10,780	14,020 *22,440	9720 *22,440	10,380 *19,560	7300 18,210	8110 *16,030	5710 14,000	6550 *13,380	4590 11,270	5400 *11,240	3750 9330	4540 *9280	3110 7890	3900	2650	3900	2650	50.03		
-10.0 ft	Stabilizers up Stabilizers down	*7320 *7450	*7320 *7450	*11,200 *11,200	*11,200 *11,200	13,580 *19,710	9330 *19,710	10,010 *18,010	6950 17,840	7850 *14,860	5450 13,710	6350 *12,350	4410 11,070	5290 *10,190	3640 9190	4480 *8070	3060 7850			4060 *6280	2760 *6280	48.49 48.36		
-15.0 ft	Stabilizers up Stabilizers down																							
-20.0 ft	Stabilizers up Stabilizers down																							

*Rated by hydraulic capacity rather than stability capacity. Rated loads do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity.

All lifts with heavy lift on. Always refer to the appropriate Operation and Maintenance Manual for specific product information.

M325D LMH — Lift Capacities — 6000 mm/19'8"

With 6000 mm stick.

BOOM — 8850 mm STICK — 6000 mm MAXIMUM REACH/HEIGHT/DEPTH — 14 330 / 16 600 / 4100 mm

Metric Units/all weights are in kg

	Undercarriage configuration	3.0 m		4.5 m		6.0 m		7.5 m		9.0 m		10.5 m		12.0 m		13.5 m				m
																				
16.5 m	Stabilizers up Stabilizers down																		*8210 *8210	3.69
15.0 m	Stabilizers up Stabilizers down					*7400 *7740	*7400 *7740												*6160 *5950	6.87 7.33
13.5 m	Stabilizers up Stabilizers down					*8780 *8930	*8780 *8930	*7580 *7830	7340 7830	*5540 *6010	5390 *6010								*5310 *5210	9.12 9.43
12.0 m	Stabilizers up Stabilizers down					*9510 *9620	*9510 *9620	*8770 *8920	7460 *8920	7110 *7760	5530 *7760	*5320 *5740	4210 *5740						*4890 *4840	10.70 10.92
10.5 m	Stabilizers up Stabilizers down					*10 140 *10 170	*10 140 *10 170	*8920 *8940	7440 *8940	7120 *8020	5550 *8020	5520 *7290	4260 *7290		*4760 *4760				4430 *4640	11.87 12.05
9.0 m	Stabilizers up Stabilizers down					*10 470 *10 560	10 370 *10 560	*9120 *9180	7310 *9180	7040 *8140	5470 *8140	5480 *7320	4230 *7320	4370 *6610	3330 *6610				3900 *4540	12.77 12.90
7.5 m	Stabilizers up Stabilizers down			*11 770 *12 170	*11 770 *12 170	*11 140 *11 290	9990 *11 290	9160 *9600	7070 *9600	6890 *8380	5310 *8380	5390 *7440	4140 *7440	4320 *6660	3290 *6660		*4600 *4600		3550 *4510	13.43 13.53
6.0 m	Stabilizers up Stabilizers down	*13 610 *15 880	*13 610 *15 880	*15 380 *15 750	14 660 *15 750	*12 090 *12 270	9410 *12 270	8790 *12 270	6730 *10 140	6650 *10 140	5100 *8670	5240 *8670	4000 *7580	4240 *7580	3210 *6700	3490 *5900	2610 *5480		3310 *4550	13.91 13.97
4.5 m	Stabilizers up Stabilizers down			*17 550 *17 900	13 160 *17 900	11 640 *13 310	8690 *13 310	8350 *13 310	6310 *10 680	6380 *10 680	4840 *8960	5070 *8960	3840 *7710	4140 *7710	3110 *6720	3430 *6480	2550 *5840		3160 *4650	14.20 14.24
3.0 m	Stabilizers up Stabilizers down			*9080 *7560	*9080 *7560	10 830 *14 000	7940 *14 000	7890 *11 050	5890 *11 050	6100 *9130	4580 *9130	4890 *7760	3670 *7760	4020 *6670	3000 *6360	3370 *5700	2490 *5350		3070 *4810	14.33 14.34
1.5 m	Stabilizers up Stabilizers down			*4950 *4810	*4950 *4810	10 180 *13 990	7340 *13 990	7500 *11 070	5520 *11 070	5850 *9100	4340 *9100	4730 *7650	3510 *7650	3920 *6500	2900 *6250	3310 *5440	2430 *5290		3040 *4790	14.31 14.29
0.0 m	Stabilizers up Stabilizers down			*4850 *4950	*4850 *4950	9780 *10 770	6980 *10 770	7220 *10 770	5250 *10 650	5660 *5870	4150 *8780	4600 *7340	3390 *7340	3840 *6150	2820 *6150	3260 *4980	2390 *4980		3070 *4440	14.12 14.07
-1.5 m	Stabilizers up Stabilizers down			*5580 *5740	*5580 *5740	9600 *10 130	6810 *10 130	7050 *9760	5100 *9760	5530 *8110	4030 *8110	4510 *6760	3300 *6760	3780 *5550	2770 *5550	3250 *4220	2370 *4220		3170 *4010	13.76 13.68
-3.0 m	Stabilizers up Stabilizers down					9570 *9820	6780 *9820	6990 *8400	5040 *8400	5480 *7060	3980 *7060	4480 *5830	3270 *5830	3770 *4600	2760					

*Rated by hydraulic capacity rather than stability capacity. Rated loads do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity.

All lifts with heavy lift on. Always refer to the appropriate Operation and Maintenance Manual for specific product information.

M325D LMH — Lift Capacities — 6000 mm/19'8"

With 6000 mm stick.

BOOM — 29'0"

STICK — 19'8"

MAXIMUM REACH/HEIGHT/DEPTH — 47'0" / 54'6" / 13'5"

English Units/all weights are in lbs

4

	Undercarriage configuration	10.0 ft		15.0 ft		20.0 ft		25.0 ft		30.0 ft		35.0 ft		40.0 ft		45.0 ft				ft
																				
50.0 ft	Stabilizers up			*18,980	*18,980	*15,120	*15,120											*14,090	*14,090	21.00
	Stabilizers down			*19,490	*19,490	*16,120	*16,120											*13,540	*13,540	22.67
45.0 ft	Stabilizers up					*18,920	*18,920	*15,920	15,700									*11,880	*11,880	29.04
	Stabilizers down					*19,270	*19,270	*16,540	*16,540	*11,800	*11,800							*11,660	*11,660	30.09
40.0 ft	Stabilizers up					*20,700	*20,700	*18,870	16,030	15,260	11,860							*10,870	9190	34.51
	Stabilizers down					*20,940	*20,940	*19,250	*19,250	*16,380	*16,380	*11,200	*11,200					*10,760	*10,760	35.30
35.0 ft	Stabilizers up					*22,110	*22,110	*19,470	16,030	15,320	11,930	11,840	9130					9940	7580	38.58
	Stabilizers down					*22,180	*22,180	*19,490	*19,490	*17,510	*17,510	*15,570	*15,570					*10,250	*10,250	39.17
30.0 ft	Stabilizers up					*22,770	22,360	*19,840	15,760	15,170	11,770	11,800	9080	9370	7120			8690	6570	41.63
	Stabilizers down					*22,950	*22,950	*19,950	*19,950	*17,730	*17,730	*15,960	*15,960	*13,430	*13,430			*10,010	*10,010	42.09
25.0 ft	Stabilizers up			*25,750	*25,750	*24,140	21,560	19,750	15,260	14,820	11,460	11,600	8910	9280	7060			7870	5910	43.93
	Stabilizers down			*26,540	*26,540	*24,450	*24,450	*20,830	*20,830	*18,210	*18,210	*16,160	*16,160	*14,460	14,400			*9940	*9940	44.26
20.0 ft	Stabilizers up	*29,010	*29,010	*33,180	31,700	*26,170	20,350	18,980	14,530	14,350	11,000	11,290	8620	9130	6900	7470	5580	7320	5450	45.54
	Stabilizers down	*33,090	*33,090	*33,950	*33,950	*26,540	*26,540	*21,980	*21,980	*18,830	*18,830	*16,470	*16,470	*14,550	14,200	*11,660	*11,660	*10,010	*10,010	45.77
15.0 ft	Stabilizers up			*37,850	28,510	25,130	18,810	18,030	13,650	13,780	10,450	10,940	8270	8910	6680	7390	5490	6970	5160	46.56
	Stabilizers down			*38,600	*38,600	*28,770	*28,770	*23,150	*23,150	*19,420	*19,420	*16,710	*16,710	*14,570	13,960	*12,590	11,660	*10,230	*10,230	46.69
10.0 ft	Stabilizers up			*22,640	*22,640	23,390	17,170	17,040	12,720	13,160	9880	10,560	7920	8660	6460	7250	5360	6770	4980	47.01
	Stabilizers down			*18,560	*18,560	*30,310	*30,310	*23,940	*23,940	*19,800	*19,800	*16,800	16,670	*14,440	13,710	*12,260	11,530	*10,580	*10,580	47.05
5.0 ft	Stabilizers up			*11,620	*11,620	21,980	15,870	16,180	11,930	12,630	9370	10,210	7580	8440	6240	7120	5230	6700	4920	46.95
	Stabilizers down			*11,220	*11,220	*30,360	*30,360	*24,010	*24,010	*19,710	*19,710	*16,580	16,290	*14,040	13,470	*11,640	11,400	*10,560	*10,560	46.88
0.0 ft	Stabilizers up			*11,110	*11,110	21,098	15,080	15,570	11,350	12,210	8970	9920	7300	8270	6090	7030	5160	6770	4960	46.33
	Stabilizers down			*11,310	*11,310	*25,110	*25,110	*23,100	*23,100	*19,000	*19,000	*15,870	*15,870	*13,230	*13,230	*10,560	*10,560	*9790	*9790	46.16
-5.0 ft	Stabilizers up			*12,660	*12,660	20,680	14,710	15,210	11,000	11,930	8710	9740	7120	8160	5980	7010	5140	6990	5120	45.14
	Stabilizers down			*13,010	*13,010	*23,300	*23,300	*21,160	*21,160	*17,550	*17,550	*14,570	*14,570	*11,860	*11,860			*8820	*8820	44.88
-10.0 ft	Stabilizers up					20,610	14,640	15,080	10,890	11,820	8600	9660	7060	8160	5950					
	Stabilizers down					*21,297	*21,300	*18,170	*18,170	*15,210	*15,210	*12,480	*12,480	*9680	*9680					

*Rated by hydraulic capacity rather than stability capacity. Rated loads do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity.

All lifts with heavy lift on. Always refer to the appropriate Operation and Maintenance Manual for specific product information.

M325D LMH — Lift Capacities — 7420 mm/24'4"

With 7420 mm stick.

BOOM — 8850 mm

STICK — 7420 mm

MAXIMUM REACH/HEIGHT/DEPTH — 15 650 / 17 800 / 5500 mm

Metric Units/all weights are in kg

	Undercarriage configuration	3.0 m		4.5 m		6.0 m		7.5 m		9.0 m		10.5 m		12.0 m		13.5 m		15.0 m				m		
																								
16.5 m	Stabilizers up Stabilizers down					*6170 *6440	*6170 *6440															*5230 *5020	*5230 *5020	6.86 7.37
15.0 m	Stabilizers up Stabilizers down							*6260 *6440	*6260 *6440	*4850 *5170	*4850 *5170											*4370 *4280	*4370 *4280	9.36 9.70
13.5 m	Stabilizers up Stabilizers down							*7040 *7140	*7040 *7140	*6180 *6330	5750 *6330	*4800 *5060	4360 *5060									*3950 *3900	3890 *3900	11.11 11.36
12.0 m	Stabilizers up Stabilizers down							*7530 *7600	*7530 *7600	*6940 *7050	5830 *7050	5720 *6150	4450 *6150	*4400 *4650	3440 *4650							*3710 *3680	3190 *3680	12.43 12.63
10.5 m	Stabilizers up Stabilizers down							*7920 *7940	7830 *7940	*7250 *7260	5810 *7260	5730 *6680	4460 *6680	4530 *5770	3480 *5770		*3760					*3570 *3550	2740 *3550	13.46 13.61
9.0 m	Stabilizers up Stabilizers down							*8120 *8180	7710 *8180	7320 *7410	5720 *7410	5670 *6760	4400 *6760	4500 *6200	3460 *6200	3630 *4980	2740 *4980					3260 *3480	2430 *3480	14.25 14.37
7.5 m	Stabilizers up Stabilizers down							*8520 *8610	7470 *8610	7150 *7670	5560 *7670	5550 *6920	4290 *6920	4430 *6280	3380 *6280	3590 *5710	2700 *5610					2990 *3460	2210 *3460	14.85 14.94
6.0 m	Stabilizers up Stabilizers down							*10 340 *10 780	10 100 *10 780	*9090 *9200	7110 *9200	6900 *8030	5320 *8030	5380 *7120	4130 *7120	4320 *6380	3280 *6380	3530 *5730	2640 *5530	2910 *4250	2140 *4250	2810 *3490	2050 *3490	15.28 15.33
4.5 m	Stabilizers up Stabilizers down			*13 670 *15 510	*13 670 *15 510	*11 800 *12 010	9350 *12 010	8730 *9880	6660 *9880	6590 *8410	5030 *8410	5180 *7330	3930 *7330	4190 *6480	3150 *6480	3440 *5750	2560 *5440	2870 *4900	2090 *4600	2680 *3550	1950 *3550	15.55 15.58		
3.0 m	Stabilizers up Stabilizers down			*17 420 *17 740	12 860 *17 740	11 440 *13 120	8480 *13 120	8200 *13 120	6160 *10 470	6260 *10 470	4710 *8740	4960 *8740	3720 *7500	4040 *7500	3010 *6530	3350 *6380	2470 *5720	2810 *5340	2040 *4930	2610 *4540	1880 *3660	15.67 15.67		
1.5 m	Stabilizers up Stabilizers down			*10 150 *8790	*10 150 *8790	10 560 *13 750	7680 *13 750	7680 *10 830	5680 *10 830	5930 *8920	4400 *8920	4750 *7560	3520 *7560	3900 *6500	2870 *6230	3250 *5610	2380 *5240	2760 *4730	1990 *4480	2580 *3810	1850 *3810	15.64 15.62		
0.0 m	Stabilizers up Stabilizers down	*2690 *2790		*6270 *6090	*6270 *6090	9900 *13 690	7070 *13 690	7270 *10 810	5290 *10 810	5660 *8870	4140 *8870	4560 *7450	3340 *3390	3770 *6340	2750 *6100	3170 *5370	2300 *5160	2710 *4380	1940 *4380	2590 *4020	1850 *4020	15.47 15.43		
-1.5 m	Stabilizers up Stabilizers down	*3390 *3520		*5860 *5890	*5860 *5890	9500 *11 360	6700 *11 360	6980 *10 360	5010 *10 360	5450 *8520	3950 *8520	4420 *7120	3200 *7120	3670 *5990	2660 *4960	3110 *4960	2240 *4960	2690 *3790	1920 *3790	2650 *3710	1500 *3710	15.15 15.08		
-3.0 m	Stabilizers up Stabilizers down			*6190 *6280	*6190 *6280	9300 *10 480	6530 *10 480	6810 *9450	4860 *9450	5320 *7830	3820 *7830	4320 *6520	3110 *6120	3610 *5390	2600 *5390	3080 *4280	2210 *4280					2770 *3320	1900 *3320	14.66 14.56
-4.5 m	Stabilizers up Stabilizers down					9260 *9640	6490 *9640	6750 *8080	4800 *8080	5260 *6750	3770 *6750	4290 *5580	3080 *5580	3600 *4470	2580 *4470									

*Rated by hydraulic capacity rather than stability capacity. Rated loads do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity.

All lifts with heavy lift on. Always refer to the appropriate Operation and Maintenance Manual for specific product information.

M325D LMH — Lift Capacities — 7420 mm/24'4"

With 7420 mm stick.

BOOM — 29'0"

STICK — 24'4"

MAXIMUM REACH/HEIGHT/DEPTH — 51'4" / 58'5" / 18'1"

English Units/all weights are in lbs

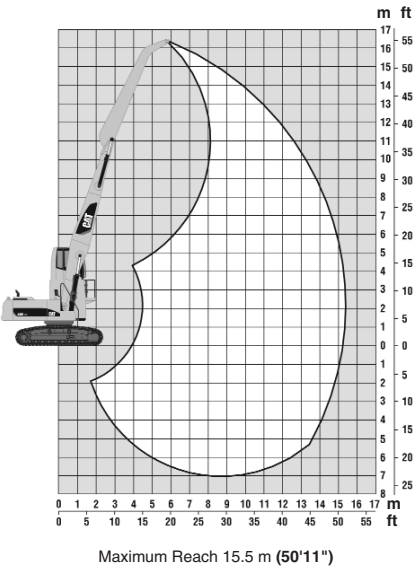
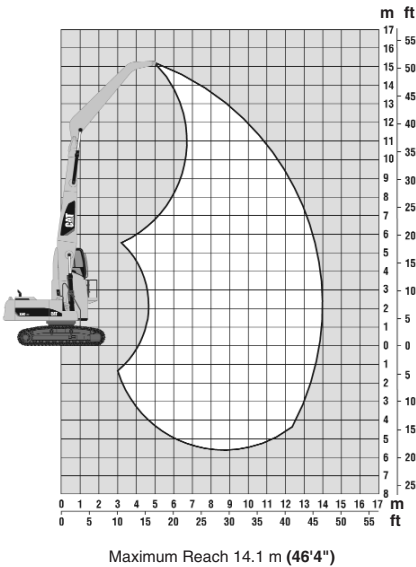
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	Undercarriage configuration	10.0 ft		15.0 ft		20.0 ft		25.0 ft		30.0 ft		35.0 ft		40.0 ft		45.0 ft		50.0 ft				ft	
																							
55.0 ft	Stabilizers up Stabilizers down					*12,570 *13,380	*12,570 *13,380													*12,100 *11,550	*12,100 *11,550	20.57 22.47	
50.0 ft	Stabilizers up Stabilizers down					*15,540	*15,540	*13,180 *13,650	*13,180 *13,650	*10,360 *10,360										*9860 *9610	*9860 *9610	29.59 30.77	
45.0 ft	Stabilizers up Stabilizers down							*15,210 *15,430	*15,210 *15,430	*13,070 *13,450	12,300 *13,450	*9550 *10,230	9260 *10,230							*8820 *8690	*8820 *8690	35.73 36.58	
40.0 ft	Stabilizers up Stabilizers down							*16,380 *16,560	*16,380 *16,560	*14,950 *15,210	12,500 *15,210	12,260 *12,990	9520 *9240	*8580 *9240	7300 *9240					*8220 *8160	7190 *8160	40.29 40.94	
35.0 ft	Stabilizers up Stabilizers down							*17,310 *17,350	16,840 *17,350	*15,830 *15,850	12,500 *15,850	12,300 *14,600	9570 *14,600	9700 *12,040	7430 *12,040					*7890 *7850	6130 *7850	43.80 44.32	
30.0 ft	Stabilizers up Stabilizers down							*17,700 *17,810	16,600 *17,810	15,760 *16,140	12,320 *16,140	12,190 *14,730	9460 *14,730	9660 *13,510	7410 *13,510	7760 *10,050	5840 *10,050			*7250 *7690	5400 *7690	46.52 46.92	
25.0 ft	Stabilizers up Stabilizers down							*18,540 *18,720	16,090 *18,720	15,390 *16,690	11,970 *16,690	11,950 *15,060	9220 *15,060	9520 *13,650	7250 *10,350	7690 *12,210	5780 *12,040			6640 *7630	4890 *7630	48.59 48.88	
20.0 ft	Stabilizers up Stabilizers down							*22,600 *23,410	21,800 *19,970	*19,730 *19,970	15,340 *19,970	14,860 *17,440	11,460 *17,440	11,600 *15,480	8890 *14,580	9280 *13,870	7030 *12,430	7580 *11,910	6220 *8070	4560 *8070	6220 *7670	4540 *7670	50.03 50.23
15.0 ft	Stabilizers up Stabilizers down	*22,530	*22,530	*29,320 *33,440	*29,320 *33,440	*25,550 *25,990	20,220 *25,990	18,830 *21,410	14,370 *21,410	14,200 *18,250	10,850 *18,250	11,160 *15,920	8470 *15,920	9020 *14,070	6770 *14,070	7410 *12,460	5490 *11,710	6150 *9590	4480 *7830	5930 *7830	4300 *7830	50.98 51.08	
10.0 ft	Stabilizers up Stabilizers down			*37,630 *38,340	27,820 *38,340	24,690 *28,400	18,340 *28,400	17,680 *22,690	13,290 *22,690	13,490 *18,960	10,160 *18,960	10,690 *16,270	8030 *16,270	8690 *14,150	6480 *13,760	7210 *12,370	5290 *11,490	6040 *10,540	4370 *9770	5750 *8050	4150 *8050	51.41 51.41	
5.0 ft	Stabilizers up Stabilizers down			*24,300 *20,830	*24,300 *20,830	22,770 *29,810	16,600 *29,810	16,580 *23,480	12,260 *23,480	12,790 *19,340	9500 *13,340	10,230 *16,380	7580 *16,380	8400 *14,070	6170 *13,430	7010 *12,100	5090 *11,290	5930 *10,080	4260 *9660	5690 *8400	4080 *8400	51.31 51.25	
0.0 ft	Stabilizers up Stabilizers down	*6110 *6310	*6110 *6310	*14,420 *13,980	*14,420 *13,980	21,340 *29,700	15,280 *29,700	15,680 *29,700	11,420 *23,440	12,190 *23,440	8930 *19,200	9830 *16,140	7210 *15,920	8110 *13,690	5910 *13,160	6830 *11,550	4940 *11,110	5840 *9240	4190 *9240	5710 *8860	4080 *8860	50.75 50.62	
-5.0 ft	Stabilizers up Stabilizers down	*7610 *7920	*7610 *7920	*13,320 *13,320	*13,320 *13,320	20,460 *26,280	14,460 *26,280	15,040 *22,440	10,830 *22,440	11,750 *18,430	8510 *18,430	9520 *15,390	6900 *12,900	7920 *5710	5700 *12,900	6700 *10,580	4830 *10,580			5860 *8180	4190 *8180	49.67 49.44	
-10.0 ft	Stabilizers up Stabilizers down			*13,980 *14,180	*13,980 *14,180	20,040 *24,010	14,090 *24,010	14,680 *20,440	10,470 *20,440	11,460 *16,890	8250 *16,890	9330 *14,020	6720 *14,020	7780 *11,530	5600 *11,530	6660 *9000	4760 *9000			6130	4390	48.06	
-15.0 ft	Stabilizers up Stabilizers down					19,950 *20,790	14,000 *20,790	14,550 *20,790	10,360 *17,390	11,350 *17,390	8140 *14,480	9260 *14,480	6640 *11,910	7760 *9390	5580 *9390								

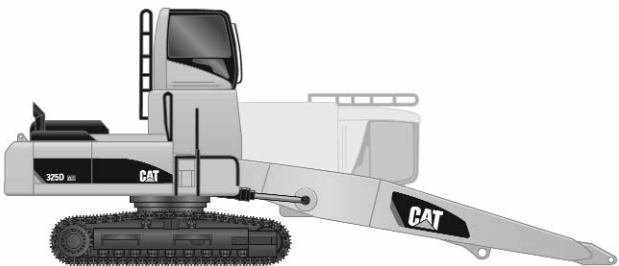
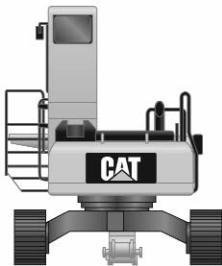
*Rated by hydraulic capacity rather than stability capacity. Rated loads do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity.

All lifts with heavy lift on. Always refer to the appropriate Operation and Maintenance Manual for specific product information.

325D MH Range Diagrams



325D MH Specifications



Model	325D MH			
	Long Stick		Short Stick	
Overall Weight	35.5 t	78,200 lb	35.2 t	77,600 lb
Horsepower (Net)	152 kW	204 hp	152 kW	204 hp
Boom Length	8.85 m	29'0"	8.85 m	29'0"
Stick Length	7.42 m	24'3"	6.00 m	19'8"
Maximum Horizontal Reach	15.5 m	50'11"	14.1 m	46'4"
Maximum Vertical Pin Height	16.4 m	53'10"	15.2 m	49'11"
Maximum Depth	7.07 m	23'2"	5.66 m	18'6"

Cab Height (with cab in raised position): 6050 mm (19'10").
Cab Height (with cab in lower position): 5374 mm (17'8").

Lift Capacities

325D MH-Short Stick

BOOM — 8.85 m (29'0")
STICK — 6.0 m (19'8")

MAX REACH — 14.1 m (46'4")
MAX HEIGHT — 15.2 m (49'11.4")

MAX DEPTH — 5.66 m (18'6.8")

4

		3.0 m/10.0 ft		4.5 m/15.0 ft		6.0 m/20.0 ft		7.5 m/25.0 ft		9.0 m/30.0 ft		10.5 m/35.0 ft		12.0 m/40.0 ft		13.5 m/45.0 ft		Maximum Reach			
		Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	m ft	
15.0 m	kg			*6010	*6010	*5500	*5500											*5500	*5500	5.61	
50.0 ft	lb			*12,740	*12,740	*12,190	*12,190											*12,740	*12,740	16.48	
13.5 m	kg					*7040	*7040	*5740	*5740	*4580	*4580							*4600	*4600	8.29	
45.0 ft	lb					*15,230	*15,230	*10,280	*10,280									*10,330	*10,330	26.16	
12.0 m	kg					*7970	*7970	*7390	*7390	*5860	*5860	*4170	*4170					*4200	*4200	10.05	
40.0 ft	lb					*17,300	*17,300	*15,680	*15,680	*9,290	*9,290							*9,340	*9,340	32.34	
10.5 m	kg					*7990	*7990	*7240	*7240	*5660	*5660	*3970	*3970					*3990	*3990	11.35	
35.0 ft	lb					*18,580	*18,580	*17,460	*17,460	*15,650	*15,650	*8,780	*8,780					*8,830	*8,830	36.81	
9.0 m	kg					*8860	*8860	*8130	*8130	*7300	*7300	6440	5630	*3870	*3870			*3890	*3890	12.33	
30.0 ft	lb					*19,390	*19,390	*17,720	*17,720	*15,910	*15,910	13,840	12,090	*8,540	*8,540			*8,590	*8,590	40.17	
7.5 m	kg					*9810	*9810	*8470	*8470	*7490	*7490	6350	5540	5070	4400	*3840	3770	*3860	*3780	13.06	
25.0 ft	lb					*21,290	*21,290	*18,410	*18,410	*16,300	*16,300	15,370	13,650	11,900	10,887	9,450	*8,470	8,380	*8,520	8,390	42.67
6.0 m	kg			*13,360	*13,360	*10,680	*10,680	*8970	*8970	*7770	*7770	6900	6190	5390	4980	4320	*3870	3470	*3900	3480	13.58
20.0 ft	lb			*28,840	*28,840	*23,120	*23,120	*19,460	*19,460	*16,890	*16,890	14,860	13,330	11,590	10,710	9,280	*8,530	7,690	*8,590	7,700	44.47
4.5 m	kg			*15,480	*15,480	*11,730	*11,730	*9540	8730	7620	6600	6000	5200	4870	4200	3810	3270	3810	3280	13.93	
15.0 ft	lb			*33,370	*33,370	*25,370	*25,370	*20,680	18,830	16,420	14,230	12,930	11,200	10,470	9,040	8,420	7,230	8,430	7,240	45.64	
3.0 m	kg			*16,690	*16,690	*12,670	11,400	9560	8210	7290	6290	5800	5000	4740	4080	3680	3150	3680	3150	14.1	
10.0 ft	lb			*36,790	*36,790	*27,420	24,610	20,620	17,710	15,730	13,560	12,490	10,780	10,200	8,780	8,120	6,950	8,120	6,960	46.25	
1.5 m	kg			*7850	*7850	12,590	10,600	9080	7740	6990	5990	5600	4810	4610	3960	3620	3100	3630	3100	14.11	
5.0 ft	lb			*17,470	*17,470	27,130	22,880	19,570	16,700	15,070	12,930	12,080	10,370	9,940	8,520	7,990	6,830	7,990	6,850	46.3	
Ground Line	kg			*5010	*5010	12,040	10,080	8710	7390	6750	5750	5440	4650	4510	3850	3640	3100	3640	3110	13.96	
	lb			*11,050	*11,050	25,920	21,730	18,780	15,930	14,550	12,410	11,730	10,030	9,720	8,310	8,020	6,840	8,030	6,850	45.8	
-1.5 m	kg	*4050	*4050	*6080	*6080	*10,770	9820	8480	7170	6580	5590	5330	4540	4440	3780	3730	3180	3740	3190	13.64	
-5.0 ft	lb	*8,980	*8,980	*13,760	*13,760	*24,760	21,150	18,280	15,450	14,190	12,060	11,490	9,790	9,570	8,160	8,240	7,020	8,240	7,030	44.73	
-3.0 m	kg			*5740	*5740	*10,450	9750	8380	7070	6490	5510	5270	4480	4410	3760	3920	3350	3930	3350	13.14	
-10.0 ft	lb			*12,810	*12,810	*23,100	20,980	*18,060	15,240	14,000	11,890	11,370	9,670	9,520	8,120	8,670	7,390	8,680	7,400	43.05	
-4.5 m	kg					*8760	*8760	*7520	7080	*6320	5500	*5180	4490	*3610	3790						
-15.0 ft	lb					*18,990	*18,990	*16,200	15,260	*13,550	11,880	*11,020	9,690	*8,030	*8,030						

*Indicates that the load is limited by hydraulic capacity rather than tipping capacity. Lift capacity ratings are based on SAE J2518 standard. Rated loads do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity.

All lifts are with heavy lift on. Always refer to the appropriate Operation and Maintenance Manual for specific product information.

Lift Capacities

325D MH-Long Stick

BOOM — 8.85 m (29'0")
STICK — 7.42 m (24'3")

MAX REACH — 15.5 m (50'11")
MAX HEIGHT — 16.4 m (53'10")

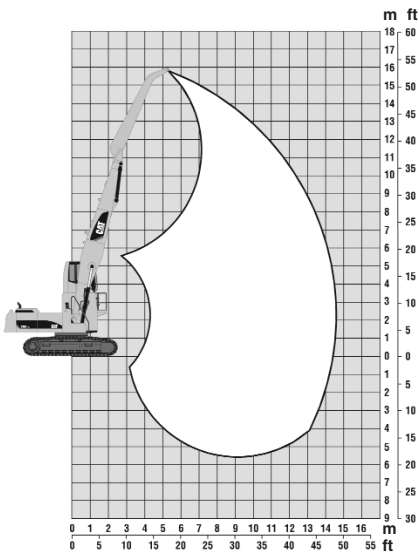
MAX DEPTH — 7.07 m (23'2")

		3.0 m/10.0 ft		4.5 m/15.0 ft		6.0 m/20.0 ft		7.5 m/25.0 ft		9.0 m/30.0 ft		10.5 m/35.0 ft		12.0 m/40.0 ft		13.5 m/45.0 ft		15.0 m/50.0 ft		Maximum Reach				
Lift Point Height		Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	m ft		
15.0 m 50.0 ft	kg lb							*4900 *8,450	*4900 *8,450	*8,240 *8,240											*3740 *8,450	*3740 *8,450	8.58 26.92	
13.5 m 45.0 ft	kg lb									*4900 *10,310	*4900 *10,310	*3350 *3350									*3320 *7,420	*3320 *7,420	10.52 33.72	
12.0 m 40.0 ft	kg lb									*5980 *12,740	*5980 *12,740	*4860 *10,010	*4860 *10,010									*3090 *6,870	*3090 *6,870	11.96 38.69
10.5 m 35.0 ft	kg lb									*6490 *14,200	*6490 *14,200	*5840 *12,360	*5840 *12,360	*4460 *9,030	*4460 *9,030							*2960 *6,560	*2960 *6,560	13.06 42.49
9.0 m 30.0 ft	kg lb									*6580 *14,360	*6580 *14,360	*6070 *13,250	5870 12,620	5310 11,380	4630 9,920	*3620 *6,910	*3620 *6,910					*2890 *6,390	*2890 *6,390	13.92 45.42
7.5 m 25.0 ft	kg lb							*7520 *16,360	*7520 *16,360	*6800 *14,800	*6800 *14,800	*6200 *13,500	5760 12,380	5230 11,240	4560 9,790	4240 9,090	3670 7,860					*2870 *6,320	*2870 *6,320	14.57 47.65
6.0 m 20.0 ft	kg lb							*8040 *17,460	*8040 *17,460	*7120 *15,480	*7120 *15,480	*6390 *13,780	5590 12,020	5120 11,000	4450 9,560	4170 8,960	3610 7,730	*2970	2950			*2880 *6,340	*2880 *6,340	15.04 49.26
4.5 m 15.0 ft	kg lb			*12,990 *28,060	*12,990 *28,060	*10,370 *22,460	*10,370 *22,460	*8690 *18,840	*8690 *18,840	*7510 *16,290	6880 14,830	6180 13,310	5370 11,560	4970 10,700	4310 9,260	4080 8,770	3520 7,550	3390 *6,950	2900 6,210			*2930 *6,450	2780 6,140	15.35 50.32
3.0 m 10.0 ft	kg lb			*15,390 *33,220	*15,390 *33,220	*11,570 *25,040	*11,570 *25,040	*9350 *20,270	8620 18,590	7540 16,240	6520 14,050	5940 12,780	5130 11,050	4810 10,350	4150 8,920	3980 8,550	3410 7,330	3330 7,100	2840 6,100			*3010 *6,630	2680 5,910	15.51 50.87
1.5 m 5.0 ft	kg lb			*37,090 *81,900	*37,090 *81,900	*12,510 27,090	11,170 24,090	9390 20,240	8040 17,340	7160 15,430	6150 13,260	5690 12,260	4890 10,540	4650 10,000	3990 8,580	3870 8,320	3310 7,110	3270 7,030	2780 5,980			*3100 *6,830	2630 5,800	15.52 50.92
Ground Line	kg lb			*7700 *17,690	*7700 *17,690	12,350 26,580	10,370 22,340	8880 19,130	7540 16,260	6830 14,720	5830 12,570	5470 11,780	4680 10,070	4500 9,690	3840 8,270	3770 8,120	3210 6,910	3220 6,930	2730 5,870			*3100 *6,830	2630 5,790	15.38 50.47
-1.5 m -5.0 ft	kg lb	*3800 *8,520	*3800 *8,520	*6490 *14,700	*6490 *14,700	11,800 25,390	9850 21,210	8510 18,320	7180 15,480	6570 14,160	5580 12,030	5290 11,400	4500 9,700	4380 9,440	3720 8,020	3700 7,970	3140 6,760	3180	2700			*3160 *6,960	2670 5,900	15.09 49.5
-3.0 m -10.0 ft	kg lb	*4380 *9,790	*4380 *9,790	*6420 *14,480	*6420 *14,480	*10,890 24,770	9580 20,620	8280 17,830	6960 15,010	6400 13,800	5420 11,670	5170 11,150	4380 9,450	4300 9,270	3650 7,860	3660 7,890	3100 6,680					*3280 *7,240	2780 6,130	14.65 47.99
-4.5 m -15.0 ft	kg lb			*6710 *15,080	*6710 *15,080	*10,380 22,650	9490 20,430	8180 17,610	6870 14,800	6320 13,620	5330 11,500	5110 11,020	4330 9,330	4270 9,210	3610 7,800	3660 *7,880	3100 6,700					*3350 *7,340	2960 6,540	14.02 45.89

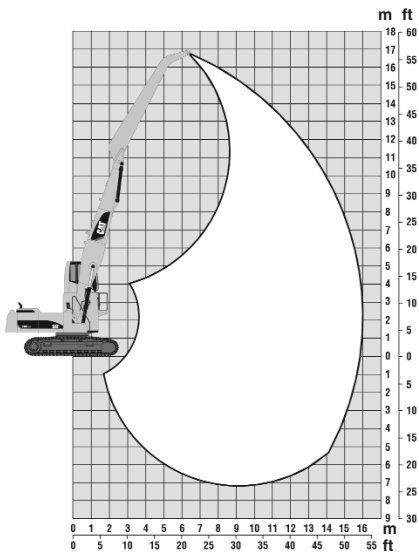
*Indicates that the load is limited by hydraulic capacity rather than tipping capacity. Lift capacity ratings are based on SAE J2518 standard. Rated loads do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity.

All lifts are with heavy lift on. Always refer to the appropriate Operation and Maintenance Manual for specific product information.

330D MH Range Diagrams

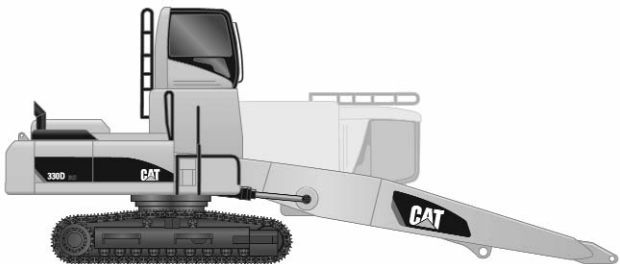
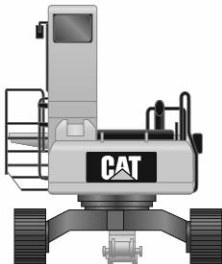


Maximum Reach 14.6 m (47'11")



Maximum Reach 16.0 m (52'6")

330D MH Specifications



Model	330D MH			
	Long Stick		Short Stick	
Overall Weight	44.6 t	98,400 lb	44.3 t	97,800 lb
Horsepower (Net)	200 kW	268 hp	200 kW	268 hp
Boom Length	9.20 m	30'0"	9.20 m	30'0"
Stick Length	7.60 m	24'11"	6.10 m	20'0"
Maximum Horizontal Reach	16.0 m	52'6"	14.6 m	47'11"
Maximum Vertical Pin Height	16.9 m	55'5"	15.8 m	51'11"
Maximum Depth	7.06 m	23'2"	5.56 m	18'3"

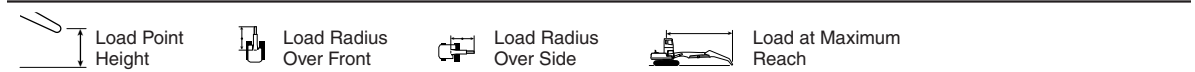
Cab Height (with cab in raised position) 6153 mm (20'2").
Cab Height (with cab in lower position) 5477 mm (18'0").

Excavators — Material Handling

Lifting Capacities ● 330D MH (U.S./Belgium Sourced)

Lift Capacities

330D MH



BOOM — 9.2 m (30'2")

STICK — 6.1 m (20'0")

MAX REACH — 14.6 m (47'11")

MAX HEIGHT — 15.8 m (51'11")

MAX DEPTH — -5.56 m (-18'3")

		3.0 m/10.0 ft		4.5 m/15.0 ft		6.0 m/20.0 ft		7.5 m/25.0 ft		9.0 m/30.0 ft		10.5 m/35.0 ft		12.0 m/40.0 ft		13.5 m/45.0 ft				m	ft
																					
16.5 m	kg			*6130	*6130																
55.0 ft	lb			*12,250	*12,250																
15.0 m	kg					*6320	*6320	*6110	*6110												
50.0 ft	lb					*13,920	*13,920														
13.5 m	kg					*19,650	*19,650	*8310	*8310	*5330	*5330										
45.0 ft	lb							*17,320	*17,320	*11,920	*11,920										
12.0 m	kg							*9520	*9520	*8380	*8380	*4940	*4940								
40.0 ft	lb							*20,840	*20,840	*17,510	*17,510	*10,960	*10,960								
10.5 m	kg							*9520	*9520	*8510	*8510	*7710	7630	*4720	*4720						
35.0 ft	lb							*20,760	*20,760	*18,560	*18,560	*16,370	16,370	*10,450	*10,450						
9.0 m	kg					*10,540	*10,540	*9730	*9730	*8620	*8620	*7740	7570	6540	6030	*4620	*4620				
30.0 ft	lb					*23,010	*23,010	*21,170	*21,170	*18,760	*18,760	*16,270	16,270	*10,200	*10,200						
7.5 m	kg					*11,930	*11,930	*10,140	*10,140	*8850	*8850	*7850	7420	6460	5960	*4590	*4590				
25.0 ft	lb					*25,860	*25,860	*22,010	*22,010	*19,220	*19,220	*17,070	15,980	13,900	12,800	*10,120	*10,120				
6.0 m	kg					*16,500	*16,500	*12,910	*12,910	*10,690	*10,690	*9150	8810	7500	6980	*4630	*4630				
20.0 ft	lb					*35,590	*35,590	*27,940	*27,940	*23,170	*23,170	*19,860	19,820	16,880	15,550	*10,190	*10,190				
4.5 m	kg	*23,280	*23,280	*18,740	*18,740	*14,000	*14,000	*11,270	*11,270	*9460	8810	7500	6980	6190	5680	5140	4710				
15.0 ft	lb	*51,640	*51,640	*40,420	*40,420	*30,280	*30,280	*24,410	*24,410	*20,520	19,010	16,360	15,040	13,320	12,230	10,160	9,290				
3.0 m	kg			*8880	*8880	*14,830	*14,830	*11,710	10,970	9190	8420	7340	6730	6020	5520	5040	4610				
10.0 ft	lb			*20,080	*20,080	*32,110	*32,110	*25,380	23,760	19,820	18,170	15,820	14,500	12,980	11,890	10,850	9,930				
1.5 m	kg			*5090	*5090	*15,010	14,300	11,430	10,410	8830	8070	7100	6490	5870	5370	4950	4520				
5.0 ft	lb			*11,290	*11,290	*32,550	30,830	24,650	22,460	19,040	17,400	15,310	14,010	12,650	11,570	10,660	9,740				
0.0 m	kg	*3800	*3800	*5850	*5850	*12,360	*12,360	11,010	10,000	8550	7790	6910	6300	5740	5240	4870	4450				
0.0 ft	lb	*8,370	*8,370	*13,340	*13,340	*28,730	*28,730	23,750	21,570	18,430	16,800	14,900	13,600	12,380	11,300	9,790	8,930				
-1.5 m	kg	*4680	*4680	*6450	*6450	*11,060	*11,060	10,770	9760	8360	7600	6780	6170	5660	5160	*4460	4160				
-5.0 ft	lb	*10,390	*10,390	*14,570	*14,570	*25,340	*25,340	23,210	21,050	18,020	16,400	14,620	13,320	12,210	11,130	*9,810	9,170				
-3.0 m	kg			*6770	*6770	*11,060	*11,060	*9540	*9540	*8020	7510	*6700	6110	*5480	5120	*3980	*3980				
-10.0 ft	lb			*15,110	*15,110	*24,350	*24,350	*20,640	*20,640	*17,310	16,210	*14,400	13,180	*11,670	11,060	*8,740	*8,740				
-4.5 m	kg					*8910	*8910	*7850	*7850	*6690	*6690	*5530	*5530	*3710	*3710						
-15.0 ft	lb					*19,240	*19,240	*16,910	*16,910	*14,340	*14,340	*11,770	*11,770	*8,250	*8,250						

*Indicates that the load is limited by hydraulic capacity rather than tipping capacity. Lift capacity ratings are based on SAE J2518. Rated payloads do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity.

All lift values are shown with heavy lift on. Always refer to the appropriate Operation and Maintenance Manual for specific product information.

Lifting Capacities
● 330D MH
(U.S./Belgium Sourced)

Excavators —
Material Handling

Lift Capacities

330D MH



Load Point
Height



Load Radius
Over Front



Load Radius
Over Side



Load at Maximum
Reach

4

BOOM — 9.2 m (30'2")
STICK — 7.6 m (24'11")

MAX REACH — 16.0 m (52'6")
MAX HEIGHT — 16.9 m (55'5")

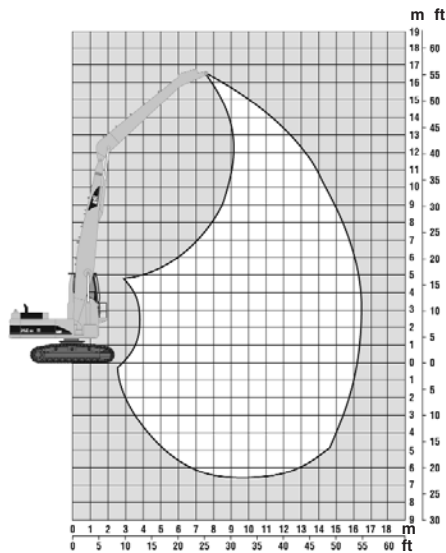
MAX DEPTH — -7.06 m (-23'2")

	3.0 m/10.0 ft		4.5 m/15.0 ft		6.0 m/20.0 ft		7.5 m/25.0 ft		9.0 m/30.0 ft		10.5 m/35.0 ft		12.0 m/40.0 ft		13.5 m/45.0 ft		15.0 m/50.0 ft				m ft		
																							
16.5 m 55.0 ft	kg lb				*5450 *11,680		*5080	*5080											*5080 *11,250	*5080 *11,250	7.2 21.78		
15.0 m 50.0 ft	kg lb						*6590 *14,250	*6590 *14,250	*4310 *9,690	*4310 *9,690									*4330 *9,740	*4330 *9,740	9.67 30.53		
13.5 m 45.0 ft	kg lb								*6830 *14,380	*6830 *14,380	*5280 *8,730	*5280 *8,730	*3920	*3920					*3940 *8,780	*3940 *8,780	11.37 36.57		
12.0 m 40.0 ft	kg lb								*7680 *16,820	*7680 *16,820	*6680 *14,020	*6680 *14,020	*3690 *8,180	*3690 *8,180					*3710 *8,230	*3710 *8,230	12.69 41.13		
10.5 m 35.0 ft	kg lb								*7680 *16,760	*7680 *16,760	*7040 *15,380	*7040 *15,380	*6290 *13,050	*6290 *13,050	*3560 *7,860	*3560 *7,860			*3580 *7,910	*3580 *7,910	13.71 44.67		
9.0 m 30.0 ft	kg lb							*8210 *17,990	*8210 *17,990	*7810 *17,020	*7810 *17,020	*7110 *15,500	*7110 *15,500	*6520 *14,200	6250 13,410	*5460 *7,690	5050 *7,690	*3490	*3490	*3510 *7,740	*3510 *7,740	14.52 47.4	
7.5 m 25.0 ft	kg lb							*9030 *19,700	*9030 *19,700	*8070 *17,540	*8070 *17,540	*7260 *15,800	*7260 *15,800	*6590 14,300	6140 13,190	5430 11,640	4990 10,700	*3520 *7,680	*3520 *7,680	*3490 *7,690	*3490 *7,690	15.13 49.49	
6.0 m 20.0 ft	kg lb					*10 860 *23,560	*10 860 *23,560	*9650 *20,930	*9650 *20,930	*8420 *18,290	*8420 *18,290	*7470 *16,240	7460 16,060	6490 13,970	5980 12,860	5330 11,440	4890 10,500	*3940 8,520	*3940 8,520	*3510 *7,730	*3510 *7,730	15.57 50.99	
4.5 m 15.0 ft	kg lb					*16 030 *34,600	*16 030 *34,600	*12 520 *27,100	*12 520 *27,100	*10 330 *22,400	*10 330 *22,400	*8820 *19,140	*8820 *19,140	*7700 *16,720	7180 15,460	6300 13,560	5790 12,460	5200 11,180	4770 10,240	4350 8,830	3970 8,520	*3570 *7,860	15.85 51.98
3.0 m 10.0 ft	kg lb	*23 670 *52,110	*23 670 *52,110	*18 450 *39,850	*18 450 *39,850	*13 720 *29,690	*13 720 *29,690	*10 990 *23,810	*10 990 *19,930	*9190 18,740	8690 16,130	7490 16,130	6870 14,810	6090 13,120	5590 12,020	5060 10,890	4630 9,950	4260 8,650	3890 8,350	*3670 *8,090	*3670 *8,090	15.99 52.46	
1.5 m 5.0 ft	kg lb	*6320 *14,130	*6320 *14,130	*32 050 *70,200	*32 050 *70,200	*14 530 *31,470	*14 530 *31,470	10 740 24,800	9010 23,170	8240 17,760	7180 15,480	6570 14,160	5890 12,680	5380 11,590	4920 10,600	4490 9,670	4180 8,520	3800 8,180	3780 8,330	3430 7,570	3430 7,570	15.99 52.46	
0.0 m 0.0 ft	kg lb	*3300 *7,270	*3300 *7,270	*7830 *17,930	*7830 *17,930	*14 670 *31,800	14 000 30,140	11 170 24,060	10 150 21,870	8610 18,560	7850 16,910	6910 14,900	6310 13,590	5700 12,290	5200 11,200	4800 10,340	4370 9,410	4100 8,440	3790 8,350	3440 7,580	3440 7,580	15.84 51.98	
-1.5 m -5.0 ft	kg lb	*4200 *9,420	*4200 *9,420	*6940 *15,720	*6940 *15,720	*13 140 *28,840	*13 140 *28,840	10 730 23,120	9720 20,950	8300 17,900	7550 16,270	6700 14,440	6100 13,140	5560 11,980	5060 10,890	4710 10,140	4280 9,210	3960 8,590	3550 7,930	3860 8,510	3500 7,720	51.55 155.5	
-3.0 m -10.0 ft	kg lb	*4390 *9,780	*4390 *9,780	*7020 *15,820	*7020 *15,820	*11 460 *26,160	*11 460 *26,160	10 470 22,560	9470 20,400	8110 17,470	7350 15,850	6560 14,130	5950 12,830	5460 11,770	4960 10,690	4650 10,030	4220 9,100		*3760	3670	*3730 *8,190	3640 8,030	49.49 15.1
-4.5 m -15.0 ft	kg lb	*5990 *13,430	*5990 *13,430	*7400 *16,630	*7400 *16,630	*11 110 *24,030	*11 110 *24,030	*9260 *19,970	*9260 *19,970	*7730 *16,640	7260 15,650	*6450 *13,830	5880 12,690	*5320 *11,320	4920 10,610	*4190 *7,200	*4190 *7,200			*3300 *7,220	*3300 *7,220	14.49 47.41	
-6.0 m -20.0 ft	kg lb					*8860 *18,990	*8860 *18,990	*7590 *16,250	*7590 *16,250	*6400 *13,660	*6400 *13,660	*5290 *11,210	*5290 *11,210	*4190 *7,460	*4190 *7,460								

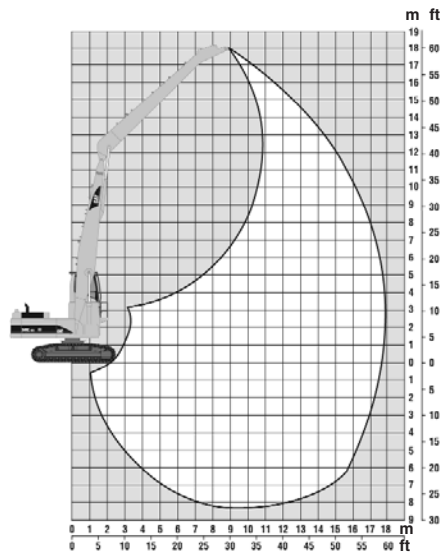
*Indicates that the load is limited by hydraulic capacity rather than tipping capacity. Lift capacity ratings are based on SAE J2518. Rated payloads do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity.

All lift values are shown with heavy lift on. Always refer to the appropriate Operation and Maintenance Manual for specific product information.

345C MH Range Diagrams



Maximum Reach 16.5 m (54'2")



Maximum Reach 18.0 m (59'1")

345C MH Specifications



Model	345C MH			
	Long Stick		Short Stick	
Overall Weight	57.4 t	126,600 lb	57.0 t	125,700 lb
Horsepower (Net)	257 kW	345 hp	257 kW	345 hp
Boom Length	9.90 m	32'6"	9.90 m	32'6"
Stick Length	9.10 m	29'10"	6.10 m	20'0"
Maximum Horizontal Reach	18.0 m	59'1"	16.5 m	54'2"
Maximum Vertical Pin Height	18.0 m	59'1"	16.9 m	55'6"
Maximum Depth	8.39 m	27'6"	6.71 m	22'0"

Cab Height (with cab in raised position) 6149 mm (20'2").
Cab Height (with cab in lower position) 5471 mm (18'0").

Lift Capacities

345C MH with 750 mm Track

BOOM — 9.9 m (32'6")
STICK — 9.1 m (29'10")

MAX REACH — 18 m (59'1")
MAX HEIGHT — 18 m (59'1")

4

		4.5 m/15.0 ft		6.0 m/20.0 ft		7.5 m/25.0 ft		9.0 m/30.0 ft		10.5 m/35.0 ft		12.0 m/40.0 ft		13.5 m/45.0 ft		15.0 m/50.0 ft		16.5 m/55.0 ft		18.0 m/60.0 ft		Maximum Reach		
Lift Point Height		Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	m ft
16.5 m 55.0 ft	kg lb																							

*Indicates that the load is limited by hydraulic capacity rather than tipping capacity. Rated loads do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity. Always refer to the appropriate Operation and Maintenance Manual for specific product information.

Excavators — Material Handling

Lifting Capacities ● 345C MH (U.S./Belgium Sourced)

Lift Capacities

345C MH with 750 mm Track

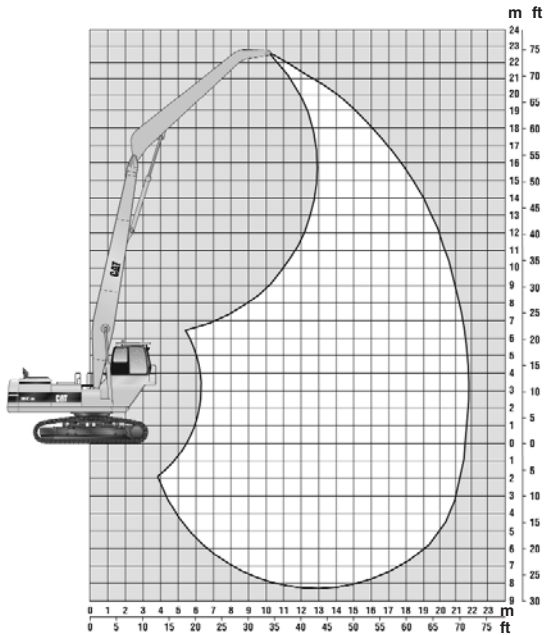
BOOM — 9.9 m (32'6")
STICK — 7.4 m (24'3")

MAX REACH — 16.5 m (54'2")
MAX HEIGHT — 16.9 m (55'6")

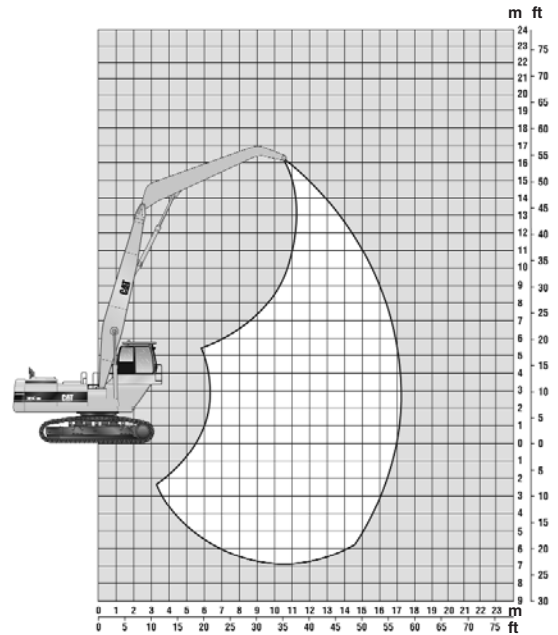
Lift Point Height	4.5 m/15.0 ft		6.0 m/20.0 ft		7.5 m/25.0 ft		9.0 m/30.0 ft		10.5 m/35.0 ft		12.0 m/40.0 ft		13.5 m/45.0 ft		15.0 m/50.0 ft		Maximum Reach		
	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	m ft
16.5 m 55.0 ft	kg lb																*7900 *17,500	*7900 *17,500	8.3 25.6
15.0 m 50.0 ft	kg lb							*9400 *20,600	*9400 *20,600								*7100 *15,500	*7100 *15,500	10.5 33.4
13.5 m 45.0 ft	kg lb								*9300 *20,400	*9300 *20,400	*6800 *14,900	*6800 *14,900					*6600 *14,500	*6600 *14,500	12.1 39
12.0 m 40.0 ft	kg lb								*9600 *21,200	*9600 *21,200	*8900 *19,500	*8900 *19,500					*6300 *13,900	*6300 *13,900	13.3 43.3
10.5 m 35.0 ft	kg lb								*9700 *21,300	*9700 *21,300	*8900 *19,500	*8900 *19,500	*8000 *17,700	7600 16,800			*6200 *13,500	*6200 *13,500	14.3 46.6
9.0 m 30.0 ft	kg lb						*10 900 *24,000	*10 900 *24,000	*9800 *21,600	*9800 *21,600	*8900 *19,600	*8900 *19,600	*8100 *17,900	7600 16,700	*6300 *13,900	*6300 *13,900	*6100 *13,400	*6100 *13,400	15.1 49.2
7.5 m 25.0 ft	kg lb						*11 300 *24,900	*11 300 *24,900	*10 100 *22,100	*10 100 *22,100	*9100 *19,900	*9100 *19,900	*8200 *18,000	7500 16,500	7200 15,900	6300 13,800	*6100 *13,400	5800 12,800	15.7 51.2
6.0 m 20.0 ft	kg lb				*13 800 *30,300	*13 800 *30,300	*11 800 *26,000	*11 800 *26,000	*10 400 *22,800	*10 400 *22,800	*9200 *20,300	8900 19,500	*8300 *18,200	7400 16,200	7100 15,700	6200 13,600	*6200 *13,600	5500 12,100	16.1 52.7
4.5 m 15.0 ft	kg lb	*24 100 *53,100	*24 100 *53,100	*18 200 *39,900	*18 200 *39,900	*14 700 *32,200	*14 700 *32,200	*12 300 *27,100	*12 300 *27,100	*10 700 *23,400	10 600 23,200	*9400 *20,600	8600 19,000	8300 18,200	7200 15,800	7000 15,500	6100 13,400	6100 13,500	5300 11,600
3.0 m 10.0 ft	kg lb	*16 800 *37,000	*16 800 *37,000	*19 500 *42,900	*19 500 *42,900	*15 400 *33,900	*15 400 *33,900	*12 800 *28,100	12 700 27,900	*10 900 *24,000	10 200 22,300	*9500 *20,800	8300 18,400	8100 17,800	7000 15,400	6900 15,200	6000 13,100	6000 13,200	5100 11,300
1.5 m 5.0 ft	kg lb	*6700 *14,500	*6700 *14,500	*20 100 *44,300	*20 100 *44,300	*15 800 *34,800	15 700 34,500	*13 000 *28,600	12 100 26,700	*11 000 *24,200	9800 21,500	9400 20,600	8100 17,800	7900 17,400	6800 15,000	6800 14,900	5800 12,800	5900 13,000	5100 11,200
0.0 m 0.0 ft	kg lb	*5700 *12,600	*5700 *12,600	*12 600 *27,700	*12 600 *27,700	*15 700 *34,500	15 000 33,000	*12 900 *28,400	11 700 25,700	*10 900 *23,900	9500 20,800	9200 20,100	7900 17,300	7800 17,100	6700 14,700	6700 14,700	5700 12,600	*5700 *12,600	5100 11,200
-1.5 m -5.0 ft	kg lb	*6100 *13,500	*6100 *13,500	*10 800 *23,800	*10 800 *23,800	*15 000 *33,000	14 600 32,000	*12 400 *27,300	11 300 24,900	*10 500 *23,000	9200 20,300	*8900 *19,600	7800 16,900	*7600 *16,700	6500 14,400	*6300 *14,000	5700 12,500	*5400 *11,800	5200 11,400
-3.0 m -10.0 ft	kg lb	*6900 *15,200	*6900 *15,200	*10 600 *23,400	*10 600 *23,400	*13 800 *30,300	*13 800 *30,300	*11 500 *25,400	11 100 24,500	*9800 *21,500	9100 19,900	*8300 *18,200	7600 16,700	*6900 *15,200	6500 14,200	*5600 *12,200	*5600 *12,200	*4900 *10,900	*4900 *10,900
-4.5 m -15.0 ft	kg lb			*11 100 *24,400	*11 100 *24,400	*12 000 *26,300	*12 000 *26,300	*10 200 *22,400	*10 200 *22,400	*8600 *19,000	*8600 *19,000	*7300 *16,000	*7300 *16,000	*5900 *13,000	*5900 *13,000		*4400 *9600	*4400 *9600	15 49
-6.0 m -20.0 ft	kg lb					*9600 *21,100	*9600 *21,100	*8300 *18,400	*8300 *18,400	*7100 *15,600	*7100 *15,600	*5800 *12,800	*5800 *12,800						

*Indicates that the load is limited by hydraulic capacity rather than tipping capacity. Rated loads do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity. Always refer to the appropriate Operation and Maintenance Manual for specific product information.

385C MH Range Diagrams

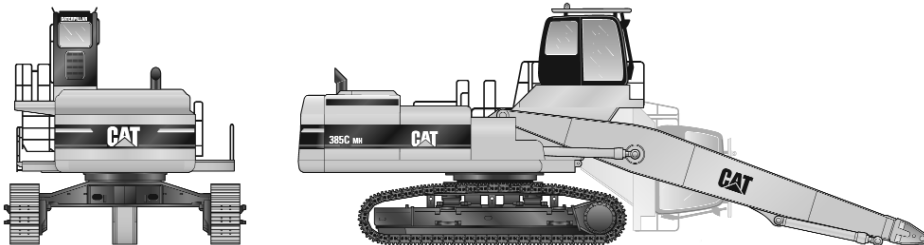


Maximum Reach 21.8 m (71'6")



Maximum Reach 17.2 m (56'6")

385C MH Specifications

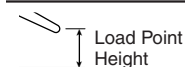


Model	385C MH			
	Long Front		Short Front	
Overall Weight	92.6 t	204,200 lb	92.6 t	204,200 lb
Horsepower (Net)	382 kW	513 hp	382 kW	513 hp
Maximum Horizontal Reach	21.8 m	71'6"	17.2 m	56'6"
Maximum Vertical Pin Height	22.6 m	74'2"	16.3 m	53'3"

Lifting Capacities
● 385C MH
(Belgium Sourced)

Lift Capacities

385C MH — 21.8 m (71.5') Front



		4.5 m/ 15.0 ft		6.0 m/ 20.0 ft		9.0 m/ 30.0 ft		12.0 m/ 40.0 ft		13.5 m/ 45.0 ft		15.0 m/ 50.0 ft		18.0 m/ 60.0 ft		19.5 m/ 65.0 ft		21.0 m/ 70.0 ft		Load at Maximum Reach		m ft	
																							
21.0 m 70.0 ft	kg lb							*9980	*9980												*9600 *21,738	*9600 *21,738	12.18 38.3
19.5 m 65.0 ft	kg lb																				*8750 *19,621	*8750 *19,621	14.17 45.3
18.0 m 60.0 ft	kg lb												*9860 *25,309	*9860 *25,309							*8210 *18,276	*8210 *18,276	15.77 50.8
16.5 m 55.5 ft	kg lb												*11 730 *28,572	*11 730 *24,471							*7830 *17,394	*7830 *17,394	17.08 55.3
15.0 m 50.0 ft	kg lb												*12 190 *26,544	*12 190 *26,544	*8070	*8070					*7580 *16,777	*7580 *16,777	18.17 59.1
13.5 m 45.0 ft	kg lb												*13 280 *28,881	*13 280 *28,881	*12 200 *26,544	*12 200 *26,544	*10 120 *20,349	*10 120 *20,349			*7410 *16,380	*7410 *16,380	19.09 62.2
12.0 m 40.0 ft	kg lb												*13 400 *29,123	*13 400 *29,123	*12 270 *26,654	*12 270 *26,654	10 270 21,936	10 090 21,539	*8350	*8350	*7300 *16,116	*7300 *16,116	19.84 64.8
10.5 m 35.0 ft	kg lb												*13 580 *32,584	*13 580 *32,584	*12 370 *29,476	*12 370 *26,852	10 150 21,716	10 150 21,319	8620 18,387	8460 18,012	*7250 *16,006	*7250 *16,006	20.46 66.9
9.0 m 30.0 ft	kg lb												*15 350 *33,290	*15 350 *33,290	*12 510 *29,939	*12 510 *29,939	9770 21,139	9770 21,363	8520 20,966	8350 17,835	*7250 *15,984	*7150 15,851	20.95 68.6
7.5 m 25.0 ft	kg lb																						
6.0 m 20.0 ft	kg lb																						
4.5 m 15.0 ft	kg lb																						
3.0 m 10.0 ft	kg lb																						
1.5 m 5.0 ft	kg lb																						
0.0 m 0.0 ft	kg lb																						
-1.5 m -5.0 ft	kg lb																						
-3.0 m -10.0 ft	kg lb																						
-4.5 m -15.0 ft	kg lb																						
-6.0 m -20.0 ft	kg lb																						
-7.5 m -25.0 ft	kg lb																						

*Rated by hydraulic capacity rather than stability capacity.

Always refer to the appropriate Operation and Maintenance Manual for specific product information.

Lift Capacities

385C MH — 17.2 m (56.5') Front

 Load Point Height		 Load Radius Over Front		 Load Radius Over Side																Load at Maximum Reach		m ft
15.0 m 50.0 ft	kg lb																					
13.5 m 45.0 ft	kg lb																					
12.0 m 40.0 ft	kg lb																					
10.5 m 35.0 ft	kg lb																					
9.0 m 30.0 ft	kg lb																					
7.5 m 25.0 ft	kg lb																					
6.0 m 20.0 ft	kg lb																					
4.5 m 15.0 ft	kg lb																					
3.0 m 10.0 ft	kg lb																					
1.5 m 5.0 ft	kg lb																					
0.0 m 0.0 ft	kg lb																					
-1.5 m -5.0 ft	kg lb																					
-3.0 m -10.0 ft	kg lb																					
-4.5 m -15.0 ft	kg lb																					
-6.0 m -20.0 ft	kg lb																					

*Rated by hydraulic capacity rather than stability capacity.

Always refer to the appropriate Operation and Maintenance Manual for specific product information.

MAGNET SELECTION GUIDE

Cat MH Model		Recommended Magnet Size (Diameter)					
		1219 mm (48")	1448 mm (57")	1676 mm (66")	1829 mm (72")	1981 mm (78")	2210 mm (87")
Gen. Required (kW)		10	15	20	25	33	40
M318D MH	11.0 m (36'1") Front	X					
M322D MH	12.5 m (40'11") Front		X				
M325D MH	15.6 m (51'4") Front		X				
M325D MH	14.3 m (47'0") Front		X				
M325D LMH	15.6 m (51'4") Front		X				
M325D LMH	14.3 m (47'0") Front			X			
325D MH	15.5 m (50'11") Front		X				
325D MH	14.1 m (46'4") Front			X			
330D MH	16.0 m (52'6") Front			X			
330D MH	14.6 m (47'11") Front			X			
345C MH	18.0 m (59'1") Front			X			
345C MH	16.5 m (54'2") Front				X		
385C MH	21.8 m (71'6") Front				X		
385C MH	17.2 m (56'6") Front						X

GRAPPLE SELECTION GUIDE

Cat MH Model		Recommended Orange Peel Grapple Size — m³/(yd³)								
		0.60 (0.75)	0.76 (1.00)	0.95 (1.25)	1.14 (1.50)	1.5 (2.00)	1.0 (2.50)	2.3 (3.00)	3.0 (4.00)	3.8 (5.00)
M318D MH	11.0 m (36'1") Front	X								
M322D MH	12.5 m (40'11") Front		X							
M325D MH	15.6 m (51'4") Front	X								
M325D MH	14.3 m (47'0") Front		X							
M325D LMH	15.6 m (51'4") Front		X							
M325D LMH	14.3 m (47'0") Front			X						
325D MH	15.5 m (50'11") Front	X								
325D MH	14.1 m (46'4") Front			X						
330D MH	16.0 m (52'6") Front			X						
330D MH	14.6 m (47'11") Front				X					
345C MH	18.0 m (59'1") Front				X					
345C MH	16.5 m (54'2") Front					X				
385C MH	21.8 m (71'6") Front							X		
385C MH	17.2 m (56'6") Front									X

*No rotation.

Grapple size must be matched to the machine size, linkage configuration and considering material density. For material density in the 1200 kg/m³ (2000 lb/yd³) range the grapple in the table above can be used. For different material densities, please contact your Cat dealer for other grapple options.

INSTITUTE OF SCRAP RECYCLING INDUSTRIES INC.

Scrap Specifications Guidelines for Ferrous Scrap

ISRI

Code Definition

- | | | | |
|-----|--|-----|---|
| 200 | No. 1 heavy melting steel. Wrought iron and/or steel scrap 6.35 mm (¼ in) and over in thickness. Individual pieces not over 1524 × 610 mm (60 × 24 in) (charging box size) prepared in a manner to insure compact charging. | 209 | No. 2 bundles. Old black and galvanized steel sheet scrap, hydraulically compressed to charging box size and weighing not less than 34 kg (75 lb) per cubic foot. May not include tin or lead-coated material of vitreous enameled material. |
| 203 | No. 2 heavy melting steel. Wrought iron and steel scrap, black and galvanized, 3.18 mm (⅛ in) and over in thickness, charging box size to include material not suitable as No. 1 heavy melting steel. Prepared in a manner to insure compact charging. | 210 | Shredded Scrap. Homogeneous iron and steel scrap magnetically separated, originating from automobiles, unprepared No. 1 and No. 2 steel, miscellaneous baling and sheet scrap. Average density 23 kg (50 lb) per cubic foot. |
| 207 | No. 1 busheling. Clean steel scrap, not exceeding 305 mm (12 in) in any dimensions, including new factory busheling (for example, sheet clippings, stampings, etc.). May not include old auto body and fender stock. Free of metal coated, limed, vitreous enameled, and electrical sheet containing over 0.5 percent silicon. | 211 | Shredded Scrap. Homogeneous iron and steel scrap magnetically separated, originating from automobiles, unprepared No. 1 and No. 2 steel, miscellaneous baling and sheet scrap. Average density 34 kg (70 lb) per cubic foot. |
| 208 | No. 1 bundles. New black steel sheet scrap, clippings or skeleton scrap, compressed or hand banded, to charging box size, and weighing not less than 34 kg (75 lb) per cubic foot. (Hand bundles are tightly secured for handling with a magnet.) May include Stanley balls or mandrel wound bundles or skeleton reels, tightly secured. May include chemically detinned material. May not include old auto body or fender stock. Free of metal coated, limed, vitreous enameled, and electrical sheet containing over 0.5 percent silicon. | 219 | Machine shop turnings. Clean steel or wrought iron turnings, free of iron borings, nonferrous metals in a free state, scale, or excessive oil. May not include badly rusted or corroded stock. |
| | | 231 | Plate and structural steel, 1.5 m (5 ft) and under. Cut structural and plate scrap, 1.5 m (5 ft) and under. Clean open hearth steel plates, structural shapes, crop ends, shearings, or broken steel tires. Dimensions not less than 6.35 mm (¼ in) thickness, not over 1.5 m (5 ft) in length and 457 mm (18 in) in width. Phosphorous or sulphur not over 0.05 percent. |
| | | 234 | Punchings and plate scrap. Punchings or stampings, plate scrap, and bar crops containing not over 0.05 percent phosphorous or sulphur and not over 0.5 percent silicon, free from alloys. All materials cut 305 mm (12 in) and under, and with the exception of punchings or stampings, at least 3.18 mm (⅛ in) in thickness. Punchings or stampings under 152 mm (6 in) in diameter may be any gauge. |

BACKHOE LOADERS

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Features:

- **Center pivot backhoe** — 416E, 420E, 430E, 450E.
- **Side shift backhoe** — 422E, 428E, 432E, 442E, 444E.
- **Single-tilt loader** features divergent loader arms, a narrow loader tower and single bucket tilt cylinder for improved visibility.
- **Integrated toolcarrier (parallel lift) loader** offers maximum lift and breakout forces, divergent loader arms, and parallel lift for efficient loading and material handling.
 - **Hydraulic Quick Coupler** provides versatility and allows quick connection to selected work tools for the Cat family of integrated toolcarriers.
- **Excavator-style backhoe** provides enhanced visibility even with narrow buckets, ability to reach over obstacles, and faster, easier truck loading.
 - **Backhoe Quick Coupler** offerings include a convenient “pin grabber” and versatile “pin puller” for use with D/E-Series and competitive work tools.
- **Load-sensing hydraulic system** provides full hydraulic power to implements at all engine speeds, low fuel consumption, smooth control and low lever efforts. A dual-setting torque limiter automatically optimizes hydraulics.

Backhoe Loader Website for Dealers on Infocast offers latest, updated information. This comprehensive site contains all published and unpublished supporting materials for backhoe loaders in the North American Commercial Division.

<https://nacd.cat.com/infocast/frames/products/bcp/bhlit/>

- **Pilot operated backhoe controls** provide smooth, efficient operation and operator comfort. Not available on 416E, 422E, 428E. New thumb roller controllers provide ergonomic function of the extendible stick and/or auxiliary hydraulic circuits. Convenient pattern changer switch is within the cab.
- **Pilot operated stabilizer controls** are standard on 420E, 430E, 432E, 442E, 444E, and 450E. Auto-up stabilizers are standard with the deluxe cab.
- **The Cat 3054C DIT engine** meets all U.S. EPA Tier 2/EU Stage II emissions requirements. The efficient fuel system delivers reliable engine lug performance. The transmission and new Cat axles provide increased roading speed. The 450E is powered with the Cat C4.4 engine with ACERT technology.
- **XT-3 ES** hoses combined with Cat couplings and O-ring face seal fittings provide a dry, reliable machine. The E Series backhoe circuits incorporate the XT-3 ES ToughGuard hoses.
- **Operator station features:** Air-suspension seat is standard on all models. Adjustable tilt steering is standard except on 416E and 422E. Rear, door and side windows can be fully opened for enhanced ventilation and cab roof is extended to help keep operator dry. Four-post Rollover Protective Structure (ROPS) for increased protection. Fully featured, a Deluxe Cab option will feature pilot operated joystick controls, state-of-the-art control panels with white-faced gauges mounted in a rotating vandal cover, pilot operated stabilizer controls with automatic hold upon lifting, and additional system monitoring including service indicators for engine air cleaner, water-in-fuel, and hydraulic filter.
- **High performance backhoe linkage** offers 205° of bucket rotation with one pin position. New backhoe geometry creates more stick force, brought closer to the operator to pull spoil through trench. The 450E has a backhoe bucket rotation of 198°.
- **Diagonal Retention System (DRS)** standard on all factory installed buckets with weld-on tooth adapters, excluding the 450E. Bucket teeth are attached with diagonal pins rather than horizontal pins for easy exchange of bucket teeth. 450E buckets remain fitted with J225 size, horizontal fastener pins. All other buckets have bolt-on Uni-teeth.
- **Integrated lift eye** on backhoe linkage.
- **Cat Cushion Swing** system smooths the swing function, improving the return-to-trench controllability.
- **The extendible stick** is redesigned to offer object clamping while extending. Serrated edges secure clamped objects. New wear pad configuration eases adjustment on all four sliding surfaces. All sticks have thumb mounts.
- **The hydraulic system** uses load sensing, flow sharing valves with anti-drift characteristics. Smooth, multi-function operation with the ability to have maximum lifting and digging forces at any RPM.
- **Ride Control** available as an option on all E-Series machines. The Ride-Control system smooths the ride under all job-site conditions.
- **4F/4R fully synchronized gear box** provides on-the-go shifting in all gears and on-the-go engagement of optional all wheel drive. Maximum, level travel speed increased to 40 km/h (25 mph).
- **Auto-Shift transmission** is available as an option on E-Series and is standard on 450E for operator comfort and efficiency.
- **Brakes** are oil immersed, multi-disc, self adjusting, and wear surface is made of Kevlar for long service life. Brakes are boosted on 420E, 430E and 450E models.
- **All Wheel Drive** is available as an option on all E-series machines, standard on the 430E and 450E. It improves mobility and loader performance in poor traction conditions and can be engaged at any time in any operating condition. Includes 4-wheel braking effect feature.
- **Sloping, flip-open hood** allows excellent visibility to the loader working area and tilts forward for single location access to all daily service points.
- **AccuGrade Grade Control Systems** for Backhoe Loaders are entry level grade and depth check systems that provide accuracy, productivity, lower operating costs and enhanced profitability.
- **Dry-type, radial seal air cleaner** with automatic, integrated dust ejector system provides efficient pre-separation. The two-stage air filter incorporates both air cleaner and pre-cleaner functions into a single unit mounted under the hood.



416E



420E/420E IT



422E

MODEL

Gross Flywheel Power						
SAE J1995	58 kW	78 hp	69 kW	93 hp	57 kW	76 hp
ISO 14396	56 kW	76 hp	68 kW	92 hp	57 kW	76 hp
Net Flywheel Power						
SAE J1349	55 kW*	74 hp*	66 kW	89 hp	55 kW	74 hp
ISO 9249	56 kW	75 hp	67 kW	90 hp	56 kW*	75 hp*
EEC 80/1269	56 kW	75 hp	67 kW	90 hp	56 kW*	75 hp*
Operating Weight	6792 kg	14,960 lb	7025 kg	15,474 lb	7210 kg	15,895 lb
Engine Model	3054C DINA		3054C DIT		3054C DINA	
Rated Engine RPM	2200		2200		2200	
No. of Cylinders	4		4		4	
Bore	105 mm	4.13 in	105 mm	4.13 in	105 mm	4.13 in
Stroke	127 mm	5 in	127 mm	5 in	127 mm	5 in
Displacement	4.4 L	268 in³	4.4 L	268 in³	4.4 L	268 in³
Speeds Forward (Power Shuttle)	km/h	mph	km/h	mph	km/h	mph
1st	6.0	3.7	6.0	3.7	6.0	3.7
2nd	9.5	5.9	9.5	5.9	10.0	6.2
3rd	19.8	12.3	19.9	12.4	20.0	12.4
4th	39.9	24.8	40.1	24.9	40.0	24.8
Speeds Reverse (Power Shuttle)						
1st	6.0	3.7	6.0	3.7	6.0	3.7
2nd	9.5	5.9	9.5	5.9	10.0	6.2
3rd	19.8	12.3	19.9	12.4	20.0	12.4
4th	39.9	24.8	40.1	24.9	40.0	24.8
Speeds Forward (Auto-Shift)						
1st	—		5.8	3.6	—	
2nd	—		9.3	5.8	—	
3rd	—		19.4	12.0	—	
4th	—		26.6	16.5	—	
5th	—		40.1	24.9	—	
Speeds Reverse (Auto-Shift)						
1st	—		5.8	3.6	—	
2nd	—		12.3	7.6	—	
3rd	—		26.7	16.6	—	
Turning Circle, Wall to Wall	10.74 m	35'3"	10.84 m	35'7"	10.83 m	35'5"
Turning Circle, Curb to Curb	8.16 m	26'9"	8.16 m	26'9"	—	
Minimum Turning Circle, Curb to Curb	6.44 m	21'1"	6.44 m	21'1"	—	
Tires						
2WD Bias Front	11L-16 12 PR F-3		11L-16 12 PR F-3		12.5/80 x 18, 10 PR	
2WD Bias Rear	19.5L-24 12 PR R4		19.5L-24 12 PR R4		16.9 x 28, 10 PR	
Tires						
AWD Bias Front	12.5/80-18 NHS 10 PR		12.5/80-18 NHS 10 PR		12.5/80 x 18, 10 PR	
AWD Bias Rear	19.5L-24 12 PR R4		19.5L-24 12 PR R4		16.9 x 28, 10 PR	
Tires						
AWD Bias Front	12.5/80-18 NHS 10 PR		12.5/80-18 NHS 10 PR		—	
AWD Bias Rear, Flotation	21L-24 16 PR		21L-24 16 PR		—	
Tires						
AWD Radial Front	335/80R18 XM37		335/80R18 XM37		340/80 x R18	
AWD Radial Rear	19.5L-R24 XM37		19.5L-R24 XM37		16.9 x R28	
Tires						
AWD Combination Front	335/80R18 XM37		335/80R18 XM37		—	
AWD Combination Rear	19.5L-24 12 PR R4		19.5L-24 12 PR R4		—	
Hydraulic System, Closed Center	Load Sensing, Flow Sharing		Load Sensing, Flow Sharing		LSPC	
Pump Capacity	132 L/min @ 2200 rpm @ 22 700 kPa 34.8 gpm @ 2200 rpm @ 3292 psi		163 L/min @ 2200 rpm @ 24 898 kPa 43 gpm @ 2200 rpm @ 3611 psi		125 L/min @ 2200 rpm @ 22 700 kPa 33 gpm @ 2200 rpm @ 3292 psi	
Fuel Tank Capacity	144 L	38 U.S. gal	144 L	38 U.S. gal	144 L	38 U.S. gal

*With optional turbocharger: 416E — SAE J1995 — 69 kW (93 hp).
422E — SAE J1995 — 69 kW (94 hp).



MODEL	428E		430E/430E IT		432E	
Gross Flywheel Power						
SAE J1995	69 kW*	92 hp	75 kW	101 hp	69 kW*	92 hp
ISO 14396	62 kW	83 hp	75 kW	100 hp	69 kW	92 hp
Net Flywheel Power						
SAE J1349	60 kW	80 hp	72 kW	97 hp	66 kW	89 hp
ISO 9249	67 kW	89 hp	73 kW	98 hp	67 kW	89 hp
EEC 80/1269	67 kW	89 hp	73 kW	98 hp	67 kW	89 hp
Operating Weight	7570 kg	16,689 lb	7294 kg	16,066 lb	7780 kg	17,152 lb
Engine Model	3054C DIT		3054C DIT		3054C DIT	
Rated Engine RPM	2200		2200		2200	
No. of Cylinders	4		4		4	
Bore	105 mm	4.13 in	105 mm	4.13 in	105 mm	4.13 in
Stroke	127 mm	5 in	127 mm	5 in	127 mm	5 in
Displacement	4.4 L	268 in ³	4.4 L	268 in ³	4.4 L	268 in ³
Speeds Forward (Power Shuttle)	km/h	mph	km/h	mph	km/h	mph
1st	6.0	3.7	5.9	3.7	6.0	3.7
2nd	10.0	6.2	9.7	6.0	10.0	6.2
3rd	20.0	12.4	20.0	12.3	20.0	12.4
4th	40.0	24.8	43.2	26.8	40.0	24.8
Speeds Reverse (Power Shuttle)						
1st	6.0	3.7	5.9	3.7	6.0	3.7
2nd	10.0	6.2	9.7	6.0	10.0	6.2
3rd	20.0	12.4	20.0	12.3	20.0	12.4
4th	40.0	24.8	43.2	26.8	40.0	24.8
Speeds Forward (Auto-Shift)						
1st	—		5.8	3.6	6.0	3.7
2nd	—		9.4	5.8	9.0	5.6
3rd	—		19.6	12.2	20.0	12.4
4th	—		27.1	16.8	27.0	16.7
5th	—		41.3	25.8	41.0	25.4
Speeds Reverse (Auto-Shift)						
1st	—		5.8	3.6	6.0	3.7
2nd	—		12.3	7.6	9.0	5.6
3rd	—		27.1	16.8	20.0	12.4
Turning Circle, Wall to Wall	10.80 m	35'4"	10.85 m	35'7"	10.80 m	35'5"
Tires						
2WD Bias Front	—		11L-16 12 PR F-3		—	
2WD Bias Rear	—		19.5L-24 12 PR R4		—	
Tires						
AWD Bias Front	12.5/80 x 18, 10 PR		12.5/80-18 NHS 10 PR		12.5/80 x 18, 10 PR	
AWD Bias Rear	16.9 x 28, 10 PR		19.5L-24 12 PR R4		16.9 x 28, 10 PR	
Tires						
AWD Bias Front	—		12.5/80-18 NHS 10 PR		—	
AWD Bias Rear, Flotation	—		21L-24 16 PR		—	
Tires						
AWD Radial Front	340/80 x R18		335/80R18 XM37		340/80 x R18	
AWD Radial Rear	16.9 x R28		19.5L-R24 XM37		16.9 x R28	
Tires						
AWD Combination Front	—		335/80R18 XM37		—	
AWD Combination Rear	—		19.5L-24 12 PR R4		—	
Hydraulic System, Closed Center	LSPC		Load Sensing, Flow Sharing		LSPC	
Pump Capacity	125 L/min @ 2200 rpm @ 22 700 kPa 33 gpm @ 2200 rpm @ 3292 psi		163 L/min @ 2200 rpm @ 24 898 kPa 43 gpm @ 2200 rpm @ 3611 psi		156 L/min @ 2200 rpm @ 24 900 kPa 41 gpm @ 2200 rpm @ 3611 psi	
Fuel Tank Capacity	144 L	38 U.S. gal	144 L	38 U.S. gal	144 L	38 U.S. gal

*With optional turbocharger: 428E — SAE J1995 — 75 kW (102 hp).
432E — SAE J1995 — 75 kW (102 hp).



434E



442E



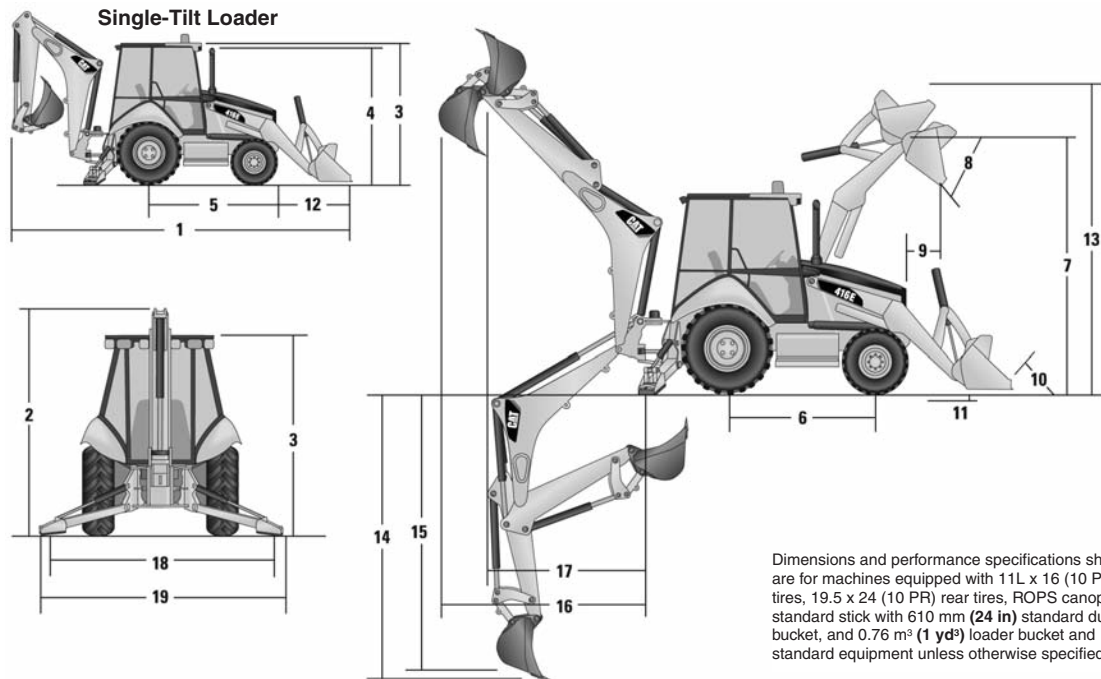
444E



450E

MODEL

Gross Flywheel Power SAE J1349 ISO 14396	75 kW —	100 hp	75 kW 75 kW	100 hp 100 hp	75 kW —	100 hp	102 kW 102 kW	137 hp 137 hp
Net Flywheel Power SAE J1349 ISO 9249 EEC 80/1269	— 73 kW 73 kW	— 97 hp 97 hp	72 kW 73 kW 73 kW	97 hp 97 hp 97 hp	— 73 kW 73 kW	— 97 hp 97 hp	92 kW 93 kW 93 kW	124 hp 125 hp 125 hp
Operating Weight	8370 kg	18,452 lb	7940 kg	17,504 lb	8810 kg	19,422 lb	10 950 kg	24,141 lb
Engine Model	3054C DIT		3054C DIT		3054C DIT		C4.4	
Rated Engine RPM	2200		2200		2200		2200	
No. of Cylinders	4		4		4		4	
Bore	105 mm	4.13 in	105 mm	4.13 in	105 mm	4.13 in	105 mm	4.13 in
Stroke	127 mm	5 in	127 mm	5 in	127 mm	5 in	127 mm	5 in
Displacement	4.4 L	268 in ³	4.4 L	268 in ³	4.4 L	268 in ³	4.4 L	268 in ³
Speeds Forward (Power Shuttle)	km/h	mph	km/h	mph	km/h	mph	km/h	mph
1st	6.0	3.7	6.0	3.7	6.0	3.7	—	—
2nd	9.0	5.5	10.0	6.2	10.0	6.2	—	—
3rd	18.0	11.1	20.0	12.4	20.0	12.4	—	—
4th	37.0	22.9	41.0	25.4	40.0	24.8	—	—
Speeds Reverse (Power Shuttle)	—	—	—	—	—	—	—	—
1st	6.0	3.7	6.0	3.7	6.0	3.7	—	—
2nd	9.0	5.5	10.0	6.2	10.0	6.2	—	—
3rd	18.0	11.1	20.0	12.4	20.0	12.4	—	—
4th	37.0	22.9	41.0	25.4	40.0	24.8	—	—
Speeds Forward (Auto-Shift)	—	—	—	—	—	—	—	—
1st	5.0	3.1	6.0	3.7	6.0	3.7	6.0	3.7
2nd	9.0	5.5	10.0	6.2	9.0	5.5	9.5	5.9
3rd	18.0	11.1	20.0	12.4	20.0	12.4	19.8	12.3
4th	25.0	15.5	27.0	16.7	27.0	16.7	27.2	16.9
5th	38.0	23.6	42.0	26.0	41.0	25.4	40.1	24.9
Speeds Reverse (Auto-Shift)	—	—	—	—	—	—	—	—
1st	5.0	3.1	6.0	3.7	6.0	3.7	6.0	3.7
2nd	9.0	5.5	10.0	6.2	9.0	5.5	12.5	7.8
3rd	18.0	11.1	20.0	12.4	20.0	12.4	27.3	17.0
Turning Circle, Wall to Wall	16.5 m	54'1"	10.8 m	35'4"	19.4 m	63'6"	11.18 m	36'8"
All Wheel Steer, Wall to Wall	—	—	—	—	—	—	—	—
Two Wheel Steer	16.5 m	54'1"	10.8 m	35'4"	19.4 m	63'6"	—	—
Circle Steer	11.8 m	38'7"	9.3 m	30'5"	12.9 m	42'3"	—	—
Independent Rear	11.1 m	36'4"	9.2 m	30'1"	11.9 m	39'0"	—	—
Tires, Single-Tilt, Front Standard, AWD	—	—	—	—	—	—	15 x 19.5, 12 PR, R4	
Tires, Single-Tilt, Rear Standard, 2WD/AWD	—	—	—	—	—	—	21L-24 R4 18 PR	
Tire, Parallel Lift, Front Standard, AWD	—	—	12.5/80 x 18, 10 PR		—	—	—	
Standard, AWD	—	—	12.5/80 x 18, 10 PR		—	—	—	
Tires, Parallel Lift, Rear Standard, AWD/AWS	—	—	16.9 x 28, 12 PR		—	—	—	
Hydraulic System, Closed Center	—	—	LSPC		—	—	Load Sensing	
Pump Capacity	156 L/min @ 2200 rpm @ 24 900 kPa	41 gpm @ 2200 rpm @ 3611 psi	156 L/min @ 2200 rpm @ 24 900 kPa	41 gpm @ 2200 rpm @ 3611 psi	156 L/min @ 2200 rpm @ 24 900 kPa	41 gpm @ 2200 rpm @ 3611 psi	194 L/min @ 2200 rpm @ 26 200 kPa	51.3 gpm @ 2200 rpm @ 3800 psi
Fuel Tank Capacity	187 L	49 U.S. gal	144 L	38 U.S. gal	187 L	49 U.S. gal	144 L	38 U.S. gal



Dimensions and performance specifications shown are for machines equipped with 11L x 16 (10 PR) front tires, 19.5 x 24 (10 PR) rear tires, ROPS canopy, standard stick with 610 mm (24 in) standard duty bucket, and 0.76 m³ (1 yd³) loader bucket and standard equipment unless otherwise specified.

MACHINE DIMENSIONS	Single-Tilt Loader					
	General Purpose 0.76 m ³ (1 yd ³)		General Purpose 0.96 m ³ (1.25 yd ³)		Multi Purpose 1.0 m ³ (1.3 yd ³)	
1) Overall transport length	7233 mm	23'9"	7321 mm	24'0"	7285 mm	23'11"
Overall length	7180 mm	23'7"	7293 mm	23'11"	7209 mm	23'8"
2) Overall transport height	3577 mm	11'9"	3577 mm	11'9"	3577 mm	11'9"
Overall width	2438 mm	8'0"	2438 mm	8'0"	2438 mm	8'0"
3) Height to top of cab/canopy	2819 mm	9'3"	2819 mm	9'3"	2819 mm	9'3"
4) Height to top of exhaust stack	2754 mm	9'0"	2754 mm	9'0"	2754 mm	9'0"
Ground clearance (minimum)	320 mm	1'1"	320 mm	1'1"	320 mm	1'1"
5) Rear axle centerline to front grill	2704 mm	8'10"	2704 mm	8'10"	2704 mm	8'10"
Front wheel tread gauge	1880 mm	6'2"	1880 mm	6'2"	1880 mm	6'2"
Rear wheel tread gauge	1727 mm	5'8"	1727 mm	5'8"	1727 mm	5'8"
6) Wheelbase (2WD/AWD)	2200 mm	7'3"	2200 mm	7'3"	2200 mm	7'3"

LOADER BUCKET DIMENSIONS AND PERFORMANCE	Single-Tilt Loader					
	General Purpose 0.76 m³ (1 yd³)		General Purpose 0.96 m³ (1.25 yd³)		Multi Purpose 1.0 m³ (1.3 yd³)	
Capacity (SAE) rated	0.76 m³	1 yd³	0.96 m³	1.25 yd³	1.0 m³	1.3 yd³
Width	2262 mm	7'5"	2262 mm	7'5"	2262 mm	7'5"
Lift capacity at maximum height	2547 kg	5615 lb	2427 kg	5351 lb	2225 kg	4905 lb
Breakout force	40.9 kN	9185 lb	38.1 kN	8565 lb	37.2 kN	8363 lb
7) Maximum hinge pin height (2WD)	3296 mm	10'10"	3296 mm	10'10"	3296 mm	10'10"
(4WD)	3368 mm	11'1"	3368 mm	11'1"	3368 mm	11'1"
8) Dump angle at full height		44°		44°		44°
Dump height at maximum angle	2651 mm	8'8"	2573 mm	8'5"	2624 mm	8'7"
9) Dump reach at maximum angle	772 mm	2'6"	853 mm	2'6"	761 mm	2'6"
10) Maximum bucket rollback at ground level		39°		39°		39°
11) Digging depth	106 mm	4"	106 mm	4"	106 mm	4"
Maximum grading angle		110°		107°		110°
Width of dozer cutting edge		N/A		N/A	2262 mm	7'5"
12) Grill to bucket cutting edge, carry position	1428 mm	4'8"	1516 mm	5'0"	1480 mm	4'10"
13) Maximum operating height	4063 mm	13'4"	4063 mm	13'4"	4063 mm	13'4"
Jaw opening maximum		N/A		N/A	790 mm	2'7"
Weight (does not include teeth or forks)	340 kg	750 lb	438 kg	967 lb	723 kg	1594 lb

BACKHOE DIMENSIONS AND PERFORMANCE	Standard Stick		Extendible Stick Retracted		Extendible Stick Extended	
14) Digging depth, SAE (maximum)	4360 mm	14'4"	4402 mm	14'5"	5456 mm	17'11"
15) Digging depth, 610 mm (2'0") flat bottom	4321 mm	14'2"	4363 mm	14'4"	5420 mm	17'10"
Reach from rear axle centerline at ground line	6721 mm	22'1"	6760 mm	22'2"	7769 mm	25'6"
16) Reach from swing pivot at ground line	5618 mm	18'5"	5657 mm	18'7"	6666 mm	21'10"
Maximum operating height	5523 mm	18'1"	5555 mm	18'3"	6302 mm	20'8"
Loading height	3636 mm	11'11"	3577 mm	11'9"	4145 mm	13'7"
17) Loading reach	1768 mm	5'10"	1868 mm	6'2"	2771 mm	9'1"
Swing arc		180°		180°		180°
Bucket rotation		205°		205°		205°
18) Stabilizer spread, operating position (center of pad)	3310 mm	10'10"	3310 mm	10'10"	3310 mm	10'10"
19) Stabilizer spread, operating position (outside edge of pad)	3770 mm	12'4"	3770 mm	12'4"	3770 mm	12'4"
Stabilizer spread, transport position	2322 mm	7'7"	2322 mm	7'7"	2322 mm	7'7"
Bucket dig force	51.8 kN	11,655 lb	51.1 kN	11,491 lb	51.1 kN	11,491 lb
Stick dig force	31.8 kN	7151 lb	31.8 kN	7151 lb	21.4 kN	5250 lb

Backhoe Loaders

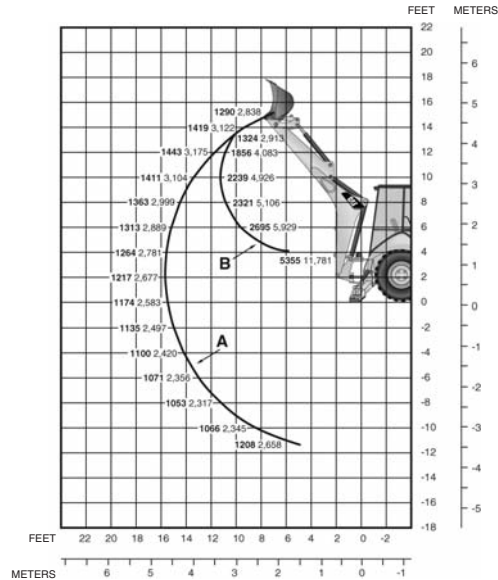
Lift Capacities

● 416E

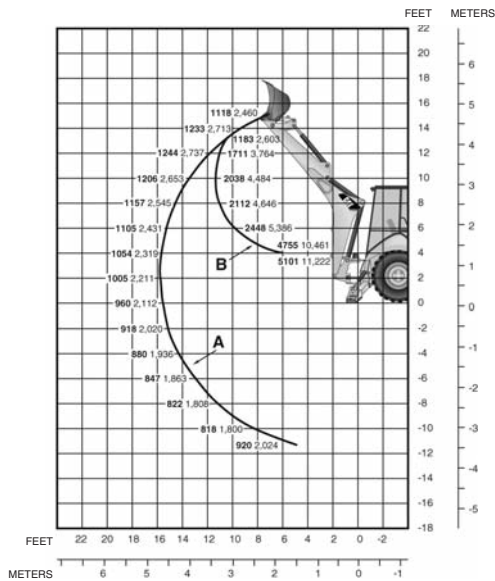
KEY

A — Boom lift kg lb

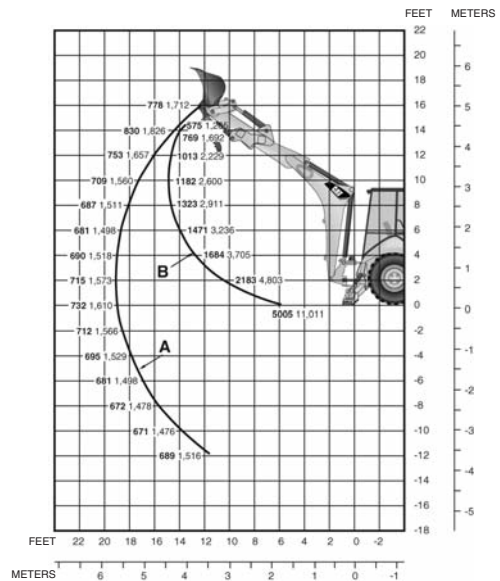
B — Stick lift kg lb



Standard Stick

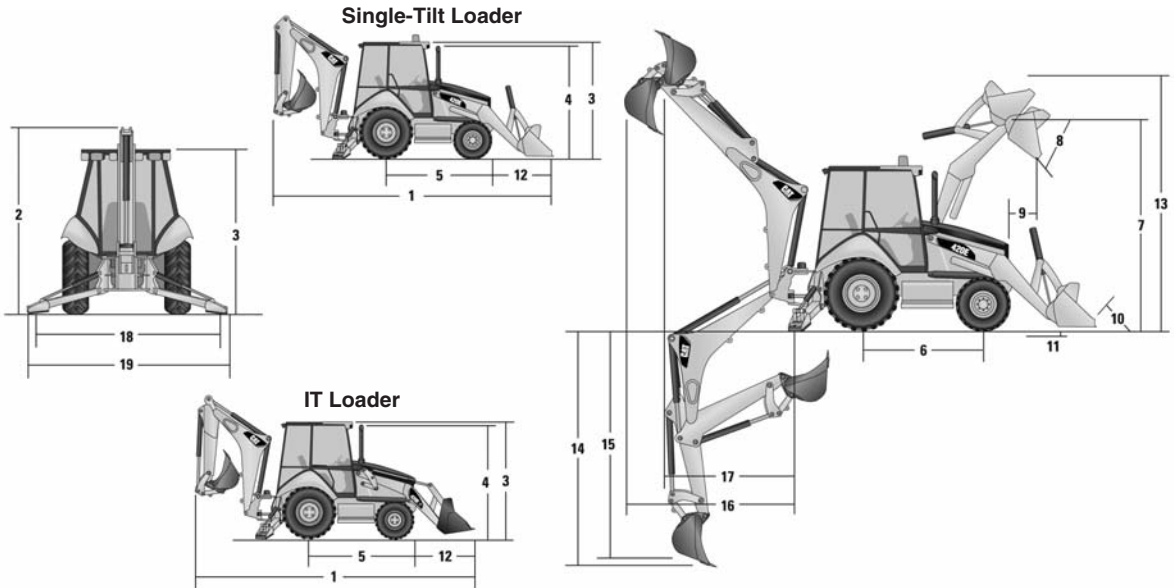


Extendable Stick —
Retracted



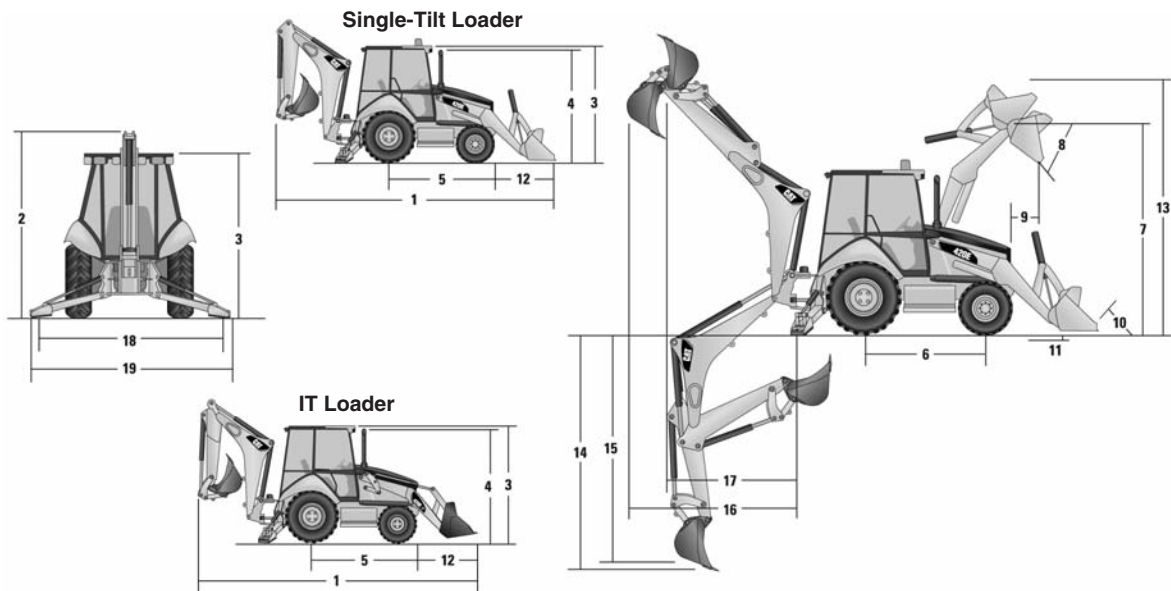
Extendable Stick —
Extended

Lift capacities are over-end values. Machine equipped with 2WD, OROPS, 0.76 m³ (1 yd³) general purpose bucket, and 116 kg (255 lb) counterweight. Extendable stick includes 488 kg (1075 lb) counterweight.



MACHINE DIMENSIONS	Single-Tilt Loader					
	General Purpose 0.96 m ³ (1.25 yd ³)		General Purpose 1.0 m ³ (1.31 yd ³)		General Purpose 1.07 m ³ (1.4 yd ³)	
1) Overall transport length	7343 mm	24'1"	7311 mm	24'0"	7378 mm	24'2"
Overall length	7290 mm	23'11"	7245 mm	23'9"	7307 mm	24'0"
2) Overall transport height	3577 mm	11'9"	3577 mm	11'9"	3577 mm	11'9"
Overall width	2438 mm	8'0"	2438 mm	8'0"	2438 mm	8'0"
3) Height to top of cab/canopy	2819 mm	9'3"	2819 mm	9'3"	2819 mm	9'3"
4) Height to top of exhaust stack	2754 mm	9'0"	2754 mm	9'0"	2754 mm	9'0"
Ground clearance (minimum)	320 mm	1'1"	320 mm	1'1"	320 mm	1'1"
5) Rear axle centerline to front grill	2704 mm	8'10"	2704 mm	8'10"	2704 mm	8'10"
Front wheel tread gauge	1880 mm	6'2"	1880 mm	6'2"	1880 mm	6'2"
Rear wheel tread gauge	1727 mm	5'8"	1727 mm	5'8"	1727 mm	5'8"
6) Wheelbase (2WD/AWD)	2200 mm	7'3"	2200 mm	7'3"	2200 mm	7'3"

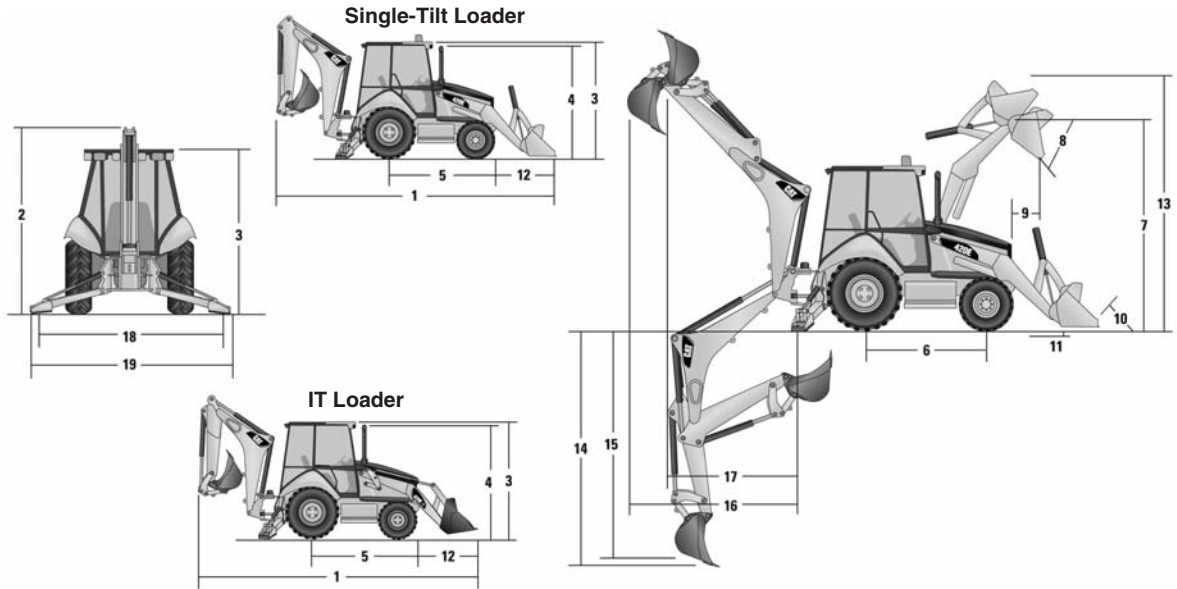
MACHINE DIMENSIONS	Single-Tilt Loader			
	Multi Purpose 1.0 m ³ (1.3 yd ³)		Multi Purpose 1.1 m ³ (1.4 yd ³)	
1) Overall transport length	7307 mm	24'0"	7307 mm	24'0"
Overall length	7206 mm	23'8"	7206 mm	23'8"
2) Overall transport height	3577 mm	11'9"	3577 mm	11'9"
Overall width	2438 mm	8'0"	2438 mm	8'0"
3) Height to top of cab/canopy	2819 mm	9'3"	2819 mm	9'3"
4) Height to top of exhaust stack	2754 mm	9'0"	2754 mm	9'0"
Ground clearance (minimum)	320 mm	1'1"	320 mm	1'1"
5) Rear axle centerline to front grill	2704 mm	8'10"	2704 mm	8'10"
Front wheel tread gauge	1880 mm	6'2"	1880 mm	6'2"
Rear wheel tread gauge	1727 mm	5'8"	1727 mm	5'8"
6) Wheelbase (2WD/AWD)	2200 mm	7'3"	2200 mm	7'3"



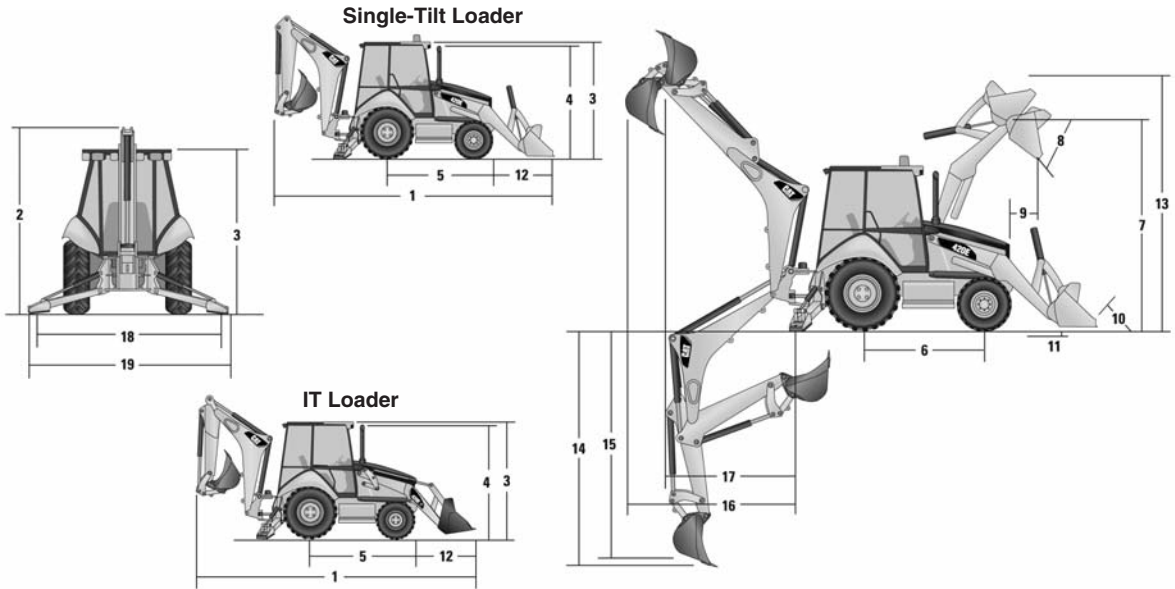
MACHINE DIMENSIONS	IT Loader with Quick Coupler							
	General Purpose 0.96 m³ (1.25 yd³)		General Purpose 1.0 m³ (1.31 yd³)		Multi Purpose 1.0 m³ (1.3 yd³)		Multi Purpose 1.1 m³ (1.4 yd³)	
1) Overall transport length	7434 mm	24'5"	7402 mm	24'3"	7363 mm	24'2"	7363 mm	24'2"
Overall length	7399 mm	24'3"	7354 mm	24'2"	7307 mm	24'0"	7307 mm	24'0"
2) Overall transport height	3577 mm	11'9"	3577 mm	11'9"	3577 mm	11'9"	3577 mm	11'9"
Overall width	2438 mm	8'0"	2438 mm	8'0"	2438 mm	8'0"	2438 mm	8'0"
3) Height to top of cab/canopy	2819 mm	9'3"	2819 mm	9'3"	2819 mm	9'3"	2819 mm	9'3"
4) Height to top of exhaust stack	2754 mm	9'0"	2754 mm	9'0"	2754 mm	9'0"	2754 mm	9'0"
Ground clearance (minimum)	320 mm	1'1"	320 mm	1'1"	320 mm	1'1"	320 mm	1'1"
5) Rear axle centerline to front grill	2704 mm	8'10"	2704 mm	8'10"	2704 mm	8'10"	2704 mm	8'10"
Front wheel tread gauge	1880 mm	6'2"	1880 mm	6'2"	1880 mm	6'2"	1880 mm	6'2"
Rear wheel tread gauge	1727 mm	5'8"	1727 mm	5'8"	1727 mm	5'8"	1727 mm	5'8"
6) Wheelbase (2WD/4WD)	2200 mm	7'3"	2200 mm	7'3"	2200 mm	7'3"	2200 mm	7'3"

LOADER BUCKET DIMENSIONS AND PERFORMANCE	Single-Tilt Loader					
	General Purpose 0.96 m³ (1.25 yd³)		General Purpose 1.0 m³ (1.31 yd³)		General Purpose 1.07 m³ (1.4 yd³)	
Capacity (SAE) rated	0.96 m³	1.25 yd³	1.0 m³	1.31 yd³	1.07 m³	1.4 yd³
Width	2262 mm	7'5"	2406 mm	7'11"	2262 mm	7'5"
Lift capacity at maximum height	2929 kg	6457 lb	2937 kg	6475 lb	2868 kg	6323 lb
Breakout force	45.6 kN	10,242 lb	46.3 kN	10,401 lb	45.1 kN	10,130 lb
7) Maximum hinge pin height (2WD)	3296 mm	10'10"	3296 mm	10'10"	3296 mm	10'10"
(4WD)	3368 mm	11'1"	3368 mm	11'1"	3368 mm	11'1"
8) Dump angle at full height	44°		44°		44°	
Dump height at maximum angle	2573 mm	8'5"	2604 mm	8'7"	2550 mm	8'4"
9) Dump reach at maximum angle	853 mm	2'10"	821 mm	2'8"	819 mm	2'8"
10) Maximum bucket rollback at ground level	39°		39°		40°	
11) Digging depth	106 mm	4"	106 mm	4"	146 mm	6"
Maximum grading angle	107°		108°		108°	
Width of dozer cutting edge	N/A		N/A		N/A	
12) Grill to bucket cutting edge, carry position	1516 mm	5'0"	1484 mm	4'10"	1551 mm	5'1"
13) Maximum operating height	4196 mm	13'9"	4196 mm	13'9"	4237 mm	13'11"
Jaw opening maximum	N/A		N/A		N/A	
Weight (does not include teeth or forks)	438 kg	967 lb	449 kg	989 lb	459 kg	1012 lb

LOADER BUCKET DIMENSIONS AND PERFORMANCE	Single-Tilt Loader			
	Multi Purpose 1.0 m³ (1.3 yd³)		Multi Purpose 1.1 m³ (1.4 yd³)	
Capacity (SAE) rated	1.0 m³	1.3 yd³	1.1 m³	1.4 yd³
Width	2262 mm	7'5"	2406 mm	7'11"
Lift capacity at maximum height	2739 kg	6038 lb	2711 kg	5977 lb
Breakout force	47.1 kN	10,580 lb	46.9 kN	10,546 lb
7) Maximum hinge pin height (2WD)	3296 mm	10'10"	3296 mm	10'10"
(4WD)	3368 mm	11'1"	3368 mm	11'1"
8) Dump angle at full height	44°		44°	
Dump height at maximum angle	2624 mm	8'7"	2624 mm	8'7"
9) Dump reach at maximum angle	761 mm	2'6"	761 mm	2'6"
10) Maximum bucket rollback at ground level	40°		40°	
11) Digging depth	133 mm	5"	133 mm	5"
Maximum grading angle	110°		110°	
Width of dozer cutting edge	2262 mm	7'5"	2406 mm	7'11"
12) Grill to bucket cutting edge, carry position	1480 mm	4'10"	1480 mm	4'10"
13) Maximum operating height	4244 mm	13'11"	4244 mm	13'11"
Jaw opening maximum	790 mm	2'7"	790 mm	2'7"
Weight (does not include teeth or forks)	723 kg	1594 lb	751 kg	1656 lb

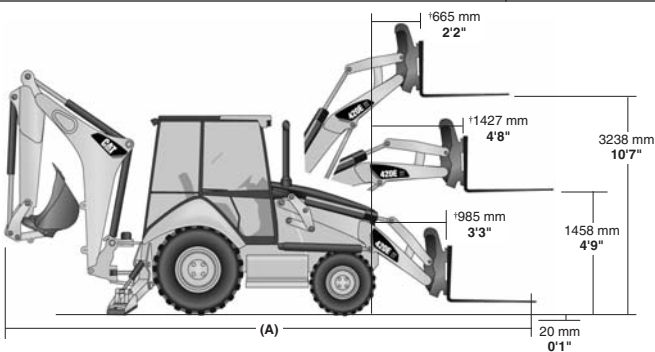


LOADER BUCKET DIMENSIONS AND PERFORMANCE	IT Loader with Quick Coupler							
	General Purpose 0.96 m ³ (1.25 yd ³)		General Purpose 1.0 m ³ (1.31 yd ³)		Multi Purpose 1.0 m ³ (1.3 yd ³)		Multi Purpose 1.1 m ³ (1.4 yd ³)	
Capacity (SAE) rated	0.96 m ³	1.25 yd ³	1.00 m ³	1.31 yd ³	1.0 m ³	1.3 yd ³	1.1 m ³	1.4 yd ³
Width	2262 mm	7'5"	2406 mm	7'11"	2262 mm	7'5"	2406 mm	7'11"
Lift capacity at maximum height	3164 kg	6975 lb	3162 kg	6971 lb	2911 kg	6418 lb	2883 kg	6356 lb
Breakout force	47.1 kN	10,593 lb	47.5 kN	10,672 lb	45.6 kN	10,256 lb	45.4 kN	10,198 lb
7) Maximum hinge pin height (2WD)	3296 mm	10'10"	3296 mm	10'10"	3296 mm	10'10"	3296 mm	10'10"
(4WD)	3368 mm	11'1"	3368 mm	11'1"	3368 mm	11'1"	3368 mm	11'1"
8) Dump angle at full height	45°		45°		45°		45°	
Dump height at maximum angle	2507 mm	8'2"	2539 mm	8'4"	2574 mm	8'5"	2574 mm	8'5"
9) Dump reach at maximum angle	831 mm	2'9"	799 mm	2'7"	778 mm	2'7"	778 mm	2'7"
10) Maximum bucket rollback at ground level	40°		40°		40°		40°	
11) Digging depth	147 mm	6"	147 mm	6"	137 mm	5"	137 mm	5"
Maximum grading angle	108°		110°		111°		111°	
Width of dozer cutting edge	N/A		N/A		2262 mm	7'5"	2406 mm	7'11"
12) Grill to bucket cutting edge, carry position	1607 mm	5'3"	1575 mm	5'2"	1536 mm	5'0"	1536 mm	5'0"
13) Maximum operating height	4260 mm	14'0"	4256 mm	14'0"	4335 mm	14'3"	4335 mm	14'3"
Jaw opening maximum	N/A		N/A		790 mm	2'7"	790 mm	2'7"
Weight (does not include teeth or forks)	434 kg	957 lb	444 kg	978 lb	703 kg	1550 lb	731 kg	1612 lb



BACKHOE DIMENSIONS AND PERFORMANCE	Standard Stick		Extendible Stick Retracted		Extendible Stick Extended	
14) Digging depth, SAE (maximum)	4360 mm	14'4"	4402 mm	14'5"	5456 mm	17'11"
15) Digging depth, 610 mm (2'0") flat bottom	4321 mm	14'2"	4363 mm	14'4"	5420 mm	17'9"
Reach from rear axle centerline at ground line	6721 mm	22'1"	6760 mm	22'2"	7769 mm	25'6"
16) Reach from swing pivot at ground line	5618 mm	18'5"	5657 mm	18'7"	6666 mm	21'10"
Maximum operating height	5523 mm	18'1"	5555 mm	18'3"	6302 mm	20'8"
Loading height	3636 mm	11'11"	3577 mm	11'9"	4145 mm	13'7"
17) Loading reach	1768 mm	5'10"	1868 mm	6'2"	2771 mm	9'1"
Swing arc	180°		180°		180°	
Bucket rotation	205°		205°		205°	
18) Stabilizer spread, operating position (center of pad)	3310 mm	10'10"	3310 mm	10'10"	3310 mm	10'10"
19) Stabilizer spread, operating position (outside edge of pad)	3770 mm	12'4"	3770 mm	12'4"	3770 mm	12'4"
Stabilizer spread, transport position	2322 mm	7'7"	2322 mm	7'7"	2322 mm	7'7"
Bucket dig force	61.7 kN	13,875 lb	60.9 kN	13,863 lb	60.9 kN	13,863 lb
Stick dig force	43.0 kN	9662 lb	42.8 kN	9616 lb	31.2 kN	7023 lb

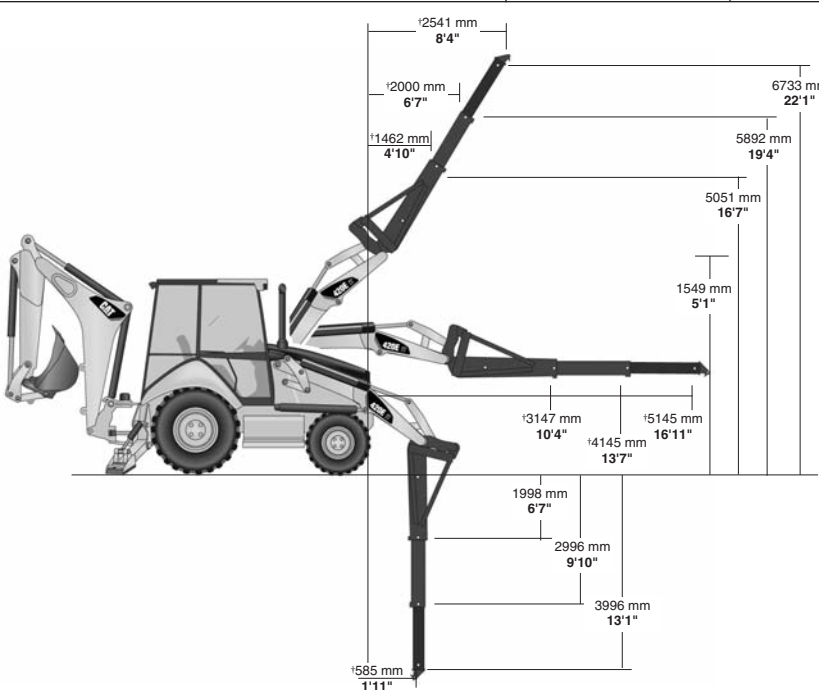
DIMENSIONS WITH FORKS/ MATERIAL-HANDLING ARM	Cat 420E IT Operating Specifications with Forks					
	1070 mm (3'6")		1220 mm (4'0")		1370 mm (4'6")	
Fork Tine Length						
Operating load (SAE J1197)	2095 kg*	4618 lb*	2025 kg*	4464 lb*	1958 kg*	4317 lb*
SAE load center	535 mm	1'9"	610 mm	2'0"	685 mm	2'3"
Operating load (CEN 474-4)	2507 kg	5526 lb	2488 kg	5485 lb	2467 kg	5438 lb
CEN load center	500 mm	1'8"	500 mm	1'8"	500 mm	1'8"
Overall length (A) (forks on ground)	7717 mm	25'4"	7867 mm	25'10"	8017 mm	26'4"



*Tip limited.

†Measured from nose of machine.

DIMENSIONS WITH FORKS/ MATERIAL-HANDLING ARM	Cat 420E IT Operating Specifications with Material Handling Arm					
	Retracted		Mid-Position		Extended	
Operating load (SAE J1197 and CEN 474-4)	961 kg**	2119 lb**	608 kg**	1340 lb**	445 kg**	981 lb**
Overall length, maximum	8809 mm	28'11"	9807 mm	32'2"	10 807 mm	35'5"



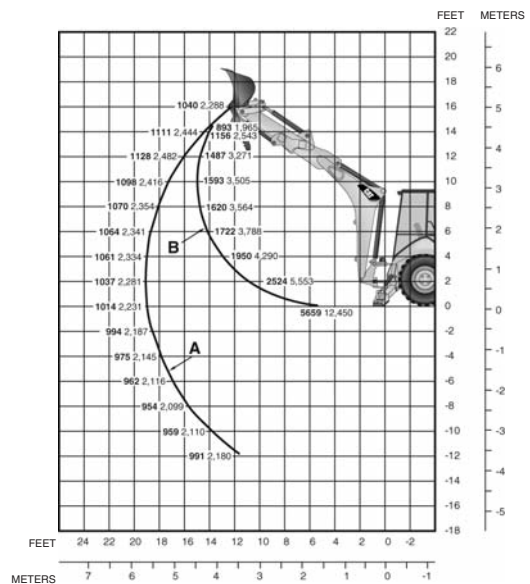
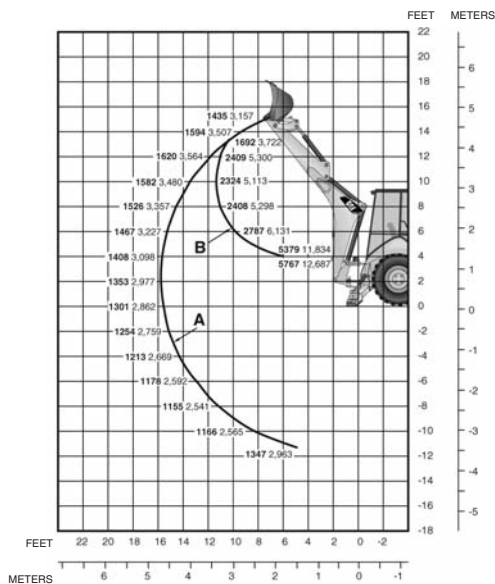
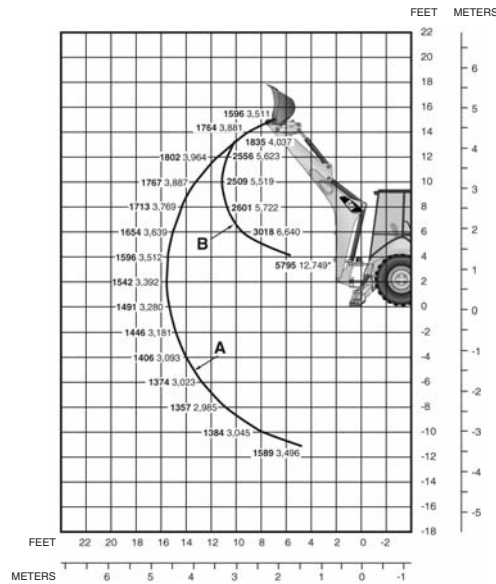
**Hydraulically limited.

Dimensions and performance specifications shown are for 4WD machines equipped with 12.5/80-18 SGL front tires, 19.5L-24 IT525 rear tires, ROPS canopy, standard stick with 610 mm (24 in) standard duty bucket, and 0.96 m³ (1.25 yd³) loader bucket and standard equipment unless otherwise specified.

†Measured from nose of machine.

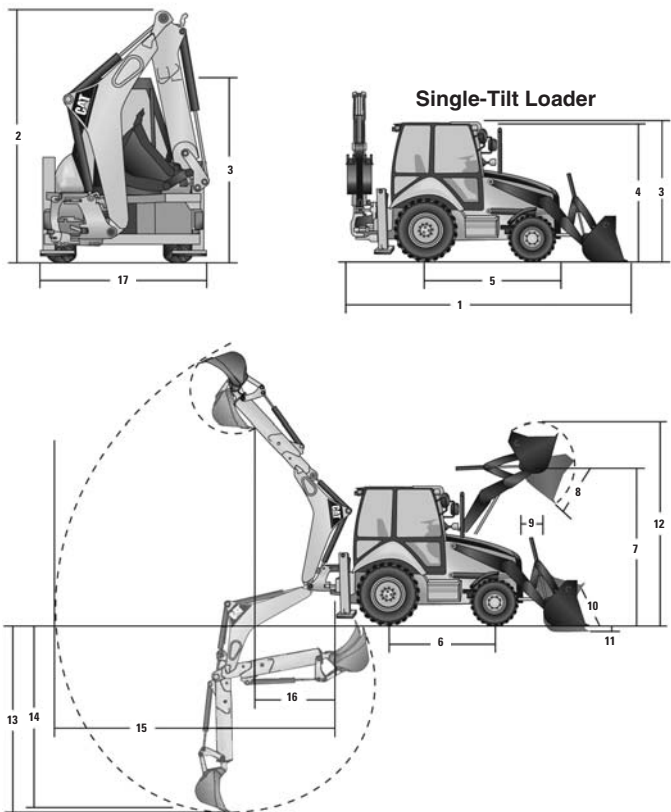
KEY

- A — Boom lift kg lb
B — Stick lift kg lb



Lift capacities are over-end values. Machine equipped with 2WD, OROPS, 0.96 m³ (1.25 yd³) general purpose bucket, and 116 kg (255 lb) counterweight. Extendible stick includes 488 kg (1075 lb) counterweight.

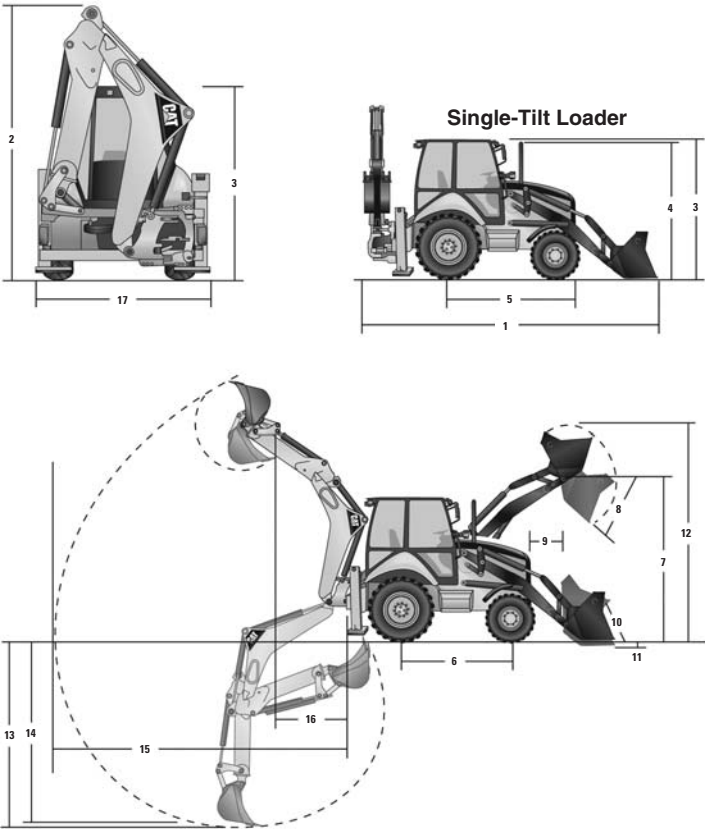
*Indicates lift capacity is stability limited.



MACHINE DIMENSIONS	Single-Tilt Loader			
	General Purpose		Multi Purpose	
1) Overall transport length	5830 mm	19'1"	5801 mm	19'0"
Overall length	5785 mm	18'9"	5729 mm	18'7"
2) Overall transport height	3736 mm	12'2"	3736 mm	12'2"
Overall width (Standard frame)	2368 mm	7'7"	2368 mm	7'7"
Overall width (Narrow frame)	2262 mm	7'5"	2262 mm	7'5"
3) Height to top of cab/canopy	2863 mm	9'3"	2863 mm	9'3"
4) Height to top of exhaust stack	2779 mm	9'1"	2779 mm	9'1"
Ground clearance (minimum)	358 mm	1'1"	358 mm	1'1"
5) Rear axle centerline to front grill	2704 mm	8'8"	2704 mm	8'8"
Front wheel tread gauge	1826 mm	5'10"	1826 mm	5'10"
Rear wheel tread gauge	1713 mm	5'7"	1713 mm	5'7"
6) Wheelbase (AWD)	2200 mm	7'3"	2200 mm	7'3"

LOADER BUCKET DIMENSIONS AND PERFORMANCE	Single-Tilt Loader (Narrow Bucket)				Single-Tilt Loader (Standard Bucket)			
	General Purpose		Multi Purpose		General Purpose		Multi Purpose	
Capacity (SAE) rated	0.96 m ³	1.25 yd³	0.96 m ³	1.25 yd³	1.0 m ³	1.30 yd³	1.03 m ³	1.34 yd³
Width	2262 mm	7'5"	2262 mm	7'5"	2406 mm	7'9"	2406 mm	7'9"
Lift capacity at maximum height	2454 kg	5410 lb	2292 kg	5050 lb	2423 kg	5342 lb	2305 kg	5082 lb
Breakout force	39.5 kN	8880 lb	38.6 kN	8680 lb	39 kN	8767 lb	39 kN	8767 lb
7) Maximum hinge pin height	3321 mm	10'11"	3321 mm	10'11"	3314 mm	10'8"	3314 mm	10'8"
8) Dump angle at full height	43°		43°		44°		44°	
Dump height at maximum angle	2633 mm	8'8"	2666 mm	8'9"	2621 mm	8'6"	2653 mm	8'7"
9) Dump reach at maximum angle	794 mm	2'7"	714 mm	2'4"	843 mm	2'7"	770 mm	2'5"
10) Maximum bucket rollback at ground level	39°		40°		38°		39°	
11) Digging depth	78 mm	3"	109 mm	4"	91 mm	3"	118 mm	3"
Maximum grading angle	109°		111°		109°		112°	
Width of dozer cutting edge	N/A		2396 mm	7'10"	N/A		2406 mm	7'8"
12) Maximum operating height	4201 mm	13'9"	4229 mm	13'10"	4211 mm	13'8"	4238 mm	13'9"
Jaw opening maximum	N/A		927 mm	3'0"	N/A		790 mm	2'6"
Weight (does not include teeth or forks)	432 kg	953 lb	611 kg	1347 lb	441 kg	972 lb	605 kg	1334 lb

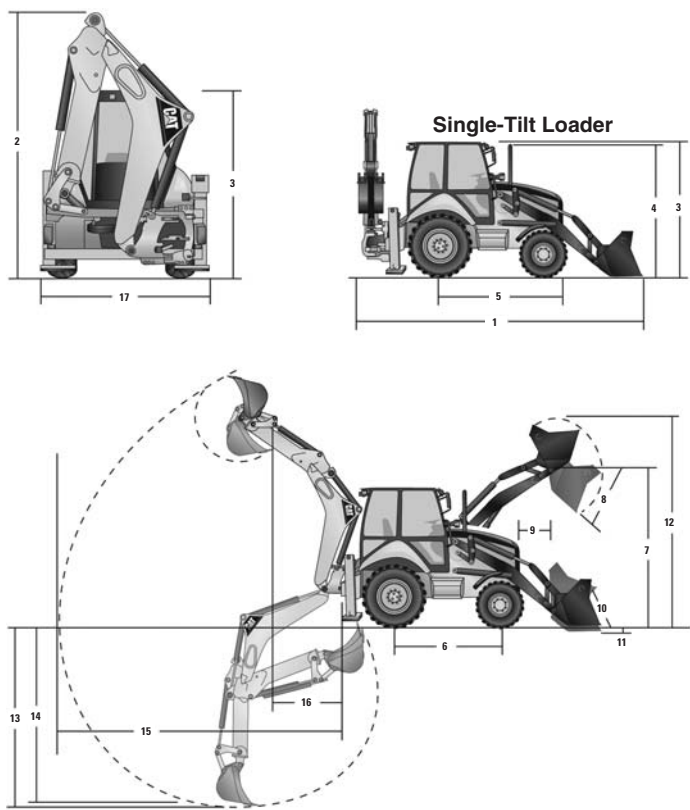
BACKHOE DIMENSIONS AND PERFORMANCE	Standard Stick		Extendible Stick Retracted		Extendible Stick Extended	
13) Digging depth, manufacturers maximum	4834 mm	15'8"	4883 mm	16'0"	5887 mm	19'3"
14) Digging depth, 610 mm (2'0") flat bottom	4804 mm	15'7"	4846 mm	15'9"	5866 mm	19'2"
15) Reach from swing pivot at ground line	5558 mm	18'2"	5598 mm	18'3"	6610 mm	21'6"
Loading height	3802 mm	12'4"	3743 mm	12'2"	4311 mm	14'1"
16) Loading reach	1620 mm	5'3"	1720 mm	5'6"	2623 mm	8'6"
Swing arc	180°		180°		180°	
Bucket rotation	205°		205°		205°	
17) Stabilizer width (Standard frame)	2368 mm	7'7"	2368 mm	7'7"	2368 mm	7'7"
Stabilizer width (Narrow frame)	2196 mm	7'2"	2196 mm	7'2"	2196 mm	7'2"
Bucket dig force	52 kN	11,690 lb	51 kN	11,465 lb	51 kN	11,465 lb
Stick dig force	32 kN	7193 lb	32 kN	7193 lb	24 kN	5395 lb
Total side shift travel (Standard frame)	1258 mm	4'1"	1258 mm	4'1"	1258 mm	4'1"
Total side shift travel (Narrow frame)	1096 mm	3'7"	1096 mm	3'7"	1096 mm	3'7"



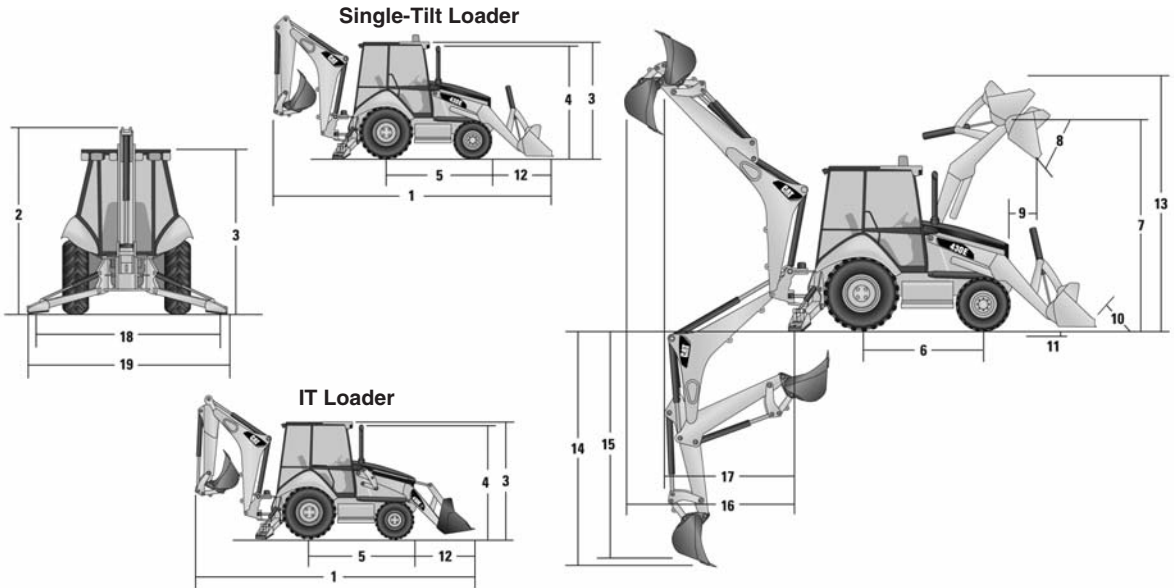
MACHINE DIMENSIONS	Parallel Loader				Single-Tilt Loader			
	General Purpose		Multi Purpose		General Purpose		Multi Purpose	
1) Overall transport length	5881 mm	19'3"	5856 mm	19'2"	5760 mm	18'11"	5685 mm	18'8"
Overall length	5855 mm	19'2"	5799 mm	19'0"	5710 mm	18'9"	5650 mm	18'6"
2) Overall transport height	3736 mm	12'2"	3736 mm	12'2"	3740 mm	12'3"	3740 mm	12'3"
Overall width (Standard frame)	2368 mm	7'7"	2368 mm	7'7"	2396 mm	7'10"	2406 mm	7'11"
Overall width (Narrow frame)	2262 mm	7'5"	2262 mm	7'5"	2262 mm	7'5"	2262 mm	7'5"
3) Height to top of cab/canopy	2863 mm	9'3"	2863 mm	9'3"	2900 mm	9'6"	2900 mm	9'6"
4) Height to top of exhaust stack	2779 mm	9'1"	2779 mm	9'1"	2700 mm	8'10"	2700 mm	8'10"
Ground clearance (minimum)	358 mm	1'1"	358 mm	1'1"	320 mm	1'1"	320 mm	1'1"
5) Rear axle centerline to front grill	2704 mm	8'8"	2704 mm	8'8"	2613 mm	8'7"	2613 mm	8'7"
Front wheel tread gauge	1915 mm	6'2"	1915 mm	6'2"	1780 mm	5'10"	1780 mm	5'10"
Rear wheel tread gauge	1713 mm	5'7"	1713 mm	5'7"	1714 mm	5'8"	1714 mm	5'8"
6) Wheelbase (AWD)	2200 mm	7'3"	2200 mm	7'3"	2200 mm	7'3"	2200 mm	7'3"

LOADER BUCKET DIMENSIONS AND PERFORMANCE	Parallel Loader (Narrow Bucket)				Single-Tilt Loader (Narrow Bucket)			
	General Purpose		Multi Purpose		General Purpose		Multi Purpose	
Capacity (SAE) rated	0.96 m ³	1.25 yd³	0.96 m ³	1.25 yd³	0.96 m ³	1.25 yd³	0.96 m ³	1.25 yd³
Width	2262 mm	7'5"	2262 mm	7'5"	2262 mm	7'5"	2262 mm	7'5"
Lift capacity at maximum height	3468 kg	7646 lb	3232 kg	7125 lb	2997 kg	6607 lb	2806 kg	6186 lb
Breakout force	51 kN	11,465 lb	56.6 kN	12,725 lb	47 kN	10,570 lb	45.9 kN	10,320 lb
7) Maximum hinge pin height	3321 mm	10'11"	3321 mm	10'11"	3321 mm	10'11"	3321 mm	10'11"
8) Dump angle at full height	47°		47°		43°		43°	
Dump height at maximum angle	2613 mm	8'7"	2650 mm	8'8"	2633 mm	8'8"	2666 mm	8'9"
9) Dump reach at maximum angle	764 mm	2'6"	685 mm	2'3"	794 mm	2'7"	714 mm	2'4"
10) Maximum bucket rollback at ground level	40°		40°		39°		40°	
11) Digging depth	77 mm	3"	108 mm	4"	78 mm	3"	109 mm	4"
Maximum grading angle	111°		114°		109°		111°	
Width of dozer cutting edge	N/A		2406 mm	7'11"	N/A		2406 mm	7'11"
12) Maximum operating height	4201 mm	13'9"	4229 mm	13'10"	4201 mm	13'9"	4229 mm	13'10"
Jaw opening maximum	N/A		927 mm	3'0"	N/A		927 mm	3'0"
Weight (does not include teeth or forks)	426 kg	939 lb	547 kg	1206 lb	432 kg	952 lb	611 kg	1347 lb

LOADER BUCKET DIMENSIONS AND PERFORMANCE	Parallel Loader (Standard Bucket)				Single-Tilt Loader (Standard Bucket)			
	General Purpose		Multi Purpose		General Purpose		Multi Purpose	
Capacity (SAE) rated	1.0 m ³	1.30 yd³	1.03 m ³	1.34 yd³	1.0 m ³	1.31 yd³	1.03 m ³	1.35 yd³
Width	2406 mm	7'9"	2406 mm	7'9"	2396 mm	7'10"	2406 mm	7'11"
Lift capacity at maximum height	3389 kg	7471 lb	3219 kg	7096 lb	2917 kg	6432 lb	2726 kg	6010 lb
Breakout force	51 kN	11,465 lb	55 kN	12,364 lb	46.3 kN	10,418 lb	45.2 kN	10,170 lb
7) Maximum hinge pin height	3340 mm	10'9"	3340 mm	10'9"	3321 mm	10'11"	3321 mm	10'11"
8) Dump angle at full height	45°		45°		43°		43°	
Dump height at maximum angle	2634 mm	8'6"	2668 mm	8'7"	2633 mm	8'8"	2666 mm	8'9"
9) Dump reach at maximum angle	795 mm	2'6"	724 mm	2'3"	794 mm	2'7"	714 mm	2'4"
10) Maximum bucket rollback at ground level	39°		39°		39°		40°	
11) Digging depth	91 mm	3"	118 mm	4"	78 mm	3"	109 mm	4"
Maximum grading angle	112°		115°		109°		111°	
Width of dozer cutting edge	N/A		2406 mm	7'9"	N/A		2406 mm	7'11"
12) Maximum operating height	4238 mm	13'9"	4264 mm	13'10"	4201 mm	13'9"	4229 mm	13'10"
Jaw opening maximum	N/A		790 mm	2'6"	N/A		927 mm	3'0"
Weight (does not include teeth or forks)	428 kg	943 lb	611 kg	1347 lb	445 kg	981 lb	700 kg	1544 lb

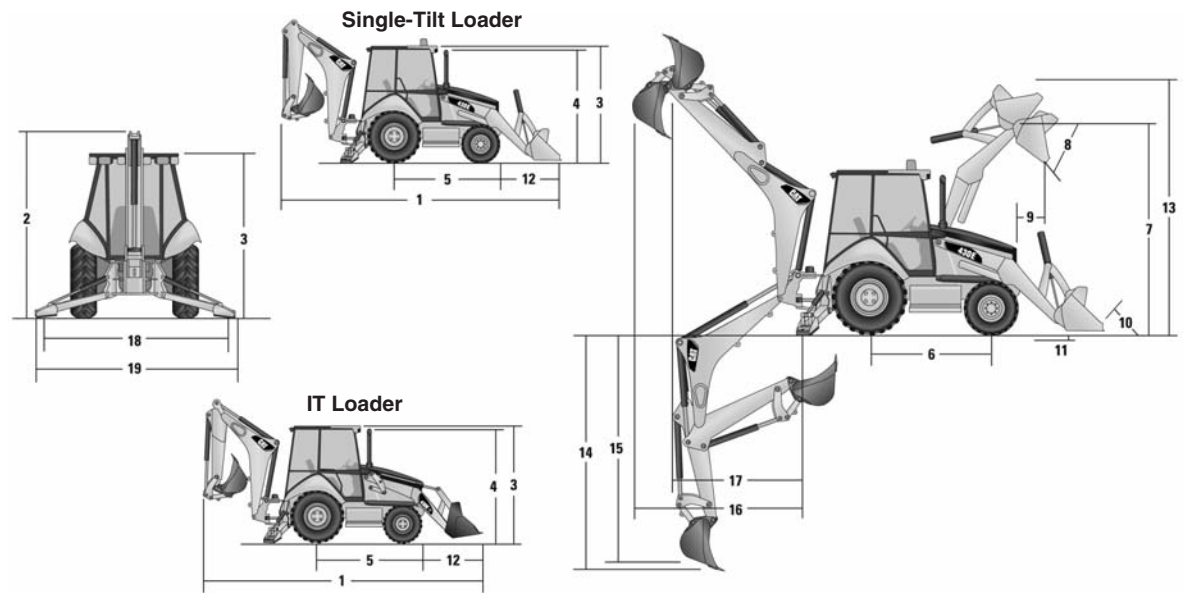


BACKHOE DIMENSIONS AND PERFORMANCE	Standard Stick		Extendible Stick Retracted		Extendible Stick Extended	
13) Digging depth, manufacturers maximum	4858 mm	15'9"	4898 mm	16'0"	5901 mm	19'3"
14) Digging depth, 610 mm (2'0") flat bottom	4822 mm	15'6"	4863 mm	15'9"	5879 mm	19'2"
15) Reach from swing pivot at ground line	5588 mm	18'3"	5628 mm	18'4"	6639 mm	21'7"
Loading height	3743 mm	12'2"	3684 mm	12'0"	4252 mm	13'9"
16) Loading reach	1710 mm	5'6"	1810 mm	5'9"	2713 mm	8'9"
Swing arc	180°		180°		180°	
Bucket rotation	205°		205°		205°	
17) Stabilizer width (Standard frame)	2368 mm	7'7"	2368 mm	7'7"	2368 mm	7'7"
Stabilizer width (Narrow frame)	2196 mm	7'2"	2196 mm	7'2"	2196 mm	7'2"
Bucket dig force	52 kN	11,690 lb	51 kN	11,465 lb	51 kN	11,465 lb
Stick dig force	32 kN	7193 lb	32 kN	7193 lb	23 kN	5170 lb
Total side shift travel (Standard frame)	1258 mm	4'1"	1258 mm	4'1"	1258 mm	4'1"
Total side shift travel (Narrow frame)	1096 mm	3'7"	1096 mm	3'7"	1096 mm	3'7"



MACHINE DIMENSIONS	Single-Tilt Loader					
	General Purpose 1.0 m ³ (1.31 yd ³)		General Purpose 1.07 m ³ (1.4 yd ³)		General Purpose 1.15 m ³ (1.5 yd ³)	
1) Overall transport length	7356 mm	24'2"	7424 mm	24'4"	7424 mm	24'4"
Overall length	7303 mm	24'0"	7366 mm	24'2"	7366 mm	24'2"
2) Overall transport height	3866 mm	12'8"	3866 mm	12'8"	3866 mm	12'8"
Overall width	2438 mm	8'0"	2438 mm	8'0"	2438 mm	8'0"
3) Height to top of cab/canopy	2819 mm	9'3"	2819 mm	9'3"	2819 mm	9'3"
4) Height to top of exhaust stack	2754 mm	9'0"	2754 mm	9'0"	2754 mm	9'0"
Ground clearance (minimum)	320 mm	1'1"	320 mm	1'1"	320 mm	1'1"
5) Rear axle centerline to front grill	2704 mm	8'10"	2704 mm	8'10"	2704 mm	8'10"
Front wheel tread gauge	1880 mm	6'2"	1880 mm	6'2"	1880 mm	6'2"
Rear wheel tread gauge	1727 mm	5'8"	1727 mm	5'8"	1727 mm	5'8"
6) Wheelbase (2WD/AWD)	2200 mm	7'3"	2200 mm	7'3"	2200 mm	7'3"

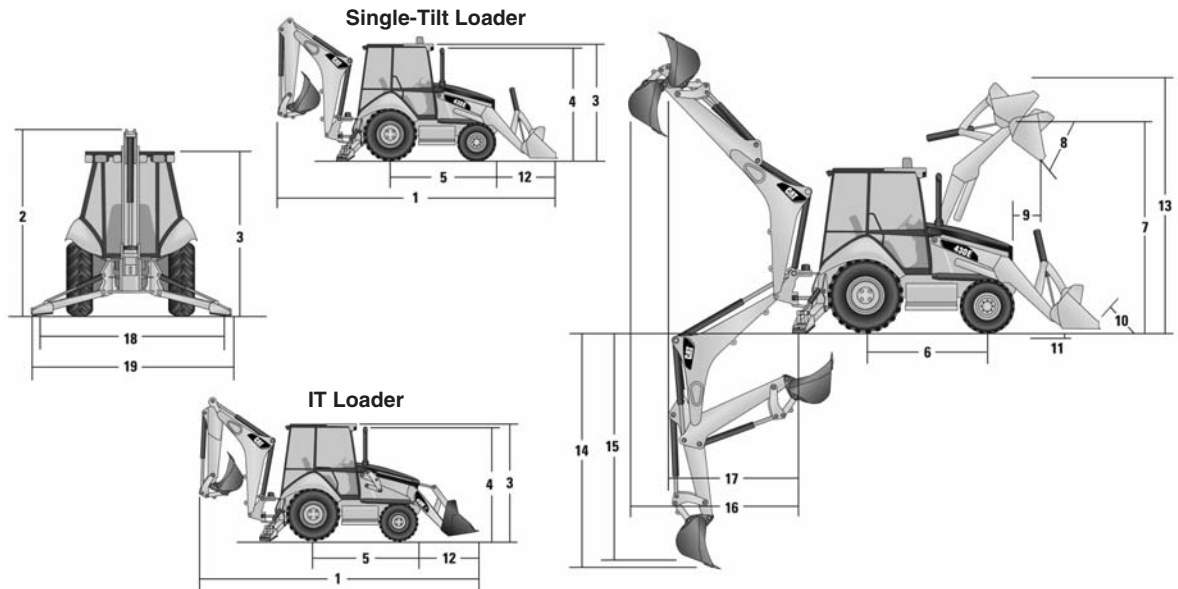
MACHINE DIMENSIONS	Single-Tilt Loader			
	Multi Purpose 1.0 m ³ (1.3 yd ³)		Multi Purpose 1.1 m ³ (1.4 yd ³)	
1) Overall transport length	7352 mm	24'1"	7352 mm	24'1"
Overall length	7264 mm	23'10"	7264 mm	23'10"
2) Overall transport height	3866 mm	12'8"	3866 mm	12'8"
Overall width	2438 mm	8'0"	2438 mm	8'0"
3) Height to top of cab/canopy	2819 mm	9'3"	2819 mm	9'3"
4) Height to top of exhaust stack	2754 mm	9'0"	2754 mm	9'0"
Ground clearance (minimum)	320 mm	1'1"	320 mm	1'1"
5) Rear axle centerline to front grill	2704 mm	8'10"	2704 mm	8'10"
Front wheel tread gauge	1880 mm	6'2"	1880 mm	6'2"
Rear wheel tread gauge	1727 mm	5'8"	1727 mm	5'8"
6) Wheelbase (2WD/AWD)	2200 mm	7'3"	2200 mm	7'3"



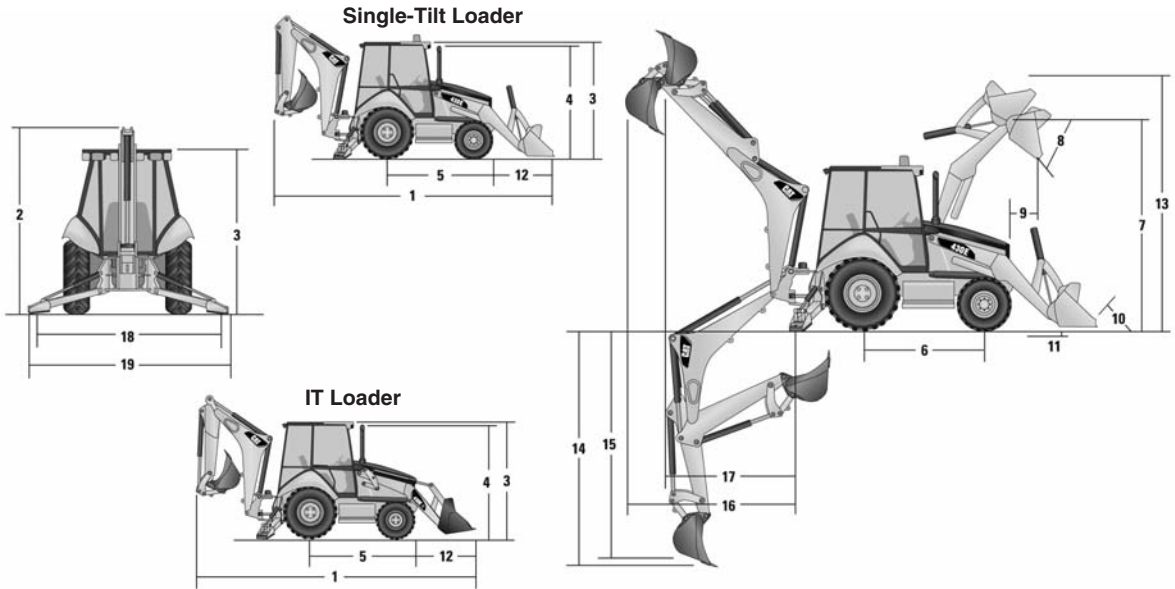
MACHINE DIMENSIONS	IT Loader with Quick Coupler							
	General Purpose 1.0 m³ (1.31 yd³)		General Purpose 1.15 m³ (1.5 yd³)		Multi Purpose 1.0 m³ (1.3 yd³)		Multi Purpose 1.1 m³ (1.4 yd³)	
1) Overall transport length	7447 mm	24'5"	7471 mm	24'6"	7409 mm	24'4"	7409 mm	24'4"
Overall length	7412 mm	24'4"	7455 mm	24'6"	7366 mm	24'2"	7366 mm	24'2"
2) Overall transport height	3866 mm	12'8"	3866 mm	12'8"	3866 mm	12'8"	3866 mm	12'8"
Overall width	2438 mm	8'0"	2438 mm	8'0"	2438 mm	8'0"	2438 mm	8'0"
3) Height to top of cab/canopy	2819 mm	9'3"	2819 mm	9'3"	2819 mm	9'3"	2819 mm	9'3"
4) Height to top of exhaust stack	2754 mm	9'0"	2754 mm	9'0"	2754 mm	9'0"	2754 mm	9'0"
Ground clearance (minimum)	320 mm	1'1"	320 mm	1'1"	320 mm	1'1"	320 mm	1'1"
5) Rear axle centerline to front grill	2704 mm	8'10"	2704 mm	8'10"	2704 mm	8'10"	2704 mm	8'10"
Front wheel tread gauge	1880 mm	6'2"	1880 mm	6'2"	1880 mm	6'2"	1880 mm	6'2"
Rear wheel tread gauge	1727 mm	5'8"	1727 mm	5'8"	1727 mm	5'8"	1727 mm	5'8"
6) Wheelbase (2WD/4WD)	2200 mm	7'3"	2200 mm	7'3"	2200 mm	7'3"	2200 mm	7'3"

LOADER BUCKET DIMENSIONS AND PERFORMANCE	Single-Tilt Loader					
	General Purpose 1.0 m ³ (1.31 yd ³)		General Purpose 1.07 m ³ (1.4 yd ³)		General Purpose 1.15 m ³ (1.5 yd ³)	
Capacity (SAE) rated	1.0 m ³	1.31 yd³	1.07 m ³	1.40 yd³	1.15 m ³	1.5 yd³
Width	2406 mm	7'11"	2262 mm	7'5"	2406 mm	7'11"
Lift capacity at maximum height	2937 kg	6475 lb	2868 kg	6323 lb	2849 kg	6281 lb
Breakout force	46.3 kN	10,401 lb	45.1 kN	10,130 lb	44.9 kN	10,091 lb
7) Maximum hinge pin height (2WD)	3296 mm	10'10"	3296 mm	10'10"	3296 mm	10'10"
(4WD)	3368 mm	11'1"	3368 mm	11'1"	3368 mm	11'1"
8) Dump angle at full height		44°		44°		44°
Dump height at maximum angle	2604 mm	8'7"	2550 mm	8'4"	2550 mm	8'4"
9) Dump reach at maximum angle	821 mm	2'8"	819 mm	2'8"	819 mm	2'8"
10) Maximum bucket rollback at ground level		39°		40°		40°
11) Digging depth	106 mm	4"	146 mm	6"	146 mm	6"
Maximum grading angle		108°		108°		108°
Width of dozer cutting edge		N/A		N/A		N/A
12) Grill to bucket cutting edge, carry position	1484 mm	4'10"	1551 mm	5'1"	1551 mm	5'1"
13) Maximum operating height	4193 mm	13'9"	4237 mm	13'11"	4237 mm	13'11"
Jaw opening maximum		N/A		N/A		N/A
Weight (does not include teeth or forks)	449 kg	989 lb	459 kg	1012 lb	479 kg	1056 lb

LOADER BUCKET DIMENSIONS AND PERFORMANCE	Single-Tilt Loader			
	Multi Purpose 1.0 m ³ (1.3 yd ³)		Multi Purpose 1.1 m ³ (1.4 yd ³)	
Capacity (SAE) rated	1.0 m ³	1.3 yd³	1.1 m ³	1.4 yd³
Width	2262 mm	7'5"	2406 mm	7'11"
Lift capacity at maximum height	2739 kg	6038 lb	2711 kg	5977 lb
Breakout force	47.1 kN	10,580 lb	46.9 kN	10,546 lb
7) Maximum hinge pin height (2WD)	3296 mm	10'10"	3296 mm	10'10"
(4WD)	3368 mm	11'1"	3368 mm	11'1"
8) Dump angle at full height		44°		44°
Dump height at maximum angle	2624 mm	8'7"	2624 mm	8'7"
9) Dump reach at maximum angle	761 mm	2'6"	761 mm	2'6"
10) Maximum bucket rollback at ground level		40°		40°
11) Digging depth	133 mm	5"	133 mm	5"
Maximum grading angle		110°		110°
Width of dozer cutting edge	2262 mm	7'5"	2406 mm	7'11"
12) Grill to bucket cutting edge, carry position	1480 mm	4'10"	1480 mm	4'10"
13) Maximum operating height	4244 mm	13'11"	4244 mm	13'11"
Jaw opening maximum	790 mm	2'7"	790 mm	2'7"
Weight (does not include teeth or forks)	723 kg	1594 lb	751 kg	1656 lb

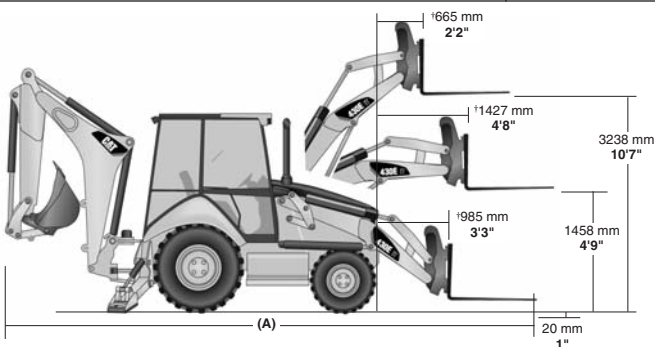


LOADER BUCKET DIMENSIONS AND PERFORMANCE	IT Loader with Quick Coupler							
	General Purpose 1.0 m ³ (1.31 yd ³)		General Purpose 1.15 m ³ (1.5 yd ³)		Multi Purpose 1.0 m ³ (1.3 yd ³)		Multi Purpose 1.1 m ³ (1.4 yd ³)	
Capacity (SAE) rated	1.00 m ³	1.31 yd³	1.15 m ³	1.50 yd³	1.0 m ³	1.3 yd³	1.1 m ³	1.4 yd³
Width	2406 mm	7'11"	2406 mm	7'11"	2262 mm	7'5"	2406 mm	7'11"
Lift capacity at maximum height	3162 kg	6971 lb	3131 kg	6903 lb	2911 kg	6418 lb	2883 kg	6356 lb
Breakout force	47.5 kN	10,672 lb	46.8 kN	10,525 lb	45.6 kN	10,256 lb	45.4 kN	10,198 lb
7) Maximum hinge pin height (2WD)	3296 mm	10'10"	3296 mm	10'10"	3296 mm	10'10"	3296 mm	10'10"
(4WD)	3368 mm	11'1"	3368 mm	11'1"	3368 mm	11'1"	3368 mm	11'1"
8) Dump angle at full height	45°		45°		45°		45°	
Dump height at maximum angle	2539 mm	8'4"	2509 mm	8'3"	2574 mm	8'5"	2574 mm	8'5"
9) Dump reach at maximum angle	799 mm	2'7"	830 mm	2'9"	778 mm	2'7"	778 mm	2'7"
10) Maximum bucket rollback at ground level	40°		40°		40°		40°	
11) Digging depth	147 mm	6"	146 mm	6"	137 mm	5"	137 mm	5"
Maximum grading angle	110°		108°		111°		111°	
Width of dozer cutting edge	N/A		N/A		2262 mm	7'5"	2406 mm	7'11"
12) Grill to bucket cutting edge, carry position	1575 mm	5'2"	1598 mm	5'3"	1536 mm	5'0"	1536 mm	5'0"
13) Maximum operating height	4256 mm	14'0"	4335 mm	14'3"	4335 mm	14'3"	4335 mm	14'3"
Jaw opening maximum	N/A		N/A		790 mm	2'7"	790 mm	2'7"
Weight (does not include teeth or forks)	444 kg	978 lb	468 kg	1032 lb	703 kg	1550 lb	731 kg	1612 lb



BACKHOE DIMENSIONS AND PERFORMANCE	Standard Stick		Extendible Stick Retracted		Extendible Stick Extended	
14) Digging depth, SAE (maximum)	4698 mm	15'5"	4809 mm	15'9"	5951 mm	19'6"
15) Digging depth, 610 mm (2'0") flat bottom	4672 mm	15'4"	4783 mm	15'8"	5925 mm	19'5"
Reach from rear axle centerline at ground line	7152 mm	23'6"	7257 mm	23'10"	8350 mm	27'5"
16) Reach from swing pivot at ground line	6049 mm	19'10"	6154 mm	20'2"	7247 mm	23'9"
Maximum operating height	6009 mm	19'9"	6096 mm	20'0"	6990 mm	22'11"
Loading height	3956 mm	13'0"	3912 mm	12'10"	4520 mm	14'10"
17) Loading reach	1774 mm	5'10"	1948 mm	6'5"	2916 mm	9'7"
Swing arc	180°		180°		180°	
Bucket rotation	205°		205°		205°	
18) Stabilizer spread, operating position (center of pad)	3310 mm	10'10"	3310 mm	10'10"	3310 mm	10'10"
19) Stabilizer spread, operating position (outside edge of pad)	3770 mm	12'4"	3770 mm	12'4"	3770 mm	12'4"
Stabilizer spread, transport position	2322 mm	7'7"	2322 mm	7'7"	2322 mm	7'7"
Bucket dig force	70.7 kN	15,892 lb	69.7 kN	15,680 lb	69.7 kN	15,680 lb
Stick dig force	44.2 kN	9940 lb	43.3 kN	9730 lb	32.0 kN	7197 lb

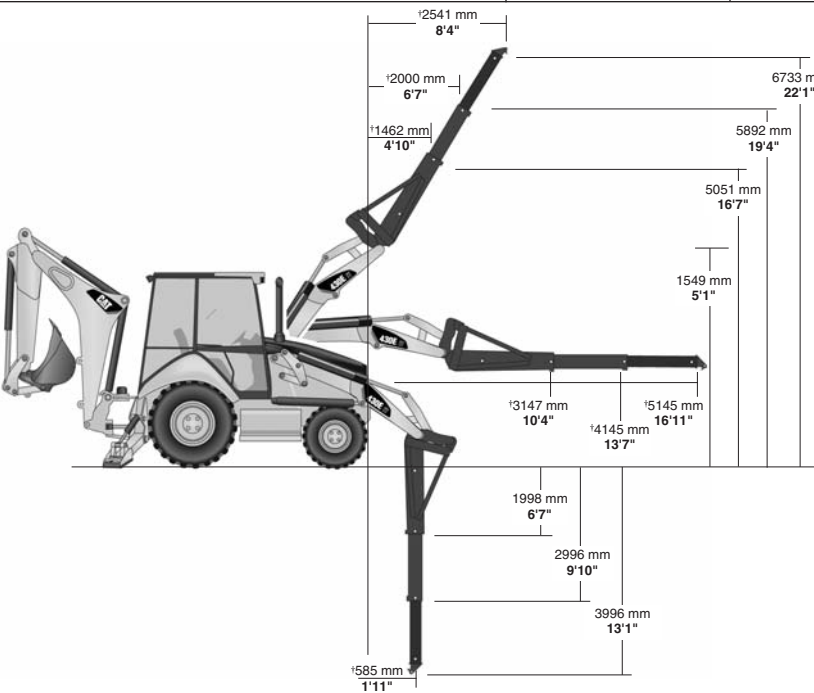
DIMENSIONS WITH FORKS/ MATERIAL-HANDLING ARM	Cat 430E IT Operating Specifications with Forks					
	1070 mm (3'6")		1220 mm (4'0")		1370 mm (4'6")	
Fork Tine Length						
Operating load (SAE J1197)	2200 kg	4850 lb*	2127 kg	4689 lb*	2058 kg	4536 lb*
SAE load center	535 mm	1'9"	610 mm	2'0"	685 mm	2'3"
Operating load (CEN 474-4)	2507 kg	5526 lb	2488 kg	5485 lb	2467 kg	5438 lb
CEN load center	500 mm	1'8"	500 mm	1'8"	500 mm	1'8"
Overall length (A) (forks on ground)	7857 mm	25'9"	8007 mm	26'3"	8157 mm	26'9"



*Tip limited.

†Measured from nose of machine.

DIMENSIONS WITH FORKS/ MATERIAL-HANDLING ARM	Cat 430E IT Operating Specifications with Material-Handling Arm					
	Retracted		Mid-Position		Extended	
Material-Handling Arm Position						
Operating load (SAE J1197 and CEN 474-4)	961 kg	2119 lb**	608 kg	1340 lb**	445 kg	981 lb**
Overall length, maximum	8948 mm	29'4"	9948 mm	32'8"	10 947 mm	35'11"



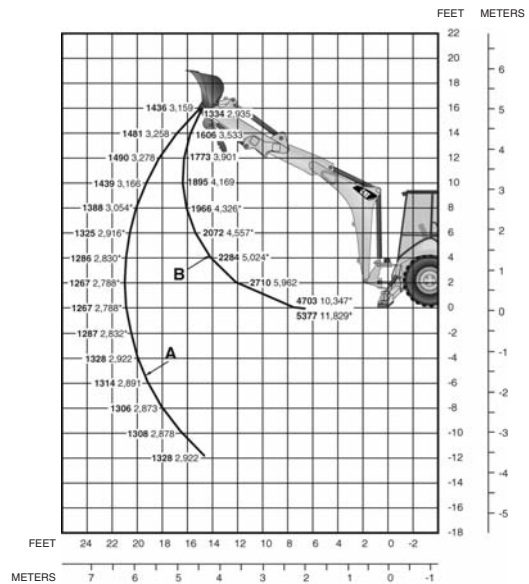
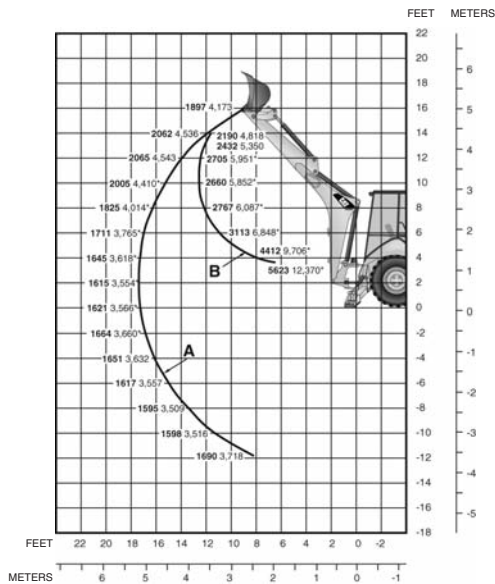
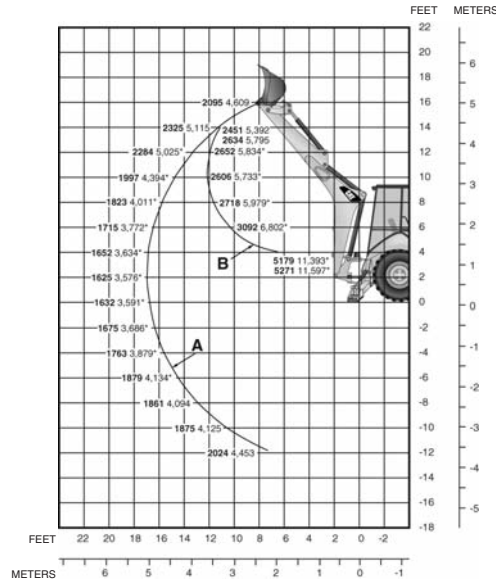
**Hydraulically limited.

Dimensions and performance specifications shown are for 4WD machines equipped with 12.5/80-18 SGL front tires, 19.5L-24 IT525 rear tires, ROPS canopy, standard stick with 610 mm (24 in) standard duty bucket, and 1.00 m³ (1.31 yd³) loader bucket and standard equipment unless otherwise specified.

†Measured from nose of machine.

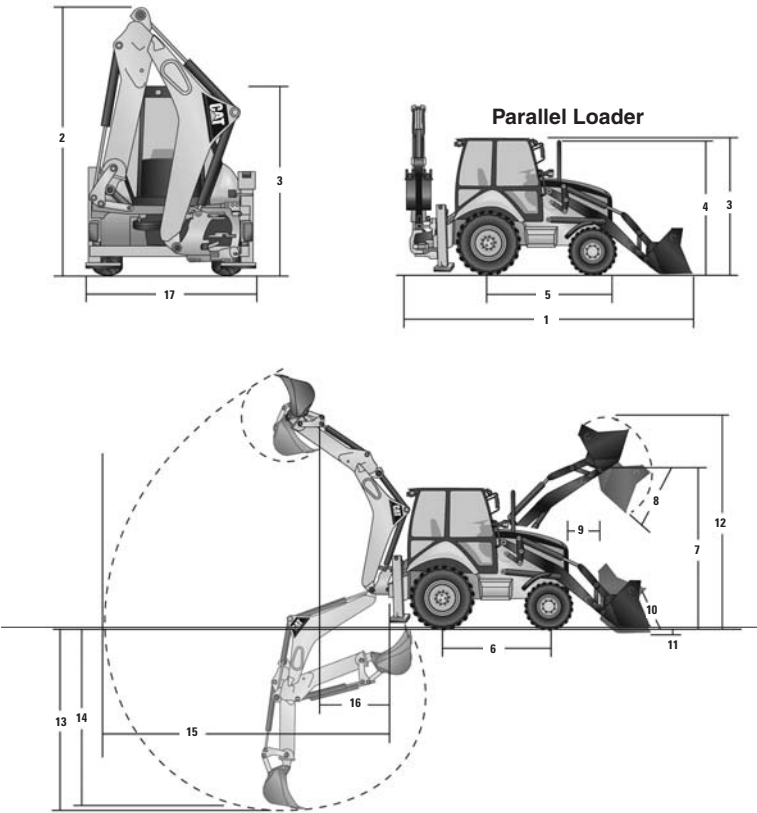
KEY

- A — Boom lift kg lb
B — Stick lift kg lb



Lift capacities are over-end values. Machine equipped with 4WD, OROPS, 1.0 m³ (1.31 yd³) general purpose bucket, and 116 kg (255 lb) counterweight. Extendable stick includes 488 kg (1075 lb) counterweight.

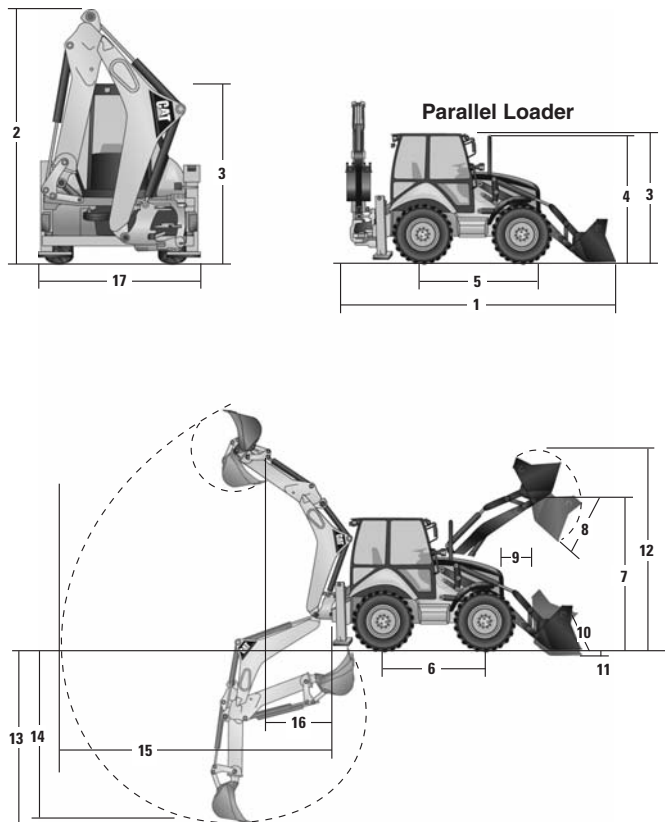
*Indicates lift capacity is stability limited.



MACHINE DIMENSIONS	Parallel Loader			
	General Purpose		Multi Purpose	
1) Overall transport length	5836 mm	19'1"	5811 mm	19'0"
Overall length	5810 mm	19'0"	5754 mm	18'8"
2) Overall transport height	3736 mm	12'2"	3736 mm	12'2"
Overall width	2368 mm	7'7"	2368 mm	7'7"
3) Height to top of cab/canopy	2863 mm	9'3"	2863 mm	9'3"
4) Height to top of exhaust stack	2779 mm	9'1"	2779 mm	9'1"
Ground clearance (minimum)	358 mm	1'1"	358 mm	1'1"
5) Rear axle centerline to front grill	2704 mm	8'8"	2704 mm	8'8"
Front wheel tread gauge	1915 mm	6'2"	1915 mm	6'2"
Rear wheel tread gauge	1713 mm	5'6"	1713 mm	5'6"
6) Wheelbase (AWD)	2200 mm	7'3"	2200 mm	7'3"

LOADER BUCKET DIMENSIONS AND PERFORMANCE	Parallel Loader			
	General Purpose		Multi Purpose	
Capacity (SAE) rated	1.0 m ³	1.30 yd ³	1.03 m ³	1.34 yd ³
Width	2406 mm	7'8"	2406 mm	7'8"
Lift capacity at maximum height	3389 kg	7471 lb	3389 kg	7471 lb
Breakout force	51 kN	11,465 lb	55 kN	12,364 lb
7) Maximum hinge pin height	3340 mm	10'9"	3340 mm	10'9"
8) Dump angle at full height		45°		45°
Dump height at maximum angle	2634 mm	8'6"	2668 mm	8'7"
9) Dump reach at maximum angle	795 mm	2'6"	724 mm	2'3"
10) Maximum bucket rollback at ground level		39°		39°
11) Digging depth	91 mm	3"	118 mm	4"
Maximum grading angle		112°		115°
Width of dozer cutting edge		N/A	2406 mm	7'8"
12) Maximum operating height	4238 mm	13'9"	4264 mm	13'9"
Jaw opening maximum		N/A	790 mm	2'7"
Weight (does not include teeth or forks)	428 kg	944 lb	611 kg	1347 lb

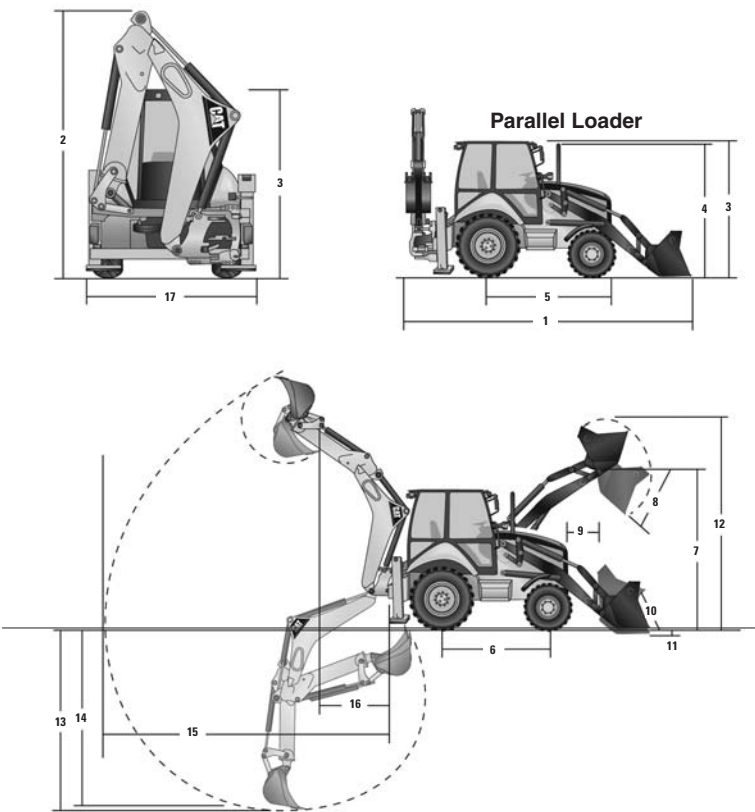
BACKHOE DIMENSIONS AND PERFORMANCE	Standard Stick		Extendible Stick Retracted		Extendible Stick Extended	
13) Digging depth, manufacturers maximum	4834 mm	15'8"	4883 mm	16'0"	5888 mm	19'3"
14) Digging depth, 610 mm (2'0") flat bottom	4805 mm	15'7"	4846 mm	15'8"	5866 mm	19'2"
15) Reach from swing pivot at ground line	5588 mm	18'3"	5628 mm	18'4"	6639 mm	21'7"
Loading height	3743 mm	12'2"	3684 mm	12'0"	4252 mm	13'9"
16) Loading reach	1710 mm	5'6"	1810 mm	5'9"	2713 mm	8'9"
Swing arc		180°		180°		180°
Bucket rotation		205°		205°		205°
17) Stabilizer width	2368 mm	7'7"	2368 mm	7'7"	2368 mm	7'7"
Bucket dig force	57 kN	12,814 lb	56 kN	12,589 lb	56 kN	12,589 lb
Stick dig force	43 kN	9666 lb	43 kN	9666 lb	31 kN	6969 lb
Total side shift travel	1258 mm	4'1"	1258 mm	4'1"	1258 mm	4'1"



MACHINE DIMENSIONS	Parallel Loader			
	General Purpose		Multi Purpose	
1) Overall transport length	6120 mm	20'0"	6099 mm	20'0"
Overall length	6120 mm	20'0"	6099 mm	20'0"
2) Overall transport height	3623 mm	11'8"	3623 mm	11'8"
Overall width	2368 mm	7'7"	2368 mm	7'7"
3) Height to top of cab/canopy	2801 mm	9'1"	2801 mm	9'1"
4) Height to top of exhaust stack	2733 mm	8'9"	2733 mm	8'9"
Ground clearance (minimum)	325 mm	1'0"	325 mm	1'0"
5) Rear axle centerline to front grill	2743 mm	8'10"	2743 mm	8'10"
Front wheel tread gauge	1914 mm	6'2"	1914 mm	6'2"
Rear wheel tread gauge	1914 mm	6'2"	1914 mm	6'2"
6) Wheelbase (AWD)	2200 mm	7'3"	2200 mm	7'3"

LOADER BUCKET DIMENSIONS AND PERFORMANCE	Parallel Loader			
	General Purpose		Multi Purpose	
Capacity (SAE) rated	1.15 m ³	1.5 yd ³	1.15 m ³	1.5 yd ³
Width	2434 mm	7'9"	2434 mm	7'9"
Lift capacity at maximum height	3508 kg	7733 lb	3205 kg	7065 lb
Breakout force	54 kN	12,139 lb	53 kN	11,914 lb
7) Maximum hinge pin height	3442 mm	11'2"	3442 mm	11'2"
8) Dump angle at full height		45°		45°
Dump height at maximum angle	2666 mm	8'7"	2681 mm	8'7"
9) Dump reach at maximum angle	795 mm	2'6"	795 mm	2'6"
10) Maximum bucket rollback at ground level		41°		41°
11) Digging depth	229 mm	7"	229 mm	7"
Maximum grading angle		107°		107°
Width of dozer cutting edge	—		2434 mm	7'9"
12) Maximum operating height	4339 mm	14'2"	4409 mm	14'4"
Jaw opening maximum			790 mm	2'7"
Weight (does not include teeth or forks)	438 kg	965 lb	744 kg	1460 lb

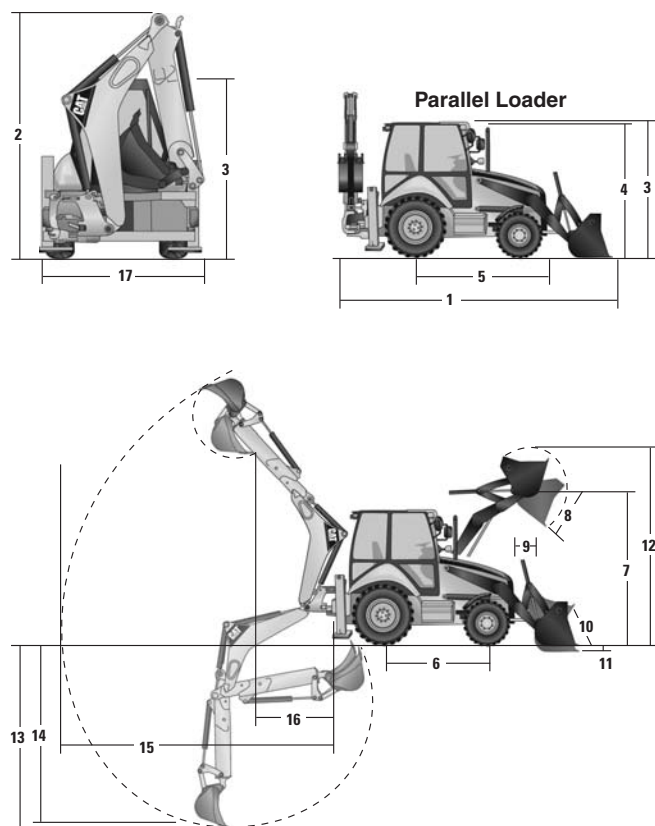
BACKHOE DIMENSIONS AND PERFORMANCE	Standard Stick		Extendible Stick Retracted		Extendible Stick Extended	
13) Digging depth, manufacturers maximum	4933 mm	16'1"	4972 mm	16'3"	5974 mm	19'6"
14) Digging depth, 610 mm (2'0") flat bottom	4906 mm	16'0"	4947 mm	16'2"	5952 mm	19'5"
15) Reach from swing pivot at ground line	5638 mm	18'4"	5678 mm	18'6"	6687 mm	21'9"
Loading height	3632 mm	11'9"	3574 mm	11'7"	4142 mm	13'5"
16) Loading reach	1875 mm	6'1"	1975 mm	6'4"	2878 mm	9'4"
Swing arc		180°		180°		180°
Bucket rotation		205°		205°		205°
17) Stabilizer width	2368 mm	7'7"	2368 mm	7'7"	2368 mm	7'7"
Bucket dig force	57 kN	12,814 lb	56 kN	12,589 lb	56 kN	12,589 lb
Stick dig force	43 kN	9666 lb	43 kN	9666 lb	31 kN	6969 lb
Total side shift travel	1258 mm	4'1"	1258 mm	4'1"	1258 mm	4'1"



MACHINE DIMENSIONS	Parallel Loader			
	General Purpose		Multi Purpose	
1) Overall transport length	5834 mm	19'1"	5810 mm	19'0"
Overall length	5809 mm	19'0"	5752 mm	18'8"
2) Overall transport height	3914 mm	12'8"	3914 mm	12'8"
Overall width	2368 mm	7'7"	2368 mm	7'7"
3) Height to top of cab/canopy	2863 mm	9'3"	2863 mm	9'3"
4) Height to top of exhaust stack	2779 mm	9'1"	2779 mm	9'1"
Ground clearance (minimum)	358 mm	1'1"	358 mm	1'1"
5) Rear axle centerline to front grill	2704 mm	8'8"	2704 mm	8'8"
Front wheel tread gauge	1915 mm	6'2"	1915 mm	6'2"
Rear wheel tread gauge	1713 mm	5'6"	1713 mm	5'6"
Rear wheel tread gauge (AWS)	1890 mm	6'2"	1890 mm	6'2"
6) Wheelbase (AWD)	2200 mm	7'3"	2200 mm	7'3"

LOADER BUCKET DIMENSIONS AND PERFORMANCE	Parallel Loader			
	General Purpose		Multi Purpose	
Capacity (SAE) rated	1.0 m ³	1.30 yd ³	1.03 m ³	1.34 yd ³
Width	2406 mm	7'8"	2406 mm	7'8"
Lift capacity at maximum height	3389 kg	7471 lb	3219 kg	7096 lb
Breakout force	51 kN	11,465 lb	55 kN	12,364 lb
7) Maximum hinge pin height	3340 mm	10'9"	3340 mm	10'9"
8) Dump angle at full height		45°		45°
Dump height at maximum angle	2634 mm	8'6"	2634 mm	8'6"
9) Dump reach at maximum angle	795 mm	2'6"	795 mm	2'6"
10) Maximum bucket rollback at ground level		39°		39°
11) Digging depth	91 mm	3"	118 mm	4"
Maximum grading angle		112°		115°
Width of dozer cutting edge		N/A	2406 mm	7'8"
12) Maximum operating height	4238 mm	13'9"	4264 mm	13'9"
Jaw opening maximum		N/A	790 mm	2'7"
Weight (does not include teeth or forks)	428 kg	944 lb	611 kg	1347 lb

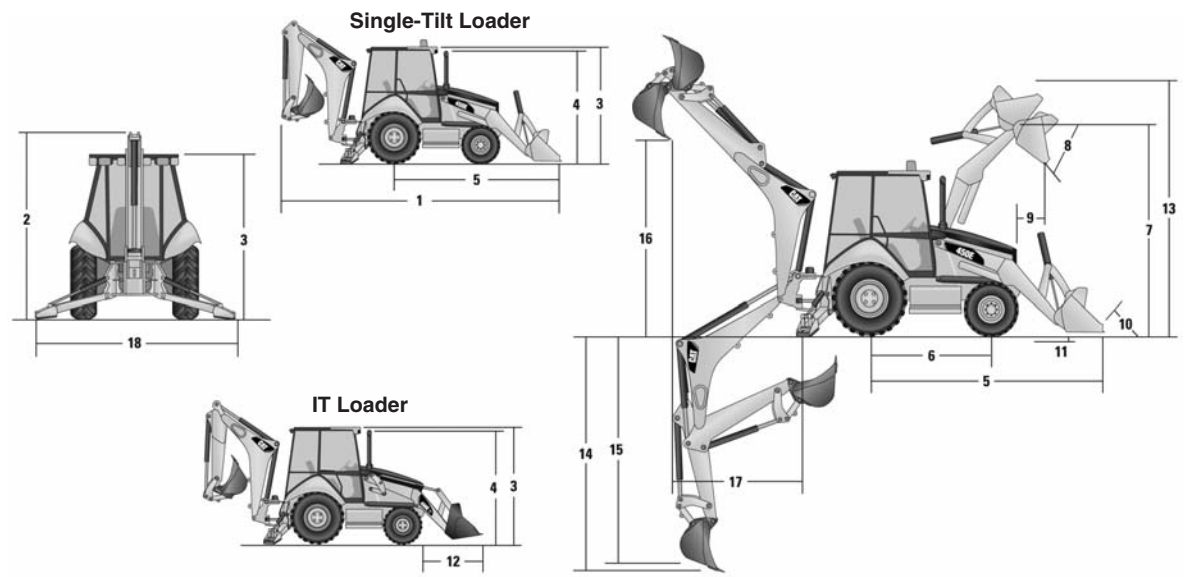
BACKHOE DIMENSIONS AND PERFORMANCE	Standard Stick		Extendible Stick Retracted		Extendible Stick Extended	
13) Digging depth, manufacturers maximum	5247 mm	17'2"	5355 mm	17'5"	6459 mm	21'1"
14) Digging depth, 610 mm (2'0") flat bottom	5203 mm	17'0"	5309 mm	17'4"	6432 mm	21'1"
15) Reach from swing pivot at ground line	6022 mm	19'7"	6127 mm	20'1"	7222 mm	23'6"
Loading height	4060 mm	13'3"	4016 mm	13'1"	4625 mm	15'1"
16) Loading reach	1713 mm	5'6"	1887 mm	6'1"	2855 mm	9'3"
Swing arc		180°		180°		180°
Bucket rotation		205°		205°		205°
17) Stabilizer width	2368 mm	7'7"	2368 mm	7'7"	2368 mm	7'7"
Bucket dig force	71 kN	15,961 lb	70 kN	15,736 lb	70 kN	15,736 lb
Stick dig force	44 kN	9891 lb	43 kN	9666 lb	32 kN	7193 lb
Total side shift travel	1258 mm	4'1"	1258 mm	4'1"	1258 mm	4'1"



MACHINE DIMENSIONS	Parallel Loader			
	General Purpose		Multi Purpose	
1) Overall transport length	6099 mm	20'0"	6119 mm	20'0"
Overall length	6085 mm	19'9"	6115 mm	20'0"
2) Overall transport height	3871 mm	12'7"	3871 mm	12'7"
Overall width	2368 mm	7'7"	2368 mm	7'7"
3) Height to top of cab/canopy	2851 mm	9'3"	2851 mm	9'3"
4) Height to top of exhaust stack	2783 mm	9'1"	2783 mm	9'1"
Ground clearance (minimum)	375 mm	1'0"	375 mm	1'0"
5) Rear axle centerline to front grill	2743 mm	8'10"	2743 mm	8'10"
Front wheel tread gauge	1914 mm	6'2"	1914 mm	6'2"
Rear wheel tread gauge	1914 mm	6'2"	1914 mm	6'2"
6) Wheelbase (AWD)	2200 mm	7'3"	2200 mm	7'3"

LOADER BUCKET DIMENSIONS AND PERFORMANCE	Parallel Loader			
	General Purpose		Multi Purpose	
Capacity (SAE) rated	1.3 m ³	1.7 yd ³	1.3 m ³	1.7 yd ³
Width	2434 mm	7'9"	2434 mm	7'9"
Lift capacity at maximum height	3911 kg	8622 lb	3607 kg	7952 lb
Breakout force	64 kN	14,387 lb	60 kN	13,488 lb
7) Maximum hinge pin height	3496 mm	11'4"	3496 mm	11'4"
8) Dump angle at full height		45°		45°
Dump height at maximum angle	2666 mm	8'9"	2699 mm	8'8"
9) Dump reach at maximum angle	790 mm	2'7"	869 mm	2'8"
10) Maximum bucket rollback at ground level		40°		40°
11) Digging depth	175 mm	5"	175 mm	5"
Maximum grading angle		108°		107°
Width of dozer cutting edge	—		2434 mm	7'9"
12) Maximum operating height	4528 mm	14'8"	4520 mm	14'8"
Jaw opening maximum			913 mm	3'0"
Weight (does not include teeth or forks)	462 kg	1018 lb	809 kg	1783 lb

BACKHOE DIMENSIONS AND PERFORMANCE	Standard Stick		Extendible Stick Retracted		Extendible Stick Extended	
13) Digging depth, manufacturers maximum	5264 mm	17'2"	5370 mm	17'6"	6465 mm	21'2"
14) Digging depth, 610 mm (2'0") flat bottom	5222 mm	17'1"	5331 mm	17'4"	6445 mm	21'1"
15) Reach from swing pivot at ground line	6063 mm	19'8"	6169 mm	20'2"	7263 mm	23'8"
Loading height	4012 mm	13'1"	3968 mm	13'0"	4577 mm	15'0"
16) Loading reach	1888 mm	6'1"	2062 mm	6'7"	3030 mm	9'9"
Swing arc		180°		180°		180°
Bucket rotation		205°		205°		205°
17) Stabilizer width	2368 mm	7'7"	2368 mm	7'7"	2368 mm	7'7"
Bucket dig force	71 kN	15,961 lb	70 kN	15,736 lb	70 kN	15,736 lb
Stick dig force	44 kN	9891 lb	43 kN	9666 lb	32 kN	7193 lb
Total side shift travel	1258 mm	4'1"	1258 mm	4'1"	1258 mm	4'1"



Dimensions and performance specifications shown are for machines equipped with 15-19.5 (12 PR) front tires, 21L-24 (18 PR) rear tires, ROPS canopy, standard stick with 610 mm (24 in) heavy-duty bucket, and 1.34 m³ (1.75 yd³) loader bucket and standard equipment unless otherwise specified.

MACHINE DIMENSIONS	Single-Tilt Loader			
	General Purpose 1.3 m³ (1.7 yd³)		Multi Purpose 1.25 m³ (1.63 yd³)	
1) Overall length, loader on ground, standard stick	7913 mm	26'0"	7786 mm	25'7"
Overall length, loader on ground, extendible stick	7913 mm	26'0"	7786 mm	25'7"
Overall transport length, standard stick	7916 mm	26'0"	7826 mm	25'8"
Overall transport length, extendible stick	7916 mm	26'0"	7826 mm	25'8"
2) Overall transport height, standard stick	4143 mm	13'7"	4143 mm	13'7"
Overall transport height, extendible stick	4159 mm	13'8"	4159 mm	13'8"
Overall width	2436 mm	8'0"	2436 mm	8'0"
3) Height to top of cab/canopy	2874 mm	9'5"	2874 mm	9'5"
4) Height to top of exhaust stack	2845 mm	9'4"	2845 mm	9'4"
Rear axle centerline to front grill	2832 mm	9'4"	2832 mm	9'4"
Height to loader hinge pin (transport)	469 mm	1'6"	481 mm	1'7"
Ground clearance (minimum)	322 mm	1'1"	322 mm	1'1"
5) Rear axle to loader bucket on ground	4494 mm	14'9"	4367 mm	14'4"
Front wheel tread gauge	2016 mm	6'7"	2016 mm	6'7"
Rear wheel tread gauge	1814 mm	5'11"	1814 mm	5'11"
6) Wheelbase	2200 mm	7'3"	2200 mm	7'3"

LOADER BUCKET DIMENSIONS AND PERFORMANCE	Single-Tilt Loader					
	General Purpose 1.3 m ³ (1.75 yd ³)		Multi Purpose 1.1 m ³ (1.5 yd ³)		Multi Purpose with Forks 1.1 m ³ (1.5 yd ³)	
Capacity (SAE) rated	1.3 m ³	1.75 yd³	1.1 m ³	1.5 yd³	1.1 m ³	1.5 yd³
Width	2434 mm	8'0"	2425 mm	7'11"	2425 mm	7'11"
Lift capacity at maximum height	3828 kg	8439 lb	3754 kg	8276 lb	3661 kg	8071 lb
Breakout force	52 249 N	11,746 lb	60 067 N	13,503 lb	59 758 N	13,434 lb
Tipping load at breakout point	8376 kg	18,466 lb	8785 kg	19,368 lb	8685 kg	19,147 lb
7) Maximum hinge pin height	3486 mm	11'5"	3486 mm	11'5"	3486 mm	11'5"
8) Dump angle at full height	44°		44°		44°	
Dump height at maximum angle	2647 mm	8'8"	2741 mm	9'0"	2741 mm	9'0"
9) Dump reach at maximum angle	858 mm	2'10"	787 mm	2'7"	787 mm	2'7"
10) Maximum bucket rollback at ground level	40°		40°		40°	
11) Digging depth	229 mm	9"	195 mm	8"	195 mm	8"
Maximum grading angle	106°		109°		109°	
Width of dozer cutting edge	N/A		2406 mm	7'11"	2406 mm	7'11"
12) Grill to bucket cutting edge, carry position	1666 mm	5'6"	1576 mm	5'2"	1576 mm	5'2"
13) Maximum operating height	4512 mm	14'10"	4548 mm	14'11"	4548 mm	14'11"
Jaw opening maximum	N/A		864 mm	2'10"	864 mm	2'10"
Bucket jaw clamping force	N/A		39 800 N	8947 lb	39 800 N	8947 lb
Weight	692 kg	1526 lb	909 kg	2004 lb	1062 kg	2341 lb

BACKHOE DIMENSIONS AND PERFORMANCE	Standard Stick		Extendible Stick Retracted		Extendible Stick Extended	
14) Digging depth, SAE (maximum)	5257 mm	17'3"	5259 mm	17'3"	6500 mm	21'4"
Digging depth, 2438 mm (8'0") flat bottom	4923 mm	16'2"	4924 mm	16'2"	6229 mm	20'5"
15) Digging depth, 610 mm (2'0") flat bottom	5221 mm	17'2"	5221 mm	17'2"	6465 mm	21'3"
Reach from rear axle centerline at ground line	7952 mm	26'1"	7952 mm	26'1"	9135 mm	30'0"
16) Reach from swing pivot at ground line	6701 mm	22'0"	6702 mm	22'0"	7884 mm	25'10"
Overall operating height	6526 mm	21'5"	6524 mm	21'5"	7368 mm	24'2"
Loading height	4447 mm	14'7"	4447 mm	14'7"	5206 mm	17'1"
17) Loading reach	2091 mm	6'10"	2090 mm	6'10"	3098 mm	10'2"
Swing arc	175°		175°		175°	
Bucket rotation	198°		198°		198°	
18) Stabilizer spread, operating position (center of pad)	3614 mm	11'10"	3614 mm	11'10"	3614 mm	11'10"
19) Stabilizer spread — operating position (outside edge of pad)	4055 mm	13'4"	4055 mm	13'4"	4055 mm	13'4"
Stabilizer spread, transport position	2451 mm	8'0"	2451 mm	8'0"	2451 mm	8'0"
Bucket dig force	79 004 N	17,760 lb	79 004 N	17,760 lb	79 004 N	17,760 lb
Stick dig force	52 500 N	11,802 lb	53 203 N	11,960 lb	40 000 N	8992 lb
Leveling angle (maximum slope on which machine will make a vertical cut)	13°		13°		13°	

Backhoe Loaders

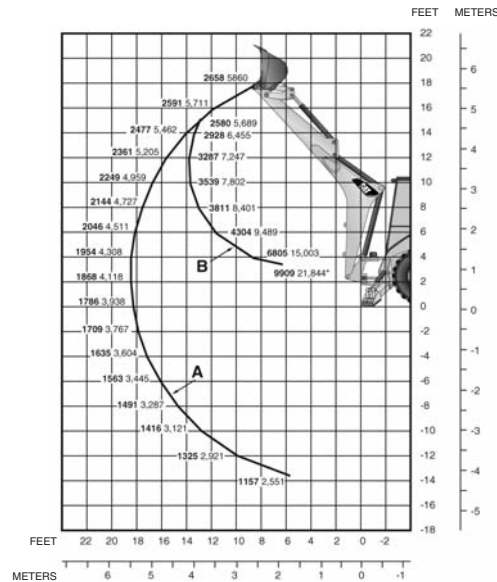
Lift Capacities

● 450E

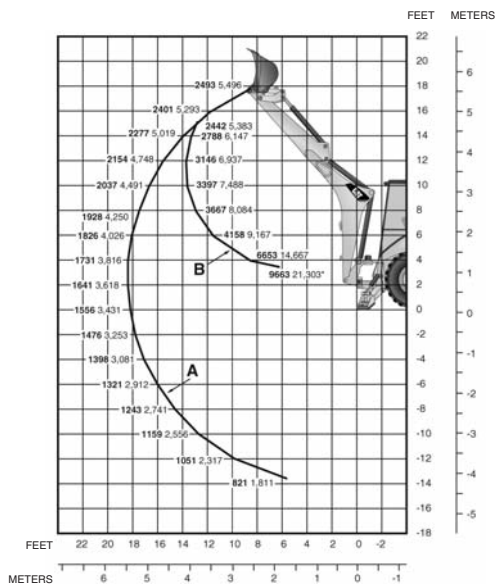
KEY

A — Boom lift kg **lb**

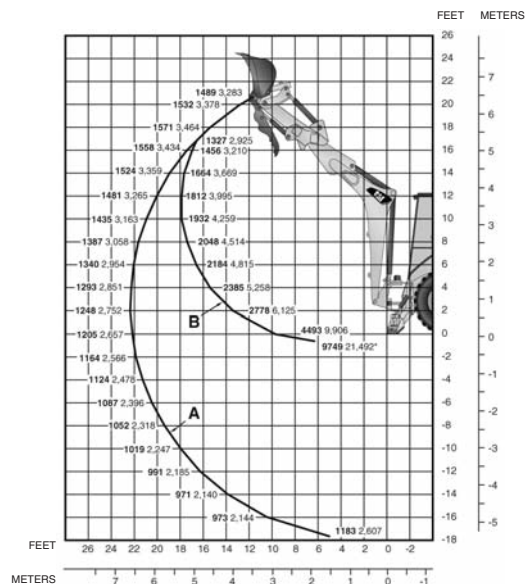
B — Stick lift kg **lb**



Standard Stick



Extendable Stick —
Retracted



Extendable Stick —
Extended

Lift capacities are over-end values per SAE J31; machine equipped with 4WD, OROPS, 1.34 m³ (**1.75 yd³**) general-purpose loader bucket, 610 mm (**24 in**) heavy duty backhoe bucket and 454 kg (**1000 lb**) counterweight. Extendable stick lift capacities include 682 kg (**1500 lb**) counterweight.

*Indicates lift capacity is stability limited.

Standard Duty Buckets (SD)**416E, 420E, 422E, 428E, 430E, 432E, 442E**

Width		SAE Capacity		Weight		No. of Teeth
mm	in	L	ft ³	kg	lb	
305	12	78	2.8	97	213	3
457	18	118	4.2	115	253	4
610	24	175	6.2	132	290	5
762	30	233	8.2	147	323	5
914	36	292	10.3	165	363	6

Heavy Duty Buckets (HD)**416E, 420E, 422E, 428E, 430E, 432E, 442E**

Width		SAE Capacity		Weight		No. of Teeth
mm	in	L	ft ³	kg	lb	
305	12	79	2.8	107	235	3
406	16	105	3.7	123	270	3
457	18	119	4.2	129	283	4
610	24	176	6.2	153	337	5
762	30	232	8.2	170	375	5
914	36	292	10.3	194	426	6

*Bolt-on teeth available.

Soil Excavation Buckets (SE)**416E, 420E, 422E, 428E, 430E, 432E, 442E**

Width		SAE Capacity		Weight		No. of Teeth
mm	in	L	ft ³	kg	lb	
457	18	180	6.4	153	336	4
610	24	241	8.5	179	395	5
762	30	320	11.3	197	434	5
914	36	380	13.4	223	491	6

High Capacity Buckets (HC)**416E, 420E, 422E, 428E, 430E, 432E, 442E**

Width		SAE Capacity		Weight		No. of Teeth
mm	in	L	ft ³	kg	lb	
457	18	181	6.4	149	328	4
610	24	241	8.5	174	384	5
762	30	320	11.3	192	423	5
914	36	380	13.4	218	479	6

Teeth Options: Penetration

Soil

Sharp

Twin Sharp

Chisel

Wide

Long

Extreme Service Buckets (ES)**422E, 428E, 432E, 442E**

Width		SAE Capacity		Weight		No. of Teeth
mm	in	L	ft ³	kg	lb	
305	12	64	2.2	106	233	3
457	18	96	3.4	132	291	4
610	24	142	5.2	152	335	4
762	30	189	6.2	177	390	6

Heavy Duty Buckets (HD)**450E**

Width		SAE Capacity		Weight		No. of Teeth
mm	in	L	ft ³	kg	lb	
457	18	190	6.7	211	465	3
610	24	280	9.9	252	554	4
762	30	380	13.4	283	625	4
914	36	480	17.0	326	719	6

Heavy Duty Rock Buckets 416E, 420E, 430E

Width		SAE Capacity		Weight		No. of Teeth
mm	in	L	ft³	kg	lb	
305	12	70	2.5	114	251	3
457	18	127	4.6	138	304	4
610	24	198	7.0	173	381	5
762	30	255	9.5	180	396	5
914	36	311	11.5	205	451	6

Pin Lock Buckets, High Capacity (North America)

Width		SAE Capacity		Weight		No. of Teeth
mm	in	L	ft³	kg	lb	
305	12	130	4.6	146	322	3
406	16	159	5.6	164	362	3
457	18	184	6.5	172	378	4
610	24	272	9.6	204	448	5
762	30	366	12.9	230	506	5
914	36	459	16.2	262	575	6

Coral Buckets

Width		SAE Capacity		Weight		No. of Teeth
mm	in	L	ft³	kg	lb	
305	12	65	2.3	122	270	4
457	18	96	3.4	146	322	6
610	24	142	5.0	173	382	8
762	30	190	6.7	199	439	10

Ditch Cleaning Buckets (North America)

Width		SAE Capacity		Weight		No. of Teeth
mm	in	L	ft³	kg	lb	
1219	48	368	13.0	231	510	N/A
1372	54	425	15.0	252	555	N/A
1524	60	481	17.0	272	600	N/A

Pin Lock Buckets, Heavy Duty (North America)

Width		SAE Capacity		Weight		No. of Teeth
mm	in	L	ft³	kg	lb	
305	12	96	3.4	127	278	3
406	16	122	4.3	144	317	3
457	18	139	4.9	150	330	4
610	24	207	7.3	180	397	5
762	30	275	9.7	205	452	5
914	36	346	12.2	236	519	6

Ditch Cleaning Buckets (Europe, Africa, Middle East)

Width		SAE Capacity		Weight		No. of Teeth
mm	in	L	ft³	kg	lb	
1200	48	200	7.8	123	271	N/A
1400	54	260	9.2	137	302	N/A
1500	60	290	10.2	145	320	N/A
1600	63	310	10.9	152	335	N/A
1800	70	350	12.4	166	366	N/A

Work tools for Cat backhoe loaders are divided into two groups.
For technical questions relating to all work tools inside the U.S.: (800) 282-5384.
Europe, Africa, Middle East: 31 73 63 996 00.

- **Caterpillar Factory Work Tools:** Cat work tools installed on machines or shipped separately from Cat Distribution Services. Includes the most popular work tools such as buckets, forks and material-handling arms. *Order from Machine Orders Division.*
- **Cat Work Tools America Asia Pacific (AAP):** Cat work tools specifically designed for the Cat backhoe loader by the Cat Work Tool division. *Orders inside U.S.: (800) 255-2372. Outside U.S.: 00 1 (785) 456-2224.*

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Loader Work Tools

1. IT Angle Blade
2. IT Asphalt Cutter
3. IT Bale Spear
4. IT Broom: Angle and Pick-up*
5. IT Bucket, General Purpose
6. IT Bucket, Multi-Purpose
7. IT Bucket, Side-Dump
8. IT Forks, Pallet
9. IT Material Handling Arm
10. IT Rake
11. Quick Coupler, IT Hydraulic
12. Single Tilt Bucket, General Purpose
13. Single Tilt Bucket, Multi-Purpose with or without Fold-Over Forks
14. Single Tilt Hydraulic Quick Coupler

Auxiliary Hydraulics required

Multi-Purpose Hydraulics included with IT
not required
not required

Multi-Purpose Hydraulics included with IT
not required

Multi-Purpose Hydraulics included with IT

Multi-Purpose Hydraulics included with IT
not required
not required
not required

Multi-Purpose Hydraulics
not required

Multi-Purpose Hydraulics
includes coupling hydraulics only;
can add Multi-Purpose Hydraulics

*Requires the IT Auxiliary Attachments Control (electrical wiring harness).

Backhoe Work Tools

1. Auger
2. Bucket, Cemetery
3. Bucket, Coral
4. Bucket, Ditch Cleaning
5. Bucket, Extreme Service
6. Bucket, Heavy Duty
7. Bucket, Heavy Duty Rock
8. Bucket, High Capacity
9. Bucket, Soil Excavation
10. Bucket, Standard Duty
11. Compactor, Vibratory Plate
12. Hammer, Hydraulic
13. Quick Coupler, Mechanical Pin-Puller for Cat or Case tools
14. Quick Coupler, Mechanical Pin-Grabber
15. Quick Coupler, Mechanical Pin-Puller for Cat or Deere tools
16. Quick Coupler, Pin Lock
17. Quick Coupler, Side-Tilting Pin Lock
18. Ripper
19. Thumb, Hydraulic
20. Thumb, Mechanical

Auxiliary Hydraulics required

Combined Function Hydraulics
not required
not required
not required
not required
not required
not required
not required
not required

One Way or Combined Function Hydraulics

One Way or Combined Function Hydraulics
not required
not required
not required
not required

Combined Function Hydraulics
not required

Combined Function Hydraulics
not required

FOREST PRODUCTS

6

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501/501 HD — Track Harvester Features:

- **Cat® C6.6 ACERT™ Technology** provides excellent fuel economy and meets Tier 3 emission standards.
- **Optional 8.2 m (27 ft) telescopic boom** provides additional reach.
- **Unique front entry cab** allows for easy entry and exit.
- **Tilt cab** provides easy service.
- **Proven x-design carbody and large track system** provide strength and durability.
- **Large heavy-duty swing bearing and swing torque** enhance productivity.
- **Exceptional operator visibility.**
- **IQAN computer based control system** provides precise control of machine and attachment functions.

511/521/522/532 —

Zero Tail Swing Track Harvester Features:

- **Cat C9 ACERT Tier 2 high torque engine** provides excellent power, fuel economy, serviceability and durability.
- **The most robust tilt mechanism** in the industry, the tilting models (522/532) have a patented 3-cylinder tilt mechanism with simultaneous tilting forward and side-to-side.
- **Proven rugged undercarriage** designed for the toughest harvesting conditions ranging from wet bottomlands to steep rocky slopes.
- **Hydraulically actuated clam-shell service door** provides full access and reduces maintenance down time.
- **Comfortable, purpose built forestry cab** with heavy duty guarding meets FOPS/ROPS/OPS requirements.
- **Flexxaire fan** (attachment) allows the cooling fan to purge debris from the radiator area minimizing cooling system maintenance.

- **Hydraulic system** is easily interchangeable with felling intermittent or harvesting linkage fronts.
- **IQAN display** allows the operator to continuously monitor the machine and get early warning for potential problems.
- **Ergonomically located pedals with side-by-side foot rests** provide maximum operator comfort when the machine is traveling.

541/551/552 —

Full Tail Swing Track Harvester Features:

- **Cat C9 ACERT Tier 2 high torque engine** provides excellent power, fuel economy, serviceability and durability.
- **The most robust tilt mechanism** in the industry, the tilting model (552) has a patented 3-cylinder tilt mechanism with simultaneous tilting forward and side-to-side.
- **Proven rugged undercarriage** designed for the toughest harvesting conditions ranging from wet bottomlands to steep rocky slopes.
- **Hydraulically actuated dual service door** provides engine/hydraulic access direct from the cab.
- **Walk through service access** minimizes service time and down time costs.
- **Comfortable, purpose built forestry cab** with heavy duty guarding meets FOPS/ROPS/OPS requirements.
- **Hydraulic system** is easily interchangeable with felling intermittent or harvesting linkage fronts.
- **IQAN display** allows the operator to continuously monitor the machine and get early warning for potential problems.
- **Ergonomically located pedals with side-by-side foot rests** provide maximum operator comfort when the machine is traveling.

**Track Harvesters
MODEL**

	501		501 HD	
Gross Power	117 kW	157 hp	117 kW	157 hp
Operating Weight (without attachment)	15 900 kg	35,000 lb	18 000 kg	40,000 lb
Engine Model	C6.6 ACERT Tier 3		C6.6 ACERT Tier 3	
Tractive Effort	16 621 kg	36,600 lb	19 686 kg	43,400 lb
Undercarriage:				
Size	D4		D5	
Pitch	171.4 mm	6.7"	190.5 mm	7.5"
Maximum Reach (with head)	7087 mm	23'3"	8200 mm	27'0"
Minimum Reach (with head)	3658 mm	12'0"	3658 mm	12'0"
Fuel Capacity	378 L	100 U.S. gal	378 L	100 U.S. gal
Hydraulic System	545 bar	5000 psi	545 bar	5000 psi
Hydraulic Oil Flow	307 L/min	81 gpm	307 L/min	81 gpm
Hydraulic Oil Reservoir	230 L	60 U.S. gal	230 L	60 U.S. gal
General Dimensions:				
Height (with standard pads)	3327 mm	10'11"	3429 mm	11'3"
Width (with 560 mm/22" pads)	2591 mm	8'6"	—	—
Width (with 610 mm/24" pads)	—	—	2845 mm	9'4"

6

**ZTS (Zero Tail Swing)
MODEL**

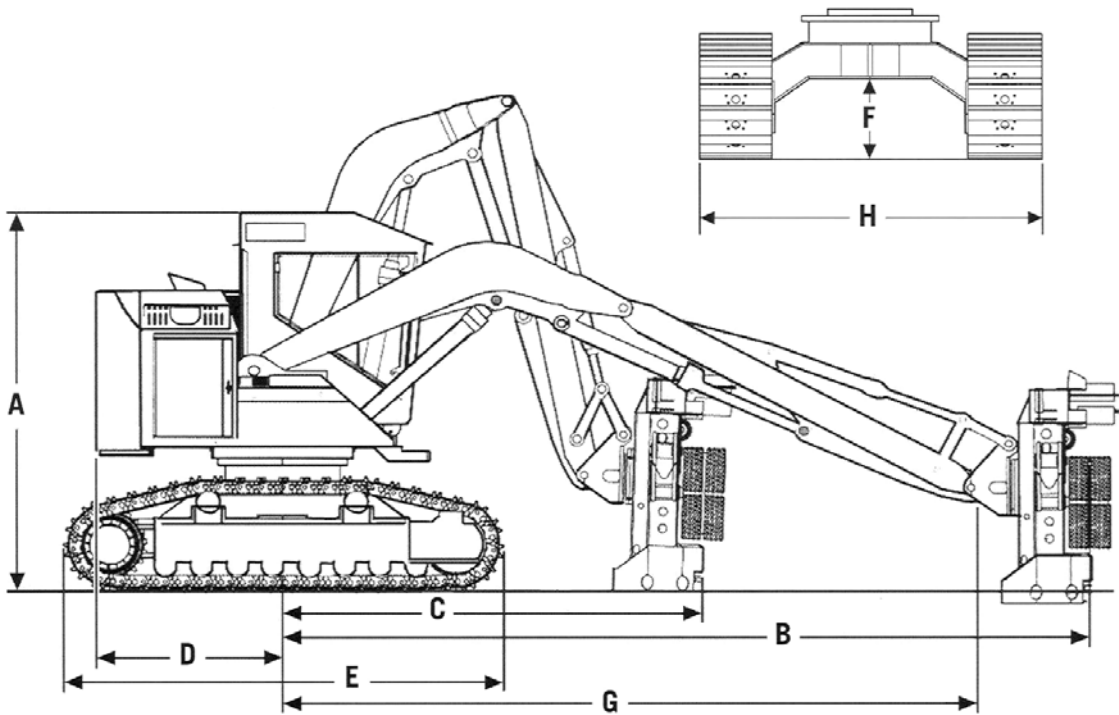
	511		521		522		532	
Rated Power @ 2100 RPM	170 kW	228 hp	196.1 kW	263 hp	196.1 kW	263 hp	196.1 kW	263 hp
Gross Power @ 1800 RPM	184 kW	247 hp	212 kW	284 hp	212 kW	284 hp	212 kW	284 hp
Operating Weight (without head)	23 790 kg	52,440 lb	26 050 kg	57,440 lb	29 806 kg	65,710 lb	31 450 kg	69,340 lb
Engine Model	C9 ACERT		C9 ACERT		C9 ACERT		C9 ACERT	
Displacement	8.8 L	537 in³	8.8 L	537 in³	8.8 L	537 in³	8.8 L	537 in³
Tractive Effort	30 391 kg	67,000 lb	31 978 kg	70,500 lb	34 246 kg	75,500 lb	38 555 kg	85,000 lb
Undercarriage:								
Size	325 HEX		D6H HD		D6H HD		330 HEX	
Pitch	203.2 mm	8.0"	203.2 mm	8.0"	203.2 mm	8.0"	215.9 mm	8.5"
Track Gauge	2591 mm	102"	2591 mm	102"	2591-2870 mm	102-113"	2591-2870 mm	102-113"
Maximum Reach (with head)*	9.8 m	32'0"	9.8 m	32'0"	9.8 m	32'0"	9.8 m	32'0"
Bare Pin Lift @ Maximum Reach (without head)	4100 kg @ 9 m	9100 lb @ 29'6"	4100 kg @ 9 m	9100 lb @ 29'6"	4100 kg @ 9 m	9100 lb @ 29'6"	4100 kg @ 9 m	9100 lb @ 29'6"
Track Length	4572 mm	180"	4801 mm	189"	4801 mm	189"	4877 mm	192"
Fuel Capacity	530 L	140 U.S. gal	530 L	140 U.S. gal	530 L	140 U.S. gal	530 L	140 U.S. gal
Hydraulic System:								
Oil Fill Pump	Electric		Electric		Electric		Electric	
Variable Displacement Pumps:								
Travel and Tilt Functions	180 cc/rev	100 gpm	200 cc/rev	110 gpm	200 cc/rev	110 gpm	200 cc/rev	110 gpm
Boom and Implement Functions	180 cc/rev	100 gpm	190 cc/rev	105 gpm	190 cc/rev	105 gpm	190 cc/rev	105 gpm
Saw Pump	55 cc/rev	30 gpm	55 cc/rev	30 gpm	55 cc/rev	30 gpm	55 cc/rev	30 gpm
General Dimensions:								
Ground Clearance	762 mm	30"	838 mm	33"	838 mm	33"	889 mm	35"
Width (with 610 mm/24" Track Shoe)	3200 mm	126"	3200 mm	126"	3200 mm	126"	3200 mm	126"
Adjustable to	—	—	—	—	3480 mm	137"	3480 mm	137"
Height (to top of cab with standard skylight)	3378 mm	133"	3556 mm	140"	3861 mm	152"	3962 mm	156"

*Lift over front of tracks.

**FTS (Full Tail Swing)
MODEL**

	541		551		552	
Rated Power @ 2100 RPM	210 kW	282 hp	210 kW	282 hp	210 kW	282 hp
Gross Power @ 1800 RPM	227 kW	305 hp	227 kW	305 hp	227 kW	305 hp
Engine Model	C9 ACERT		C9 ACERT		C9 ACERT	
Displacement	8.8 L	537 in³	8.8 L	537 in³	8.8 L	537 in³
Tractive Effort	34 246 kg	75,500 lb	47 174 kg	104,000 lb	47 174 kg	104,000 lb
Undercarriage:						
Size	330 HEX		345 HEX		345 HEX	
Pitch	215.9 mm	8.5"	215.9 mm	8.5"	215.9 mm	8.5"
Track Gauge	2591-2870 mm	102-113"	2591-2870 mm	102-113"	2591-2870 mm	102-113"
Maximum Reach (with head)	11.3 m	37'0"	11.3 m	37'0"	11.3 m	37'0"
Bare Pin Lift @ Maximum Reach (without head)*	4300 kg @ 10.7 m	9500 lb @ 35'0"	5000 kg @ 10.7 m	11,000 lb @ 35'0"	5700 kg @ 10.7 m	12,500 lb @ 35'0"
Track Length	4893 mm	192.6"	4904 mm	193"	4903 mm	193"
Fuel Capacity	1181 L	312 U.S. gal	1181 L	312 U.S. gal	1181 L	312 U.S. gal
Hydraulic System:						
Oil Fill Pump	Electric		Electric		Electric	
Variable Displacement Pumps:						
Travel and Implement Functions	200 cc/rev	110 gpm	200 cc/rev	110 gpm	200 cc/rev	110 gpm
Saw Pump	55 cc/rev	30 gpm	55 cc/rev	30 gpm	55 cc/rev	30 gpm
General Dimensions:						
Ground Clearance	889 mm	35"	889 mm	35"	889 mm	35"
Width (with 711 mm/28" Track Shoe)	3327 mm	131"	3327 mm	131"	3327 mm	131"
Adjustable to	3607 mm	142"	3607 mm	142"	3607 mm	142"
Height (to top of cab with standard skylight)	3556 mm	140"	3658 mm	144"	3962 mm	156"

*Lift over front of tracks.



MODEL

501

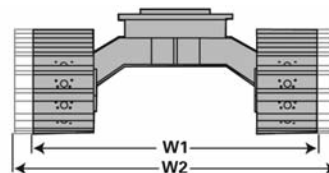
501 HD

A Height with Standard pads	3327 mm	10'11"	3429 mm	11'3"
B Maximum Reach (Standard boom) with Prentice PF-48 Processor	6401 mm	21'0"	7087 mm	23'3"
C Minimum Reach (Standard boom) with Prentice PF-48 Processor	3658 mm	12'0"	3658 mm	12'0"
D Swing Center to Rear of Counterweight	1645 mm	64.75"	1645 mm	64.75"
E Undercarriage Length	3632 mm	11'10"	3962 mm	13'0"
F Ground Clearance	610 mm	24"	660 mm	26"
G Reach to Stick Boom Pin	5359 mm	17'7"	6045 mm	19'10"
H Width*	2591 mm	8'6"	2845 mm	9'4"

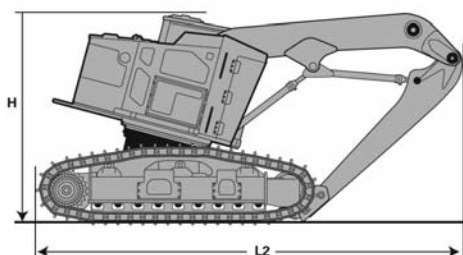
*501 with 560 mm (22") pads.

501 HD with 610 mm (24") pads.

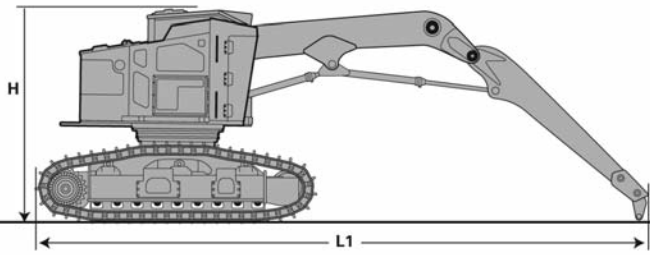
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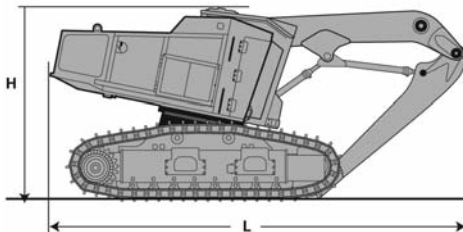
522/532 (Tilter) Track Harvesters



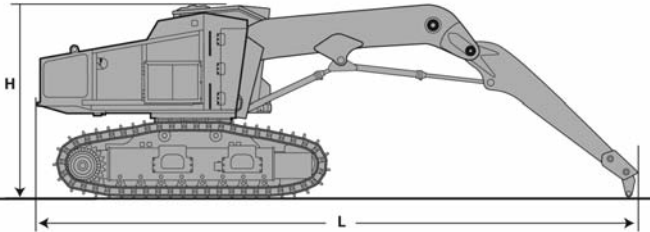
511/521 (Non-Tilter) Track Harvesters



552 (Tilter) Track Harvesters



541/551 (Non-Tilter) FTS Track Harvesters



ZTS Track Harvesters Shipping Dimensions

MODEL	Length 1		Length 2		Height*		Width 1+		Width 2++		Weight	
511	11 328 mm	446"	—		3378 mm	133"	3200 mm	126"	—		23 950 kg	52,800 lb
521	11 506 mm	453"	—		3556 mm	140"	3200 mm	126"	—		26 217 kg	57,800 lb
522**	—		8077 mm	318"	3861 mm	152"	3200 mm	126"	3480 mm	137"	30 917 kg	68,160 lb
532**	—		8077 mm	318"	3962 mm	156"	3200 mm	126"	3480 mm	137"	31 933 kg	70,400 lb

Length, Height and Width 1 assume 610 mm (24") Single Grouser shoes.

*Height to top of cab with standard skylight.

**Boom tucked.

+Width 1 is minimum width with 610 mm (24") Single Grouser shoes.

++Width 2 is maximum width when undercarriage is set wide.

FTS Track Harvesters Shipping Dimensions

MODEL	Length		Height*		Width 1+		Width 2++		Weight	
541	13 614 mm	536"	3556 mm	140"	3327 mm	131"	3607 mm	142"	30 512 kg	67,267 lb
551	13 614 mm	536"	3658 mm	144"	3327 mm	131"	3607 mm	142"	31 377 kg	69,175 lb
552**	7010 mm	276"	3962 mm	156"	3327 mm	131"	3607 mm	142"	36 000 kg	79,367 lb

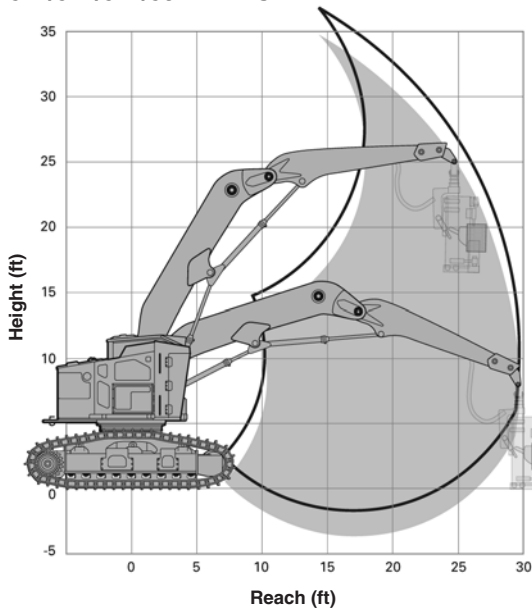
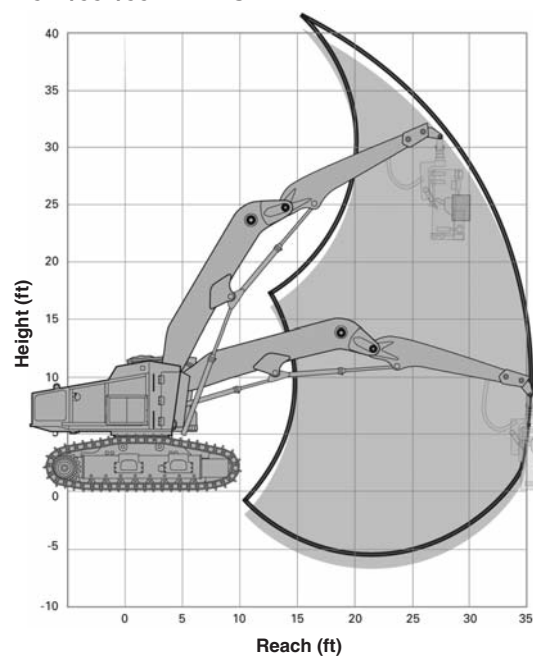
Length, Height and Width assume 711 mm (28") Single Grouser shoes.

*Height to top of cab with standard skylight.

**Boom tucked.

+Width 1 is minimum width.

++Width 2 is maximum width when undercarriage is set wide.

Lift Range Information — Harvesting Linkage
511/521/522/532 — ZTSLift Range Information — Harvesting Linkage
541/551/552 — FTS

6

Lift Over Front of Tracks

MODEL	511		521		522		532	
Reach	Lift Capacity		Lift Capacity		Lift Capacity		Lift Capacity	
3 m (10'0")	4500 kg	10,000 lb	4500 kg	10,000 lb	4500 kg	10,000 lb	4500 kg	10,000 lb
6.1 m (20'0")	6900 kg	15,200 lb	6900 kg	15,200 lb	6900 kg	15,200 lb	6900 kg	15,200 lb
9.0 m (29'6")	4100 kg	9100 lb	4100 kg	9100 lb	4100 kg	9100 lb	4100 kg	9100 lb
MODEL	541		551		552			
Reach	Lift Capacity		Lift Capacity		Lift Capacity			
4.5 m (15'0")	9100 kg	20,200 lb	9100 kg	20,200 lb	9100 kg	20,200 lb		
7.6 m (25'0")	7100 kg	15,700 lb	8200 kg	18,100 lb	9400 kg	20,600 lb		
10.7 m (35'0")	4300 kg	9500 lb	5000 kg	11,000 lb	5700 kg	12,500 lb		

Lift Over Side of Tracks

MODEL	511		521		522		532	
Reach	Lift Capacity		Lift Capacity		Lift Capacity		Lift Capacity	
3 m (10'0")	4500 kg	10,000 lb	4500 kg	10,000 lb	4500 kg	10,000 lb	4500 kg	10,000 lb
6.1 m (20'0")	5300 kg	11,600 lb	5900 kg	13,000 lb	6900 kg	15,200 lb	6900 kg	15,200 lb
9.0 m (29'6")	2900 kg	6300 lb	3300 kg	7200 lb	4100 kg	9100 lb	4100 kg	9100 lb
MODEL	541		551		552			
Reach	Lift Capacity		Lift Capacity		Lift Capacity			
4.5 m (15'0")	9100 kg	20,200 lb	9100 kg	20,200 lb	9100 kg	20,200 lb		
7.6 m (25'0")	4500 kg	9900 lb	5700 kg	12,500 lb	6500 kg	14,300 lb		
10.7 m (35'0")	2700 kg	5900 lb	3400 kg	7600 lb	4000 kg	8800 lb		

NOTE: Lift Capacity shown without attachment.

Additional reach and attachment weight will reduce lift capacity.

511/521/522/532 —

Zero Tail Swing Track Feller Buncher Features:

- **Cat C9 ACERT Tier 2 high torque engine provides** excellent power, fuel economy, serviceability and durability.
- **A robust tilt mechanism**, the tilting models (522/532) have a patented 3-cylinder tilt mechanism with simultaneous tilting forward and side-to-side.
- **Proven rugged undercarriage** designed for the toughest harvesting conditions ranging from wet bottomlands to steep rocky slopes.
- **Hydraulically actuated clam-shell service door** provides full service and reduces maintenance down time.
- **Comfortable, purpose built forestry cab** with heavy duty guarding meets FOPS/ROPS/OPS requirements.
- **Flexxaire fan (attachment)** allows the cooling fan to purge debris from the radiator area minimizing cooling system maintenance.
- **Felling heads and processing heads** utilize high pressure hydraulics and proven components to meet your application requirements.
- **IQAN display** allows the operator to continuously monitor the machine and get early warning for potential problems.
- **Ergonomically located pedals with side-by-side foot rests** provide maximum operator comfort when the machine is traveling.

541/551/552 —

Full Tail Swing Track Feller Buncher Features:

- **Cat C9 ACERT Tier 2 high torque engine provides** excellent power, fuel economy, serviceability and durability.
- **The most robust tilt mechanism** in the industry, the tilting model (552) have a patented 3-cylinder tilt mechanism with simultaneous tilting forward and side-to-side.
- **Proven rugged undercarriage** designed for the toughest harvesting conditions ranging from wet bottomlands to steep rocky slopes.
- **Hydraulically actuated dual service door** provides engine/hydraulic access direct from the cab.
- **Walk through service access** minimizes service time and down time costs.
- **Comfortable, purpose built forestry cab** with heavy duty guarding meets FOPS/ROPS/OPS requirements.
- **Hydraulic packages** can be included for operation with an intermittent saw and high speed disc saw.
- **Optional 9.4 m (30'10") harvester boom and hydraulic packages** available for dangle mount harvesting heads.
- **IQAN display** allows the operator to continuously monitor the machine and get early warning for potential problems.
- **Ergonomically located pedals with side-by-side foot rests** provide maximum operator comfort when the machine is traveling.

**ZTS (Zero Tail Swing)
MODEL**

	511		521		522		532	
Rated Power @ 2100 RPM	170 kW	228 hp	196.1 kW	263 hp	196.1 kW	263 hp	196.1 kW	263 hp
Gross Power @ 1800 RPM	184 kW	247 hp	212 kW	284 hp	212 kW	284 hp	212 kW	284 hp
Operating Weight (without head)	24 362 kg	53,710 lb	27 084 kg	59,710 lb	30 410 kg	67,040 lb	31 620 kg	69,710 lb
Engine Model	C9 ACERT		C9 ACERT		C9 ACERT		C9 ACERT	
Displacement	8.8 L	537 in³	8.8 L	537 in³	8.8 L	537 in³	8.8 L	537 in³
Tractive Effort	30 391 kg	67,000 lb	31 978 kg	70,500 lb	34 246 kg	75,500 lb	38 555 kg	85,000 lb
Undercarriage:								
Size	325 HEX		D6H HD		D6H HD		330 HEX	
Pitch	203.2 mm	8.0"	203.2 mm	8.0"	203.2 mm	8.0"	215.9 mm	8.5"
Track Gauge	2591 mm	102"	2591 mm	102"	2591- 2870 mm	102-113"	2591- 2870 mm	102-113"
Maximum Reach (with head)	8.1 m	26'6"	8.1 m	26'6"	8.1 m	26'6"	8.1 m	26'6"
Bare Pin Lift @ Maximum Reach (without head)*	7100 kg @ 6.1 m	15,600 lb @ 20'0"	7100 kg @ 6.1 m	15,600 lb @ 20'0"	7100 kg @ 6.1 m	15,600 lb @ 20'0"	7100 kg @ 6.1 m	15,600 lb @ 20'0"
Track Length	4572 mm	180"	4801 mm	189"	4801 mm	189"	4877 mm	192"
Fuel Capacity	530 L	140 U.S. gal	530 L	140 U.S. gal	530 L	140 U.S. gal	530 L	140 U.S. gal
Hydraulic System:								
Oil Fill Pump	Electric		Electric		Electric		Electric	
Variable Displacement Pumps:								
Travel and Tilt Functions	180 cc/rev	100 gpm	200 cc/rev	110 gpm	200 cc/rev	110 gpm	200 cc/rev	110 gpm
Boom and Implement Functions	180 cc/rev	100 gpm	190 cc/rev	105 gpm	190 cc/rev	105 gpm	190 cc/rev	105 gpm
Saw Pump	55 cc/rev	30 gpm	55 cc/rev	30 gpm	55 cc/rev	30 gpm	55 cc/rev	30 gpm
General Dimensions:								
Ground Clearance	762 mm	30"	838 mm	33"	838 mm	33"	889 mm	35"
Width (with 610 mm/24" Track Shoe)	3200 mm	126"	3200 mm	126"	3200 mm	126"	3200 mm	126"
Adjustable to	—		—		3480 mm	137"	3480 mm	137"
Height (to top of cab with standard skylight)	3378 mm	133"	3556 mm	140"	3861 mm	152"	3962 mm	156"

*Lift over front of tracks.

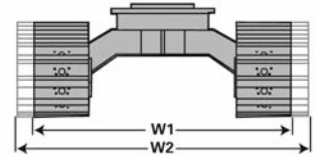
FTS (Full Tail Swing)
MODEL

	541		551		552	
Rated Power @ 2100 RPM	210 kW	282 hp	210 kW	282 hp	210 kW	282 hp
Gross Power @ 1800 RPM	227 kW	305 hp	227 kW	305 hp	227 kW	305 hp
Operating Weight (without head)						
— Standard Linkage	30 191 kg	66,560 lb	31 057 kg	68,468 lb	35 680 kg	78,660 lb
Operating Weight (without head)						
— Long Felling Linkage	30 499 kg	67,239 lb	31 365 kg	69,147 lb	35 988 kg	79,339 lb
Engine Model	C9 ACERT		C9 ACERT		C9 ACERT	
Displacement	8.8 L	537 in³	8.8 L	537 in³	8.8 L	537 in³
Tractive Effort	34 246 kg	75,500 lb	47 174 kg	104,000 lb	47 174 kg	104,000 lb
Undercarriage:						
Size	330 HEX		345 HEX		345 HEX	
Pitch	215.9 mm	8.5"	215.9 mm	8.5"	215.9 mm	8.5"
Track Gauge	2591-2870 mm	102-113"	2591-2870 mm	102-113"	2591-2870 mm	102-113"
Maximum Reach (with head)	8.6 m	28'1"	8.6 m	28'1"	8.6 m	28'1"
Bare Pin Lift @ Maximum Reach (without head)*	9400 kg @ 6.6 m	21,800 lb @ 21'6"	9400 kg @ 6.6 m	21,800 lb @ 21'6"	9400 kg @ 6.6 m	21,800 lb @ 21'6"
Bare Pin Lift @ Maximum Reach (without head)**	6400 kg @ 8.2 m	14,200 lb @ 27'0"	7400 kg @ 8.2 m	16,300 lb @ 27'0"	7700 kg @ 8.2 m	16,900 lb @ 27'0"
Track Length	4893 mm	192.6"	4903 mm	193"	4903 mm	193"
Fuel Capacity	1181 L	312 U.S. gal	1181 L	312 U.S. gal	1181 L	312 U.S. gal
Hydraulic System:						
Oil Fill Pump	Electric		Electric		Electric	
Variable Displacement Pumps:						
Travel and Implement Functions (x2)	200 cc/rev	110 gpm	200 cc/rev	110 gpm	200 cc/rev	110 gpm
Saw Pump	55 cc/rev	30 gpm	55 cc/rev	30 gpm	55 cc/rev	30 gpm
General Dimensions:						
Ground Clearance	889 mm	35"	889 mm	35"	889 mm	35"
Width (with 711 mm/28" Track Shoe)	3327 mm	131"	3327 mm	131"	3327 mm	131"
Adjustable to	3607 mm	142"	3607 mm	142"	3607 mm	142"
Height (to top of cab with standard skylight)	3556 mm	140"	3658 mm	144"	3962 mm	156"

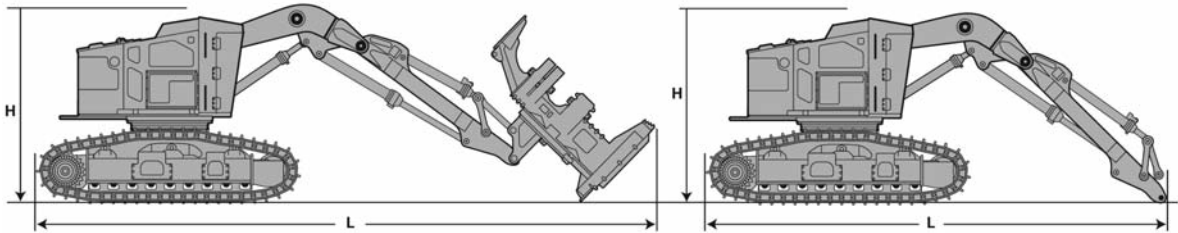
*Standard linkage — Lift over front of tracks.

**Long felling linkage — Lift over front of tracks.

These illustrations and values are ESTIMATED for TRUCK SHIPMENT ONLY FROM THE FACTORY.
These are subject to change based on attachments, configurations, add-ons, etc.



511/521/522/532 Track Feller Bunchers



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ZTS Track Feller Bunchers Shipping Dimensions

MODEL	Length		Height**		Width 1+		Width 2++		Weight	
511	8458 mm	333"	3378 mm	133"	3200 mm	126"	—		24 362 kg	53,710 lb
511*	10 744 mm	423"	3378 mm	133"	3200 mm	126"	—		27 782 kg	61,210 lb
521	8636 mm	340"	3556 mm	140"	3200 mm	126"	—		27 084 kg	59,710 lb
521*	10 947 mm	431"	3556 mm	140"	3200 mm	126"	—		30 504 kg	67,250 lb
522	8636 mm	340"	3861 mm	152"	3200 mm	126"	3480 mm	137"	30 410 kg	67,040 lb
522*	10 947 mm	431"	3861 mm	152"	3200 mm	126"	3480 mm	137"	33 830 kg	74,580 lb
532	8611 mm	339"	3962 mm	156"	3200 mm	126"	3480 mm	137"	31 619 kg	69,710 lb
532*	10 922 mm	430"	3962 mm	156"	3200 mm	126"	3480 mm	137"	35 039 kg	77,250 lb

Length, Height and Width assume 610 mm (24") Single Grouser shoes.

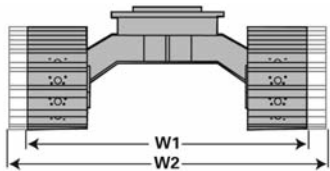
*With HF 201 Partial Tilt Felling Head, tilted back and lifted (assumes an estimated additional head weight of 3420 kg (7540 lb)).

**Height is to top of cab with standard skylight.

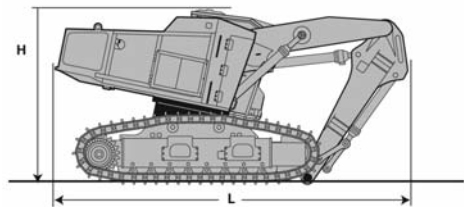
+Width 1 is minimum width.

++Width 2 is maximum width when undercarriage is set wide.

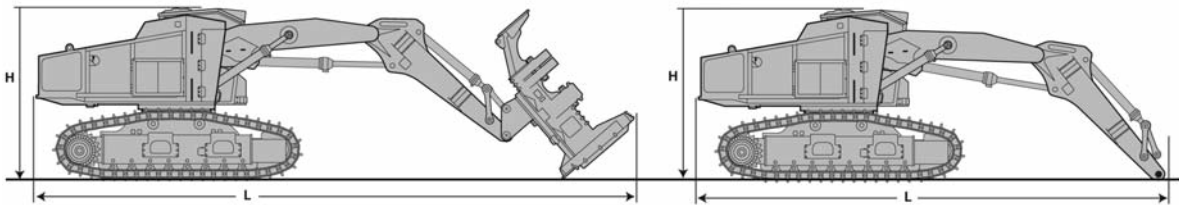
These illustrations and values are ESTIMATED for TRUCK SHIPMENT ONLY FROM THE FACTORY.
These are subject to change based on attachments, configurations, add-ons, etc.



552 (Tilter) Track Feller Bunchers Standard Linkage



541/551 (Non-Tilter) 752 (Tilter) Track Feller Bunchers Standard Linkage



FTS Track Feller Bunchers Shipping Dimensions

MODEL	Length		Height**		Width 1+		Width 2++		Weight	
541	9423 mm	371"	3556 mm	140"	3327 mm	131"	3607 mm	142"	30 191 kg	66,560 lb
541*	11 709 mm	461"	3556 mm	140"	3327 mm	131"	3607 mm	142"	33 847 kg	74,621 lb
551	9423 mm	371"	3658 mm	144"	3327 mm	131"	3607 mm	142"	31 057 kg	68,468 lb
551*	11 709 mm	461"	3658 mm	144"	3327 mm	131"	3607 mm	142"	34 713 kg	76,529 lb
552	9423 mm	371"	3962 mm	156"	3327 mm	131"	3607 mm	142"	35 680 kg	78,660 lb
552*	11 709 mm	461"	3962 mm	156"	3327 mm	131"	3607 mm	142"	39 336 kg	86,721 lb

Length, Height and Width assume 711 mm (28") Single Grouser shoes.

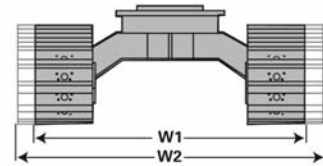
*With HF 221 Partial Tilt Felling Head, tilted back and lifted (assumes an estimated additional head weight of 3656 kg (8061 lb)).

**Height is to top of cab with standard skylight.

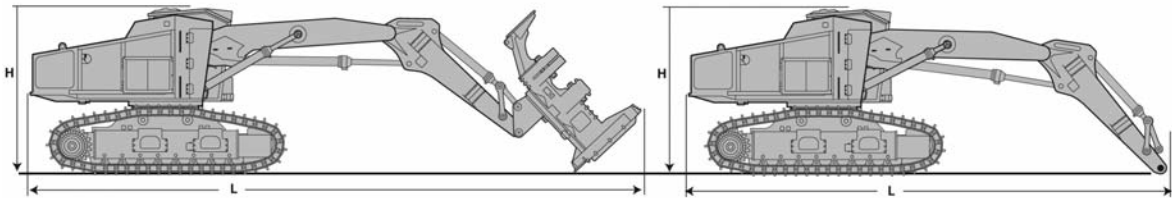
+Width 1 is minimum width.

++Width 2 is maximum width when undercarriage is set wide.

These illustrations and values are ESTIMATED for TRUCK SHIPMENT ONLY FROM THE FACTORY.
These are subject to change based on attachments, configurations, add-ons, etc.



541/551 (Non-Tilter) 552 (Tilter) Track Feller Bunchers Long Felling Linkage



6

FTS Track Feller Bunchers Shipping Dimensions

MODEL	Length		Height**		Width 1+		Width 2++		Weight	
541	11 074 mm	436"	3556 mm	140"	3327 mm	131"	3607 mm	142"	30 499 kg	67,239 lb
541*	13 360 mm	526"	3556 mm	140"	3327 mm	131"	3607 mm	142"	34 155 kg	75,300 lb
551	11 074 mm	436"	3658 mm	144"	3327 mm	131"	3607 mm	142"	31 365 kg	69,147 lb
551*	13 360 mm	526"	3658 mm	144"	3327 mm	131"	3607 mm	142"	35 021 kg	77,208 lb
552	11 024 mm	434"	3962 mm	156"	3327 mm	131"	3607 mm	142"	35 988 kg	79,339 lb
552*	13 310 mm	524"	3962 mm	156"	3327 mm	131"	3607 mm	142"	39 644 kg	87,400 lb

Length, Height and Width assume 711 mm (28") Single Grouser shoes.

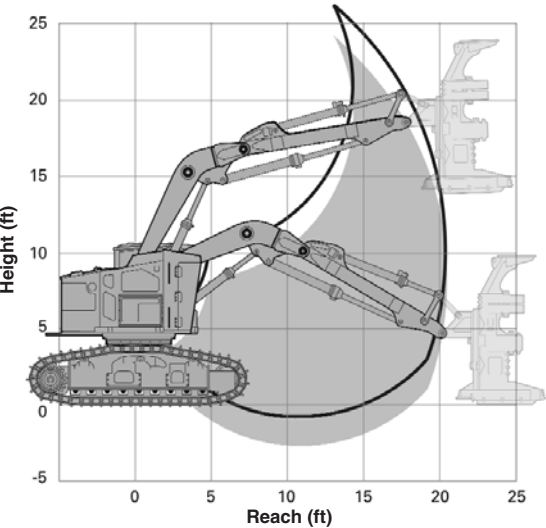
*With HF 221 Partial Tilt Felling Head, tilted back and lifted (assumes an estimated additional head weight of 3656 kg (8061 lb)).

**Height is to top of cab with standard skylight.

+Width 1 is minimum width.

++Width 2 is maximum width when undercarriage is set wide.

Lift Range Information — Felling Linkage
511/521/522/532 — ZTS



Lift Over Front of Tracks

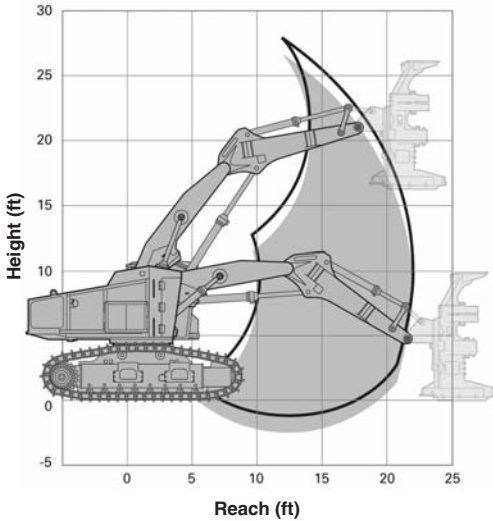
MODEL	511		521		522		532	
Reach	Lift Capacity		Lift Capacity		Lift Capacity		Lift Capacity	
2.4 m (8'0")	16 900 kg	37,200 lb	17 300 kg	38,200 lb	17 800 kg	39,300 lb	17 900 kg	39,400 lb
4.5 m (15'0")	9500 kg	21,000 lb	9600 kg	21,200 lb	9700 kg	21,500 lb	9800 kg	21,500 lb
6.1 m (20'0")	7100 kg	15,600 lb	7100 kg	15,600 lb	7100 kg	15,600 lb	7100 kg	15,600 lb

Lift Over Side of Tracks

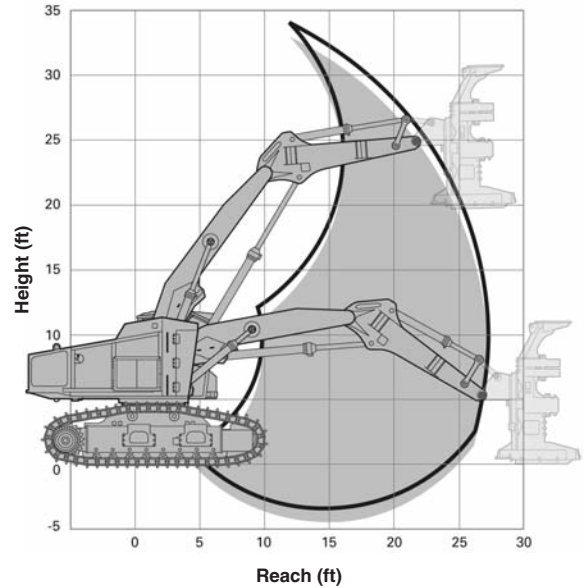
MODEL	511		521		522		532	
Reach	Lift Capacity		Lift Capacity		Lift Capacity		Lift Capacity	
2.4 m (8'0")	16 900 kg	37,200 lb	17 300 kg	38,200 lb	17 800 kg	39,300 lb	17 900 kg	39,400 lb
4.5 m (15'0")	8600 kg	18,900 lb	9500 kg	21,000 lb	9700 kg	21,500 lb	9800 kg	21,500 lb
6.1 m (20'0")	5400 kg	11,900 lb	6100 kg	13,300 lb	7100 kg	15,600 lb	7100 kg	15,600 lb

NOTE: Lift Capacity shown without attachment.
Additional reach and attachment weight will reduce lift capacity.

**Lift Range Information —
Standard Felling Linkage
541/551/552 — FTS**



**Lift Range Information —
Long Felling Linkage
541/551/552 — FTS**



6

Lift Over Front of Tracks

MODEL	541	551	552
Reach Linkage	Lift Capacity Standard Felling	Lift Capacity Standard Felling	Lift Capacity Standard Felling
3.2 m (10'6")	21 600 kg 47,700 lb	21 800 kg 48,000 lb	22 200 kg 49,000 lb
4.5 m (15'0")	15 200 kg 33,500 lb	15 300 kg 33,700 lb	15 500 kg 34,200 lb
6.6 m (21'6")	9400 kg 21,800 lb	9400 kg 21,800 lb	9400 kg 21,800 lb
Reach Linkage	Lift Capacity Long Felling	Lift Capacity Long Felling	Lift Capacity Long Felling
3.0 m (10'0")	20 800 kg 45,900 lb	21 000 kg 46,400 lb	21 800 kg 48,000 lb
6.1 m (20'0")	10 400 kg 22,900 lb	10 700 kg 23,500 lb	10 900 kg 23,900 lb
8.2 m (27'0")	6400 kg 14,200 lb	7400 kg 16,300 lb	7700 kg 16,900 lb

Lift Over Side of Tracks

MODEL	541	551	552
Reach Linkage	Lift Capacity Standard Felling	Lift Capacity Standard Felling	Lift Capacity Standard Felling
3.2 m (10'6")	19 400 kg 42,800 lb	21 800 kg 48,000 lb	22 200 kg 49,000 lb
4.5 m (15'0")	10 600 kg 23,400 lb	13 200 kg 29,100 lb	14 900 kg 32,900 lb
6.6 m (21'6")	6100 kg 13,500 lb	7600 kg 16,700 lb	8600 kg 19,000 lb
Reach Linkage	Lift Capacity Long Felling	Lift Capacity Long Felling	Lift Capacity Long Felling
3.0 m (10'0")	20 800 kg 45,900 lb	21 000 kg 46,400 lb	21 800 kg 48,000 lb
6.1 m (20'0")	6600 kg 14,600 lb	8200 kg 18,100 lb	9300 kg 20,600 lb
8.2 m (27'0")	4100 kg 9100 lb	5200 kg 11,400 lb	6000 kg 13,100 lb

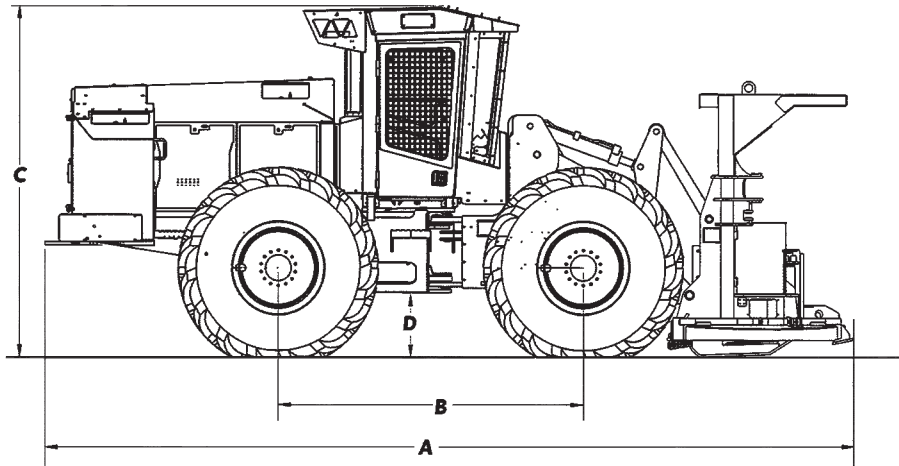
NOTE: Lift Capacity shown without attachment.

Additional reach and attachment weight will reduce lift capacity.

553/563/573 Wheel Feller Buncher Features:

- **Field proven Cat C6.6 (553) and Cat C7 (563/573) ACERT engines** provide power and reliability.
- **Long-life center joint**, and 90 degree steering articulation to maximize thinning productivity.
- **Standard with quarter-turn steering with adjustable tilt-telescoping steering column**; available with joystick steering as an option.
- **Saw attachments** are power and performance-matched to tractors.
- **Industry leading visibility with three-piece windshield and skylight** provides an unobstructed viewing of the tree bases and tops throughout full articulation.

MODEL	553		563		573	
Gross Power	129 kW	173 hp	147 kW	197 hp	168 kW	225 hp
Operating Weight (without attachment)	11 476 kg	25,300 lb	12 372 kg	27,275 lb	12 599 kg	27,775 lb
Engine Model	C6.6 ACERT		C7 ACERT		C7 ACERT	
Travel Speed (Low Range with 28L × 26 tires)	8 km/h	0-5 mph	8 km/h	0-5 mph	8 km/h	0-5 mph
Travel Speed (High Range with 28L × 26 tires)	24 km/h	0-15 mph	24 km/h	0-15 mph	24 km/h	0-15 mph
Disc Saw (Fixed displacement piston pump)	98 L/min @ 24 132 kPa	26 gpm @ 3500 psi	98 L/min @ 27 579 kPa	26 gpm @ 4000 psi	121 L/min @ 27 579 kPa	32 gpm @ 4000 psi
Fuel Capacity	273 L	72 U.S. gal	273 L	72 U.S. gal	273 L	72 U.S. gal
General Dimensions:						
Ground Clearance	53 cm	21"	53 cm	21"	53 cm	21"
Articulation Angle	84°		90°		90°	
Wheelbase	258 cm	101.5"	287 cm	113"	287 cm	113"
Width (standard gauge wheels)	274 cm	107.9"	292 cm	115.1"	292 cm	115.1"
Turning Radius (standard gauge wheels)	455 cm	14'11"	503 cm	16'6"	503 cm	16'6"
Height	316 cm	10'4"	320 cm	10'6"	320 cm	10'6"
Length (with SH-50 High Capacity Saw)	679 cm	22'3"	730 cm	23'11"	—	
Length (with SH-56 Side Cut Saw)	—		768 cm	25'2"	768 cm	25'2"



MODEL	553		563		573	
A Overall Length†	679 cm	267.3"	767 cm	302"	767 cm	302"
B Wheelbase	258 cm	101.5"	287 cm	113"	287 cm	113"
C Overall Height*	316 cm	124.3"	320 cm	126"	320 cm	126"
D Ground Clearance**	53 cm	21"	53 cm	21"	53 cm	21"
E Overall Width***	274 cm	107.9"	292 cm	115.1"	292 cm	115.1"
F Turning Radius	455 cm	179"	503 cm	198"	503 cm	198"
G Weight, less Attachment	11 476 kg	25,300 lb	12 372 kg	27,275 lb	12 599 kg	27,775 lb

All dimensions shown with 28L × 26 tires.

†553 with SH-50 High Capacity Saw, 563/573 with SS-56 Side Cut Saw.

*For 67 × 34 × 26 tires add 3 cm (1.2"); for 30.5 × 32 tires add 13 cm (5").

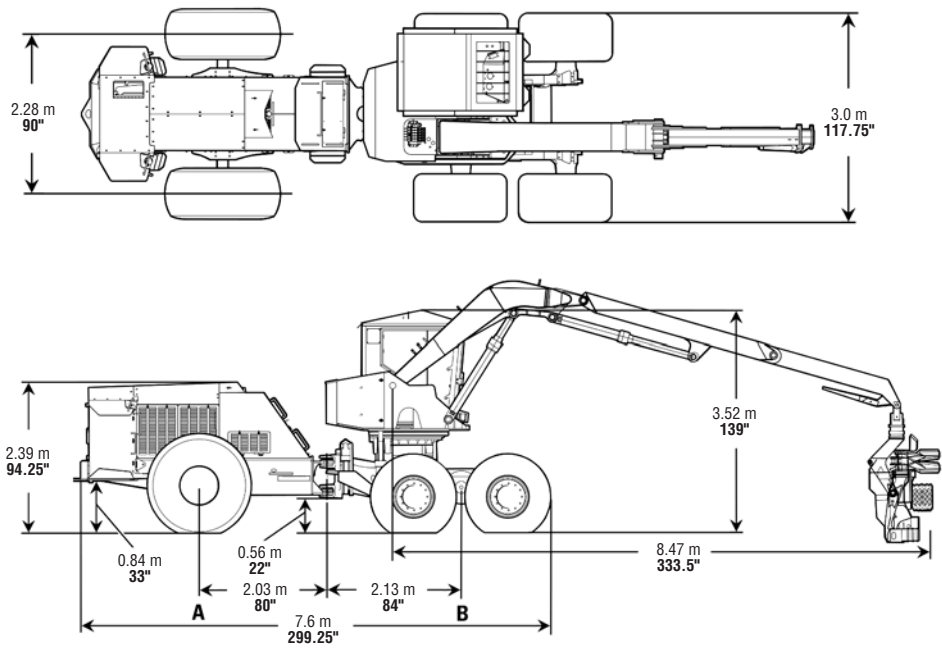
**For 67 × 34 × 26 tires add 3 cm (1.2"); for 30.5 × 32 tires add 10 cm (4").

***For 67 × 34 × 26 tires add 3 cm (1.2"); for 30.5 × 32 tires add 12 cm (4.8").

Wheel Harvester Features:

- **Cat C7 engine with ACERT Technology**, field-proven and U.S. EPA Tier 3 compliant.
- **Standard “auto-seek” processing head computer** cuts at operator-specified length.
- **Two-cylinder tilt mechanism** allows for leveling in uneven terrain
- **Telescoping “V” Bottom (5-sided) harvester boom**; 8.23 m (27'0") reach to tree.
- **Spacious cab** with high visibility over entire work area; IQAN MDL control system and full function graphic display.
- **Heavy-duty boom mount base.**
- **Electric refill pump.**
- **Electric refill pump** for hydraulic oil.
- **Heavy-duty center oscillation bearing** with 15° oscillation each way.
- **Front frame** contains NAF Gear Drive Bogie, differential lock and wet disc brakes.

MODEL	550	
Gross Power	147 kW	197 hp
Operating Weight (with attachment)	21 319 kg	47,040 lb
Engine Model	C7 ACERT	
Rated RPM	1800	
Boom Length	8.2-10.1 m	27'0"-33'0"
Fuel Capacity	454 L	120 U.S. gal
Variable Displacement Implement Pump	140 cc	
Hydraulic Tank (with filtering of all return oil)	378.4 L	100 U.S. gal



MODEL

550

Weight with Prentice PD-46 Head @ 3 m (10'0") Radius:		
Point A (Rear Axle)	6858 kg	15,120 lb
Point B (Front Axle)	14 479 kg	31,920 lb
Total: with PD-46 Head Installed	21 319 kg	47,040 lb

Track Feller Buncher Heads (Available with Partial Lateral and Full Lateral Tilt)

MODEL	HF 201		HF 221	
Accumulation Area	0.46 m ²	5.0 ft ²	0.51 m ²	5.5 ft ²
Maximum Cut	559 mm	22"	610 mm	24"
Width	1690 mm	66.5"	1800 mm	70.9"
Height	2815 mm	110.8"	3022 mm	119"
Weight (PLT)	3420 kg	7540 lb	3656 kg	8061 lb
Weight (FLT)	3874 kg	8540 lb	4111 kg	9062 lb

Wheel Feller Buncher Heads

MODEL	SH-50		SH-56		SS-56	
Accumulation Area	0.58 m ²	6.2 ft ²	0.65 m ²	7.0 ft ²	0.37 m ²	4.0 ft ²
Maximum Single Cut	508 mm	20"	560 mm	22"	560 mm	22"
Directional Felling Capacity	N/A		N/A		762 mm	30"
Width	1760 mm	69.25"	1613 mm	63.5"	1727 mm	68.0"
Height	2642 mm	104"	2667 mm	105"	2413 mm	95"
Weight	2650 kg	5850 lb	2812 kg	6200 lb	2821 kg	6220 lb

MODEL	RH-54		SC-57	
Accumulation Area	0.58 m ²	6.25 ft ²	0.47 m ²	5.1 ft ²
Maximum Single Cut	533 mm	21"	570 mm	22.4"
Directional Felling Capacity	N/A		N/A	
Width	1930 mm	76.0"	1615 mm	63.6"
Height	2413 mm	95"	3023 mm	119"
Weight	2585 kg	5700 lb	3003 kg	6620 lb

525C/535C/545C Features:**MORE Comfort ... Operator Station**

- Ergonomic improvements like relocation of the dozer control and governor pedal will improve operator comfort and reduce operator fatigue.
- New display cluster, similar to the Cat T-series Track-Type Tractors, allows for easy monitoring of machine operation.

MORE Uptime ... Serviceability/Reliability

- Redesign of engine enclosures allows for easier and faster daily maintenance.
- New environmentally friendly ecology drains on all fluid compartments make changing the fluid easier, reducing down time.
- ToughGuard™ abrasion resistant hoses inside the grapple, arch, boom and across the hitch are more durable allowing them to last longer.
- Hoses located across the hitch area are easier to access reducing maintenance time.
- Caterpillar designed and manufactured structures combined with existing proven power train components maximize performance.

MORE Profit ... New Cat C7 ACERT engine

- New Cat C7 ACERT engine meets EPA Tier 3 emissions regulations and uses a proven system that has been tested and validated.
- C7 ACERT engine delivers proven fuel efficiency, lowering owning and operating costs.

New Cat Grapples

- Wear resistant cast tips and tong redesign allows for increased loading performance and maximum log retention, increasing grapple productivity.
- Dual function arch and cable skidder options available to meet various logging requirements (525C/535C/545C).
- Single function arch and cable skidder options available to meet various logging requirements (525C models only).

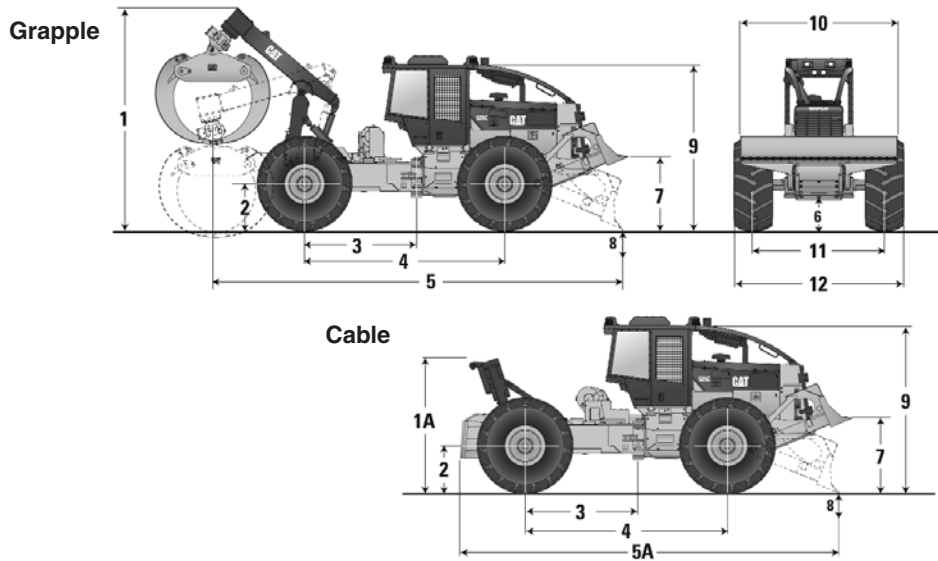
Lock-up torque converter clutch, an industry exclusive on Cat Wheel Skidders, provides operating speed increases with improved power and fuel efficiencies.

Locking differentials — Selectable from the cab to improve traction and control wheel slippage.

MODEL	525C		535C		545C	
Net Flywheel Power	136 kW	182 hp	152 kW	204 hp	163 kW	219 hp
Gross Power — SAE J1995	146 kW	196 hp	162 kW	218 hp	173 kW	232 hp
Operating Weight	17 711 kg	39,045 lb	18 044 kg	39,780 lb	19 198 kg	42,325 lb
Engine Model	C7 ACERT		C7 ACERT		C7 ACERT	
Rated Engine RPM	1800		1800		1800	
Bore	110 mm	4.33"	110 mm	4.33"	127 mm	5"
Stroke	127 mm	5"	127 mm	5"	127 mm	5"
Displacement	7.2 L	439 in³	7.2 L	439 in³	7.2 L	439 in³
No. of Cylinders	6		6		6	
Speeds Forward:						
1st	6.4 km/h	4.0 mph	6.4 km/h	4.0 mph	6.4 km/h	4.0 mph
2nd	9.0 km/h	5.6 mph	9.0 km/h	5.6 mph	9.0 km/h	5.6 mph
3rd	10.9 km/h	6.8 mph	10.9 km/h	6.8 mph	10.9 km/h	6.8 mph
4th	15.3 km/h	9.5 mph	15.3 km/h	9.5 mph	15.3 km/h	9.5 mph
5th	27.5 km/h	17.1 mph	27.5 km/h	17.1 mph	27.5 km/h	17.1 mph
Speeds Reverse:						
1st	6.2 km/h	3.9 mph	6.2 km/h	3.9 mph	6.2 km/h	3.9 mph
2nd	10.5 km/h	6.5 mph	10.5 km/h	6.5 mph	10.5 km/h	6.5 mph
3rd	18.6 km/h	11.6 mph	18.6 km/h	11.6 mph	18.6 km/h	11.6 mph
Maximum Drawbar Pull (based on 6% rolling resistance)		37,500 lb		40,200 lb		41,900 lb
Turning Radius (over 30.5 × 32 tires)	6000 mm	236.2"	6000 mm	236.2"	6400 mm	252"
Capacity:						
Fuel Tank	315 L	83.2 U.S. gal	315 L	83.2 U.S. gal	378 L	99.8 U.S. gal
Cooling System	56.7 L	15 U.S. gal	56.7 L	15 U.S. gal	56.7 L	15 U.S. gal
Hydraulic System — Tank	54 L	14.3 U.S. gal	54 L	14.3 U.S. gal	54 L	14.3 U.S. gal
Hydraulic System — Total	112 L	29.6 U.S. gal	112 L	29.6 U.S. gal	112 L	29.6 U.S. gal
General Dimensions:						
Wheelbase	3534 mm	139.2"	3534 mm	139.2"	3939 mm	155.1"
Width	3398 mm	133.8"	3398 mm	133.8"	3398 mm	133.8"
Height to Top of Cab*	3184 mm	125.4"	3184 mm	125.4"	3184 mm	125.4"
Ground Clearance	581 mm	22.9"	533 mm	21"	533 mm	21"

*Add 188 mm (7.4") if equipped with optional lights or water tank.

WINCH MODEL	525C — Grapple		525C — Cable		535C — Grapple	
Maximum Line Pull — Bare Drum	175 kN	39,342 lb	183.5 kN	41,270 lb	175 kN	39,342 lb
Maximum Line Speed	40.2 m/min	132 fpm	110 m/min	360 fpm	40.2 m/min	132 fpm
Drum Capacity:						
19.0 mm (¾")	47 m	154'0"	45 m	148'0"	47 m	154'0"
22.2 mm (⅞")	30 m	97'0"	32 m	105'0"	30 m	97'0"
25.4 mm (1")	28 m	91'0"	25 m	82'0"	28 m	91'0"
Drum Diameter	229 mm	9"	254 mm	10"	229 mm	9"
Drum Width	279 mm	11"	279 mm	11"	279 mm	11"
WINCH MODEL	535C — Cable		545C — Grapple		545C — Cable	
Maximum Line Pull — Bare Drum	197.5 kN	44,400 lb	175 kN	39,342 lb	204 kN	45,850 lb
Maximum Line Speed	110 m/min	360 fpm	40.2 m/min	132 fpm	110 m/min	360 fpm
Drum Capacity:						
19.0 mm (¾")	45 m	148'0"	47 m	154'0"	45 m	148'0"
22.2 mm (⅞")	32 m	105'0"	30 m	97'0"	32 m	105'0"
25.4 mm (1")	25 m	82'0"	28 m	91'0"	25 m	82'0"
Drum Diameter	254 mm	10"	229 mm	9"	254 mm	10"
Drum Width	279 mm	11"	279 mm	11"	279 mm	11"

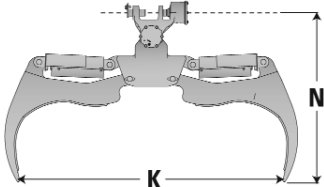
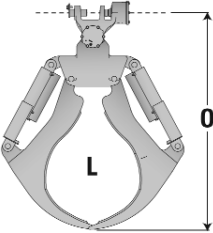
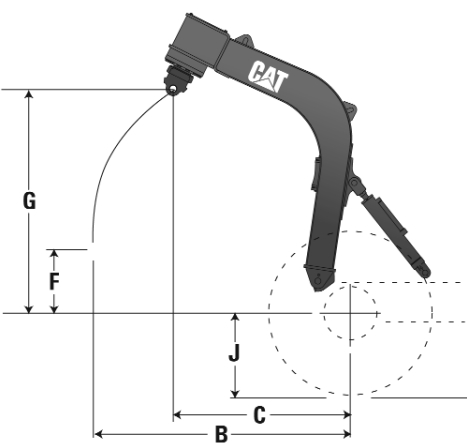


MODEL	525C		535C		545C	
1 Ground Level to Top of Boom (Grapple)	—		—		4302 mm	169.4"
Dual Function	4103 mm	161.5"	—		—	
Single Function	3760 mm	148"	—		—	
Standard Boom	—		4103 mm	161.5"	—	
Extended Boom	—		4303 mm	169.4"	—	
1A Ground Level to Top Roller (Cable)	2794 mm	110"	2794 mm	110"	2771 mm	109"
2 Ground Level to Axle Center Line (with 30.5 × 32 tires)	843 mm	33.2"	843 mm	33.2"	843 mm	33.2"
3 Rear Axle Center Line to Pin	1798 mm	70.8"	1798 mm	70.8"	2203 mm	86.7"
4 Wheelbase	3534 mm	139.2"	3534 mm	139.2"	3939 mm	155.1"
5 Overall Length (Grapple)	—		—		8028 mm	316"
Dual Function	7626 mm	300.2"	—		—	
Single Function	8369 mm	329.4"	—		—	
Standard Boom	—		7626 mm	300.2"	—	
Extended Boom	—		7514 mm	295.8"	—	
5A Overall Length (Cable)	6945 mm	273.4"	6945 mm	273.4"	7514 mm	295.8"
6 Ground Clearance	581 mm	22.9"	533 mm	21.0"	533 mm	21.0"
7 Decking Blade Lift Height	1381 mm	54.4"	1381 mm	54.4"	1381 mm	54.4"
8 Decking Blade Dig Depth	456 mm	17.9"	456 mm	17.9"	456 mm	17.9"
9 Height to Top of Cab*	3184 mm	125.4"	3184 mm	125.4"	3184 mm	125.4"
10 Decking Blade Width	3138 mm	123.5"	3138 mm	123.5"	3138 mm	123.5"
11 Tread Width	2622 mm	103.2"	2622 mm	103.2"	2622 mm	103.2"
12 Overall Width	3398 mm	133.8"	3398 mm	133.8"	3398 mm	133.8"

*Add 188 mm (7.4") if equipped with optional lights or water tank.

Single-function arch

- Versatile attachment suitable for selection or clear cut applications. Reach consists of one vertical arc and typical application is short cycles and/or larger diameter timber.



360° Sorting
Grapple
for 525C

		A	B	C	D	E	F	G	H	J	K	M	N	O	P	L
2.54 m (100")	mm		2521	1630			600	2212		843	2540		1590	2045		0.83 m ²
Sorting	in		99.3	64.2			23.6	87.1		33.2	100		62.6	80.5		9 ft ²

Standard Grapple

- Normal skidding
- Multipurpose applications
- Includes final harvest
- Heavier Wood
 - larger diameter stems
 - tall timber
 - high density wood

Thinning Special Grapple*

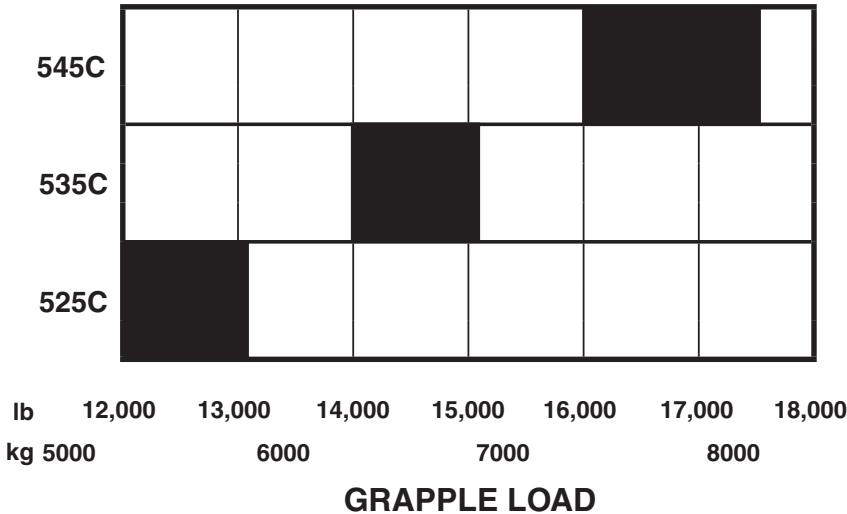
- Special skidding
- Thinning or lighter stems
- Does not include final harvest
- Lighter individual stems
 - smaller diameter stems
 - shorter timber
 - lower density wood
- For large number of smaller stems/load

*Large stems can be skidded, but the grapple will not appear full and must not be filled to area capacity. See recommended load ranges for wheel skidders.

Determine proper grapple selection based on:

Log Size: Diameter, Length, Density, Load Weight
Site Conditions: Slope, Ground Conditions, Traction

**RECOMMENDED LOAD RANGES FOR
C-SERIES WHEEL SKIDDERS**



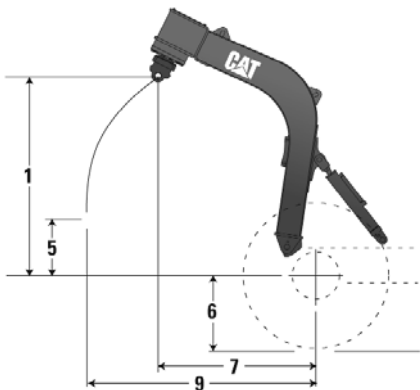
Performance on steeper grades limits recommended capacity capability for good performance, so select the next larger machine for tougher site conditions or skid less load per drag to keep speed up and maximize productivity.

New Cat Continuous Rotate (CCR) Grapple

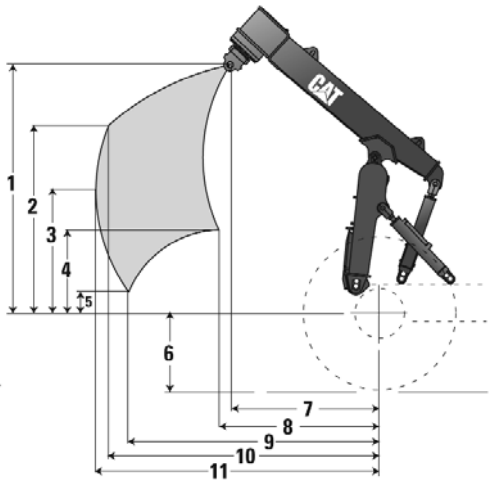
CCR Grapples for Cat 545C, 535C and 525C Wheel Skidders are sourced out of LaGrange, GA for factory installation.

The CCR Grapple has an indexer rotator SR21 with high bearing capacity and improved motor torque. Caterpillar pins are used in the snubber, head and grapples frame. The following contains information on the available models, which are presented here to suggest a range of grapple possibilities.

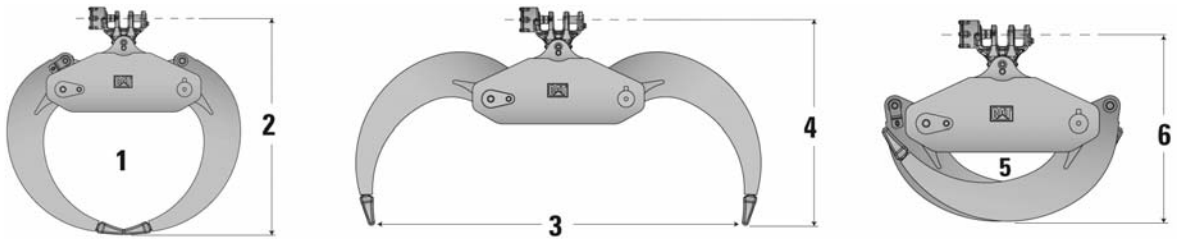
Single Function Frame Group



Dual Function Frame Group



MODEL	525C		535C		545C	
	Single Function	Dual Function	Standard Boom	Extended Boom	Continuous Rotation	
1 Lift highest, retracted	2212 mm 87.1"	2623 mm 103.3"	2623 mm 103.3"	2847 mm 112.1"	2817 mm 111"	
2 Lift highest, farthest	—	1944 mm 76.5"	1944 mm 76.5"	2192 mm 86.3"	2163 mm 85"	
3 Lift maximum reach	—	1336 mm 52.6"	1336 mm 52.6"	1336 mm 52.6"	1443 mm 57"	
4 Lift lowest, retracted	—	752 mm 29.6"	752 mm 29.6"	764 mm 30.1"	1014 mm 40"	
5 Lift lowest, farthest	600 mm 23.6"	259 mm 10.2"	259 mm 10.2"	286 mm 11.3"	335 mm 13"	
6 Loaded tire radius (with 30.5 × 32 tires)	843 mm 33.2"	843 mm 33.2"	843 mm 33.2"	843 mm 33.2"	843 mm 33"	
7 Reach highest, retracted	1630 mm 64.2"	1513 mm 59.6"	1513 mm 59.6"	1546 mm 60.9"	1653 mm 65"	
8 Reach lowest, retracted	—	1469 mm 57.8"	1469 mm 57.8"	1666 mm 65.6"	1775 mm 70"	
9 Reach lowest, farthest	2521 mm 99.3"	2488 mm 98.0"	2488 mm 98.0"	2706 mm 106.5"	2762 mm 109"	
10 Reach highest, farthest	—	2765 mm 108.9"	2765 mm 108.9"	2825 mm 111.2"	2978 mm 117"	
11 Reach maximum	—	2880 mm 113.4"	2880 mm 113.4"	3037 mm 119.6"	3121 mm 123"	



6

**Continuous Rotate
Grapples for 525C**

	1	2	3	4	5	6
1.16 m ² (12.5 ft ²) Bunching	1.16 m ² 12.5 ft ²	1920 mm 75.6"	3050 mm 120"	1677 mm 66"	155 mm 6"	1285 mm 50.6"
1.34 m ² (14.4 ft ²) Thinning*	1.34 m ² 14.4 ft ²	1981 mm 78"	3124 mm 123"	1832 mm 72.1"	190 mm 7.5"	1371 mm 54"

**Continuous Rotate
Grapples for 535C**

	1	2	3	4	5	6
1.34 m ² (14.4 ft ²) Bunching	1.34 m ² 14.4 ft ²	1981 mm 78"	3124 mm 123"	1832 mm 72.1"	190 mm 7.5"	1371 mm 54"
1.54 m ² (16.6 ft ²) Thinning*	1.54 m ² 16.6 ft ²	2108 mm 83"	3226 mm 127"	1905 mm 75"	183 mm 7.2"	1371 mm 54"

**Continuous Rotate
Grapples for 545C**

	1	2	3	4	5	6
1.54 m ² (16.6 ft ²) Bunching	1.54 m ² 16.6 ft ²	2108 mm 83"	3226 mm 127"	1905 mm 75"	183 mm 7.2"	1371 mm 54"
1.78 m ² (19 ft ²) Thinning*	1.78 m ² 19 ft ²	2159 mm 85"	3429 mm 135"	1880 mm 74"	241 mm 9.5"	1473 mm 58"

*Thinning Grapple is intended only for use in thinning applications.

KEY

- 1 — Grapple capacity
- 2 — Tip to tip height
- 3 — Tong opening
- 4 — Full open height
- 5 — Minimum stem diameter
- 6 — Fully closed height

Features 517 and 527:

- **Field proven Cat 3304 diesel engine** sets the industry standard for reliability and durability, delivering high horsepower for more drawbar pull, improved skidding performance and ease of operation.
- **Large, heavy duty torque converter**, reduces the tendency for track-to-ground slip, reduces the need for up and downshifting and protects power train components contributing to longer component life.
- **3 speed planetary powershift transmission** works best in high-pull applications and is well suited for large load and steep terrain skidding.
- **Heavy-duty track roller frame** extended to the rear significantly improves traction capability under heavy loads and uphill skidding applications.
- **Wide gauge and long track roller frames** provide outstanding sidehill stability.
- **Improved flotation** — More track on the ground distributes tractor weight and propulsion forces over a much larger area than conventional track skidders. This improves flotation capabilities, gradeability and significantly reduces soil impact.
- **Expanded track options** are available.
- **Load sensing hydraulic system** — Variable displacement pressure compensating hydraulic system provides reduced power requirements when there is not hydraulic demand, significantly reduced heat generation, and improving fuel efficiency.
- **Auto-grab feature** — provides constant grapple tong pressure without continuous hydraulic pump demand.
- **Superior component durability** — Final drives are raised above the work area, isolating the power train from ground impact shock and abrasive materials.
- **Excellent ground clearance** — no diagonal braces allow the skidder to pass over stumps and debris, reduces maneuvering for reduced cycle times and minimizes soil impact.
- **Smooth belly pans** — Less likely to hang up in mud and debris in soft ground or swamp logging applications.
- **Easy and comfortable operating environment** — ROPS/FOPS cab allows excellent front and rear viewing, and is pressurized for sound level reduction. The seat is angled and controls are easily reached to reduce operator fatigue and increase productivity.
- **Single lever** grapple control and blade control.
- **Less service time** — Major components are made as modules and most can be removed without removing others, and ground-level access provides convenient servicing to most filters and lube points.
- **Single-Function Arch and Swing Boom** configurations provide the versatility needed to match the skidder to a wide variety of skidding applications.

MODEL	517 Cable		517 Grapple		527 Cable		527 Grapple	
Net Flywheel Power	89.5 kW	120 hp	89.5 kW	120 hp	112 kW	150 hp	112 kW	150 hp
Operating Weight*	17 330 kg	38,200 lb	18 364 kg	40,450 lb	17 236 kg	38,000 lb	21 380 kg	47,140 lb
Engine Model	3304 DITA		3304 DITA		3304 DITA		3304 DITA	
Rated Engine RPM	2200		2200		2200		2200	
Bore	120.65 mm	4.75"	120.65 mm	4.75"	120.65 mm	4.75"	120.65 mm	4.75"
Stroke	152.4 mm	6"	152.4 mm	6"	152.4 mm	6"	152.4 mm	6"
Displacement	7 L	425 in³	7 L	425 in³	7 L	425 in³	7 L	425 in³
No. of Cylinders	4		4		4		4	
Speeds Forward:								
1st	3.7 km/h	2.3 mph	3.7 km/h	2.3 mph	3.7 km/h	2.3 mph	3.7 km/h	2.3 mph
2nd	6.6 km/h	4.1 mph	6.6 km/h	4.1 mph	6.6 km/h	4.1 mph	6.6 km/h	4.1 mph
3rd	11.5 km/h	7.1 mph	11.5 km/h	7.1 mph	11.5 km/h	7.1 mph	11.5 km/h	7.1 mph
Speeds Reverse:								
1st	4.6 km/h	2.8 mph	4.6 km/h	2.8 mph	4.6 km/h	2.8 mph	4.6 km/h	2.8 mph
2nd	8.0 km/h	5.0 mph	8.0 km/h	5.0 mph	8.3 km/h	5.1 mph	8.3 km/h	5.1 mph
3rd	14.2 km/h	8.8 mph	14.2 km/h	8.8 mph	14.6 km/h	9.0 mph	14.6 km/h	9.0 mph
Track Roller Frame	7 or 8		7 or 8		7 or 8		7 or 8	
Width of Standard Track Shoe	660 mm	2'2"	660 mm	2'2"	560 mm	1'10"	560 mm	1'10"
Length of Track on Ground	2.91 m	9'7"	2.91 m	9'7"	2.85 m	9'4"	2.85 m	9'4"
Ground Contact Area (with Standard Shoe)	3.52 m ²	5458 in²	3.52 m ²	5458 in²	3.19 m ²	4940 in²	3.19 m ²	4940 in²
Track Gauge	2 m	6'7"	2 m	6'7"	2.16 m	7'1"	2.16 m	7'1"
Oscillation:								
Front Idlers at Gauge Line	143.2 mm	5.64"	143.2 mm	5.64"	—		—	
At Pivot Shaft	±2.8°		±2.8°		—		—	
Winch:								
Line Pull, Maximum at Stall Bare Drum**	31 260 kg	68,780 lb	—		31 389 kg	69,200 lb	31 389 kg	69,200 lb
Line Speed at Rated Engine RPM, Bare Drum**	40.5 m/min	133 fpm	—		44 m/min	143 fpm	44 m/min	143 fpm
Winch Weight	1500 kg	3300 lb	—		1500 kg	3300 lb	1500 kg	3300 lb
Recommended Drum Capacity	122 m	400'0"	—		122 m	400'0"	122 m	400'0"
Optional Drum Capacity	88 m	290'0"	—		88 m	290'0"	88 m	290'0"
Recommended Cable Size	19 mm	0.75"	—		19 mm	0.75"	19 mm	0.75"
Optional Cable Size	22 mm	0.88"	—		22 mm	0.88"	22 mm	0.88"
Drum Diameter	254 mm	10"	—		254 mm	10"	254 mm	10"
General Dimensions:								
Height (To Top of ROPS)	2.48 m	8'1"	2.48 m	8'1"	3.30 m	10'10"	3.30 m	10'10"
Overall Length (with Blade)	4.97 m	16'4"	5.75 m	18'10"	4.94 m	16'3"	6.07 m	19'11"
(without Blade)	4.10 m	13'5"	4.87 m	16'0"	4.35 m	14'3"	5.6 m	18'5"
Width (without Trunnion)	2.91 m	9'7"	2.91 m	9'7"	2.72 m	8'11"	2.72 m	8'11"
Ground Clearance	635 mm	2'1"	635 mm	2'1"	531.8 mm	2'4"	531.8 mm	20.9"
Capacity:								
Fuel Tank	260 L	69 U.S. gal	260 L	69 U.S. gal	260 L	69 U.S. gal	284 L	75 U.S. gal
Cooling System	38 L	10 U.S. gal	38 L	10 U.S. gal	—		—	
Hydraulic Tank	29.5 L	7.8 U.S. gal	29.5 L	7.8 U.S. gal	—		—	
PAT Blade Widths:								
Straight	2.74 m	9'0"	2.74 m	9'0"	3.35 m	11'0"	3.17 m	10'5"
Angle (25°)	2.48 m	8'1"	2.48 m	8'1"	3.10 m	10'2"	2.92 m	9'7"

*All models include coolant, lubricants, full fuel tank, and operator.

517 Cable includes enclosed cab and 4PAT blade.

517 Grapple includes enclosed cab, 4PAT blade, swing boom, and 0.74 m² (8 ft²) grapple.

527 Cable includes lubricants, coolant, ROPS canopy, 100% fuel, operator, 5A blade, open cab, and towing winch.

527 Grapple includes lubricants, coolant, ROPS canopy, 100% fuel, operator, 5P blade, track roller guard, 660 mm (2'2") tri-link track, swing grapple, 2.54 m (100") sorting head, and enclosed cab.

**With 22 mm (0.88") cable.

MODEL	517 (7-roller track frame)		517 (8-roller track frame)		527 (7-roller track frame)		527 (8-roller track frame)	
Number of Shoes (each side)	42		44		41		—	
Width of Shoes	560 mm	22"	—		560 mm	22"	—	
	610 mm	24"	—		610 mm	24"	—	
	660 mm	26"	660 mm	26"	660 mm	26"	660 mm	26"
	760 mm	30"	760 mm	30"	760 mm	30"	760 mm	30"
Length of Track on Ground	2710 mm	106.7"	2910 mm	114.6"	2846 mm	112"	3061 mm	121"
Track Gauge	2000 mm	78.7"	2000 mm	78.7"	2160 mm	85"	2160 mm	85"
Ground Contact Area with:								
560 mm (22") Shoes	3.03 m ²	4695 in ²	—		3.19 m ²	4945 in ²	3.43 m ²	5317 in ²
610 mm (24") Shoes	3.30 m ²	5122 in ²	—		3.47 m ²	5379 in ²	3.73 m ²	5782 in ²
660 mm (26") Tri-link	3.58 m ²	5548 in ²	3.84 m ²	5959 in ²	3.76 m ²	5828 in ²	4.04 m ²	6262 in ²
760 mm (30") Tri-link	4.13 m ²	6402 in ²	4.44 m ²	6876 in ²	4.33 m ²	6712 in ²	4.65 m ²	7208 in ²
Ground Pressure (Grapple):								
560 mm (22") Shoes	0.55 kg/cm ² *	7.83 psi	—		0.60 kg/cm ²	8.53 psi	—	
610 mm (24") Shoes	0.50 kg/cm ² *	7.22 psi	—		0.55 kg/cm ²	7.82 psi	—	
660 mm (26") Tri-link	0.50 kg/cm ² *	7.16 psi	0.48 kg/cm ²	6.79 psi	0.51 kg/cm ²	7.25 psi	—	
760 mm (30") Tri-link	0.44 kg/cm ² *	6.29 psi	0.42 kg/cm ²	5.96 psi	0.44 kg/cm ²	6.26 psi	—	
Ground Pressure (Cable):								
560 mm (22") Shoes	0.52 kg/cm ² **	7.35 psi	—		0.56 kg/cm ²	7.97 psi	—	
610 mm (24") Shoes	0.47 kg/cm ² **	6.64 psi	—		0.52 kg/cm ²	7.40 psi	—	
660 mm (26") Tri-link	0.47 kg/cm ² **	6.75 psi	0.45 kg/cm ²	6.41 psi	0.48 kg/cm ²	6.83 psi	—	
760 mm (30") Tri-link	0.42 kg/cm ² **	5.94 psi	0.40 kg/cm ²	5.64 psi	0.41 kg/cm ²	5.83 psi	—	

*Machine configured with enclosed cab, PAT blade, swing boom and 0.74 m² (8 ft²) sorting grapple.

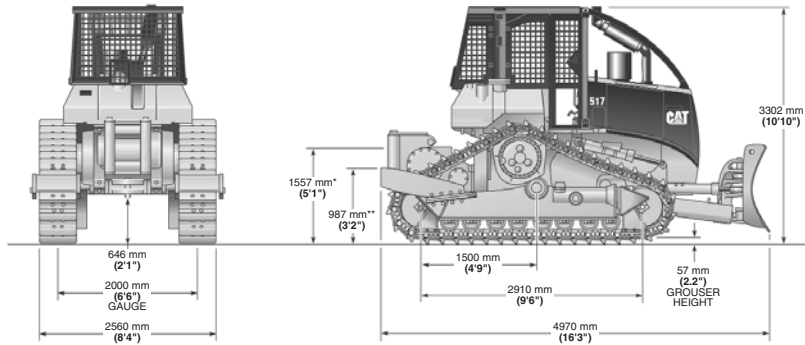
**Machine configured with enclosed cab, PAT blade and winch.

MODEL	517 Cable		527 Grapple		527 Cable	
Maximum Line Pull	31 264 kg	* 68,782 lb	19 504 kg	43,000 lb	31 389 kg	69,200 lb
Maximum Line Speed	40.5 m/min	* 133 fpm	71.6 m/min	235 fpm	43.6 m/min	143 fpm
Drum Capacity:						
Recommended	122 m	400'0"	91 m @ 16 mm	298'0" @ 0.62"	122 m	400'0"
Optional	88 m	290'0"	64 m @ 19 mm	210'0" @ 0.75"	—	
Cable Size:						
Recommended	19 mm	0.75"	16 mm	0.62"	19 mm	0.75"
Optional	22 mm	0.88"	19 mm	0.75"	—	
Drum Diameter	254 mm	10.0"	191 mm	7.5"	254 mm	10.0"
Drum Width	330 mm	13.0"	241 mm	9.5"	330 mm	13.0"
Drive	—		Mechanical		—	
Weight	1500 kg	3300 lb	469 kg	1034 lb	1497 kg	3300 lb

*With 22 mm (0.88") cable.

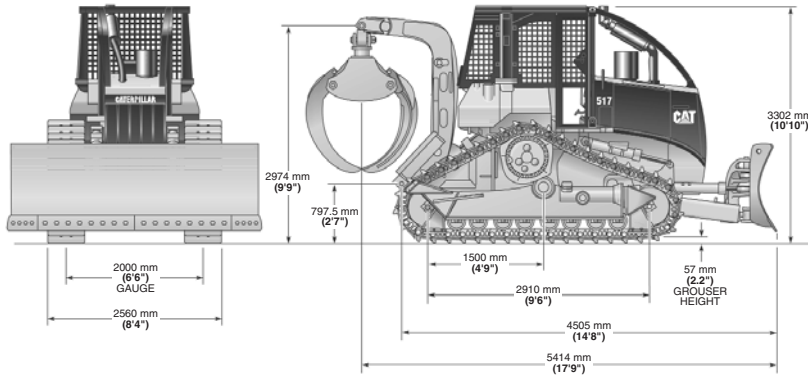
MACHINE DIMENSIONS (All dimensions are approximate.)

Cable:

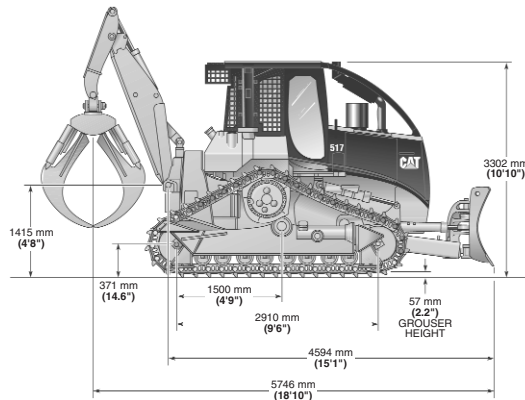


*Top of drum.
**Top of guard.

Fixed Grapple:

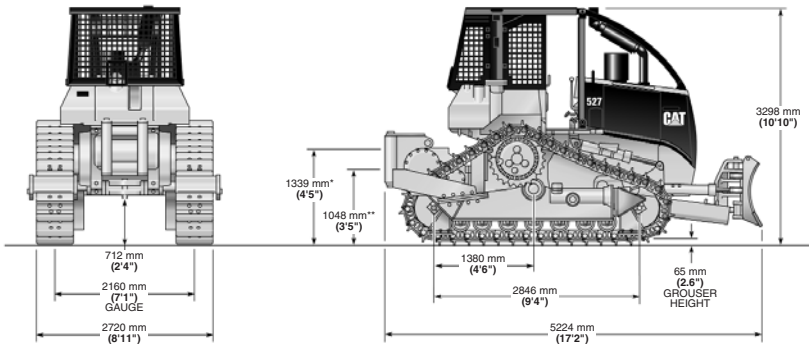


Swing Boom:



MACHINE DIMENSIONS (All dimensions are approximate.)

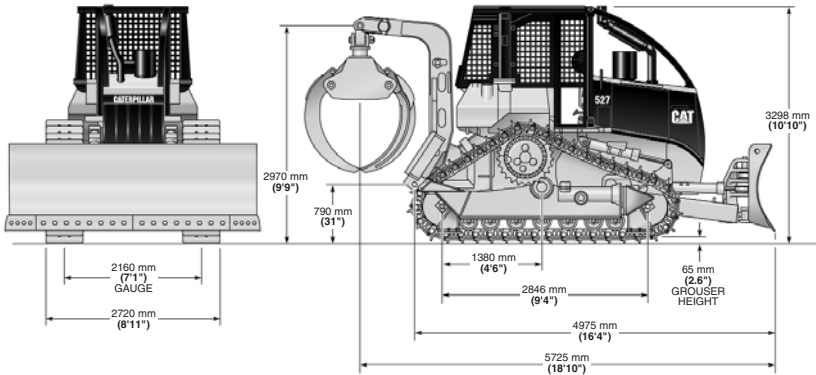
Cable:



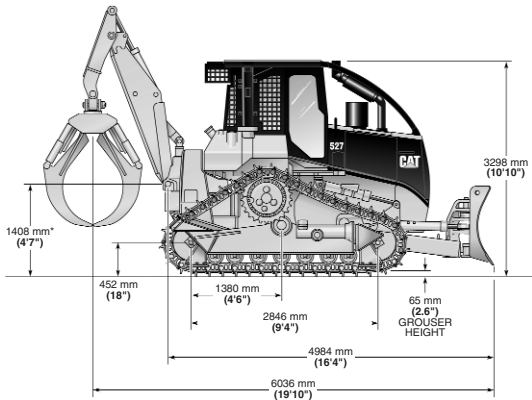
*Top of drum.

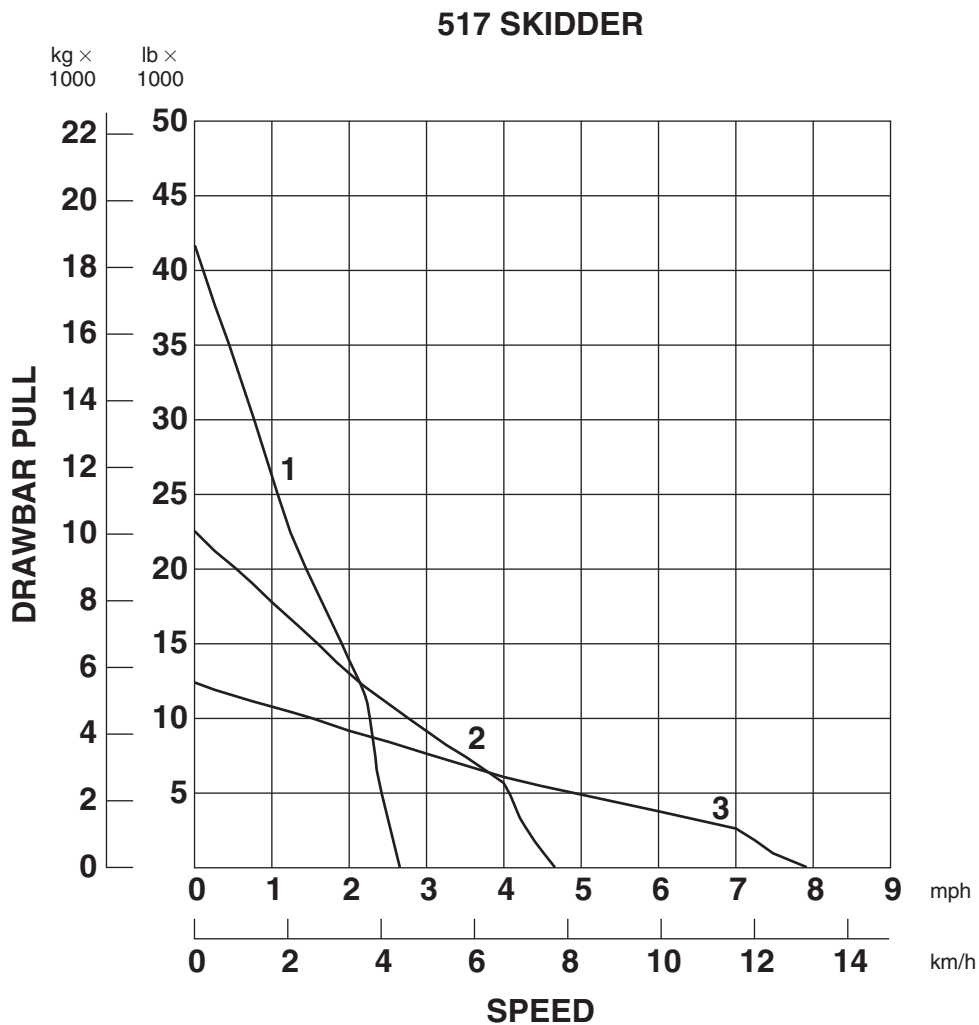
**Top of guard.

Fixed Grapple:



Swing Boom:

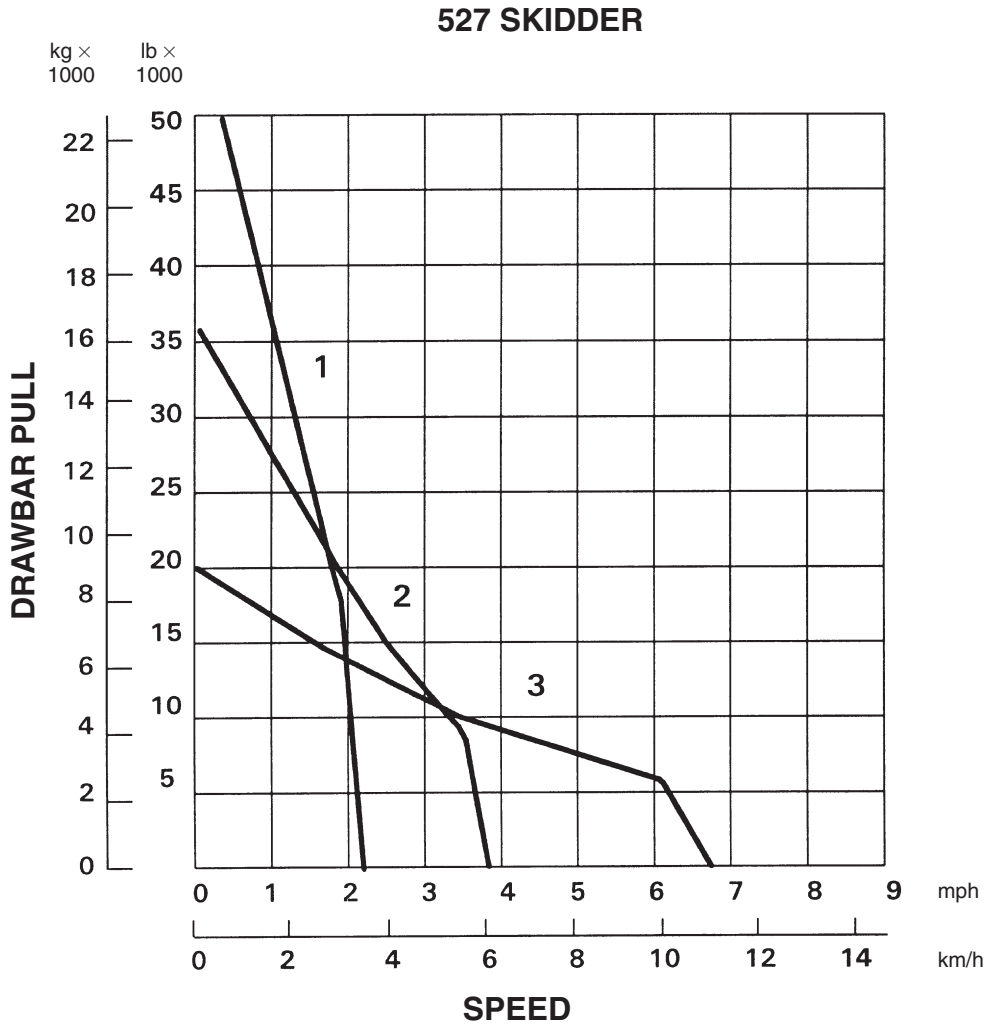




KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear

NOTE: Usable pull will depend upon weight and traction of equipped tractor.



KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear

NOTE: Usable pull will depend upon weight and traction of equipped tractor.

GRAPPLES

Fixed boom Grapples for Cat 517 and 527 Skidders are built and supplied by Caterpillar. Swing boom grapples are built to Caterpillar specifications. The following contains information on some of the available models, which are presented here to suggest a range of grapple possibilities.

Reach (A, B) — The horizontal distance from the vertical center of the rear idler to the vertical center of the grapple fore and aft pivot.

- A) With the grapple in its lowest fully extended position.
- B) With the grapple in its highest fully retracted position.

Lift (C, E) — The vertical distance from the ground to the center of the grapple fore and aft pivot.

- C) With the grapple in its lowest fully extended position.
- E) With the grapple in its highest fully retracted position.

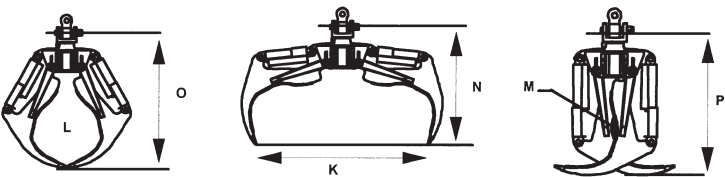
Maximum Grapple Opening (K) — The horizontal distance between the tips of the grapple arms when grapple is fully open.

Area of Opening (L) — The available area with grapple in tips together position.

Minimum Log Size (M) — The smallest diameter which the grapple can close.

Grapple Length (N, O, P) — The distance from the grapple fore and aft pivot to tips of grapple arms.

- N) With grapple fully open.
- O) With grapple in tips together position.
- P) With grapple fully closed.

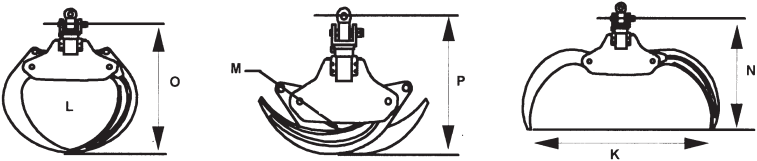


Sorting Grapple

- Used for 305 mm (12") or larger diameter trees.
- Designed to pick up individual or several stems for quick cycles.

Bunching Grapple

- Used for 305 mm (12") or smaller diameter trees.
- Designed to gather bundle of stems and maximize grapple loads.



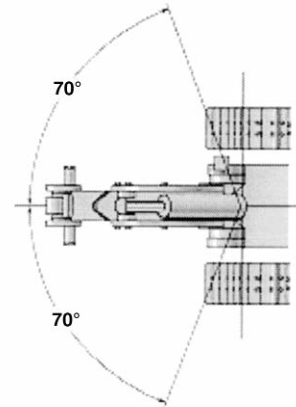
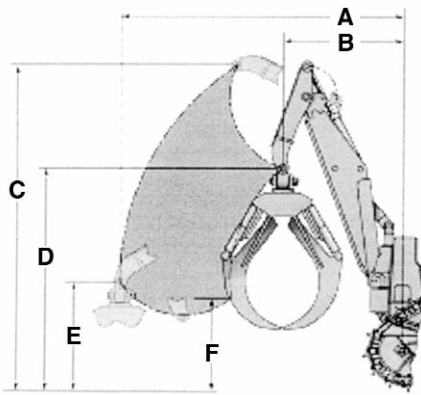
Grapples for 517		K	M	N	O	P	L
2.13 m (84") Sorting	mm	2130	76	1680	1980	1740	0.74 m ²
	in	84	3	66	78	68.5	8 ft ²
2.29 m (90") Bunching	mm	2290	102	1640	1920	1310	0.74 m ²
	in	90	4	64	75	51	8 ft ²

Grapples for 527		K	M	N	O	P	L
2.54 m (100") Sorting	mm	2540	76	1560	2040	1830	0.84 m ²
	in	100	3	61.5	80.5	72	9 ft ²
2.79 m (110") Bunching	mm	2794	76	1780	2020	1360	0.93 m ²
	in	110	3	70	79.5	53.5	10 ft ²

Swing-boom

- Ability to reach and lift over the side to collect scattered logs.
- Has decking and loading capability.
- Excellent reach to the rear and side for maximum skidder versatility.

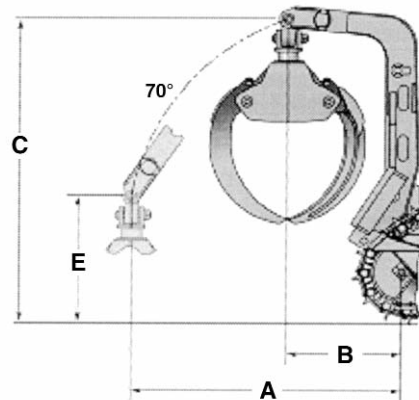
- Suitable for hard to reach timber on steep slopes, soft ground, or selection harvest and thinning.
- Reduces cycle times by reducing the amount of maneuvering of the skidder to reach logs.



Swing-boom		A	B	C	D	E	F
517	mm	3601	1500	4115	2748	1491	1249
	in	142	59	162	108	59	49
527	mm	3601	1500	4107	2741	1483	1242
	in	142	59	162	108	58	49

Single-function arch

- Versatile attachment suitable for selection and clear cut applications.
- Reach consists of one vertical arc.
- Typical application includes short cycles and and/or larger diameter timber.



Single-function		A	B	C	D	E	F
517	mm	2465	909	2974	—	1000	—
	in	96	36	117	—	39	—
527	mm	2619	1105	2970	—	1231	—
	in	103	44	117	—	49	—

534/544/564/574 Features:

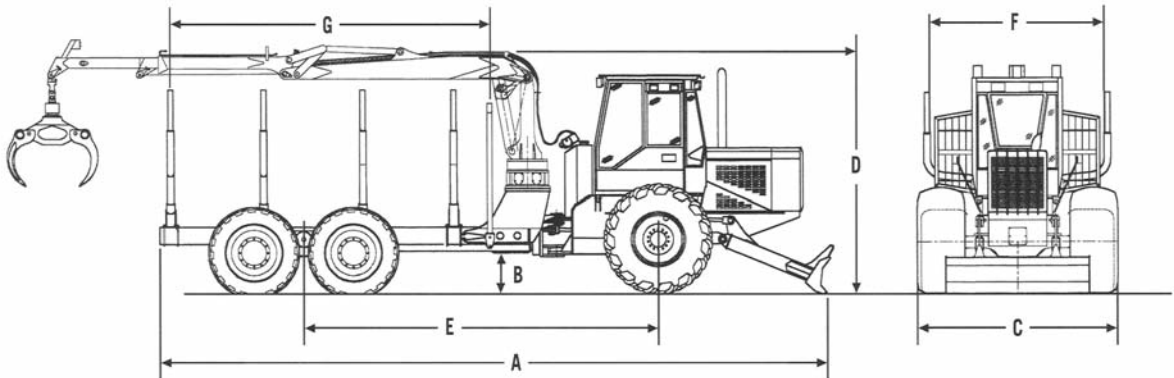
- **Field-proven Cat engines with ACERT Technology**, along with a torque converter power shift transmission.
- **Large high visibility cab** with scratch resistant 1.27 cm (0.5 in) tinted polycarbonate windows and side windows with escape.
- **Hydraulic tilt** gives complete under cab service access.
- **Extra heavy frame** with full 40 degree articulation for tight turning.
- **Purpose-built blade** with wear resistant front cutting edge.
- **Rear mounted loader** with durable rack and pinion swing system.
- **Full load high reach boom.**
- **250 degree rotation.**
- **European style butt-bypass clam** built with high strength steel dampener.

MODEL	534 (4-wheel)		544 (6-wheel)		564 (6-wheel)		574 (8-wheel)	
Gross Power	93 kW	125 hp	93 kW	125 hp	129 kW	173 hp	129 kW	173 hp
Operating Weight	12 247 kg	27,000 lb	14 062 kg	31,000 lb	16 330 kg	36,000 lb	17 237 kg	38,000 lb
Engine Model	C4.4 ACERT		C4.4 ACERT		C6.6 ACERT		C6.6 ACERT	
Maximum Forward Speed	23.3 km/h	14.5 mph	23.3 km/h	14.5 mph	23.3 km/h	14.5 mph	23.3 km/h	14.5 mph
Loader Reach	6900 mm	22'9"	6900 mm	22'9"	6.9 m	22'9"	6.9 m	22'9"
Load Capacity	7258 kg	16,000 lb	10 866 kg	24,000 lb	13 608 kg	30,000 lb	14 525 kg	32,000 lb
Fuel Capacity	178 L	47.0 U.S. gal	178 L	47.0 U.S. gal	178 L	47 U.S. gal	178 L	47 U.S. gal
Transmission	Electric Powershift		Electric Powershift		Electric Powershift		Electric Powershift	
General Dimensions:								
Wheelbase	3835 mm	151"	5334 mm	210"	5334 mm	210"	5334 mm	210"
Ground Clearance	549 mm	21.6"	579 mm	22.8"	579 mm	22.8"	579 mm	22.8"

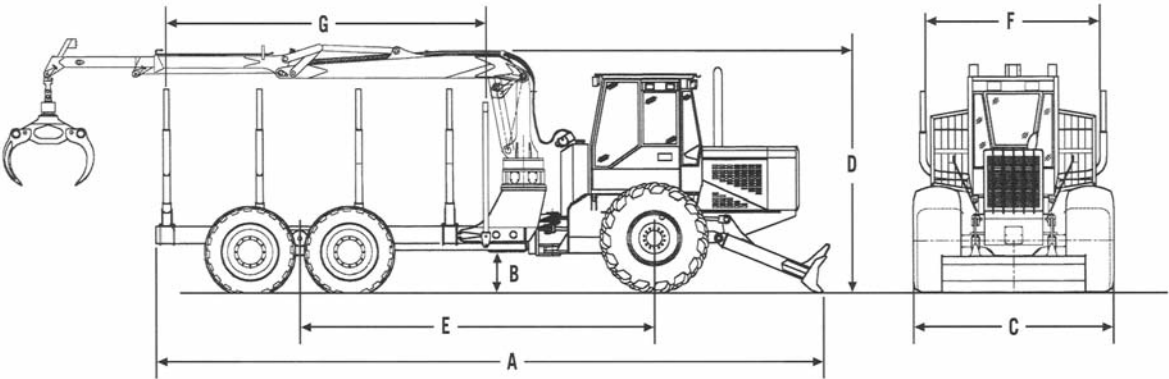
584/584HD Features:

- **Cat C7 ACERT engine** with 1800 rpm rating and excellent torque in the 1400 to 1600 rpm range for increased fuel efficiency.
- **Enlarged hydraulic cooling capacity** to provide high heat rejection capability for extended component life.
- **Hydraulic driven cooling fan** with speed modulation for reduced fuel consumption and maintaining optimal system temperatures for better component performance.
- **Hydrostatic drive system** for infinitely variable speed at peak power and dynamic braking for steep terrain.
- **8.5C drive line components** provide superior strength and service life for reduced maintenance costs.
- **Robust front and rear frame structures** provide the ability to rebuild/relife to reduce overall ownership costs and increase resale values.
- **Heavy duty cast articulation and large oscillation bearing** designed to provide a long service life.
- **Ergonomic cab** with automatic temperature control, air suspension seat, storage compartments, and low effort joy stick controls.
- **Drop down side window** design for enhanced visibility to the work area close to the machine and in front of all wheels.
- **Front entry door** provides easy access off of a hydraulic lift stairway and platform.
- **Forward tilting engine hood and hydraulic tilt cab** for easy service access.

MODEL	584 (6-wheel)		584 (8-wheel)		584HD (8-wheel)	
Gross Power	204 kW	274 hp	204 kW	274 hp	204 kW	274 hp
Operating Weight	20 230 kg	44,600 lb	22 498 kg	49,600 lb	23 088 kg	50,900 lb
Engine Model	C7 ACERT		C7 ACERT		C7 ACERT	
Maximum Tractive Force	210 kN	47,169 lb·f	210 kN	47,169 lb·f	226 kN	50,864 lb·f
Maximum Speed	22.5 km/h	14.0 mph	22.5 km/h	14.0 mph	20.9 km/h	13.0 mph
STD Loader Reach	7.8 m	25.6 ft	7.8 m	25.6 ft	7.8 m	25.6 ft
Loader Lifting Torque (gross)	151 kN·m	111,372 lb·f·ft	151 kN·m	111,372 lb·f·ft	151 kN·m	111,372 lb·f·ft
Load Capacity	18 000 kg	39,683 lb	18 000 kg	39,683 lb	20 000 kg	44,092 lb
Fuel Capacity	255 L	67.3 U.S. gal	255 L	67.3 U.S. gal	255 L	67.3 U.S. gal
Transmission	2 speed hydrostatic		2 speed hydrostatic		2 speed hydrostatic	
General Dimensions:						
Wheelbase	6096 mm	240"	6096 mm	240"	6096 mm	240"
Bogie Spread (center to center)	1690 mm	66.5"	1690 mm	66.5"	1890 mm	74.4"
Ground Clearance	692 mm	27.3"	692 mm	27.3"	692 mm	27.3"



MODEL	534 (4-wheel)		544 (6-wheel)		564 (6-wheel)		574 (8-wheel)	
A Length with:								
2.92 m (9.6') Load Deck	7840 mm	309"	—		—		—	
3.35 m (11.5') Load Deck	8430 mm	332"	—		—		—	
4.88 m (16') Load Deck	9880 mm	389"	9750 mm	384"	10 210 mm	402"	10 210 mm	402"
5.64 m (18.5') Load Deck	—		—		10 970 mm	432"	10 970 mm	432"
B Ground Clearance	549 mm	21.6"	579 mm	22.8"	579 mm	22.8"	579 mm	22.8"
C Width with Standard Tires	2642 mm	104"	2642 mm	104"	2997 mm	118"	3048 mm	120"
D Transport Height	3454 mm	136"	3581 mm	141"	3581 mm	141"	3581 mm	141"
E Wheelbase with:								
2.92 m (9.6') Load Deck	3835 mm	151"	—		—		—	
3.35 m (11.5') Load Deck	4394 mm	173"	—		—		—	
4.88 m (16') Load Deck	5385 mm	212"	5334 mm	210"	5334 mm	210"	5334 mm	210"
5.64 m (18.5') Load Deck	—		—		5715 mm	225"	5715 mm	225"
F Load Stake Width (Inside)	2362 mm	93"	2362 mm	93"	2591 mm	102"	2591 mm	102"
G Length of Standard Wood Bunk	2920 mm	9.6'	4880 mm	16'	4880 mm	16'	4880 mm	16'
Optional Length 1	3350 mm	11.5'	—		5640 mm	18.5'	5640 mm	18.5'
Optional Length 2	4880 mm	16'	—		—		—	



MODEL	584 (6-wheel)		584 (8-wheel)		584HD (8-wheel)	
A Length with Blade	11 755 mm	463"	11 755 mm	463"	11 755 mm	463"
B Ground Clearance	692 mm	27.3"	692 mm	27.3"	692 mm	27.3"
C Width with Standard Tires	3180 mm	125.2"	3180 mm	125.2"	3180 mm	125.2"
D Transport Height	4163 mm	163.9"	4163 mm	163.9"	4163 mm	163.9"
E Wheelbase	6096 mm	240"	6096 mm	240"	6096 mm	240"
F Load Stake Width (Inside) with:						
Standard Bunk	2769 mm	109"	2769 mm	109"	2769 mm	109"
Optional Bunk	3264 mm	128.5"	3264 mm	128.5"	3264 mm	128.5"
G Length of Wood Bunk	5410 mm	213"	5410 mm	213"	5410 mm	213"

Introduction

Cat forestry machines are specifically designed for tough forest work. Each model uses purpose built booms, sticks and grapples designed by Caterpillar for maximum performance and durability.

The following information provides features, specifications, dimensions, working ranges and major component weights for the 320D FM, 324D FM, 325D FM and 330D FM.

Features

320D FM

- **The Cat C6.4 engine** provides power, low emissions, outstanding reliability, and maximizes fuel economy.
- **Various configurations** for demanding applications.
- **Rugged undercarriage design and proven structural components** provide outstanding durability.
- **Track roller frames** are robot-welded and pressed formed, pentagonal units to deliver exceptional strength and service life.
- **Undercarriage** — Forestry machine configuration options allow you to choose the right machine for your application.
- **Operator station** — Redesigned interior layout maximizes operator space, provides exceptional comfort and reduces operator fatigue.
- **Serviceability** — Longer service intervals and easier maintenance result in better machine availability and lower costs.

324D FM/325D FM

- **Cat C7 ACERT engine** provides exceptional power and fuel efficiency, meeting U.S. EPA Tier 3 emissions requirements.
- **Attachments** — Heel-Boom Grapples and Cab Risers help increase operator effectiveness and increase production and reliability.
- **Cat GLL forestry grapples**, built with high-grade steel throughout the grapple, matched with Cat Forest Machines provide high performance and reliability in logging applications.

- **Rugged main frame design** is purpose-built for forest applications with reinforced carbody, rugged swing bearing, heavy doors and extra guarding.
- **Operator station** — Redesigned interior layout maximizes operator space and provides exceptional comfort. Roomy, quiet, automatically climate controlled cab has excellent sightlines to the work area.
- **Serviceability** — Simplified service and maintenance, and electronic diagnostics help save time, money and increase productivity.

330D FM

- **Cat C9 ACERT engine** provides exceptional power and fuel efficiency, meeting U.S. EPA Tier 3 emissions requirements.
- **Attachments** — Factory installed Log Loader fronts and Cat Grapples; Road Builder excavator and Butt-n-Top fronts; AEM delimber carrier options help meet diverse forest applications.
- **Cat GLL forestry grapples**, built with high-grade steel throughout the grapple, matched with Cat Forest Machines provide high performance and reliability in logging applications.
- **Reinforced carbody design** stands up to the most demanding forest applications, assuring outstanding durability and service life.
- **Undercarriage** — Heavy-duty link assemblies provide toughness and durability, maximizing undercarriage life and minimizing operating costs.
- **Guarding** — Purpose designed guarding helps extend service life, reduces downtime and helps protect your forestry machine investment.
- **Operator station** — Spacious, quiet, automatically climate controlled cab has excellent sightlines to the work area.
- **Serviceability** — Simplified service and maintenance, and electronic diagnostics help save time, money and increase productivity.

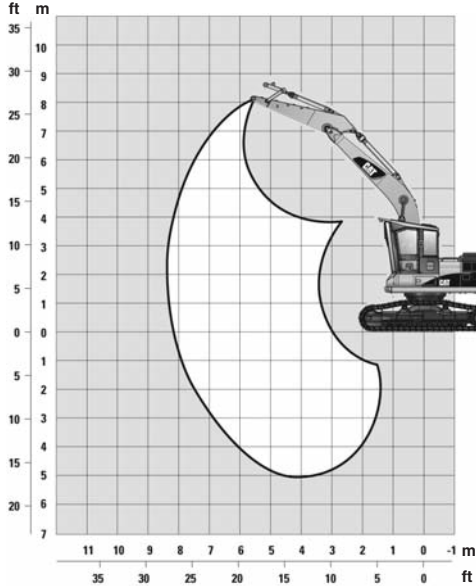
MODEL	320D FM General Forestry (HD/LC)		320D FM General Forestry (HW)		320D FM Log Loader (U/U)	
Flywheel Power	117 kW	157 hp	117 kW	157 hp	117 kW	157 hp
Operating Weight	25 500 kg	56,228 lb	26 900 kg	59,315 lb	30 300 kg	66,812 lb
Swing Mechanism:						
Torque	61.8 kN·m	45,611 lb-ft	61.8 kN·m	45,611 lb-ft	61.8 kN·m	45,611 lb-ft
Speed	11.5 RPM		11.5 RPM		11.5 RPM	
Engine Model	C6.4		C6.4		C6.4	
No. of Cylinders	6		6		6	
Bore	102 mm	4"	102 mm	4"	102 mm	4"
Stroke	130 mm	5.1"	130 mm	5.1"	130 mm	5.1"
Displacement	6.4 L	390 in ³	6.4 L	390 in ³	6.4 L	390 in ³
Hydraulic System:						
Main Implement System —						
Maximum Flow (2X)	205 L/min	54.2 gpm	205 L/min	54.2 gpm	205 L/min	54.2 gpm
Relief Valve Settings:						
Implement Circuits	35 000 kPa	5075 psi	35 000 kPa	5075 psi	35 000 kPa	5075 psi
Travel Circuits	35 000 kPa	5075 psi	35 000 kPa	5075 psi	35 000 kPa	5075 psi
Swing Circuits	25 000 kPa	3625 psi	25 000 kPa	3625 psi	25 000 kPa	3625 psi
Pilot Circuits	4120 kPa	600 psi	4120 kPa	600 psi	4120 kPa	600 psi
Drive:						
Maximum Drawbar Pull	188 kN	42,264 lb	188 kN	46,300 lb	248 kN	55,700 lb
Maximum Travel Speed	5.3 km/h	3.3 mph	4.3 km/h	2.6 mph	4.3 km/h	2.6 mph
Log Loader Linkage:						
Boom Cylinder — Bore	140 mm	5.5"	140 mm	5.5"	140 mm	5.5"
Boom Cylinder — Stroke	1160 mm	45.7"	1160 mm	45.7"	1160 mm	45.7"
Stick Cylinder — Bore	150 mm	5.9"	150 mm	5.9"	150 mm	5.9"
Stick Cylinder — Stroke	1470 mm	57.9"	1470 mm	57.9"	1470 mm	57.9"
Under/Under Heel Cylinder — Bore	—	—	—	—	130 mm	5.1"
Under/Under Heel Cylinder — Stroke	—	—	—	—	1156 mm	45.5"
Track:						
Standard (HD double grouser)	700 mm	28"	700 mm	28"	700 mm	28"
Optional (HD double grouser)	600 mm	24"	600 mm	24"	600 mm	24"
Optional (HD triple grouser)	700 mm	28"	700 mm	28"	700 mm	28"
Optional (HD triple grouser)	—	—	800 mm	32"	—	—
Overall Track Length	4480 mm	14'8"	4555 mm	14'11"	4555 mm	14'11"
Ground Clearance	475 mm	1'7"	650 mm	2'2"	650 mm	2'2"
Track Gauge	2590 mm	8'6"	2380 mm	7'10"	2590 mm	8'6"
Capacity:						
Fuel Tank	410 L	108.3 U.S. gal	410 L	108.3 U.S. gal	410 L	108.3 U.S. gal
Cooling System	25 L	6.6 U.S. gal	—	—	25 L	6.6 U.S. gal
Engine Oil	30 L	7.9 U.S. gal	30 L	7.9 U.S. gal	30 L	7.9 U.S. gal
Swing Drive	8 L	2.1 U.S. gal	—	—	8 L	2.1 U.S. gal
Hydraulic System — Total	260 L	68.7 U.S. gal	260 L	68.7 U.S. gal	260 L	68.7 U.S. gal
Hydraulic System — Tank	125 L	33.0 U.S. gal	125 L	33.0 U.S. gal	125 L	33.0 U.S. gal
Final Drive (each)	13 L	3.4 U.S. gal	10 L	2.6 U.S. gal	13 L	3.4 U.S. gal

MODEL	324D FM General Forestry		324D FM Log Loader (U/U)		324D FM Log Loader (O/U)	
Flywheel Power	140 kW	188 hp	140 kW	188 hp	140 kW	188 hp
Operating Weight (with front linkage, without bucket or grapple)	31 226 kg	68,853 lb	34 330 kg	75,698 lb	34 484 kg	76,037 lb
Swing Mechanism:						
Torque	73.4 kN-m	54,147 lb-ft	73.4 kN-m	54,147 lb-ft	73.4 kN-m	54,147 lb-ft
Speed	10 RPM		10 RPM		10 RPM	
Engine Model	C7 ACERT		C7 ACERT		C7 ACERT	
No. of Cylinders	6		6		6	
Bore	110 mm	4.3"	110 mm	4.3"	110 mm	4.3"
Stroke	127 mm	5"	127 mm	5"	127 mm	5"
Displacement	7.2 L	440 in³	7.2 L	440 in³	7.2 L	440 in³
Hydraulic System:						
Main Implement System — Maximum Flow (2X)	220 L/min	58.1 gpm	220 L/min	58.1 gpm	220 L/min	58.1 gpm
Relief Valve Settings:						
Implement Circuits	35 000 kPa	5075 psi	35 000 kPa	5075 psi	35 000 kPa	5075 psi
Travel Circuits	35 000 kPa	5075 psi	35 000 kPa	5075 psi	35 000 kPa	5075 psi
Swing Circuits	24 500 kPa	3553 psi	24 500 kPa	3553 psi	24 500 kPa	3553 psi
Pilot Circuits	3920 kPa	568 psi	3920 kPa	568 psi	3920 kPa	568 psi
Drive:						
Maximum Drawbar Pull	259 kN	58,226 lb	259 kN	58,226 lb	259 kN	58,226 lb
Maximum Travel Speed	5.7 km/h	3.5 mph	5.7 km/h	3.5 mph	5.7 km/h	3.5 mph
Log Loader Linkage:						
Boom Cylinder — Bore	140 mm	5.5"	140 mm	5.5"	140 mm	5.5"
Boom Cylinder — Stroke	1185 mm	46.7"	1185 mm	46.7"	1185 mm	46.7"
Stick Cylinder — Bore	170 mm	6.7"	170 mm	6.7"	170 mm	6.7"
Stick Cylinder — Stroke	1680 mm	66.1"	1680 mm	66.1"	1680 mm	66.1"
Under/Under Heel Cylinder — Bore	—		130 mm	5.1"	—	
Under/Under Heel Cylinder — Stroke	—		1156 mm	45.5"	—	
Over/Under Heel Cylinder — Bore	—		—		150 mm	5.9"
Over/Under Heel Cylinder — Stroke	—		—		1470 mm	57.9"
Track:						
Standard (HD double grouser)	700 mm	28"	700 mm	28"	700 mm	28"
Optional (double grouser)	600 mm	24"	600 mm	24"	600 mm	24"
Optional (HD triple grouser)	800 mm	32"	800 mm	32"	800 mm	32"
Overall Track Length	4670 mm	15'4"	4670 mm	15'4"	4670 mm	15'4"
Ground Clearance	710 mm	2'4"	710 mm	2'4"	710 mm	2'4"
Track Gauge	2920 mm	9'7"	2920 mm	9'7"	2920 mm	9'7"
Capacity:						
Fuel Tank (standard)	520 L	137.4 U.S. gal	520 L	137.4 U.S. gal	520 L	137.4 U.S. gal
Fuel Tank (optional auxiliary right front)	410 L	108.3 U.S. gal	410 L	108.3 U.S. gal	410 L	108.3 U.S. gal
Cooling System	30 L	7.9 U.S. gal	30 L	7.9 U.S. gal	30 L	7.9 U.S. gal
Engine Oil	34 L	9.0 U.S. gal	34 L	9.0 U.S. gal	34 L	9.0 U.S. gal
Swing Drive	8 L	2.1 U.S. gal	8 L	2.1 U.S. gal	8 L	2.1 U.S. gal
Hydraulic System — Total	245 L	64.7 U.S. gal	245 L	64.7 U.S. gal	245 L	64.7 U.S. gal
Hydraulic System — Tank	145 L	38.3 U.S. gal	145 L	38.3 U.S. gal	145 L	38.3 U.S. gal
Final Drive (each)	8 L	2.1 U.S. gal	8 L	2.1 U.S. gal	8 L	2.1 U.S. gal

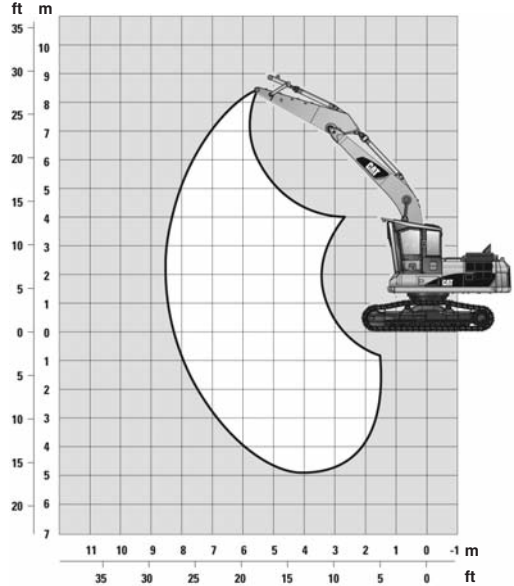
MODEL	325D FM General Forestry (HW)		325D FM Log Loader (U/U)		325D FM Log Loader (O/U)	
Flywheel Power	152 kW	204 hp	152 kW	204 hp	152 kW	204 hp
Operating Weight (with front linkage, without bucket or grapple)	33 329 kg	73,478 lb	37 807 kg	83,350 lb	38 211 kg	84,241 lb
Swing Mechanism:						
Torque	86.3 kN-m	63,664 lb-ft	86.3 kN-m	63,664 lb-ft	86.3 kN-m	63,664 lb-ft
Speed	10 RPM		10 RPM		10 RPM	
Engine Model	C7 ACERT		C7 ACERT		C7 ACERT	
No. of Cylinders	6		6		6	
Bore	110 mm	4.3"	110 mm	4.3"	110 mm	4.3"
Stroke	127 mm	5"	127 mm	5"	127 mm	5"
Displacement	7.2 L	440 in ³	7.2 L	440 in ³	7.2 L	440 in ³
Hydraulic System:						
Main Implement System — Maximum Flow (2X)	235 L/min	62.1 gpm	235 L/min	62.1 gpm	235 L/min	62.1 gpm
Relief Valve Settings:						
Implement Circuits	35 000 kPa	5075 psi	35 000 kPa	5075 psi	35 000 kPa	5075 psi
Travel Circuits	35 000 kPa	5075 psi	35 000 kPa	5075 psi	35 000 kPa	5075 psi
Swing Circuits	27 500 kPa	3988 psi	27 500 kPa	3988 psi	27 500 kPa	3988 psi
Pilot Circuits	4120 kPa	597 psi	4120 kPa	597 psi	4120 kPa	597 psi
Drive:						
Maximum Drawbar Pull	249 kN	56,025 lb	249 kN	56,025 lb	249 kN	56,025 lb
Maximum Travel Speed	5.5 km/h	3.4 mph	5.5 km/h	3.4 mph	5.5 km/h	3.4 mph
Log Loader Linkage:						
Boom Cylinder — Bore	150 mm	5.9"	150 mm	5.9"	150 mm	5.9"
Boom Cylinder — Stroke	1400 mm	55.1"	1400 mm	55.1"	1400 mm	55.1"
Stick Cylinder — Bore	180 mm	7.1"	180 mm	7.1"	180 mm	7.1"
Stick Cylinder — Stroke	1650 mm	65"	1650 mm	65"	1650 mm	65"
Under/Under Heel Cylinder — Bore	—		150 mm	5.9"	—	
Under/Under Heel Cylinder — Stroke	—		1155 mm	45.5"	—	
Over/Under Heel Cylinder — Bore	—		—		160 mm	6.3"
Over/Under Heel Cylinder — Stroke	—		—		1465 mm	57.7"
Track:						
Standard (HD double grouser)	700 mm	28"	700 mm	28"	700 mm	28"
Optional (HD triple grouser)	700 mm	28"	700 mm	28"	700 mm	28"
Overall Track Length	4970 mm	16'4"	4970 mm	16'4"	4970 mm	16'4"
Ground Clearance	740 mm	2'5"	740 mm	2'5"	740 mm	2'5"
Track Gauge	2920 mm	9'7"	2920 mm	9'7"	2920 mm	9'7"
Capacity:						
Fuel Tank (standard)	520 L	137.4 U.S. gal	520 L	137.4 U.S. gal	520 L	137.4 U.S. gal
Fuel Tank — Optional Auxiliary Right Front	410 L	108.3 U.S. gal	410 L	108.3 U.S. gal	410 L	108.3 U.S. gal
Cooling System	30 L	7.9 U.S. gal	30 L	7.9 U.S. gal	30 L	7.9 U.S. gal
Engine Oil	34 L	9.0 U.S. gal	34 L	9.0 U.S. gal	34 L	9.0 U.S. gal
Swing Drive	10 L	2.6 U.S. gal	10 L	2.6 U.S. gal	10 L	2.6 U.S. gal
Hydraulic System — Total	260 L	68.7 U.S. gal	260 L	68.7 U.S. gal	260 L	68.7 U.S. gal
Hydraulic System — Tank	145 L	38.3 U.S. gal	145 L	38.3 U.S. gal	145 L	38.3 U.S. gal
Final Drive (each)	8 L	2.1 U.S. gal	8 L	2.1 U.S. gal	8 L	2.1 U.S. gal

MODEL	330D FM General Forestry (HD)		330D FM Log Loader (U/U)		330D FM Log Loader (O/U)	
Flywheel Power	200 kW	268 hp	200 kW	268 hp	200 kW	268 hp
Operating Weight (with front linkage, without bucket or grapple)	41 426 kg	91,344 lb	45 801 kg	100,991 lb	46 261 kg	102,005 lb
Swing Mechanism:						
Torque	113.9 kN-m	84,024 lb-ft	148.5 kN-m	109,560 lb-ft	148.5 kN-m	109,560 lb-ft
Speed	10 RPM		6.3 RPM		6.3 RPM	
Engine Model	C9 ACERT		C9 ACERT		C9 ACERT	
No. of Cylinders	6		6		6	
Bore	112 mm	4.4"	112 mm	4.4"	112 mm	4.4"
Stroke	149 mm	5.9"	149 mm	5.9"	149 mm	5.9"
Displacement	8.8 L	537 in³	8.8 L	537 in³	8.8 L	537 in³
Hydraulic System:						
Main Implement System — Maximum Flow (2X)	280 L/min	74 gpm	280 L/min	74 gpm	280 L/min	74 gpm
Relief Valve Settings:						
Implement Circuits	35 000 kPa	5075 psi	35 000 kPa	5075 psi	35 000 kPa	5075 psi
Travel Circuits	35 000 kPa	5075 psi	35 000 kPa	5075 psi	35 000 kPa	5075 psi
Swing Circuits	27 900 kPa	4046 psi	27 900 kPa	4046 psi	27 900 kPa	4046 psi
Pilot Circuits	4100 kPa	595 psi	4100 kPa	595 psi	4100 kPa	595 psi
Drive:						
Maximum Drawbar Pull	317 kN	71,264 lb	317 kN	71,264 lb	317 kN	71,264 lb
Maximum Travel Speed	4.8 km/h	3 mph	4.8 km/h	3 mph	4.8 km/h	3 mph
Log Loader Linkage:						
Boom Cylinder — Bore	170 mm	6.7"	170 mm	6.7"	170 mm	6.7"
Boom Cylinder — Stroke	1340 mm	52.8"	1340 mm	52.8"	1340 mm	52.8"
Stick Cylinder — Bore	180 mm	7.1"	180 mm	7.1"	180 mm	7.1"
Stick Cylinder — Stroke	1661 mm	65.4"	1661 mm	65.4"	1661 mm	65.4"
Under/Under Heel Cylinder — Bore	—		150 mm	5.9"	—	
Under/Under Heel Cylinder — Stroke	—		1155 mm	45.5"	—	
Over/Under Heel Cylinder — Bore	—		—		160 mm	6.3"
Over/Under Heel Cylinder — Stroke	—		—		1465 mm	57.7"
Track:						
Standard (HD double grouser)	700 mm	28"	700 mm	28"	700 mm	28"
Optional (HD triple grouser)	850 mm	34"	850 mm	34"	850 mm	34"
Overall Track Length	5060 mm	16'7"	5060 mm	16'7"	5060 mm	16'7"
Ground Clearance	760 mm	2'6"	760 mm	2'6"	760 mm	2'6"
Track Gauge	2920 mm	9'7"	2920 mm	9'7"	2920 mm	9'7"
Capacity:						
Fuel Tank (standard)	600 L	158.5 U.S. gal	600 L	158.5 U.S. gal	600 L	158.5 U.S. gal
Fuel Tank — Optional Auxiliary Right Front	410 L	108.3 U.S. gal	410 L	108.3 U.S. gal	410 L	108.3 U.S. gal
Cooling System	38 L	10.0 U.S. gal	38 L	10.0 U.S. gal	38 L	10.0 U.S. gal
Engine Oil	36 L	9.5 U.S. gal	36 L	9.5 U.S. gal	36 L	9.5 U.S. gal
Swing Drive	19 L	5.0 U.S. gal	19 L	5.0 U.S. gal	19 L	5.0 U.S. gal
Hydraulic System — Total	410 L	108.3 U.S. gal	410 L	108.3 U.S. gal	410 L	108.3 U.S. gal
Hydraulic System — Tank	175 L	46.2 U.S. gal	175 L	46.2 U.S. gal	175 L	46.2 U.S. gal
Final Drive (each)	8 L	2.1 U.S. gal	8 L	2.1 U.S. gal	8 L	2.1 U.S. gal

General Forestry
HD/LC 5.9 m (19'4") Boom
with R2.9B1 (9'6") Stick

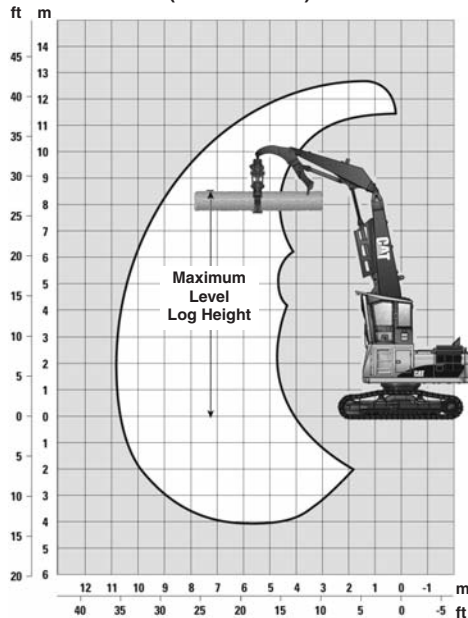


General Forestry
HW 5.9 m (19'4") Boom
with R2.9B1 (9'6") Stick

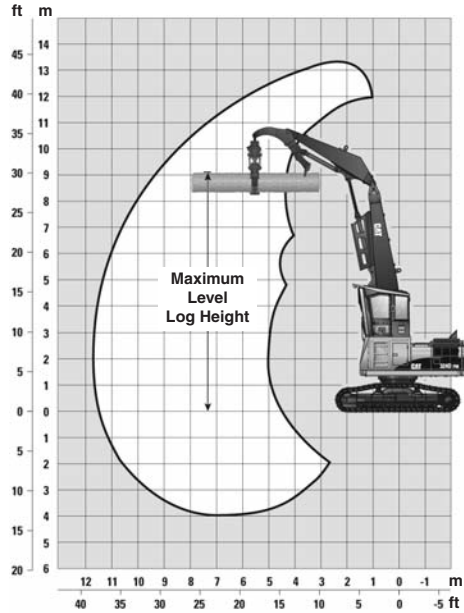


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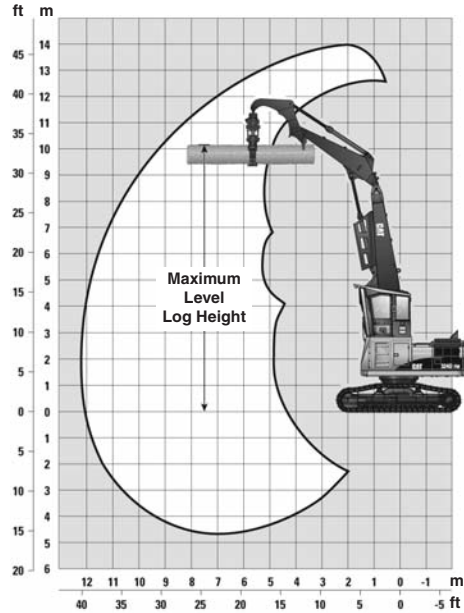
Heel Boom
(Under/Under)



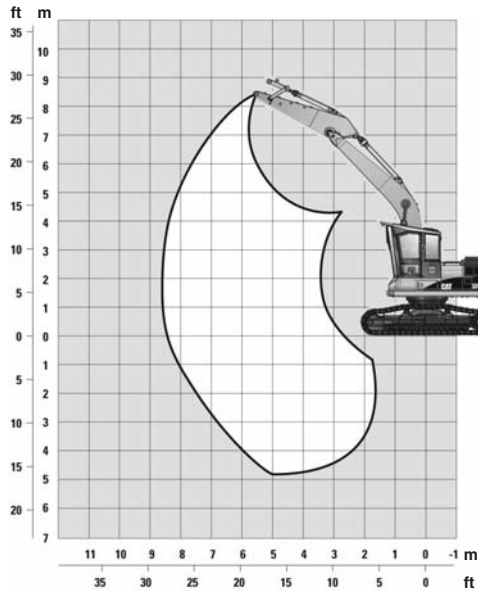
Heel Boom
Under/Under



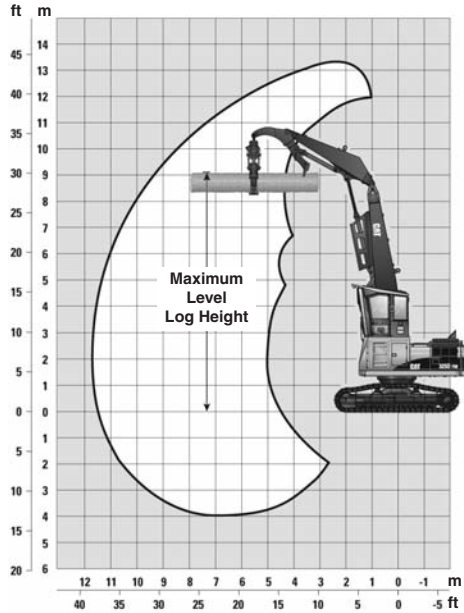
Heel Boom
Over/Under



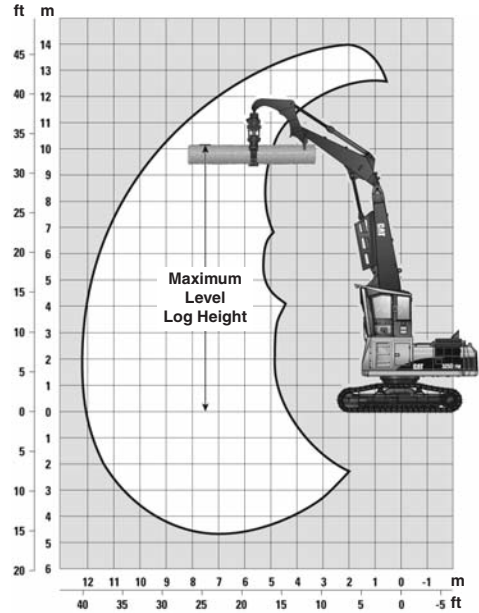
General Forestry
HW U/C, 5.9 m (19'4") Boom
with 2.95S Stick



**Heel Boom
Under/Under**

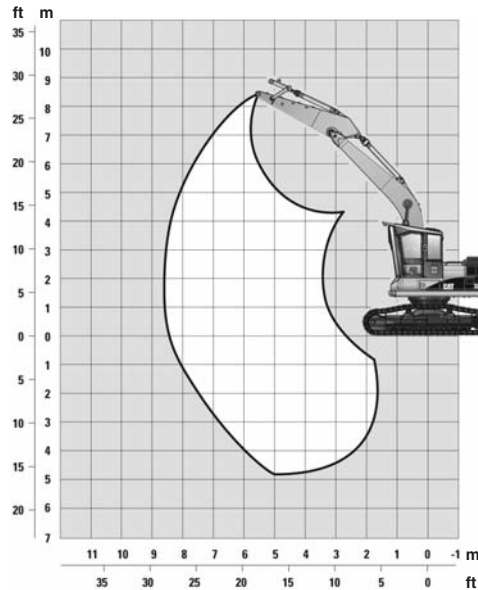


**Heel Boom
Over/Under**

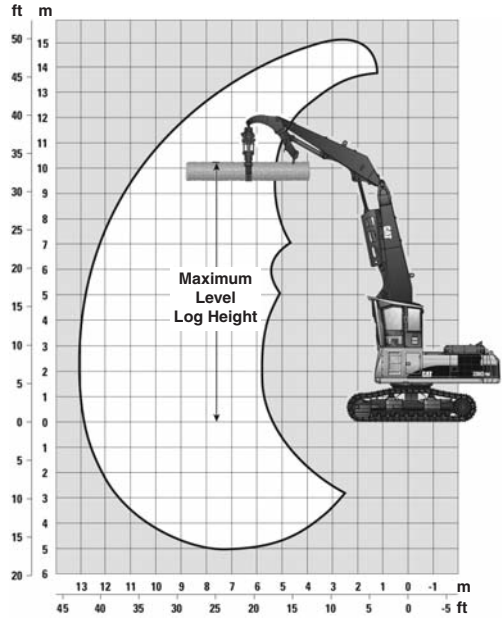


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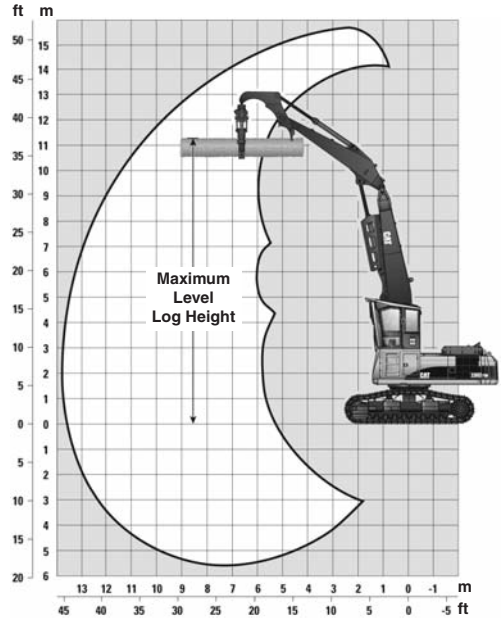
**General Forestry
HW U/C, 5.9 m (19'4") Boom
with 2.95S Stick**



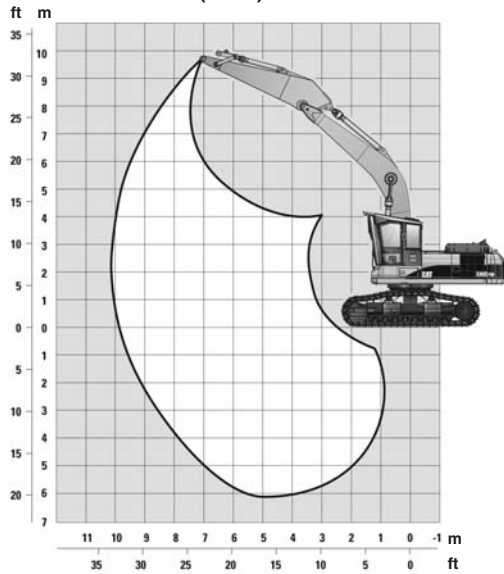
Heel Boom
Under/Under

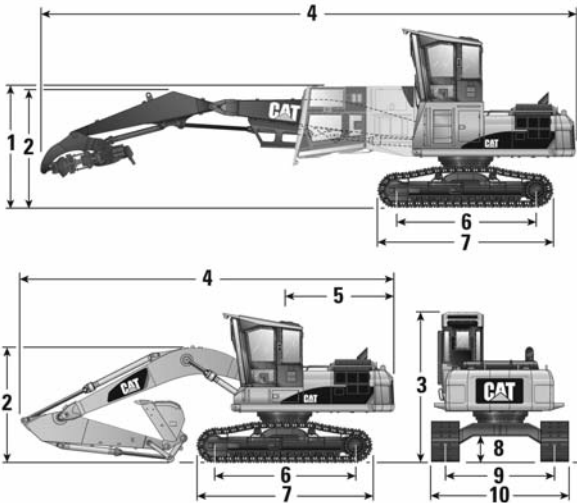


Heel Boom
Over/Under



General Forestry
HD LC U/C, 6.5 m (21'2") Reach Boom
with 3.9 m (12'9") Reach Stick



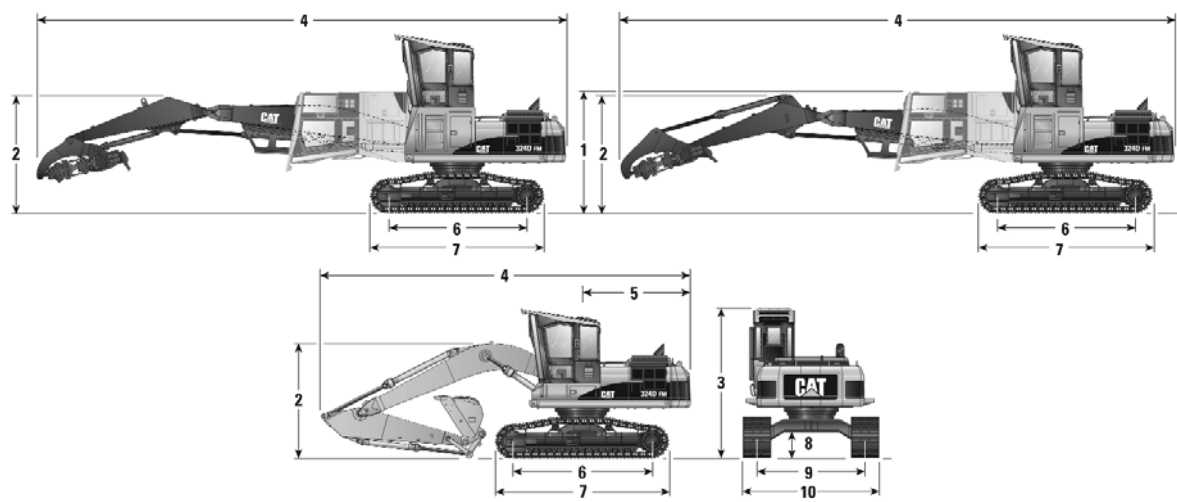


320D FM General Forestry

	HW		HD/LC	
1 Shipping height (All risers with cab tilted)	3185 mm	10'5"	3000 mm	9'10"
2 Boom height	3060 mm	10'0"	3040 mm	10'0"
3 Overall height	4657 mm	15'3"	3713 mm	12'2"
4 Shipping length	9410 mm	30'10"	9460 mm	31'0"
5 Tail swing radius	2774 mm	9'1"	2774 mm	9'1"
6 Length to center of rollers	3715 mm	12'2"	3650 mm	12'0"
7 Track length	4555 mm	14'11"	4480 mm	14'8"
8 Ground clearance	650 mm	2'2"	475 mm	1'7"
9 Track gauge	2590 mm	8'6"	2380 mm	7'10"
10 Transport width with 700 mm (27.5") shoes (DG)	3290 mm	10'10"	3080 mm	10'1"

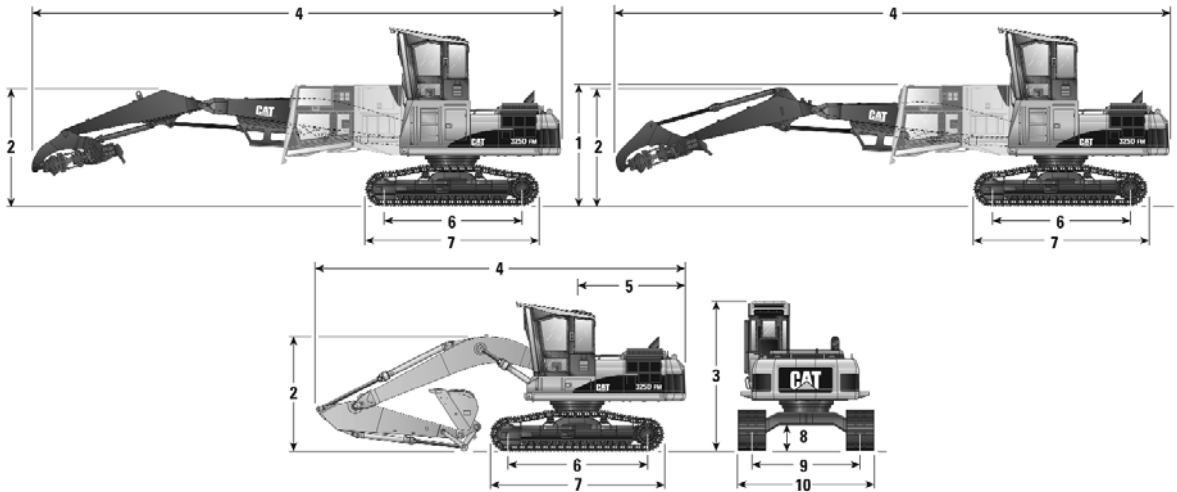
320D FM Log Loaders

	Under/Under	
1 Shipping height (All risers with cab tilted)	3185 mm	10'5"
2 Boom height	2980 mm	9'9"
3 Overall height	4657 mm	15'3"
4 Shipping length	13 620 mm	44'8"
5 Tail swing radius	2774 mm	9'1"
6 Length to center of rollers	3715 mm	12'2"
7 Track length	4555 mm	14'11"
8 Ground clearance	650 mm	2'2"
9 Track gauge	2590 mm	8'6"
10 Transport width with 700 mm (27.5") shoes (DG)	3290 mm	10'10"



324D FM General Forestry		HW GF	
1	Shipping height (All risers with cab tilted)	3310 mm	10'10"
2	Boom height	3170 mm	10'5"
3	Overall height	4020 mm	13'2"
4	Shipping length	9880 mm	32'5"
5	Tail swing radius	2940 mm	9'8"
6	Length to center of rollers	3780 mm	12'5"
7	Track length	4670 mm	15'4"
8	Ground clearance	710 mm	2'4"
9	Track gauge	2920 mm	9'7"
10	Transport width with 700 mm (27.5") shoes (DG)	3620 mm	11'11"

324D FM Log Loaders		Under/Under		Over/Under	
1	Shipping height (All risers with cab tilted)	3310 mm	10'10"	3310 mm	10'10"
2	Boom height	2780 mm	9'1"	2760 mm	9'1"
3	Overall height	4790 mm	15'9"	4790 mm	15'9"
4	Shipping length	14 080 mm	46'2"	14 990 mm	49'2"
5	Tail swing radius	2940 mm	9'8"	2940 mm	9'8"
6	Length to center of rollers	3780 mm	12'5"	3780 mm	12'5"
7	Track length	4670 mm	15'4"	4670 mm	15'4"
8	Ground clearance	710 mm	2'4"	710 mm	2'4"
9	Track gauge	2920 mm	9'7"	2920 mm	9'7"
10	Transport width with 700 mm (27.5") shoes (DG)	3620 mm	11'11"	3620 mm	11'11"



325D FM General Forestry

HW GF

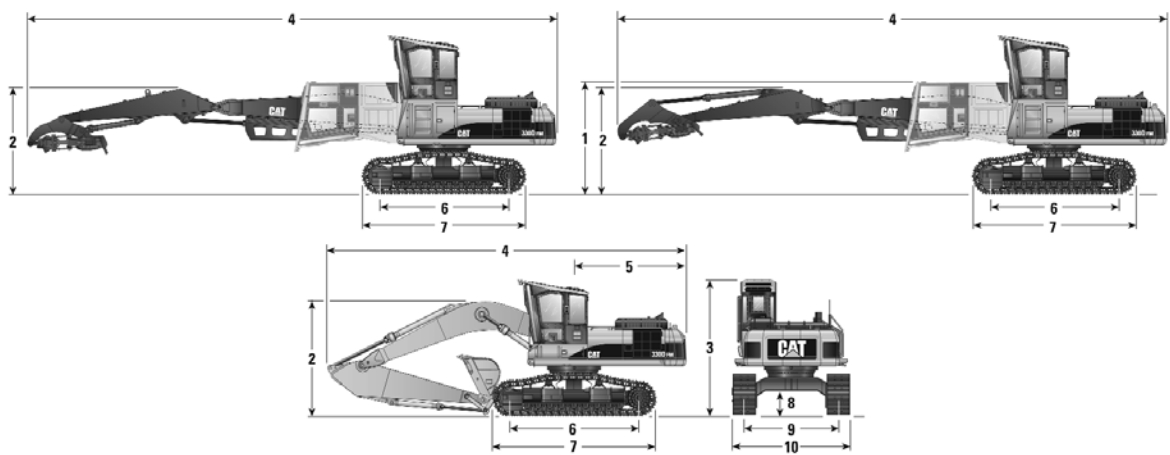
1 Shipping height (All risers with cab tilted)	3340 mm	11'0"
2 Boom height	3310 mm	10'10"
3 Overall height	4060 mm	13'4"
4 Shipping length	10 260 mm	33'8"
5 Tail swing radius	3020 mm	9'11"
6 Length to center of rollers	4050 mm	13'4"
7 Track length	4970 mm	16'4"
8 Ground clearance	740 mm	2'5"
9 Track gauge	2920 mm	9'7"
10 Transport width with 700 mm (27.5") shoes (DG)	3620 mm	11'11"

325D FM Log Loaders

Under/Under

Over/Under

	Under/Under		Over/Under	
1 Shipping height (All risers with cab tilted)	3340 mm	10'10"	3340 mm	10'10"
2 Boom height	2760 mm	9'1"	2740 mm	9'0"
3 Overall height	4820 mm	15'10"	4820 mm	15'10"
4 Shipping length	14 840 mm	48'8"	15 720 mm	51'7"
5 Tail swing radius	3020 mm	9'11"	3020 mm	9'11"
6 Length to center of rollers	4050 mm	13'4"	4050 mm	13'4"
7 Track length	4970 mm	16'4"	4970 mm	16'4"
8 Ground clearance	740 mm	2'5"	740 mm	2'5"
9 Track gauge	2920 mm	9'7"	2920 mm	9'7"
10 Transport width with 700 mm (27.5") shoes (DG)	3620 mm	11'11"	3620 mm	11'11"



330D FM General Forestry

HD GF

1	Shipping height (All risers with cab tilted)	3470 mm	11'5"
2	Boom height	3780 mm	12'5"
3	Overall height	4180 mm	13'9"
4	Shipping length	11 150 mm	36'7"
5	Tail swing radius	3490 mm	11'5"
6	Length to center of rollers	4020 mm	13'2"
7	Track length	5060 mm	16'7"
8	Ground clearance	760 mm	2'6"
9	Track gauge	2920 mm	9'7"
10	Transport width with 700 mm (27.5") shoes (DG)	3650 mm	11'11"

330D FM Log Loaders

Under/Under

Over/Under

1	Shipping height (All risers with cab tilted)	3470 mm	11'5"	3470 mm	11'5"
2	Boom height	3080 mm	10'1"	3030 mm	10'1"
3	Overall height	4950 mm	16'3"	4950 mm	16'3"
4	Shipping length	16 630 mm	54'7"	17 320 mm	56'10"
5	Tail swing radius	3490 mm	11'5"	3490 mm	11'5"
6	Length to center of rollers	4020 mm	13'2"	4020 mm	13'2"
7	Track length	5060 mm	16'7"	5060 mm	16'7"
8	Ground clearance	760 mm	2'6"	760 mm	2'6"
9	Track gauge	2920 mm	9'7"	2920 mm	9'7"
10	Transport width with 700 mm (27.5") shoes (DG)	3650 mm	11'11"	3650 mm	11'11"

MODEL	324D FM LGP	
	(Low Ground Pressure)	
Rated Power	140 kW	188 hp
Operating Weight (without attachment)	32 886 kg	72,500 lb
Engine Model	C7 ACERT	
Swing Torque	73.4 kN·m	54,147 lb·ft
Drawbar Pull	259 kN	58,226 lb
Maximum Reach	10.3 m	34'0"
Ground Clearance	787 mm	31"

519/529/559B/569/579 Features:

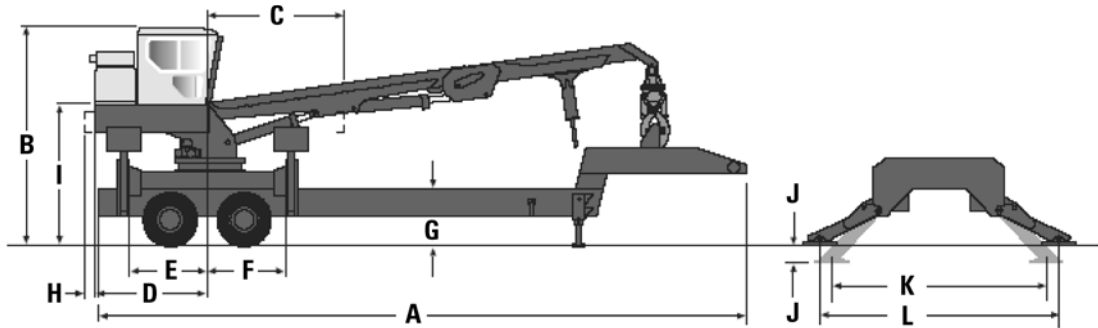
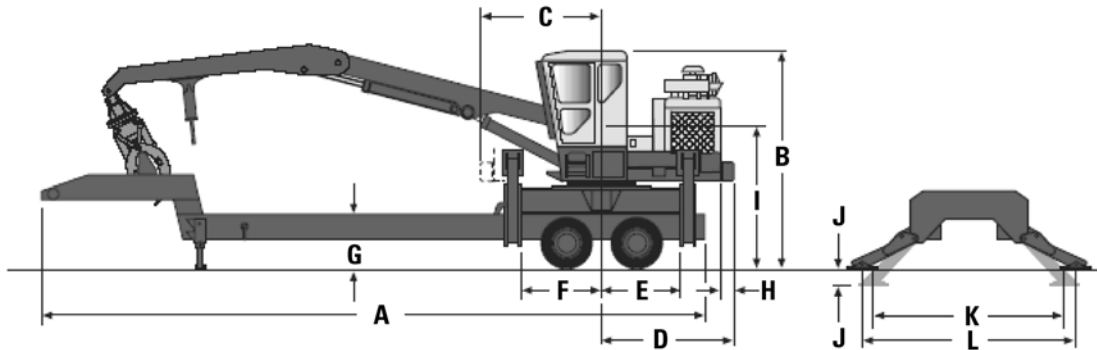
- **Advanced boom design technology** built tough with welded high-strength steel.
- **Booms** are engineered to withstand high production pull-through delimbing and loading.
- **Boom reach** ranges from 8.2 m (27 ft) on the 519 up to 10.9 m (36 ft) on the 579.
- **Smooth and responsive joystick controls.**
- **Swing torque ratings** up to nearly 108 kN·m (80,000 ft-lb), combined with swing speeds up to 11 RPM.

- **Continuous rotation grapples** are constructed of wear resistant, high tensile steel with heavy-duty rotators designed for strenuous pull-through delimbing applications.
- **Heavy-duty sub-frames** are engineered for high reliability and stability.
- **Heavy duty off road axles** provide trouble free operation in the harsh woods environment.
- **Quiet, comfortable cabs** with excellent visibility.

Loaders offered with a factory matched performance package — The “DS” package is a complete factory installed timber merchandising system consisting of a knuckleboom loader and grapple, trailer with trailer mounted delimber and ground saw slasher.

MODEL	519		529		559B	
Gross Power	116.3 kW	156 hp	116.3 kW	156 hp	116.3 kW	156 hp
Engine	C6.6		C6.6		C6.6	
Engine RPM	2200		2200		2200	
Operating Weight (with standard boom, less options, carrier & grapple)	8663 kg	19,099 lb	12 655 kg	27,900 lb	14 605 kg	32,200 lb
Hydraulic System:						
System Pressure	15 513 kPa	2250 psi	18 960 kPa	2750 psi	24 131 kPa	3500 psi
Swing Pressure	16 547 kPa	2400 psi	18 271 kPa	2650 psi	21 374 kPa	3100 psi
Swing Speed	8 RPM		8 RPM		11 RPM	
Capacities:						
Fuel Capacity	268.8 L	71 U.S. gal	378.5 L	100 U.S. gal	378.5 L	100 U.S. gal
Hydraulic Capacity	132.5 L	35 U.S. gal	295.3 L	78 U.S. gal	302.8 L	80 U.S. gal
Counterweight	498.0 kg	1100 lb	1496.8 kg	3300 lb	635 kg	1400 lb
Tailswing (with counterweight)	259 cm	102"	248.9 cm	98"	252.7 cm	99.5"
Knuckleboom Length	8.2 m	27'0"	8.8 m	29'0"	9.7 m	32'0"

MODEL	569		579	
Gross Power	129 kW	173 hp	129 kW	173 hp
Engine	C6.6		C6.6	
Engine RPM	2200		2200	
Operating Weight (with standard boom, less options, carrier & grapple)	15 422 kg	34,000 lb	15 422 kg	34,000 lb
Hydraulic System:				
System Pressure	17 236 kPa	2500 psi	24 131 kPa	3500 psi
Swing Pressure	17 236 kPa	2500 psi	24 131 kPa	3500 psi
Swing Speed	7 RPM		9 RPM	
Capacities:				
Fuel Capacity	336.9 L	89 U.S. gal	336.9 L	89 U.S. gal
Hydraulic Capacity	246 L	65 U.S. gal	246 L	65 U.S. gal
Counterweight	1392.5 kg	3070 lb	1392.5 kg	3070 lb
Tailswing (with counterweight)	248.9 cm	98"	248.9 cm	98"
Knuckleboom Length	9.9 m	32'6"	9.9 m	32'6"

Basic Dimensions for 519, 529 and 559B

Basic Dimensions for 569 and 579


MODEL	519		529		559B		569		579	
A	1127.8 cm	444.00"	1219.2 cm	480.00"	1219.2 cm	480.00"	1219.2 cm	480.00"	1219.2 cm	480.00"
B	401.3 cm	158.00"	404.5 cm	159.25"	401.6 cm	158.10"	398.8 cm	157.00"	398.8 cm	157.00"
C*	256.5 cm	101.00"	248.9 cm	98.00"	252.7 cm	99.50"	248.9 cm	98.00"	248.9 cm	98.00"
D	228.6 cm	90.00"	232.0 cm	91.34"	227.8 cm	89.70"	238.1 cm	93.75"	238.1 cm	93.75"
E	137.2 cm	54.00"	152.4 cm	60.00"	152.4 cm	60.00"	152.4 cm	60.00"	152.4 cm	60.00"
F	137.2 cm	54.00"	152.4 cm	60.00"	152.4 cm	60.00"	152.4 cm	60.00"	152.4 cm	60.00"
G	99.1 cm	39.00"	99.1 cm	39.00"	99.1 cm	39.00"	99.1 cm	39.00"	99.1 cm	39.00"
H**	10.2 cm	4.00"	24.1 cm	9.50"	7.6 cm	3.00"	27.3 cm	10.75"	27.3 cm	10.75"
I	238.8 cm	94.00"	246.4 cm	97.00"	246.4 cm	97.00"	269.2 cm	106.00"	269.2 cm	106.00"
J	35.6 cm	14.00"	36.0 cm	14.18"	41.9 cm	16.50"	39.4 cm	15.50"	39.4 cm	15.50"
K	416.6 cm	164.00"	392.0 cm	154.35"	425.4 cm	167.47"	454.7 cm	179.00"	454.7 cm	179.00"
L	457.2 cm	180.00"	447.0 cm	176.00"	495.3 cm	195.70"	495.3 cm	195.00"	495.3 cm	195.00"

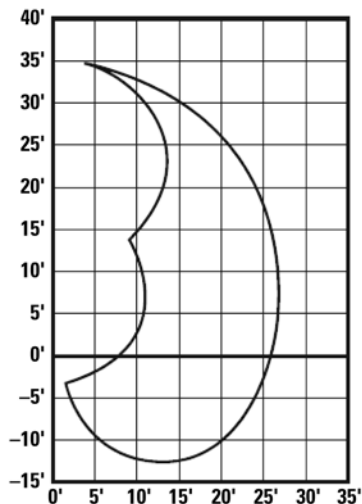
*Maximum tailswing.

**Add for counterweight.

Forest Products Trailer Mount Knuckleboom Loaders

Lift and Range Diagram ● 519 Knuckleboom Loader

**519 Knuckleboom Loader
8.2 m (27'0") Boom**



NOTES:

Do not attempt to lift or hold any load that is greater than the rated values over the end or side. The weight of the grapple and all lifting accessories must be deducted from lift capacities shown.

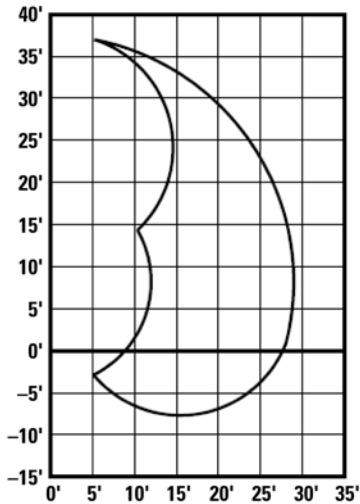
1. The over end capacities and over side capacities do not exceed 87% of hydraulic limited capacity or 75% of stability limited capacity.
– Stability limited capacities are indicated with an asterisk (*).
2. The lift point is located at the grapple knuckle pin.
3. Lift capacities are based on the machine standing on firm, uniform supporting surface. User must make allowances for job site conditions.
4. Operator should be fully acquainted with the Operator's Manual and all safety instructions furnished by Caterpillar Inc. prior to operating the machine.
5. Lift capacities are in compliance with SAE J2417, "Lift Capacity Calculation Method — Knuckleboom Log Loaders and Certain Forestry Equipment."

	3 m/10'0"		4.6 m/15'0"		6.1 m/20'0"		7.6 m/25'0"		Maximum Reach		
	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	
9.1 m (30'0")			4574.6 3979.9 3979.9	10,085 8,774 8,774							100% Hydraulics Over End Over Side
7.6 m (25'0")			5208.7 4531.5 4531.5	11,483 9,990 9,990	4076.5 3543.1 3543.1	8,978 7,811 7,811					100% Hydraulics Over End Over Side
6.1 m (20'0")			5246.8 4564.6 4564.6	11,567 10,063 10,063	4611.3 4011.6 4011.6	10,166 8,844 8,844					100% Hydraulics Over End Over Side
4.6 m (15'0")			5673.2 4935.6 4935.6	12,507 10,881 10,881	4742.4 4125.9 4125.9	10,455 9,096 9,096	3954.5 3440.5 3215.1	8,718 7,585 7,088*	1850.2 1609.8 1609.8	4,079 3,549 3,549	100% Hydraulics Over End Over Side
3.0 m (10'0")			6305.5 5485.8 5485.8	13,901 12,094 12,094	5545.7 4824.9 4582.7	12,226 10,637 10,103*	3920.5 3410.6 3188.3	8,643 7,519 7,029*	1776.5 1545.9 1545.9	3,917 3,408 3,408	100% Hydraulics Over End Over Side
1.5 m (5'0")			8720.0 7586.5 7369.7	19,224* 16,725* 16,247*	6520.5 5672.7 4106.9	14,375 12,506 9,054*	4068.3 3539.4 3152.5	8,969 7,803 6,950*	1771.3 1540.9 1540.9	3,905 3,397 3,397	100% Hydraulics Over End Over Side
0 m (0'0")	4373.2 3804.8 3804.8	9,641 8,388 8,388	8341.2 7256.7 7186.4	18,389* 15,998* 15,843*	6061.9 5274.0 4395.4	13,364 11,627 9,690*	3553.0 3091.3 3091.3	7,833 6,815 6,815			100% Hydraulics Over End Over Side
-1.5 m (-5'0")	6371.3 5543.0 5543.0	14,046 12,220 12,220	6789.5 5906.8 5906.8	14,968 13,022 13,022	4688.8 4079.2 4079.2	10,337 8,993 8,993					100% Hydraulics Over End Over Side
-3.0 m (-10'0")	4980.1 4332.8 4332.8	10,979 9,552 9,552	3743.6 3256.8 3256.8	8,253 7,180 7,180	1100.0 957.1 957.1	2,425 2,110 2,110					100% Hydraulics Over End Over Side

Lift and Range Diagram ● 529 Knuckleboom Loader

Forest Products Trailer Mount Knuckleboom Loaders

529 Knuckleboom Loader 8.8 m (29'0") Boom



NOTES:

Do not attempt to lift or hold any load that is greater than the rated values over the end or side. The weight of the grapple and all lifting accessories must be deducted from lift capacities shown.

- The over end capacities and over side capacities do not exceed 87% of hydraulic limited capacity or 75% of stability limited capacity.
– Stability limited capacities are indicated with an asterisk (*).
- The lift point is located at the grapple knuckle pin.
- Lift capacities are based on the machine standing on firm, uniform supporting surface. User must make allowances for job site conditions.
- Operator should be fully acquainted with the Operator's Manual and all safety instructions furnished by Caterpillar Inc. prior to operating the machine.
- Lift capacities are in compliance with SAE J2417, "Lift Capacity Calculation Method — Knuckleboom Log Loaders and Certain Forestry Equipment."

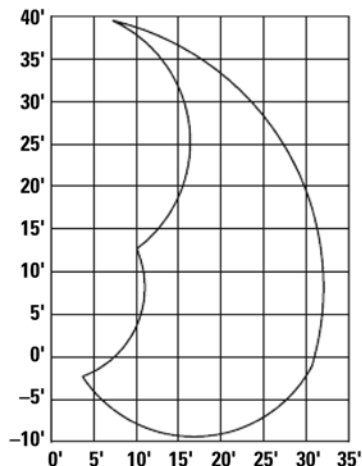
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	3 m/10'0"		4.6 m/15'0"		6.1 m/20'0"		7.6 m/25'0"		Maximum Reach		
	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	
9.1 m (30'0")			5591.9 4864.8 4864.8	12,328 10,725 10,725							100% Hydraulics Over End Over Side
7.6 m (25'0")			5854.1 5093.1 5093.1	12,906 11,228 11,228	5136.6 4468.8 4468.8	11,324 9,852 9,852					100% Hydraulics Over End Over Side
6.1 m (20'0")			5896.7 5130.2 5130.2	13,000 11,310 11,310	5481.7 4769.2 4769.2	12,085 10,514 10,514	4159.5 3618.8 3618.8	9,170 7,978 7,978			100% Hydraulics Over End Over Side
4.6 m (15'0")			6384.8 5554.7 5554.7	14,076 12,246 12,246	5641.8 4908.4 4908.4	12,438 10,821 10,821	4650.8 4046.1 4046.1	10,253 8,920 8,920	2379.5 2070.2 2070.2	5,246 4,564 4,564	100% Hydraulics Over End Over Side
3.0 m (10'0")			7557.4 6574.8 6574.8	16,661 14,495 14,495	6542.2 5691.7 5691.7	14,423 12,548 12,548	5072.6 4413.1 4413.1	11,183 9,729 9,729	2344.2 2039.4 2039.4	5,168 4,496 4,496	100% Hydraulics Over End Over Side
1.5 m (5'0")			8857.8 7706.2 7706.2	19,528 16,989 16,989	6573.1 5718.5 5718.5	14,491 12,607 12,607	4963.7 4318.2 4318.2	10,943 9,520 9,520	2355.9 2049.8 2049.8	5,194 4,519 4,519	100% Hydraulics Over End Over Side
0 m (0'0")	6924.5 6024.2 6024.2	15,266 13,281 13,281	8425.6 7330.2 7330.2	18,575 16,160 16,160	6101.3 5308.1 5308.1	13,451 11,702 11,702	4259.8 3705.9 3705.9	9,391 8,170 8,170			100% Hydraulics Over End Over Side
-1.5 m (-5'0")	7980.1 6942.8 6942.8	17,593 15,306 15,306	6807.2 5922.2 5922.2	15,007 13,056 13,056	4782.3 4160.4 4160.4	10,543 9,172 9,172					100% Hydraulics Over End Over Side

Forest Products Trailer Mount Knuckleboom Loaders

Lift and Range Diagram ● 559B Knuckleboom Loader

559B Knuckleboom Loader 9.8 m (32'0") Boom



NOTES:

Do not attempt to lift or hold any load that is greater than the rated values over the end or side. The weight of the grapple and all lifting accessories must be deducted from lift capacities shown.

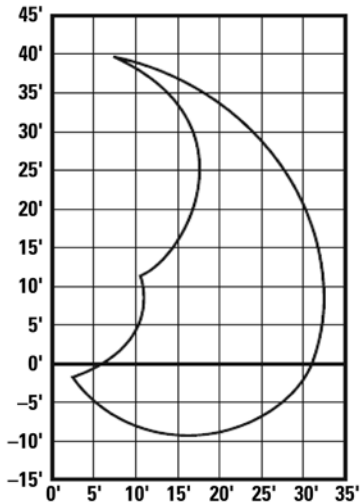
1. The over end capacities and over side capacities do not exceed 87% of hydraulic limited capacity or 75% of stability limited capacity.
– Stability limited capacities are indicated with an asterisk (*).
2. The lift point is located at the grapple knuckle pin.
3. Lift capacities are based on the machine standing on firm, uniform supporting surface. User must make allowances for job site conditions.
4. Operator should be fully acquainted with the Operator's Manual and all safety instructions furnished by Caterpillar Inc. prior to operating the machine.
5. Lift capacities are in compliance with SAE J2417, "Lift Capacity Calculation Method — Knuckleboom Log Loaders and Certain Forestry Equipment."

	3 m/10'0"		4.6 m/15'0"		6.1 m/20'0"		7.6 m/25'0"		9.1 m/30'0"		Maximum Reach		
	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	
10.6 m (35'0")			5687.1 4947.8 4947.8	12,538 10,908 10,908									100% Hydraulics Over End Over Side
9.1 m (30'0")					5398.7 4696.9 4696.9	11,902 10,355 10,355							100% Hydraulics Over End Over Side
7.6 m (25'0")					5630.9 4898.8 4898.8	12,414 10,800 10,800	4732.4 4117.3 4117.3	10,433 9,077 9,077					100% Hydraulics Over End Over Side
6.1 m (20'0")					5751.1 5003.6 5003.6	12,679 11,031 11,031	5133.3 4466.1 4466.1	11,317 9,846 9,846					100% Hydraulics Over End Over Side
4.6 m (15'0")			7265.2 6320.8 6320.8	16,017 13,935 13,935	6594.8 5737.5 5737.5	14,539 12,649 12,649	5594.2 4867.1 4867.1	12,333 10,730 10,730	4182.6 3638.7 3631.9	9,221 8,022 8,007*	2665.8 2319.2 2319.2	5,877 5,113 5,113	100% Hydraulics Over End Over Side
3.0 m (10'0")			9105.9 7921.9 7921.9	20,075 17,465 17,465	7195.8 6260.5 6260.5	15,864 13,802 13,802	5946.1 5173.6 5173.6	13,109 11,405 10,851*	4455.2 3875.9 3582.2	9,822 8,522 7,897	2691.2 2341.4 2341.4	5,933 5,162 5,162	100% Hydraulics Over End Over Side
1.5 m (5'0")			10 155.1 8800.2 8800.2	22,300 19,401 19,401	7591.8 6604.8 6604.8	16,737 14,561 14,561	6015.5 5233.5 4776.4	13,262 11,538 10,530*	4253.4 3700.5 3526.7	9,377 8,158 7,775*	2797.8 2433.9 2433.9	6,168 5,366 5,366	100% Hydraulics Over End Over Side
0 m (0'0")	8249.5 7177.2 7177.2	18,187 15,823 15,823	10 288.4 8950.8 8950.8	22,682 19,733 19,733	7553.7 6571.7 6571.7	16,653 14,488 14,488	5758.4 5009.9 4667.5	12,695 11,045 10,290*	3705.9 3224.2 3224.2	8,170 7,108 7,108			100% Hydraulics Over End Over Side
-1.5 m (-5'0")	8217.3 7149.1 7149.1	18,116 15,761 15,761	9281.9 8075.4 8075.4	20,463 17,803 17,803	6782.6 5900.8 5900.8	14,953 13,009 13,009	4870.2 4237.0 4237.0	10,737 9,341 9,341					100% Hydraulics Over End Over Side

Lift and Range Diagram ● 569 Knuckleboom Loader

Forest Products Trailer Mount Knuckleboom Loaders

569 Knuckleboom Loader 9.9 m (32'6") Boom



NOTES:

Do not attempt to lift or hold any load that is greater than the rated values over the end or side. The weight of the grapple and all lifting accessories must be deducted from lift capacities shown.

1. The over end capacities and over side capacities do not exceed 87% of hydraulic limited capacity or 75% of stability limited capacity.
– Stability limited capacities are indicated with an asterisk (*).
2. The lift point is located at the grapple knuckle pin.
3. Lift capacities are based on the machine standing on firm, uniform supporting surface. User must make allowances for job site conditions.
4. Operator should be fully acquainted with the Operator's Manual and all safety instructions furnished by Caterpillar Inc. prior to operating the machine.
5. Lift capacities are in compliance with SAE J2417, "Lift Capacity Calculation Method — Knuckleboom Log Loaders and Certain Forestry Equipment."

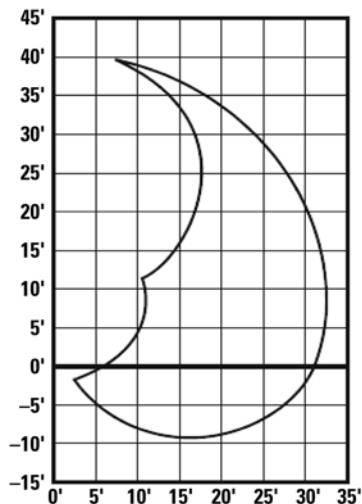
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	3 m/10'0"		4.6 m/15'0"		6.1 m/20'0"		7.6 m/25'0"		9.1 m/30'0"		Maximum Reach		
	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	
10.6 m (35'0")			5286.7 4599.5 4599.5	11,655 10,140 10,140									100% Hydraulics Over End Over Side
9.1 m (30'0")					4972.9 4326.4 4326.4	10,963 9,538 9,538							100% Hydraulics Over End Over Side
7.6 m (25'0")					5758.4 5010.0 5010.0	12,695 11,045 11,045	4410.8 3937.4 3937.4	9,724 8,460 8,460					100% Hydraulics Over End Over Side
6.1 m (20'0")					6363.5 5536.2 5536.2	14,029 12,205 12,205	5428.7 4722.9 4722.9	11,968 10,412 10,412					100% Hydraulics Over End Over Side
4.6 m (15'0")			7299.3 6350.4 6350.4	16,092 14,000 14,000	6877.5 5983.4 5983.4	15,162 13,191 13,191	6073.2 5283.5 5283.5	13,389 11,648 11,648	2767.9 2408.2 2408.2	6,102 5,309 5,309			100% Hydraulics Over End Over Side
3.0 m (10'0")			9814.5 8538.6 8538.6	21,637 18,824 18,824	8452.4 7353.8 7353.8	18,634 16,212 16,212	6934.2 6032.9 6032.9	15,287 13,300 13,300	3974.0 3457.3 3457.3	8,761 7,622 7,622	2324.2 2022.1 2022.1	5,124 4,458 4,458	100% Hydraulics Over End Over Side
1.5 m (5'0")	18 436.1 16 039.3 16 039.3	40,644 35,360 35,360	12 083.4 10 512.6 10 512.6	26,639 23,176 23,176	9112.8 7928.0 7928.0	20,090 17,478 17,478	7295.7 6347.2 6347.2	16,084 13,993 13,993	4668.4 4061.5 4061.5	10,292 8,954 8,954	2366.0 2058.4 2058.4	5,216 4,538 4,538	100% Hydraulics Over End Over Side
0 m (0'0")	10 192.8 8867.9 8867.9	22,471 19,550 19,550	12 622.8 10 981.6 10 981.6	27,828 24,210 24,210	9241.6 8040.1 8040.1	20,374 17,725 17,725	7086.8 6173.5 6173.5	15,644 13,610 13,610	4947.4 4304.2 4304.2	10,907 9,489 9,489	2480.3 2157.8 2157.8	5,468 4,757 4,757	100% Hydraulics Over End Over Side
-1.5 m (-5'0")	9419.5 8194.7 8194.7	20,766 18,066 18,066	11 628.5 10 116.6 10 116.6	25,636 22,303 22,303	8447.8 7349.7 7349.7	18,624 16,203 16,203	6120.4 5324.8 5324.8	13,493 11,739 11,739	4361.8 3794.8 3794.8	9,616 8,366 8,366			100% Hydraulics Over End Over Side

Forest Products Trailer Mount Knuckleboom Loaders

Lift and Range Diagram ● 579 Knuckleboom Loader

579 Knuckleboom Loader 9.9 m (32'6") Boom



NOTES:

Do not attempt to lift or hold any load that is greater than the rated values over the end or side. The weight of the grapple and all lifting accessories must be deducted from lift capacities shown.

1. The over end capacities and over side capacities do not exceed 87% of hydraulic limited capacity or 75% of stability limited capacity.
– Stability limited capacities are indicated with an asterisk (*).
2. The lift point is located at the grapple knuckle pin.
3. Lift capacities are based on the machine standing on firm, uniform supporting surface. User must make allowances for job site conditions.
4. Operator should be fully acquainted with the Operator's Manual and all safety instructions furnished by Caterpillar Inc. prior to operating the machine.
5. Lift capacities are in compliance with SAE J2417, "Lift Capacity Calculation Method — Knuckleboom Log Loaders and Certain Forestry Equipment."

	3 m/10'0"		4.6 m/15'0"		6.1 m/20'0"		7.6 m/25'0"		9.1 m/30'0"		Maximum Reach		
	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	
10.6 m (35'0")			6514.1 5667.3 5667.3	14,361 12,494 12,494									100% Hydraulics Over End Over Side
9.1 m (30'0")					6142.2 5343.8 5343.8	13,541 11,781 11,781							100% Hydraulics Over End Over Side
7.6 m (25'0")					6077.8 5287.6 5287.6	13,399 11,657 11,657	5470.4 4759.2 4759.2	12,060 10,492 10,492					100% Hydraulics Over End Over Side
6.1 m (20'0")					6246.1 5434.1 5434.1	13,770 11,980 11,980	5763.0 5013.6 5013.6	12,705 11,053 11,053	3497.7 3043.2 3043.2	7,711 6,709 6,709			100% Hydraulics Over End Over Side
4.6 m (15'0")			7689.4 6689.7 6689.7	16,952 14,748 14,748	7085.2 6164.0 6164.0	15,620 13,589 13,589	6041.0 5255.9 5255.9	13,318 11,587 11,587	4944.0 4306.9 4306.9	10,914 9,495 9,495	2967.0 2581.4 2581.4	6,541 5,691 5,691	100% Hydraulics Over End Over Side
3.0 m (10'0")			10 201.0 8874.7 8874.7	22,489 19,565 19,565	9232.1 8031.9 8031.9	20,353 17,707 17,707	7230.4 6290.5 6290.5	15,940 13,868 13,868	5247.7 4565.5 4565.5	11,569 10,065 10,065	3019.2 2626.8 2626.8	6,656 5,791 5,791	100% Hydraulics Over End Over Side
1.5 m (5'0")	21 356.8 18 580.4 18 580.4	47,083 40,962 40,962	14 054.3 12 227.2 12 227.2	30,984 26,956 26,956	10 646.4 9262.5 9262.5	23,471 20,420 20,420	8611.6 7452.6 6731.0	18,885 16,430 14,839*	5083.1 4428.0 4428.0	11,221 9,762 9,762	3164.3 2752.9 2752.9	6,976 6,069 6,069	100% Hydraulics Over End Over Side
0 m (0'0")	10 070.8 8761.7 8761.7	22,202 19,316 19,316	14 724.3 12 810.1 12 810.1	32,461 28,241 28,241	10 824.7 9417.6 9417.6	23,864 20,762 20,762	8356.2 7269.8 6630.3	18,422 16,027 14,617*	4487.0 3903.7 3903.7	9,892 8,606 8,606			100% Hydraulics Over End Over Side
-1.5 m (-5'0")	9314.2 8103.6 8103.6	20,534 17,865 17,865	13 622.5 11 851.7 11 851.7	30,032 26,128 26,128	9940.6 8648.3 8648.3	21,915 19,066 19,066	7256.7 6313.2 6313.2	15,998 13,918 13,918					100% Hydraulics Over End Over Side

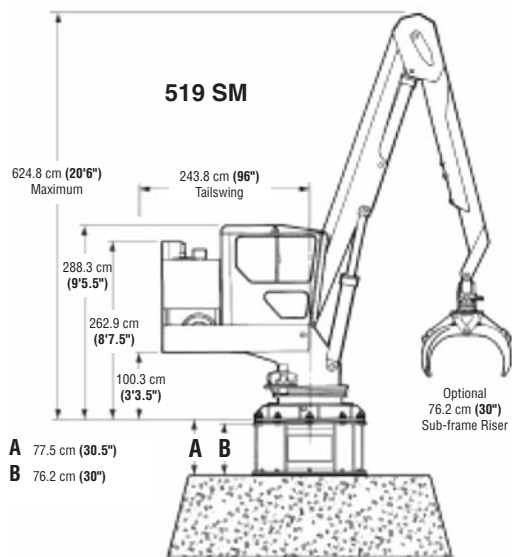
519/569 Features:

- **Heavy-duty boom options** range in length from 8.2 m (27 ft) to 10.90 m (36 ft) for handling a variety of tree lengths.
- **Weatherproof electric service panels** include starters, controls, transformers, circuit breakers and fuse blocks.
- **Electric motors** are rated for severe duty.
- **Resilient Pad Mounting System** includes a set of special rubber isolators on each mounting fastener that absorbs stress in two directions.
- **Hydraulic pilot joystick controls and rocker swing pedal** are ergonomically designed for ease of operation and maximum loader control.

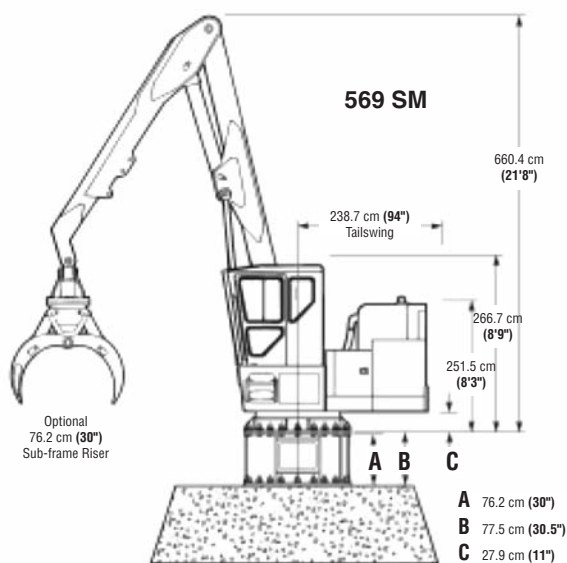
MODEL	519 SM		519 SM/EHC		569 SM		569 SM/EHC	
Electric Power Supply (standard)	460 Volt: 60 Hz		460 Volt: 60 Hz		460 Volt: 60 Hz		460 Volt: 60 Hz	
Electric Power Supply (optional)	575 Volt: 60 Hz		575 Volt: 60 Hz		575 Volt: 60 Hz		575 Volt: 60 Hz	
Electric Motor @ 1800 RPM	56 kW	75 hp	56 kW	75 hp	74 kW	100 hp	74 kW	100 hp
Operating Weight	7218.9 kg	15,915 lb	6946.7 kg	15,315 lb	8593.3 kg	18,945 lb	8321.1 kg	18,345 lb
Hydraulic System:								
System Pressure	15 168 kPa	2200 psi	15 168 kPa	2200 psi	17 237 kPa	2500 psi	17 237 kPa	2500 psi
Swing Pressure	16 547 kPa	2400 psi	16 547 kPa	2400 psi	17 237 kPa	2500 psi	17 237 kPa	2500 psi
Swing Speed	8 RPM		8 RPM		7 RPM		7 RPM	
Knuckleboom Length (standard)	8.2 m	27'0"	8.2 m	27'0"	9.9 m	32'6"	9.9 m	32'6"
Knuckleboom Length (optional)	9.1 m	30'0"	9.1 m	30'0"	11.0 m	36'0"	11.0 m	36'0"

Forest Products Stationary Mount Knuckleboom Loaders

Dimensions

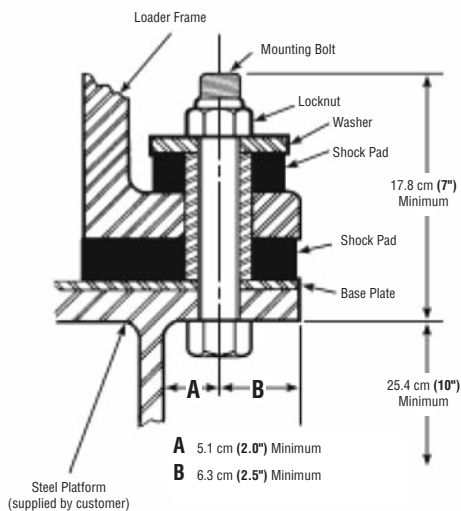


NOTE: Overall height dimension to 8.2 m (27'0") boom articulation point is taken with main boom cylinder fully extended. Add 76.2 cm (30") to this dimension for 9.1 m (30'0") knuckleboom.



NOTE: Overall height dimension to 9.1 m (30'0") boom articulation point is taken with main boom cylinder fully extended. Add 106.9 cm (42") to this dimension for 10.9 m (36'0") knuckleboom.

Resilient Pad System

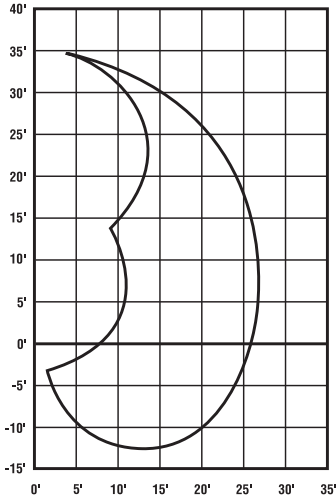


- Operator's cab is not present on EHC models.
- EHC models available with Remote Power Packs.
- Installations on concrete include "J" Bolts in lieu of Mounting Bolt.

Lift and Range Diagram
 • 519 SM Knuckleboom Loader
 • 519 SM/EHC Knuckleboom Loader

Forest Products
 Stationary Mount
 Knuckleboom Loaders

519 SM/519 SM/EHC
 8.2 m (27'0") Boom



NOTES:

Do not attempt to lift or hold any load that is greater than the rated values over the end or side at their specified lift point and height. The weight of the grapple and all lifting accessories must be deducted from lift capacities shown.

1. All figures shown in these charts represent rated lift capacities.
2. Capacities shown in *italic* are 100% of hydraulic capacity; other capacities shown are 87% of hydraulic capability.
3. The lift point is located at the boom/grapple pivot pin.
4. Manufacturer assumes no responsibility for the proper fit or structural integrity of the mounting pedestal and/or platform supplied by the customer.
5. Operator should be fully acquainted with the Operator's Manual and all safety instructions furnished prior to operating the machine.
6. Lift capacities are in compliance with SAE J2417, "Lift Capacity Calculation Method — Knuckleboom Log Loaders and Certain Forestry Equipment."

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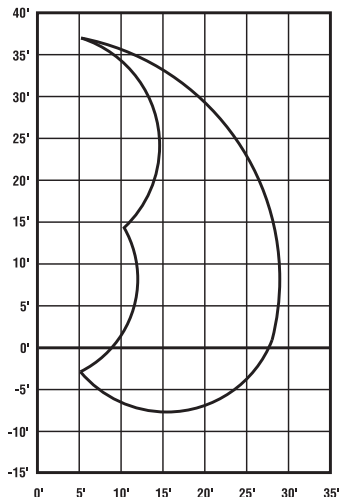
	1.5 m/5'0"		3 m/10'0"		4.6 m/15'0"		6.1 m/20'0"		7.6 m/25'0"	
	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb
7.6 m (25'0")					5021 4368	<i>11,060</i> <i>9,622</i>				
6.1 m (20'0")					5177 4504	<i>11,402</i> <i>9,920</i>	4486 3903	<i>9,882</i> <i>8,597</i>		
4.6 m (15'0")					5311 4620	<i>11,698</i> <i>10,177</i>	4634 4032	<i>10,207</i> <i>8,880</i>		
3.0 m (10'0")			3788 3295	<i>8,343</i> <i>7,258</i>	5854 5093	<i>12,894</i> <i>11,218</i>	4799 4175	<i>10,571</i> <i>9,197</i>	3962 3447	<i>8,728</i> <i>7,593</i>
1.5 m (5'0")					7229 6289	<i>15,923</i> <i>13,853</i>	5951 5177	<i>13,107</i> <i>11,403</i>	3890 3384	<i>8,568</i> <i>7,454</i>
0 m (0'0")					8730 6603	<i>19,229</i> <i>16,729</i>	6469 5628	<i>14,249</i> <i>12,397</i>	4061 3533	<i>8,946</i> <i>7,783</i>
-1.5 m (-5'0")			4764 4145	<i>10,494</i> <i>9,130</i>	8057 7010	<i>17,747</i> <i>15,440</i>	5811 5056	<i>12,800</i> <i>11,136</i>	3040 2645	<i>6,697</i> <i>5,826</i>
-3.0 m (-10'0")	3050 2654	<i>6,718</i> <i>5,845</i>	6276 5460	<i>13,824</i> <i>12,027</i>	6152 5353	<i>13,552</i> <i>11,790</i>	4083 3552	<i>8,993</i> <i>7,824</i>		
-4.6 m (-15'0")			3494 3040	<i>7,697</i> <i>6,696</i>	2564 2231	<i>5,648</i> <i>4,914</i>				

Forest Products Stationary Mount Knuckleboom Loaders

Lift and Range Diagram

- 519 SM Knuckleboom Loader
- 519 SM/EHC Knuckleboom Loader

519 SM/519 SM/EHC 9.1 m (30'0") Boom



NOTES:

Do not attempt to lift or hold any load that is greater than the rated values over the end or side at their specified lift point and height. The weight of the grapple and all lifting accessories must be deducted from lift capacities shown.

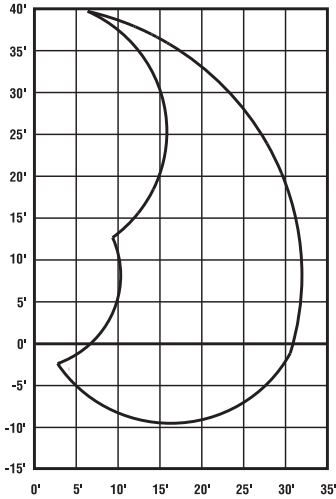
1. All figures shown in these charts represent rated lift capacities.
2. Capacities shown in *italic* are 100% of hydraulic capacity; other capacities shown are 87% of hydraulic capability.
3. The lift point is located at the boom/grapple pivot pin.
4. Manufacturer assumes no responsibility for the proper fit or structural integrity of the mounting pedestal and/or platform supplied by the customer.
5. Operator should be fully acquainted with the Operator's Manual and all safety instructions furnished prior to operating the machine.
6. Lift capacities are in compliance with SAE J2417, "Lift Capacity Calculation Method — Knuckleboom Log Loaders and Certain Forestry Equipment."

	1.5 m/5'0"		3 m/10'0"		4.6 m/15'0"		6.1 m/20'0"		7.6 m/25'0"		9.1 m/30'0"	
	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb
9.1 m (30'0")					4206 3659	<i>9,264</i> <i>8,060</i>						
7.6 m (25'0")					4714 4101	<i>10,384</i> <i>9,034</i>	3940 3428	<i>8,679</i> <i>7,551</i>				
6.1 m (20'0")							4179 3636	<i>9,206</i> <i>8,009</i>	3088 2687	<i>6,802</i> <i>5,918</i>		
4.6 m (15'0")					4419 3845	<i>9,734</i> <i>8,469</i>	4267 3712	<i>9,398</i> <i>8,176</i>	3713 3230	<i>8,178</i> <i>7,115</i>		
3.0 m (10'0")					4942 4300	<i>10,886</i> <i>9,471</i>	4488 3904	<i>9,885</i> <i>8,600</i>	3769 3279	<i>8,301</i> <i>7,222</i>		
1.5 m (5'0")					6380 5551	<i>14,053</i> <i>12,226</i>	5670 4933	<i>12,490</i> <i>10,866</i>	4407 3834	<i>9,707</i> <i>8,445</i>	1996 1737	<i>4,397</i> <i>3,825</i>
0 m (0'0")					8448 7350	<i>18,608</i> <i>16,189</i>	6299 5480	<i>13,874</i> <i>12,070</i>	4873 4239	<i>10,733</i> <i>9,338</i>		
-1.5 m (-5'0")			2892 2516	<i>6,369</i> <i>5,541</i>	7983 6945	<i>17,583</i> <i>15,297</i>	5894 5128	<i>12,983</i> <i>11,295</i>	4320 3758	<i>9,515</i> <i>8,278</i>		
-3.0 m (-10'0")	2039 1774	<i>4,492</i> <i>3,908</i>	4532 3943	<i>9,983</i> <i>8,685</i>	6538 5688	<i>14,401</i> <i>12,529</i>	4775 4154	<i>10,517</i> <i>9,150</i>	2937 2556	<i>6,470</i> <i>5,629</i>		
-4.6 m (-15'0")			4942 4299	<i>10,885</i> <i>9,470</i>	3981 3463	<i>8,768</i> <i>7,628</i>	2518 2191	<i>5,547</i> <i>4,826</i>				

Lift and Range Diagram
 • 569 SM Knuckleboom Loader
 • 569 SM/EHC Knuckleboom Loader

Forest Products
 Stationary Mount
 Knuckleboom Loaders

569 SM/569 SM/EHC
 9.6 m (32'6") Boom



NOTES:

Do not attempt to lift or hold any load that is greater than the rated values over the end or side at their specified lift point and height. The weight of the grapple and all lifting accessories must be deducted from lift capacities shown.

1. All figures shown in these charts represent rated lift capacities.
2. Capacities shown in *italic* are 100% of hydraulic capacity; other capacities shown are 87% of hydraulic capability.
3. The lift point is located at the boom/grapple pivot pin.
4. Manufacturer assumes no responsibility for the proper fit or structural integrity of the mounting pedestal and/or platform supplied by the customer.
5. Operator should be fully acquainted with the Operator's Manual and all safety instructions furnished prior to operating the machine.
6. Lift capacities are in compliance with SAE J2417, "Lift Capacity Calculation Method — Knuckleboom Log Loaders and Certain Forestry Equipment."

6

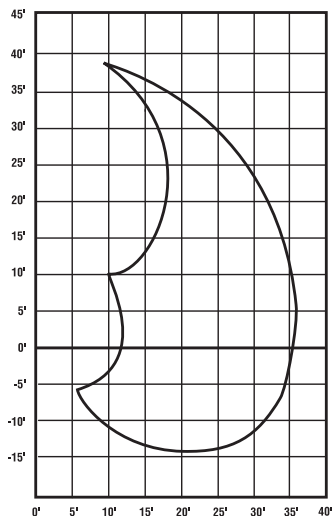
	1.5 m/5'0"		3 m/10'0"		4.6 m/15'0"		6.1 m/20'0"		7.6 m/25'0"		9.1 m/30'0"	
	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb
9.1 m (30'0")												
7.6 m (25'0")							<i>5118</i> 4453	<i>11,274</i> 9,808				
6.1 m (20'0")							<i>5850</i> 5089	<i>12,885</i> 11,210	<i>4577</i> 3982	<i>10,082</i> 8,771		
4.6 m (15'0")							<i>6422</i> 5587	<i>14,145</i> 12,306	<i>5560</i> 4837	<i>12,247</i> 10,655	<i>2997</i> 2607	<i>6,601</i> 5,743
3.0 m (10'0")					<i>7558</i> 6575	<i>16,647</i> 14,483	<i>7002</i> 6091	<i>15,422</i> 13,417	<i>6115</i> 5320	<i>13,470</i> 11,719	<i>4093</i> 3561	<i>9,016</i> 7,844
1.5 m (5'0")					<i>10 730</i> 9335	<i>23,634</i> 20,562	<i>8567</i> 7453	<i>18,870</i> 16,417	<i>7127</i> 6200	<i>15,698</i> 13,657	<i>4740</i> 4124	<i>10,441</i> 9,084
0 m (0'0")			<i>18 803</i> 16 359	<i>41,417</i> 36,033	<i>12 247</i> 10 654	<i>26,975</i> 23,468	<i>9179</i> 7985	<i>20,217</i> 17,589	<i>7305</i> 6355	<i>16,090</i> 13,998	<i>4939</i> 4297	<i>10,878</i> 9,464
-1.5 m (-5'0")			<i>9850</i> 8569	<i>21,695</i> 18,875	<i>12 595</i> 10 957	<i>27,741</i> 24,135	<i>9205</i> 8008	<i>20,275</i> 17,639	<i>7026</i> 6112	<i>15,475</i> 13,463		
-3.0 m (-10'0")	<i>3712</i> 3230	<i>8,177</i> 7,114	<i>9507</i> 8271	<i>20,940</i> 18,218	<i>11 367</i> 9889	<i>25,037</i> 21,782	<i>8250</i> 7178	<i>18,172</i> 15,810	<i>5897</i> 5131	<i>12,990</i> 11,301		

Forest Products Stationary Mount Knuckleboom Loaders

Lift and Range Diagram

- 569 SM Knuckleboom Loader
- 569 SM/EHC Knuckleboom Loader

569 SM/569 SM/EHC 10.9 m (36'0") Boom



NOTES:

Do not attempt to lift or hold any load that is greater than the rated values over the end or side at their specified lift point and height. The weight of the grapple and all lifting accessories must be deducted from lift capacities shown.

1. All figures shown in these charts represent rated lift capacities.
2. Capacities shown in *italic* are 100% of hydraulic capacity; other capacities shown are 87% of hydraulic capability.
3. The lift point is located at the boom/grapple pivot pin.
4. Manufacturer assumes no responsibility for the proper fit or structural integrity of the mounting pedestal and/or platform supplied by the customer.
5. Operator should be fully acquainted with the Operator's Manual and all safety instructions furnished prior to operating the machine.
6. Lift capacities are in compliance with SAE J2417, "Lift Capacity Calculation Method — Knuckleboom Log Loaders and Certain Forestry Equipment."

	3 m/10'0"		4.6 m/15'0"		6.1 m/20'0"		7.6 m/25'0"		9.1 m/30'0"		10.6 m/35'0"	
	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb
10.6 m (35'0")			<i>5110</i> 4446	<i>11,255</i> 9,792								
9.1 m (30'0")					<i>4985</i> 4337	<i>10,979</i> 9,552						
7.6 m (25'0")					<i>5744</i> 4998	<i>12,653</i> 11,008	<i>4697</i> 4086	<i>10,345</i> 9,000				
6.1 m (20'0")					<i>6087</i> 5295	<i>13,407</i> 11,664	<i>5508</i> 4792	<i>12,132</i> 10,555	<i>3943</i> 3430	<i>8,685</i> 7,556		
4.6 m (15'0")					<i>6629</i> 5767	<i>14,601</i> 12,703	<i>5997</i> 5218	<i>13,210</i> 11,493	<i>5037</i> 4382	<i>11,094</i> 9,652		
3.0 m (10'0")			<i>8808</i> 7663	<i>19,400</i> 16,878	<i>7924</i> 6894	<i>17,454</i> 15,185	<i>6701</i> 5830	<i>14,761</i> 12,842	<i>5444</i> 4737	<i>11,992</i> 10,433	<i>2748</i> 2391	<i>6,053</i> 5,266
1.5 m (5'0")			<i>11 401</i> 9919	<i>25,113</i> 21,848	<i>8652</i> 7527	<i>19,057</i> 16,580	<i>7024</i> 6111	<i>15,472</i> 13,461	<i>5873</i> 5109	<i>12,936</i> 11,254	<i>3306</i> 2877	<i>7,283</i> 6,336
0 m (0'0")			<i>12 364</i> 10 757	<i>27,233</i> 23,693	<i>9096</i> 7914	<i>20,036</i> 17,431	<i>7171</i> 6239	<i>15,795</i> 13,742	<i>5804</i> 5049	<i>12,784</i> 11,122	<i>3200</i> 2784	<i>7,048</i> 6,132
-1.5 m (-5'0")	<i>4876</i> 4242	<i>10,740</i> 9,344	<i>12 156</i> 10 575	<i>26,775</i> 23,294	<i>8973</i> 7806	<i>19,763</i> 17,194	<i>6956</i> 6051	<i>15,321</i> 13,329	<i>5420</i> 4716	<i>11,939</i> 10,387		
-3.0 m (-10'0")	<i>5803</i> 5049	<i>12,783</i> 11,121	<i>10 713</i> 9321	<i>23,598</i> 20,530	<i>8081</i> 7030	<i>17,799</i> 15,485	<i>6170</i> 5368	<i>13,591</i> 11,824	<i>4454</i> 3875	<i>9,810</i> 8,535		

Wheel Loader and Integrated Toolcarrier
Forestry Features:

NOTE: For more information on the complete line of Cat Wheel Loaders and Integrated Toolcarriers, see section 12 of the performance handbook.

988H — Logging Arrangement equips the 988H with heavy-duty tilt cylinders, additional counterweight, and heavy-duty tires (42PL R-5) for strength and durability required in millyard and logging applications. Work tool attachments, such as logging forks are designed for heavy-duty applications; loading and unloading trucks, sorting, decking and feeding the mill.

980H — Forest Machine Arrangement equips the 980H with an extreme service transmission, heavy-duty tilt cylinders and 2041 kg (4500 lb) counterweight for the strength and durability required to be productive in this tough application. Logging, millyard and wood pallet forks, woodchip and clean-up buckets can be added to equip the 980H for forestry applications.

966H/950H — Forest Machine Arrangements on the 966H and 950H provide ride control, heavy-duty tilt cylinders and an additional counterweights for use in forestry and logging applications. Specially designed work tools for forestry applications can be factory-installed.

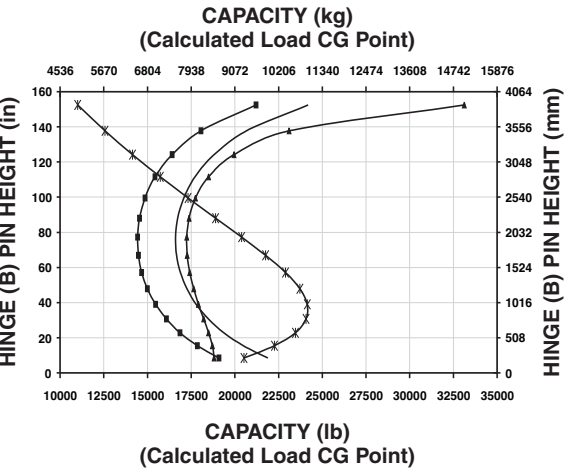
IT62H — From pallet forks up through specialized logging arrangements, loader forks are available for a wide range of jobs, making the IT62H an efficient and versatile machine.

- **Core Forks** — Superior design makes these the logical choice for plywood mills and millyards.
- **Grapple Forks** — With kickout offer many high-performance log-handling features such as easy loading, increased dump clearance and improved sorting ability.
- **Logging Forks** — Designed for heavy-duty applications; loading and unloading trucks, sorting, decking and feeding the mill.
- **Lumber and Log Forks** — Ideal for a wide range of jobs; loading, decking and sorting lumber, logs or palletized material.
- **Millyard Forks** — Used for unloading, sorting, decking, feeding logs into the mill; millyard forks maximize loader efficiency in millyard applications.
- **Pallet Forks** — When used with quick coupler, pallet forks increase the versatility of the machine, making them ideal for handling a variety of material.

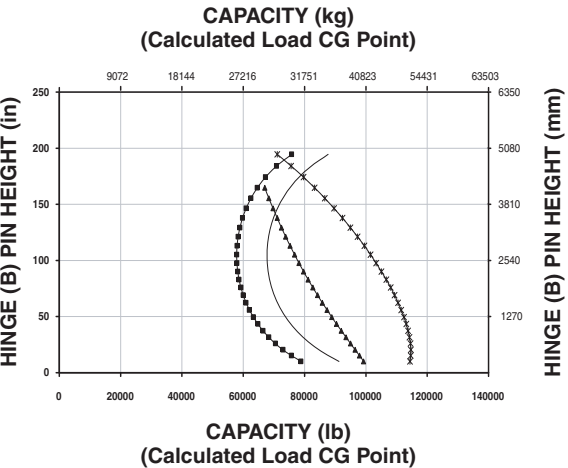
MODEL	988H LL	
Operating Weight	58 535 kg	129,047 lb
Engine Model	C18 ACERT	
Full Turn Static Tipping Load (Logging Forks)	31 630 kg	69,732 lb
	@ 37 degree articulation	

- 928Hz
- 988H

928Hz with Pin-On
Cat Lumber and Log Fork



988H with Quick Coupler and
Cat Millyard Fork



KEY

- Tipping Capacity with Machine Straight Fork Level
- Tipping Capacity with Machine Articulated Fork Level
- ▲ Hydraulic Lift Capacity with Fork Level
- ✱ Hydraulic Tilt Capacity with Fork Level

Curves based on machine with 928Hz with cab and AC, optional counterweight, limited slip axles, heavy duty rear brakes, additional guarding, sound suppression, 80 kg (176 lb) operator, Michelin 20.5 R25 XHA tires, and 141-6252 log and lumber fork configured with 1219 mm (48") tines without top clamp. Fork weight is 707 kg (1555 lb) and machine operating weight is 12 324 kg (27,113 lb). Forks of other dimensions or weight may affect machine capacity. Hydraulic capacities are calculated for system pressure. Consult your Cat dealer for additional fork data.

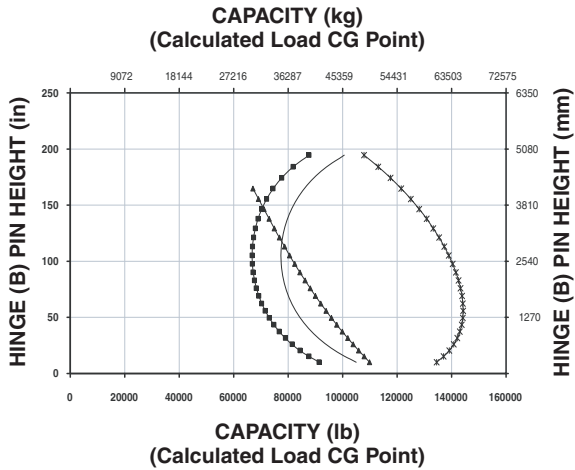
Curves based on machine with full fuel tank, operator, ROPS cab, 35/65-33 30 PR (L-4) tires. Standard 4455 kg (9825 lb) counterweight, 2690 kg (5930 lb) ballast in rear tires, 5196C2 millyard fork at 5480 kg (12,080 lb). Total operating weight, 52 765 kg (116,325 lb). Forks or other dimensions or weight will affect machine capacity.

NOTE: Static tipping load and operating weight are based on machine configuration with standard tires, full fuel tank, coolant, lubricants, and operator.

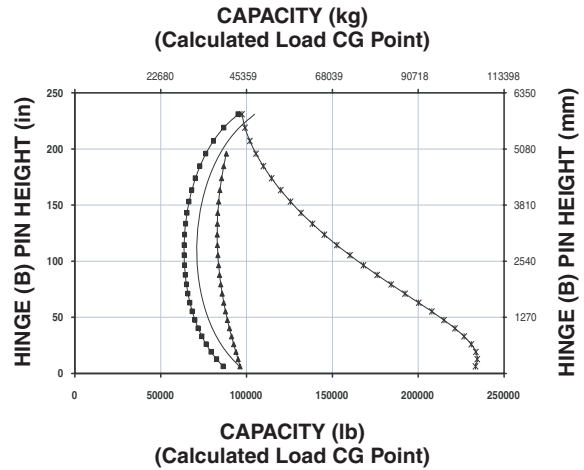
Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers (SAE). SAE Standards J732 JUN92 and J742 FEB85 govern loader ratings.

The rated operating load for a machine with fork is: SAE J1197; 50% of full turn static tipping load, or hydraulic/structural limit. CEN 474-3: 60% of full turn tipping load on rough terrain; 80% of full turn tipping load on firm and level ground, or hydraulic structural limit.

988H with Pin-On Cat Logging Fork



990H with Pin-On Cat Logging Fork



KEY

- Tipping Capacity with Machine Straight Fork Level
- Tipping Capacity with Machine Articulated Fork Level
- ▲ Hydraulic Lift Capacity with Fork Level
- * Hydraulic Tilt Capacity with Fork Level

Curves based on machine with full fuel tank, operator, ROPS cab, 35/65-33 30 PR (L-4) tires. Standard log 4455 kg (9825 lb) counterweight, 2690 kg (5930 lb) ballast in rear tires, 8965C DTC log fork at 4490 kg (9900 lb). Total operating weight 51 775 kg (114,160 lb).

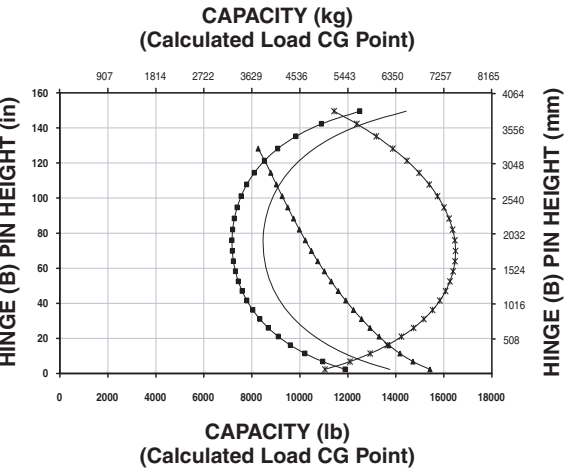
Curves based on machine with full fuel tank, operator, ROPS cab, 45/65x39 X-MINE D2 radial tires 4788 kg (10,555 lb) ballast in rear tires, 7845 kg (17,295 lb) logger counterweight, 114-3557.02 log fork with 2438 mm (8'0") tines and top clamp at 5896 kg (13,000 lb), 1292.1 mm (4'3") link. Total operating weight 87 705 kg (193,360 lb).

NOTE: Static tipping load and operating weight are based on machine configuration with standard tires, full fuel tank, coolant, lubricants, and operator.

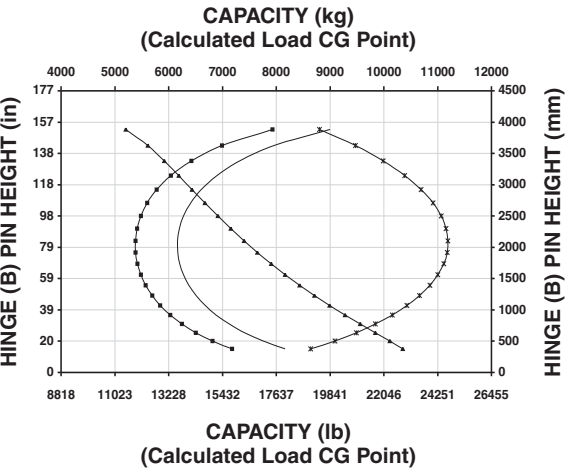
Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers (SAE). SAE Standards J732 JUN92 and J742 FEB85 govern loader ratings.

The rated operating load for a machine with fork is: SAE J1197; 50% of full turn static tipping load, or hydraulic/structural limit. CEN 474-3: 60% of full turn tipping load on rough terrain; 80% of full turn tipping load on firm and level ground, or hydraulic structural limit.

IT14G with Pin-On
Cat Lumber and Log Fork



924H with Quick Coupler and
Cat Lumber and Log Fork



KEY

- Tipping Capacity with Machine Straight Fork Level
- Tipping Capacity with Machine Articulated Fork Level
- ▲ Hydraulic Lift Capacity with Fork Level
- * Hydraulic Tilt Capacity with Fork Level

Curves and operating weight are based on machine equipped with 17.5R25 tires, full fuel tank, 9816C2 lumber and log fork without top clamp. Fork weight is 803 kg (1770 lb). Total operating weight 8020 kg (17,668 lb). Forks of other dimensions or weight may affect machine capacity. Consult your Cat dealer for additional fork data.

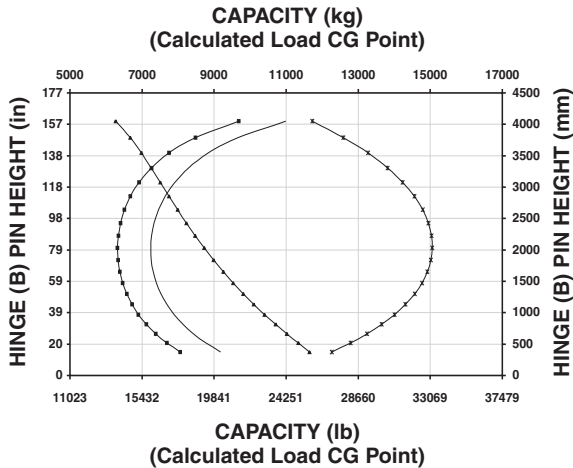
Curves based on machine with 924H with cab and AC, optional counterweight, limited slip axles, heavy duty rear brakes, additional guarding, sound suppression, 80 kg (176 lb) operator, Michelin 20.5 R25 XHA tires, and 180-8355 log and lumber fork configured with 1219 mm (48") tines without top clamp. Fork weight is 800 kg (1760 lb) and machine operating weight is 11 555 kg (25,421 lb). Forks of other dimensions or weight may affect machine capacity. Hydraulic capacities are calculated for system pressure. Consult your Cat dealer for additional fork data.

NOTE: Static tipping load and operating weight are based on machine configuration with standard tires, full fuel tank, coolant, lubricants, and operator.

Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers (SAE). SAE Standards J732 JUN92 and J742 FEB85 govern loader ratings.

The rated operating load for a machine with fork is: SAE J1197; 50% of full turn static tipping load, or hydraulic/ structural limit. CEN 474-3: 60% of full turn tipping load on rough terrain; 80% of full turn tipping load on firm and level ground, or hydraulic structural limit.

930H with Pin-On Cat Lumber and Log Fork



KEY

- Tipping Capacity with Machine Straight Fork Level
- Tipping Capacity with Machine Articulated Fork Level
- ▲ Hydraulic Lift Capacity with Fork Level
- * Hydraulic Tilt Capacity with Fork Level

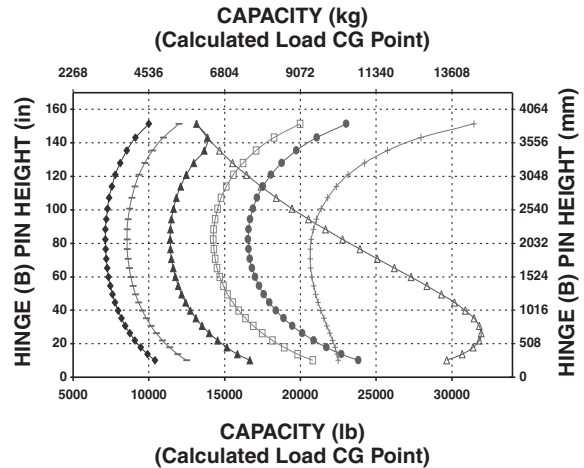
Curves based on machine with 930H with cab and AC, optional counterweight, limited slip axles, heavy duty rear brakes, additional guarding, sound suppression, 80 kg (176 lb) operator, Michelin 20.5 R25 XHA tires, and 180-8355 log and lumber fork configured with 1219 mm (48") tines without top clamp. Fork weight is 800 kg (1760 lb) and machine operating weight is 12 935 kg (28,457 lb). Forks of other dimensions or weight may affect machine capacity. Hydraulic capacities are calculated for system pressure. Consult your Cat dealer for additional fork data.

NOTE: Static tipping loads and operating weight are based on machine configuration with standard tires, full fuel tank, coolant, lubricants, and operator. Static tipping loads conform to the international standard as defined in ISO 14397-1 (SEPT2007).

Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers (SAE) and European Committee for Standardization (CEN): SAE J1197, SAE J732, CEN EN 474-3.

The rated operating load for a machine with fork is: SAE J1197; 50% of full turn static tipping load, or hydraulic/structural limit. CEN 474-3: 60% of full turn tipping load on rough terrain; 80% of full turn tipping load on firm and level ground, or hydraulic structural limit.

938H with Pin-On Logging Fork



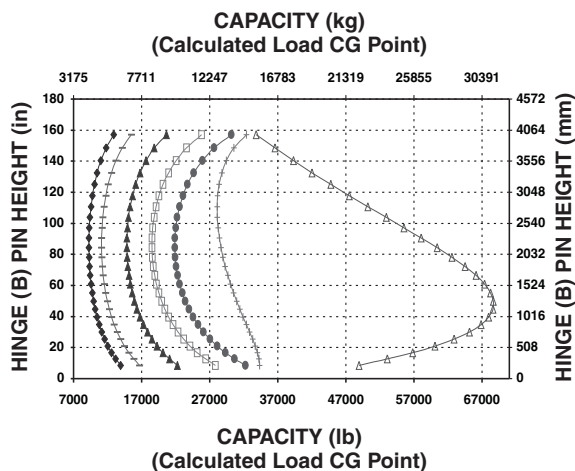
KEY

- ◆ Payload (SAE J1197)
- Payload (CEN EN 474-3 — Rough Terrain)
- ▲ Payload (CEN EN 474-3 — Firm and Level)
- Static Tipping Load — Articulated
- Static Tipping Load — Straight
- △ Hydraulic Tilt Capacity

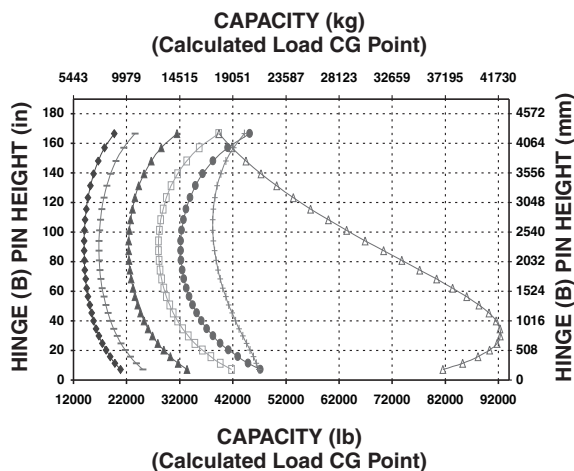
Curves based on machine equipped with 20.5R25 Michelin XHA tires, 610 kg (1345 lb) counterweight, full fuel tank, and logging fork 292-4050. Fork weight is 1677 kg (3697 lb) and machine operating weight is 15 384 kg (33,906 lb). Forks of other dimensions or weight may affect machine capacity. Consult your Cat dealer for additional data.

- 950H
- 966H

950H with Pin-On Millyard Fork



966H with Pin-On Logging Fork



KEY

- ◆ Payload (SAE J1197)
- Payload (CEN EN 474-3 — Rough Terrain)
- ▲ Payload (CEN EN 474-3 — Firm and Level)
- Static Tipping Load — Articulated
- Static Tipping Load — Straight
- △ Hydraulic Tilt Capacity

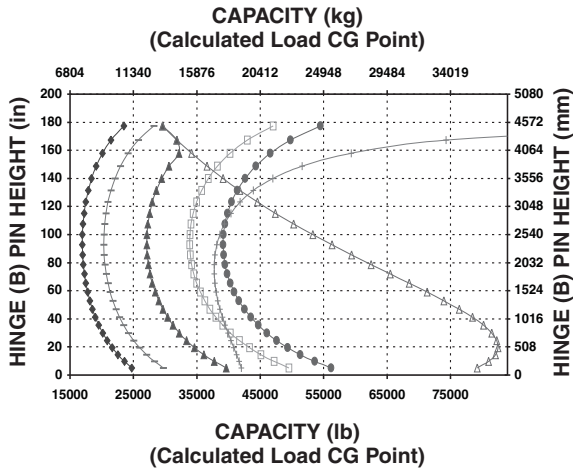
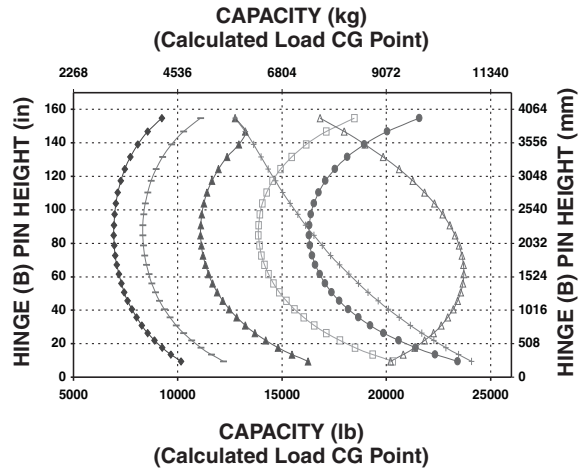
Curves based on machine equipped with 23.5R25 Michelin XHA tires, 1400 kg (3086 lb) counterweight, full fuel tank, and millyard fork 256-7361. Fork weight is 2515 kg (5545 lb) and machine operating weight is 19 714 kg (43,449 lb). Forks of other dimensions or weight may affect machine capacity. Consult your Cat dealer for additional data.

Curves based on machine equipped with 26.5R25 Michelin XHA tires, 2650 kg (5842 lb) counterweight, full fuel tank, and logging fork 253-7320. Fork weight is 2681 kg (5911 lb) and machine operating weight is 25 471 kg (56,138 lb). Forks of other dimensions or weight may affect machine capacity. Consult your Cat dealer for additional data.

NOTE: Static tipping loads and operating weight are based on machine configuration with standard tires, full fuel tank, coolant, lubricants, and operator. Static tipping loads conform to the international standard as defined in ISO 14397-1 (SEPT2007).

Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers (SAE) and European Committee for Standardization (CEN): SAE J1197, SAE J732, CEN EN 474-3.

The rated operating load for a machine with fork is: SAE J1197; 50% of full turn static tipping load, or hydraulic/structural limit. CEN 474-3: 60% of full turn tipping load on rough terrain; 80% of full turn tipping load on firm and level ground, or hydraulic structural limit.

980H with
Pin-On Millyard ForkIT38H with
Quick Coupler and Millyard Fork

KEY

- ◆ Payload (SAE J1197)
- Payload (CEN EN 474-3 — Rough Terrain)
- ▲ Payload (CEN EN 474-3 — Firm and Level)
- Static Tipping Load — Articulated
- Static Tipping Load — Straight
- △ Hydraulic Tilt Capacity

Curves based on machine equipped with 29.5R25 Michelin XHA tires, 3400 kg (7496 lb) counterweight, full fuel tank, and millyard fork 192-7656. Fork weight is 3262 kg (7191 lb) and machine operating weight is 32 406 kg (71,422 lb). Forks of other dimensions or weight may affect machine capacity. Consult your Cat dealer for additional data.

Curves based on machine equipped with 20.5R25 Michelin XHA tires, 1330 kg (2932 lb) counterweight, full fuel tank, and millyard fork 103-8617 with 268-8218 coupler. Fork weight is 1816 kg (4004 lb) and machine operating weight is 16 802 kg (37,301 lb). Forks of other dimensions or weight may affect machine capacity. Consult your Cat dealer for additional data.

NOTE: Static tipping loads and operating weight are based on machine configuration with standard tires, full fuel tank, coolant, lubricants, and operator. Static tipping loads conform to the international standard as defined in ISO 14397-1 (SEPT2007).

Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers (SAE) and European Committee for Standardization (CEN): SAE J1197, SAE J732, CEN EN 474-3.

The rated operating load for a machine with fork is: SAE J1197; 50% of full turn static tipping load, or hydraulic/structural limit. CEN 474-3: 60% of full turn tipping load on rough terrain; 80% of full turn tipping load on firm and level ground, or hydraulic structural limit.

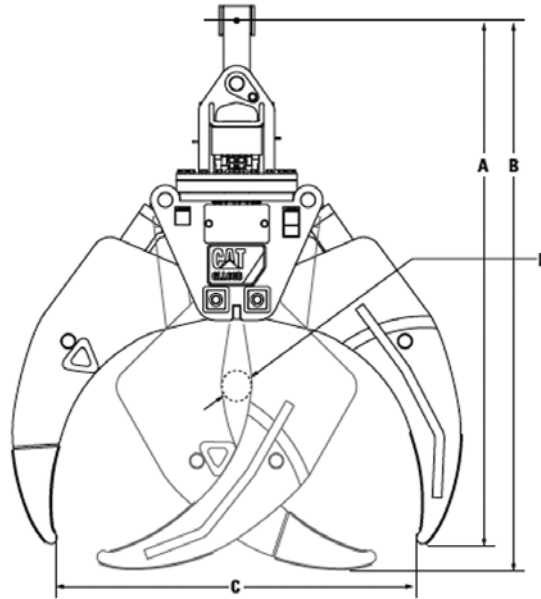
WORK TOOLS

Grapples for Heel Boom Log Loaders
 Features6-76
 Dimensions6-77
Logging Forks
 Features6-78
 Specifications6-78
Couplers
 Features6-81
Buckets and Thumbs
 Features6-81
Woodchip Dozers and Scoops
 Features6-82
 Specifications6-82
Rakes
 Features6-83

Features:

- **Full 360° continuous rotation.**
- **Paddle style tines** are made of abrasion resistant material.
- **Induction hardened** pins and bushings.

Dimensions for Log Loading Grapples



6

	GLL52		GLL55		GLL60	
Part Number	271-1533		271-1534		271-1535	
Weight	1255 kg	2767 lb	1291 kg	2840 lb	1344 kg	2965 lb
Width	673 mm	26.5"	673 mm	26.5"	673 mm	26.5"
A Height, Open	2134 mm	84"	2184 mm	86"	2261 mm	89"
B Height, Closed	2159 mm	85"	2210 mm	87"	2286 mm	90"
C Maximum Opening	1321 mm	52"	1397 mm	55"	1524 mm	60"
D Minimum Opening	127 mm	5"	127 mm	5"	127 mm	5"
Rotation, Continuous	360°		360°		360°	
Rotation, Torque @ 8273 kPa (1200 psi)	1153 N-m	850 ft-lb	1153 N-m	850 ft-lb	1153 N-m	850 ft-lb

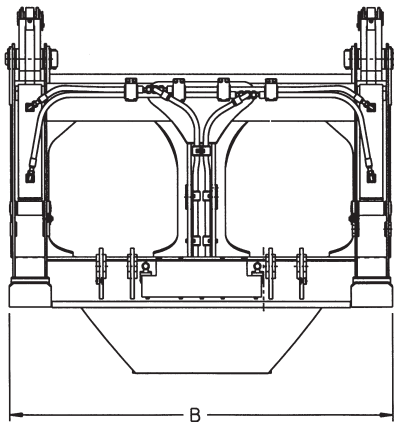
Features:

Loader Fork

- Few work tool lines can match the range and utility of Cat Forks. Forks transform loaders into high performance material handling platforms capable of sorting, stacking and working wherever product, palletized material or lumber is at hand.

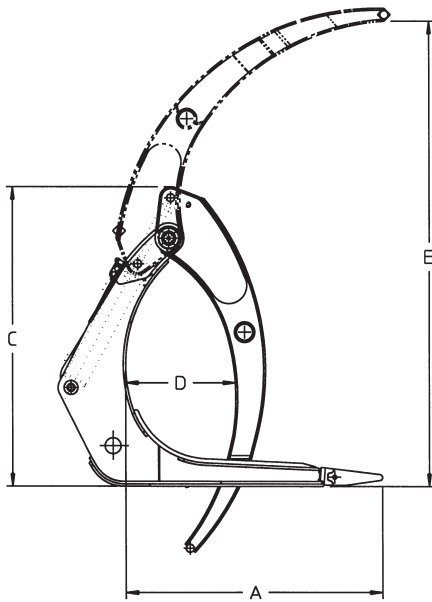
Millyard and Logging Forks

- Cat Millyard and double top clamp forks are performance-matched to 966H Wheel Loaders for unmatched on-the-job performance. The design features of fork and loader complement each other to make the ideal total system solution for log handling applications. Both forks are ideally suited for heavy-duty applications: loading and unloading trucks, sorting, decking, and feeding the mill.



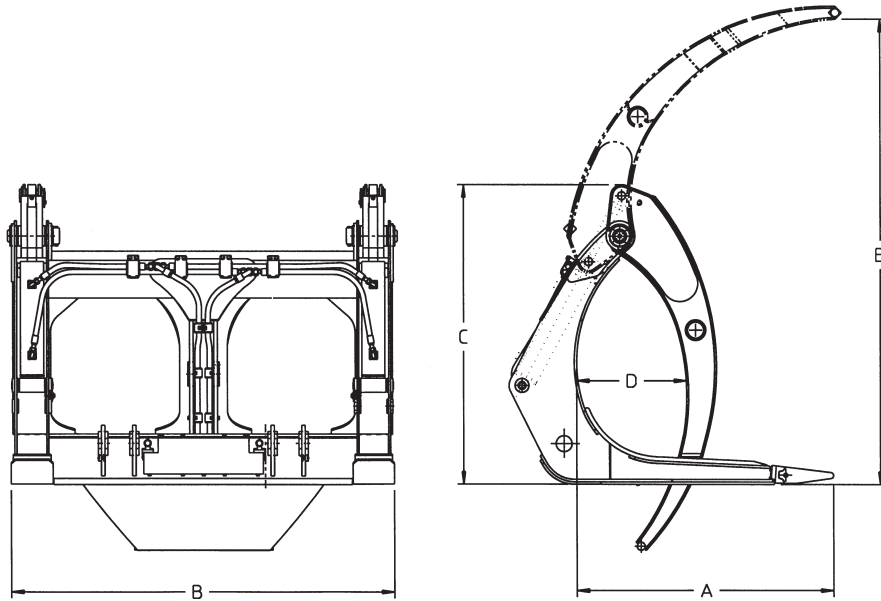
Log and Lumber Forks

- Handle logs or finished lumber with equal ease. The top clamp holds loose loads securely, and the pallet-style forks make short palletized material. This versatility makes them suitable for a wide range of jobs including loading trucks, decking and sorting lumber or logs.



MODEL	IT28G	938H	IT38H	950H/962H	950H/962H
Model	Millyard Fork	Millyard Fork	Millyard Fork	Millyard Fork	Logging Fork
Group Number	250-7011	292-4050	103-8617	256-7361	257-1959
Logging Arrangement	(Quick Coupler)	(Pin-On)	(Coupler)	(Pin-On)	(Pin-On)
Linkage Arrangement					
A — Tine Length	1219 mm 4'0"	1372 mm 4'6"	1363 mm 4'6"	1618 mm 5'4"	1626 mm 5'4"
B — Overall Width	1778 mm 5'10"	2288 mm 7'6"	2608 mm 8'7"	2724 mm 8'11"	2261 mm 7'5"
C — Back Height	1886 mm 6'2"	1842 mm 6'1"	—	1919 mm 6'3"	1895 mm 6'2"
D — Minimum Opening	—	165 mm 6.5"	—	—	1535 mm 5'0"
E — Maximum Clamp Opening	2705 mm 8'10"	2794 mm 9'2"	—	—	2520 mm 8'4"
Weight, Approximate	—	1677 kg 3697 lb	1816 kg 4004 lb	2515 kg 5545 lb	2200 kg 4860 lb

NOTE: Third valve required. Counterweight recommended.
Logging forks with millyard style clamps are available where logging application requires clamp to close between tines.
Contact your Cat dealer for more information.



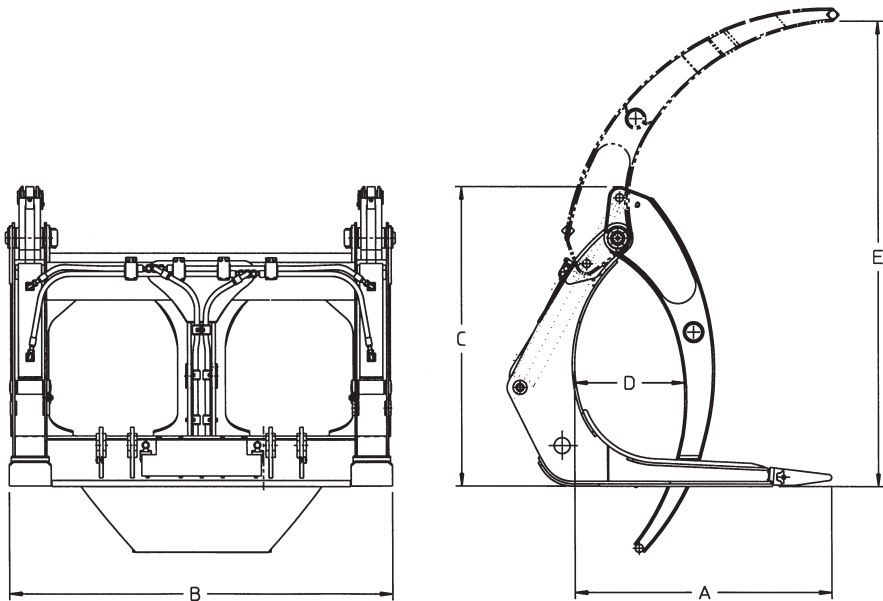
MODEL	950H/962H		IT62H		IT62H		IT62H	
Model	Logging Fork		Millyard		Double Top Clamp		Log and Lumber with Top Clamp	
Group Number								
Logging Arrangement	257-1960		163-0193		163-0194		114-3532	
Linkage Arrangement	(Coupler)		(Coupler)		(Coupler)		(Coupler)	
A — Tine Length	1626 mm	5'4"	1626 mm	5'4"	1620 mm	5'4"	1219 mm	4'0"
B — Overall Width	2261 mm	7'5"	2261 mm	7'5"	2261 mm	7'5"	2248 mm	7'5"
C — Back Height	1895 mm	6'2"	1872 mm	6'2"	1895 mm	6'3"	1726 mm	5'8"
D — Minimum Opening	1535 mm	5'0"	448 mm	17.64"	1537 mm	5'1"	1217 mm	4'0"
E — Maximum Clamp Opening	2520 mm	8'4"	2914 mm	9'7"	2565 mm	8'5"	2798 mm	9'2"
Weight, Approximate	2200 kg	4860 lb	2179 kg	4800 lb	2221 kg	4892 lb	863 kg	1900 lb

MODEL	966H		966H		966H	
Model	Millyard		Logging		Log and Lumber W/TC	
Group Number						
Logging Arrangement	253-7320		255-7333		143-7209	
A — Tine Length	1618 mm	5'4"	1618 mm	5'4"	1524 mm	5'0"
B — Overall Width	2416 mm	7'11"	2416 mm	7'11"	2502 mm	8'3"
C — Back Height	1905 mm	6'3"	1897 mm	6'3"	1726 mm	5'8"
D — Minimum Opening	697 mm	2'3"	1603 mm	5'3"	1506 mm	4'11"
E — Maximum Clamp Opening	2927 mm	9'7"	2563 mm	8'5"	2794 mm	9'2"
Weight, Approximate	2681 kg	5911 lb	2300 kg	5065 lb	1585 kg	3491 lb

NOTE: Third valve required. Counterweight recommended.

Logging forks with millyard style clamps are available where logging application requires clamp to close between tines.

Contact your Cat dealer for more information.



MODEL	980H		980H		988H		988H	
Model	Double Top Clamp		Millyard Fork		Double Top Clamp		Millyard Top Clamp	
Group Number	190-3982		192-7656		210-9208		273-3209	
Logging Arrangement								
A — Tine Length	1829 mm	6'0"	1830 mm	6'0"	2509 mm	8'3"	2508 mm	8'2"
B — Overall Width	2756 mm	9'2"	2880 mm	9'5"	2774 mm	9'1"	2870 mm	9'5"
C — Back Height	1556 mm	5'1"	—	—	2783 mm	9'2"	—	—
D — Minimum Opening	1828 mm	5'11.95"	694 mm	2'3"	—	—	998 mm	3'3"
E — Maximum Clamp Opening	2990 mm	9'9"	3073 mm	10'1"	3997 mm	13'1"	3911 mm	12'9"
Weight, Approximate	3175 kg	7000 lb	3262 kg	7191 lb	6696 kg	14,760 lb	7428 kg	16,376 lb

NOTE: Third valve required. Counterweight recommended.
Logging forks with millyard style clamps are available where logging application requires clamp to close between tines.
Contact your Cat dealer for more information.

Features — Couplers

Horizontal Pin Lock Couplers

- Quick Couplers provide unmatched versatility to any loader. Hydraulic couplers allow the operator to change tools in seconds without leaving the cab. Any work tool backed by coupler hooks can be picked up; allowing the loader to fit whatever application is at hand.

Dedicated Wedge Lock Couplers

- The Cat Dedicated Wedge Lock Coupler system quickly and positively engages a wide variety of work tools. Exchanging work tools is fast and easy, improving overall production and increasing machine versatility. Machine operators can change tools as the job demands in seconds.
- The Dedicated Coupler offers the flexibility of rapid work tool mounting without the loss of breakout force found in other coupler systems. The coupler duplicates the original machine linkage geometry and performance, for maximum breakout force with any bucket. Equipped with an integrated 50 mm (2") lifting-eye, the coupler can handle material without a bucket attached, maximizing available lifting power.

Pin Grabber Couplers

- The Cat Hydraulic Pin Grabber Plus Coupler allows buckets and other standard work tools to be used without any modification. Exchanging work tools in seconds improves overall production and increases machine versatility. The Coupler is pinned on in place of the bucket with standard pins, and can be easily removed should the need arise to mount a tool directly to the stick.
- The Pin Grabber Plus Coupler offers new possibilities. Buckets can be turned around and used in front shovel mode for final trench clean up. An integral lift eye on the coupler body allows lifting without the weight of the bucket, increasing both machine capacity and visibility from the cab.

Features — Buckets and Thumbs

Cat Bucket Thumbs for Hydraulic Excavators

- Multiply the performance of a Cat Excavator by adding a Cat Bucket Thumb. This highly versatile work tool acts in conjunction with the bucket to allow the excavator to grab irregularly shaped items and load loose materials and debris.

Mini Bucket Thumbs

- Cat Bucket Thumbs are matched to Hydraulic Excavator Buckets for increased on-the-job performance. A thumb works with the bucket to grab, pick and sort debris, brush, trash and rock, opening up new production opportunities for your Cat Mini Excavator. Thumbs are an ideal complement to excavators working in demolition, land clearing, landscaping, material handling and construction jobs.

Clamshell Buckets

- Clamshell Buckets from Cat are the premier tools for cleanup, demolition, ground clearing and forestry work. Built of heavy T1 steel, these buckets are tough and durable for long service life in the most difficult applications. Clamshell buckets feature continuous 360° rotation, powered by a high-torque hydraulic motor.

Features:

Buckets, U-blades, Bowldozers, Chip scoops

- The high-capacity, high-efficiency design of these tools makes them high-production workhorses. They are matched to specific machines and material densities for optimum performance. The extra capacity and load retention capabilities ensure maximum usage and productivity.

WHEEL TRACTOR MODEL	824H		834H	
Blade:				
Capacity	24 m³	31.4 yd³	29.8 m³	39 yd³
Length (cutting width)	4.78 m	15'7"	6.09 m	20'0"
Height	2.24 m	7'4"	2.24 m	7'4"
Wing angle	30°		30°	
Weight, Installed (without hydraulics)				
BD (S) Dozer	3630 kg	8000 lb	4627 kg	9470 lb

WHEEL TRACTOR MODEL	814F Series II		824H		834H	
Chip Scoop:						
Lift and Carrying Capacity	15.3 m³	20 yd³	20.6 m³	27 yd³	34.4 m³	39.5 yd³
Dozing Capacity	30.4 m³	40 yd³	41.3 m³	54 yd³	49.4 m³	65 yd³
Width	3.73 m	12'3"	4.03 m	13'3"	4.83 m	15'10"
Height	2.29 m	7'6"	2.79 m	9'2"	2.25 m	7'4"
Depth	2.46 m	8'1"	2.95 m	9'8"	3.02 m	9'11"
Weight	5390 kg	11,880 lb	11 420 kg	19,125 lb	11 105 kg	24,480 lb

NOTE: For specifications of Woodchip Dozers used on track-type tractors, see the Bulldozer section in this handbook.

Features — Rakes

Loader, Clearing and Clamp and Blade Rakes

- Rakes are durable, high-capacity tools that will increase production for land clearing, site cleanup and site preparation. Available in quick coupler and pin-on models, rakes pile brush, stack and carry debris and load trucks. Features include thick, fabricated teeth, a heavy-duty push bar and serrated tree pusher. A high brush rack retains the load, prevents back spillage and increases carrying capacity.

USE OF LOG VOLUME TABLES

The tabulated volumes on these pages were calculated with no taper in log diameter from base to top. Therefore each value listed in the table represents the volume of a true cylinder. In practice this may occur only in short sections of large diameter trees. To obtain the volume of solid wood logs, excluding bark:

1. Establish the base diameter of the log inside the bark and above the butt flare (extreme end taper).
2. Repeat the procedure for the top (small end) of log.
3. Enter log volume table at each of the two established diameters. Move horizontally to the vertical column closest to the length of the log being measured.
4. Establish the volume figures for each end of the log, add the two together and divide by two to obtain average log volume.

METRIC LOG VOLUMES (in Cubic Meters)

Log Diameter (cm)	LOG LENGTH (METERS)														
	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30
10	0.016	0.031	0.047	0.063	0.078	0.094	0.12	0.13	0.14	0.16	0.17	0.19	0.20	0.22	0.24
15	0.035	0.071	0.11	0.14	0.18	0.21	0.25	0.28	0.32	0.35	0.39	0.42	0.46	0.49	0.53
20	0.06	0.13	0.19	0.25	0.31	0.38	0.44	0.50	0.57	0.63	0.69	0.75	0.82	0.86	0.94
25	0.10	0.20	0.30	0.39	0.49	0.59	0.69	0.79	0.88	0.98	1.08	1.18	1.28	1.37	1.47
30	0.14	0.28	0.42	0.57	0.71	0.85	0.99	1.13	1.27	1.42	1.56	1.70	1.84	1.98	2.12
35	0.19	0.38	0.58	0.7	0.96	1.15	1.35	1.54	1.73	1.93	2.12	2.31	2.50	2.69	2.89
40	0.25	0.50	0.75	1.01	1.26	1.51	1.77	2.02	2.27	2.52	2.78	3.02	3.27	3.51	3.77
45	0.32	0.64	0.95	1.27	1.59	1.91	2.22	2.54	2.86	3.18	3.50	3.82	4.13	4.45	4.77
50	0.39	0.79	1.18	1.57	1.96	2.36	2.76	3.16	3.54	3.94	4.34	4.71	5.10	5.49	5.89
55	0.48	0.95	1.43	1.90	2.38	2.85	3.33	3.80	4.28	4.75	5.23	5.70	6.18	6.65	7.12
60	0.57	1.13	1.70	2.26	2.83	3.39	3.96	4.52	5.09	5.65	6.22	6.78	7.35	7.92	8.48
65	0.66	1.33	1.99	2.65	3.32	3.98	4.65	5.31	5.98	6.64	7.30	7.96	8.62	9.29	9.95
70	0.77	1.54	2.31	3.08	3.85	4.62	5.40	6.15	6.93	7.70	8.48	9.23	10.0	10.77	11.54
75	0.88	1.77	2.65	3.53	4.42	5.30	6.19	7.06	7.95	8.84	9.72	10.60	11.49	12.37	13.25
80	1.01	2.01	3.02	4.02	5.03	6.03	7.05	8.06	9.07	10.08	11.09	12.10	13.10	14.10	15.10
85	1.13	2.27	3.40	4.54	5.67	6.81	7.94	9.08	10.20	11.32	12.47	13.62	14.75	15.89	17.02
90	1.27	2.54	3.82	5.09	6.36	7.63	8.90	10.17	11.43	12.71	13.99	15.27	16.54	17.81	19.10
95	1.42	2.84	4.75	5.67	7.09	8.51	9.92	11.33	12.76	14.18	15.60	17.01	18.43	19.85	21.26
100	1.57	3.14	4.71	6.28	7.85	9.42	11.0	12.58	14.16	15.72	17.30	18.85	20.42	22.0	23.56
125	2.45	4.90	7.36	9.82	12.27	14.73	17.18	19.6	22.1	24.5	27.0	29.5	32.0	34.4	36.8
150	3.53	7.1	10.6	14.1	17.7	21.2	24.7	28.3	31.8	35.3	38.8	42.4	45.9	49.5	53.0
175	4.8	9.6	14.5	19.2	24.0	28.9	33.7	38.5	43.3	48.1	53.0	57.7	62.6	67.3	72.2
200	6.3	12.6	18.8	25.1	31.4	37.7	44.0	50.3	56.5	62.8	69.1	75.4	81.7	88.0	94.2

ENGLISH MEASURE LOG VOLUMES (in Cubic Feet)

Log Diameter (inches)	LOG LENGTH (FEET)																	
	8	12	16	20	24	28	32	36	40	44	48	52	56	60	70	80	90	100
4	0.7	1	1.4	1.7	2.1	2.4	2.8	3.1	3.5	3.8	4.2	4.5	4.9	5.2	6.1	7	7.8	8.7
6	1.6	2.4	3.1	3.9	4.7	5.5	6.3	7.1	7.8	8.6	9.4	10	11	12	13	16	18	20
8	2.8	4.2	5.6	7	8.4	9.8	11	13	14	15	17	18	19	21	24	28	31	35
10	4.4	6.5	8.7	11	13	15	17	20	22	24	26	28	31	33	38	44	49	55
12	6.3	9.4	13	16	19	22	25	28	31	35	38	41	44	47	55	63	71	79
14	8.5	13	17	21	26	30	34	39	43	47	51	56	60	64	74	86	96	101
16	11	17	22	28	34	39	45	50	56	61	67	73	78	84	98	112	126	140
18	14	21	28	35	42	49	57	64	71	78	85	92	99	106	124	141	159	177
20	17	26	35	44	52	61	70	79	87	96	105	113	122	131	153	175	196	218
22	21	32	42	53	63	74	85	95	106	116	127	137	148	158	185	211	238	264
24	25	38	50	63	75	88	101	113	126	138	151	163	176	189	220	251	283	314
26	29	44	59	74	89	103	118	113	147	162	177	192	207	221	258	295	332	369
28	34	51	68	86	103	120	137	154	171	188	205	222	240	256	299	342	385	428
30	39	59	79	98	118	137	157	177	196	216	236	255	275	295	344	393	442	491
32	45	67	89	118	134	156	179	201	223	246	268	290	313	335	391	447	503	559
34	50	76	101	126	151	177	202	227	252	277	303	328	353	378	441	504	567	631
36	57	85	113	141	170	198	226	255	282	311	339	368	396	424	495	566	637	707
38	63	95	126	158	189	220	252	284	315	347	378	410	441	473	551	630	709	788
40	70	105	140	175	210	244	279	314	349	384	419	454	489	524	611	698	785	873
50	109	164	218	273	327	382	436	491	545	600	645	709	764	818	955	1091	1227	1364
60	157	234	314	393	471	550	628	707	785	864	943	1021	1100	1178	1374	1571	1767	1964
70	214	321	428	535	642	748	855	962	1069	1176	1283	1389	1497	1604	1871	2138	2405	2673
80	279	420	559	698	838	977	1117	1257	1396	1536	1676	1815	1955	2095	2441	2293	3142	3491

WEIGHTS OF COMMERCIALLY IMPORTANT WOODS

Species	kg/m ³ (Green)	lb/ft ³ (Green)
A. Temperate Zone*		
Alder, Red	737	46
Ash, White	769	48
Aspen	689	43
Baldcypress	817	51
Basswood	673	42
Beech	865	54
Birch, Paper	801	50
Yellow	929	58
Cedar, Alaska	577	36
Incense	721	45
Northern, White	449	28
Port-Orford	897	56
Western Red	433	27
Cherry, Black	721	45
Cottonwood, Eastern	785	49
Douglas Fir, (Coast)	881	55
(Inland Empire)	577	36
Elm, American	865	54
Fir, Alpine	449	28
Balsam	721	45
Nobel	481	30
Red	769	48
Silver	577	36
White	753	47
Gum, Black	721	45
Blue	1121	70
Red	801	50
Tupelo	897	56
Hemlock, Eastern	801	50
Western	961	60
Hickory, Pecan	993	62
True	1009	62
Larch, Western	769	48
Locust, Black	929	58
Magnolia, Cucumber	785	49

Species	kg/m ³ (Green)	lb/ft ³ (Green)
Maple, Big Leaf	753	47
Black	865	54
Red	801	50
Silver	721	45
Sugar	897	56
Oak, Black	1009	63
Chestnut	977	61
Red	1009	63
Red, Swamp	1073	67
Swamp Chestnut	1041	65
White	993	62
White, Swamp	1105	69
Pine, Jack	801	50
Loblolly	993	62
Lodgepole	625	39
Long Leaf	993	62
Norway (Red)	673	42
Short Leaf	993	62
Slash	993	62
Sugar	817	51
Western Yellow, (Ponderosa)	721	45
White (Western)	561	35
White (Eastern)	577	36
Poplar, Yellow	609	38
Redwood	801	50
Spruce, Black	513	32
Engleman	625	39
Red	545	34
Sitka	529	33
White	545	34
Sweetgum	801	50
Sycamore	833	52
Tamarack	753	47
Walnut, Black	929	58
Willow, Black	801	50

*NOTE: Weights taken from U.S. Dept. of Agriculture handbook No. 72, Wood Handbook.

Weights of Commercially Important Woods

● Southeast Asia

● West Africa

Forest Products Tables

Species	kg/m ³ (Green)	lb/ft ³ (Green)
B. Southeast Asia		
Apitong	961	60
Bintangor	865	54
Chumprak	929	58
Ebony	1746	109
Geronggang	721	45
Jelutong	641	40
Kapur (Borneo Camphorwood)	1073	67
Keruing	1121	70
Krabak	817	51
Kruen	1121	70
Lumbayau	929	58
Mahogany, Philippine		
(Red Luan)	753	47
(White Luan)	769	48
(Yellow Luan)	769	48
Mahoni	913	57
Alayan Kauri (Damar Minyak)	817	51
Melantai	705	44
Melapi	849	53
Mangkulang	929	58
Meranti Bakau	849	53
Meranti, Dark Red	753	47
White	769	48
Yellow	769	48
Mersawa	817	51
Nyatoh	897	56
Palosapis	817	51
Pulai	545	34
Ramin	1073	67
Rosewood (Sonokelina)	1314	82
Seraya, Dark Red	753	47
Yellow	769	48
White	769	48
Teak	1073	67

Species	kg/m ³ (Green)	lb/ft ³ (Green)
C. West Africa		
Abura	850	53.06
Ako	800	49.94
Azobe	1300	81.16
Aniegre (Mukali)	950	59.31
Bete	900	56.19
Bosse	900	56.19
Bubinga	1000	62.43
Dibetau	750	46.82
Douka (Makore)	950	59.31
Doussie	1200	74.91
Framire	850	53.06
Fromager	550	34.34
Ilomba	750	46.82
Iroko	1200	74.91
Kokrodua (Afrormosia)	1000	62.43
Kosipo	900	56.19
Limba	750	46.82
Mahogany	750	46.82
Moabi	1100	68.67
Niangon	900	56.19
Okoume	650	40.57
Ozigo	900	56.19
Padouk	1000	62.43
Samba (Obeche)	650	40.58
Sapelli	900	56.19
Sipo	800	49.94
Tchitola	850	53.06
Tiaba	900	56.19
Tola	850	53.06

Forest Products Tables

Weights of Commercially Important Woods

- Australia
- New Zealand
- Papua New Guinea

Species	kg/m ³ (Green)	lb/ft ³ (Green)
D. Australia		
Ash Alpine	1041	65
Mountain	1009	63
Silvertop	1330	83
Black Butt	1121	70
Box Long Leaf	993	62
Yellow	1105	69
Black	1105	69
Brownbarrel	1073	67
Candle Bark	657	41
Gum Grey	1217	76
Manna	1121	70
Mountain	1169	73
Mountain Grey	1057	66
River Red	1137	71
Forest Red	1201	75
Southern Blue	1217	76
Spotted	1201	75
Sydney Blue	1153	72
Iron Bark Gray	1330	83
Narrowleaved	1330	83
Red	1330	83
Jarrah	1169	73
Karri	1169	73
Mahogany Red	1153	72
White	1282	80
Myrtle	1169	73
Peppermint	1120	70
Pine Radiata	865	54
Monerey	865	54
Celerytop	1057	66
Stringy Bark Brown	1233	77
Messmate	1169	73
Yellow	1217	76
White	1121	70
Tallowwood	1201	75
Wandoo	1282	80

Species	kg/m ³ (Green)	lb/ft ³ (Green)
E. New Zealand		
Exotic Softwoods		
Radiata Pine	1000	62
Douglas Fir	734	45
Corsican Pine	985	61
Redwood	1016	63
Larch	960	60
Indigenous Softwoods		
Mati	1120	70
Rimu	1130	70
Exotic Hardwoods		
Eucaliptus Botryoides	893	56
Eucaliptus Saligna	1200	75
Indigenous Hardwoods		
Beech — Silver	920	57
Beech — Red	1200	75
Tawa	1022	64

Species	kg/m ³ (Green)	lb/ft ³ (Green)
F. Papua New Guinea		
Pine, Hoop	520	32
Kauri	480	30
Klinki	510	31
Kwila	800	50
Erima	390	24
Taun	680	42
Walnut, PNG	560	35
Cedar, Pencil	720	50
Mersawa	650	40
Celtis, Hard	780	48
Rosewood, PNG	600	37
Beech, PNG	830	51
Oak, PNG	650	40
Ebony, PNG Black	1115	69
PNG White	720	50
Hardwood, Yellow	780	48
Hopea, Heavy	960	60
Light	710	44
Podocarp, Black	410	25
Terminalia, Brown	450	28

ESTIMATING NUMBER OF TREES PER HECTARE

Spacing (Meters)	Spacing (Meters)							
	1	2	3	4	5	6	7	8
1	10 000	5000	3333	2500	2000	1667	1428	1250
2	5000	2500	1667	1250	1000	834	714	625
3	3333	1667	1111	834	667	556	477	417
4	2500	1250	834	625	500	417	357	313
5	2000	1000	667	500	400	330	286	250
6	1667	834	556	417	333	278	238	208
7	1428	714	477	357	286	238	204	179
8	1250	625	417	313	250	208	179	156

ESTIMATING NUMBER OF TREES PER ACRE

Spacing (Feet)	Spacing (Feet)							
	5	6	7	8	9	10	11	12
5	1742	1452	1244	1089	968	871	792	726
6	1452	1210	1037	907	806	726	660	605
7	1244	1037	888	777	691	622	565	518
8	1089	907	777	680	605	544	495	453
9	968	806	691	605	537	484	440	403
10	871	726	622	544	484	435	396	363
11	792	660	565	495	440	396	360	330
12	726	605	518	453	403	363	330	302
13	671	558	478	418	372	335	304	279
14	622	518	444	390	346	311	283	259
15	580	484	415	363	323	290	264	242

COMPARISON OF LOG RULES • Board Foot Values for 16-Foot Logs

Diameter at Small End, Inside Bark, Inches	International 1/4 Inch	Scribner	Scribner Decimal	Spaulding	Doyle
4	5	10	10	—	—
6	20	18	20	—	4
8	40	32	30	—	16
10	65	54	60	50	36
12	95	79	80	77	64
14	135	114	110	114	100
16	180	159	160	161	144
18	230	213	210	216	196
20	290	280	280	276	256
22	355	334	330	341	324
24	425	404	400	412	400
26	500	500	500	488	484
28	585	582	580	569	576
30	675	657	660	656	676
32	770	736	740	748	784
34	875	800	800	845	900
36	980	923	920	950	1024
38	1095	1068	1070	1064	1156
40	1220	1204	1200	1185	1296

UNIT OF MEASUREMENT DEFINITIONS

1 board foot	= 1/12 ft ³ of solid wood (1' × 1' × 1")
1000 board feet	= 83.33 ft ³ of solid wood
1 c. unit of wood	= 100 solid ft ³ = 1200 board feet = 2.83 ³
1 cord of wood	= 128 ft ³ of stacked logs = 3.62 m ³
1 unit of wood	= 200 ft ³ of loose chips = 5.66 m ³
1 cord of wood	= 0.85 units
1 Hoppus Ton	= 50 ft ³ (assumed) = 63.65 ft ³ (actual) = 600 board feet = 763.8 BF Brereton = 1.8 m ³ actual = 1.4 m ³ assumed
1 cubic meter	= 35.32 ft ³ = 424 board feet = 333 board feet Hoppus tons = 0.555 Hoppus Tons
1 MBF Brereton	= 2.36 m ³ = 785.4 board feet Hoppus
1 MBF Hoppus MBF	= 1273 board feet-Brereton = Thousand board feet
1 Super Foot	= 1 board foot
100 Super Feet	= 1000 board foot = 0.236 m ³
600 Super Feet	= 50 ft ³
1 lb/ft ³	= 16.0185 kg/m ³

CUBIC FEET OF SOLID WOOD PER CORD

Length of Sticks-Ft.	Diameter at Small End		
	1"-2.5"	2.5"-5.5"	Over 5.5"
2	65	84	91
4	64	82	89
8	59	77	84
12	54	71	78

RULE OF THUMB CONVERSIONS

1 c. unit of wood = 1.117 cords = 1.25 units of chips = 250 ft ³ of chips = 7.08 m ³
1 cord of wood = 85 ft ³ of solid wood = 1.06 units of chips = 2.41 m ³
1 unit of chips = 80 ft ³ of solid wood = 2.27 m ³
1 cord of wood = 500 board feet = 1.18 m ³
2000 pounds of chips = 500 pounds of pulp
1 cord = 212 ft ³ of chips = 6 m ³

PIPELAYERS

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Features:

- **Hydrostatic transmission** on PL61.
- **Planetary power shift** transmission on 572R2, 583T, 587R, and 587T models.
- **Kick-out helps prevent boom bending** as boom approaches near-vertical.
- **Sealed and Lubricated Track.**
- **Simplified Controls** for all functions including raise, lower, quick-drop and power down, high and low range and speed adjustments.
- **Modular design of major components and accessory drive system** for simplified repair.
- **Separate, self-energizing brakes** for boom and hook winches.
- **Positive track pin retention** (583T, 587R, and 587T).
- **Hydraulic Drawworks** with two independently driven hydraulic motors for boom and hook winches.



MODEL	PL61		572R Series 2		583T		
Flywheel Power	92 kW	125 hp	179 kW	240 hp	231 kW	310 hp	
Operating Weight (with full fuel tank and operator)	17 000 kg	37,480 lb	31 845 kg	70,206 lb	45 359 kg	100,000 lb	
Engine Model	C6.6 ACERT		3176C		C15 ACERT		
Rated Engine RPM	2100		2100		1850		
No. of Cylinders	6		6		6		
Displacement	6.6 L	403 in³	10.3 L	629 in³	15.2 L	928 in³	
Lift Capacity at 1.22 m (4'0") Overhang	18 145 kg	40,000 lb	40 800 kg	90,000 lb	63 504 kg	140,000 lb	
Standard Boom Length	5.49 m	18'0"	6.1 m	20'0"	7.3 m	24'0"	
Width of Standard Shoe	560 mm	22"	660 mm	26"	710 mm	28"	
Length of Track on Ground	2645 mm	8'8"	3.176 m	10'5"	3.556 m	11'8"	
Ground Contact Area (with standard shoes)	3 m²	4650 in²	4.19 m²	6500 in²	5.10 m²	7896 in²	
Track Gauge	2 m	6'7"	2.235 m	7'4"	2.34 m	7'8"	
Fuel Tank Refill Capacity	295 L	78 U.S. gal	479 L	127 U.S. gal	409 L	108 U.S. gal	
GENERAL DIMENSIONS:							
Height to Top of Stack	2.91 m	9'7"	3.18 m	10'5"	3.454 m	11'4"	
Height to Top of Counterweight or Winch	2.45 m	8'1"	2.9 m	9'6"	3.505 m	11'6"	
Height with ROPS (boom removed)	2958 mm	9'8.5"	3454 mm	11'4"	3728 mm	12'3"	
Width, Weights Retracted	3 m	9'10"	3.66 m	12'0"	3.73 m	12'3"	
Minimum Shipping Width (both side frames removed)	2560 mm	8'5"	2.895 m	9'6"	3.07 m**	10'1"***	
Shipping Width (left frame removed)	2816 mm	9'3"	3.66 m	12'0"	3.61 m*	11'10"*	
Overall Length	3.78 m	12'5"	4.74 m	15'6"	5.23 m	17'2"	
Ground Clearance	360 mm	14"	416 mm	16.4"	470 mm	18.5"	
DRUMS and CABLES:							
Drum Capacity	Load	73 m	239'	80 m	263'	181 m	594'
	Boom	49.4 m	162'	52 m	170'	181 m	594'
Cable Diameter	Load	16 mm	0.62"	19 mm	0.75"	19 mm	0.75"
	Boom	16 mm	0.62"	19 mm	0.75"	19 mm	0.75"
Drum Diameter	Load	216 mm	8.5"	254 mm	10"	317 mm	12.5"
	Boom	245 mm	9.63"	224 mm	8.5"	317 mm	12.5"
Adjustable Counterweights		7 @		2 @		2 @	
	67.7 kg ea	149 lb ea	370 kg ea	815 lb ea	300 kg ea	662 lb ea	
		9 @		7 @		5 @	
	114.8 kg ea	253 lb ea	479 kg ea	1055 lb ea	430 kg ea	948 lb ea	
						6 @	
					535 kg ea	1180 lb ea	
					9036 kg	19,920 lb	
Total Weight Extendable	1231 kg	2714 lb	5073 kg	11,184 lb			
	LGP Option						
Operating Weight 610 mm (24")	17 800 kg	39,242 lb					
Shipping Width:							
Boom Removed	3200 mm	10'6"					
Counterweight Removed	3116 mm	10'3"					
Frame, Brackets, Winches Removed	2760 mm	9'1"					
Track Shoe Width	610 mm	24"					
	760 mm	30"					
Ground Contact Area:							
610 mm (24") Shoes	3.2 m²	4690 in²					
760 mm (30") Shoes	4 m²	6200 in²					

*Boom and counterweight only removed.

**Counterweight frame, counterweight mounting brackets, boom, and boom mounting brackets removed.

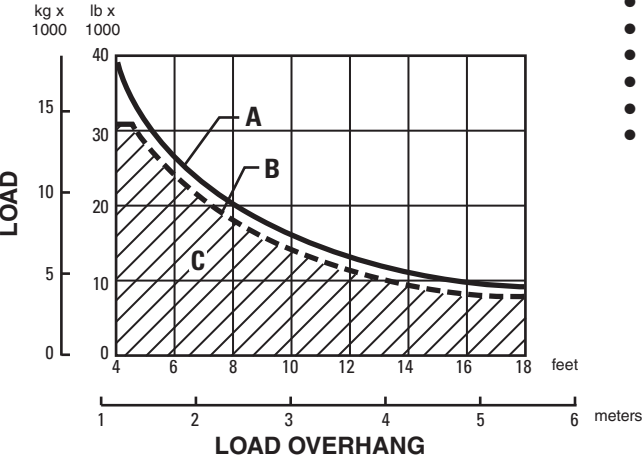

MODEL
587R
587T

Flywheel Power	262 kW	351 hp	273 kW	366 hp	
Operating Weight (with full fuel tank and operator)	53 442 kg	117,820 lb	53 070 kg	117,000 lb	
Engine Model	3406C DITA		C15 ACERT		
Rated Engine RPM	1900		1800		
No. of Cylinders	6		6		
Displacement	14.6 L	893 in³	15.2 L	928 in³	
Lift Capacity at 1.22 m (4'0") Overhang	91 625 kg	202,000 lb	91 625 kg	202,000 lb	
Standard Boom Length	8.5 m	28'0"	8.5 m	28'0"	
Width of Standard Shoe	864 mm	34"	864 mm	34"	
Length of Track on Ground	3.587 m	11'9"	3.587 m	11'9"	
Ground Contact Area (with standard shoes)	6.2 m²	9613 in²	6.2 m²	9613 in²	
Track Gauge	2.54 m	8'4"	2.54 m	8'4"	
Fuel Tank Refill Capacity	568 L	150 U.S. gal	568 L	150 U.S. gal	
GENERAL DIMENSIONS:					
Height to Top of Counterweight or Winch	3.505 m	11'6"	3.505 m	11'6"	
Height with ROPS (boom removed)	—		3835 mm	12'7"	
Width, Weights Retracted	4.343 m	14'3"	4.343 m	14'3"	
Minimum Shipping Width	3.860 m*	12'8"	3.860 m*	12'8"	
Shipping Width (boom and counterweight removed)	4.038 m	13'3"	4.038 m	13'3"	
Overall Length	5.486 m	18'0"	5.486 m	18'0"	
Ground Clearance	457 mm	18"	457 mm	18"	
DRUMS and CABLES:					
Drum Capacity	Load	181 m	594'	181 m	594'
	Boom	181 m	594'	181 m	594'
Cable Diameter	Load	19 mm	0.75"	19 mm	0.75"
	Boom	19 mm	0.75"	19 mm	0.75"
Drum Diameter	Load	317 mm	12.5"	317 mm	12.5"
	Boom	317 mm	12.5"	317 mm	12.5"
Adjustable Counterweights		2 @		2 @	
	285 kg	628 lb	285 kg	628 lb	
	640 kg	1410 lb	640 kg	1410 lb	
	714 kg	1574 lb	714 kg	1574 lb	
Total Weight Extendable	12 900 kg	28,440 lb	12 900 kg	28,440 lb	

*Counterweight frame, counterweight mounting brackets, and boom removed.

PL61

LIFTING CAPACITY* 5.49 m (18'0") BOOM



*Specified Equipment:

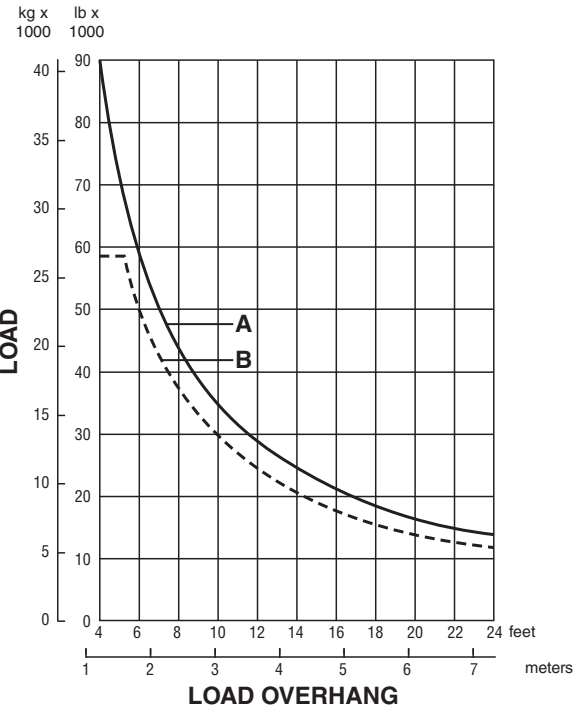
- 16 mm (5/8") diameter wire rope.
- 183.3 kN (41,200 lb) minimum breaking strength.
- 3 part load line.
- 3 part boom line.
- 1231 kg (2714 lb) counterweight extended.
- Standard 5.49 m (18'0") Boom.
- Total operating weight
 - Narrow — 17 000 kg (37,480 lb).
 - LGP — 17 800 kg (39,242).

KEY

A — Lift capacity at tipping point per ISO 8813
B — Rated load capacity per ANSI/ASME B30.14
C — Working range per ANSI/ASME B30.14

572R Series 2

LIFTING CAPACITY* 6.1 m or 7.3 m (20'0" or 24'0") BOOMS



*Specified Equipment:

- 19 mm (3/4") dia. wire rope 261.66 kN (58,800 lb) minimum breaking strength.
- 4 part load line.
- 4 part boom line.
- 5073 kg (11,184 lb) counterweight extended.
- Standard 6.1 m (20'0") Boom.

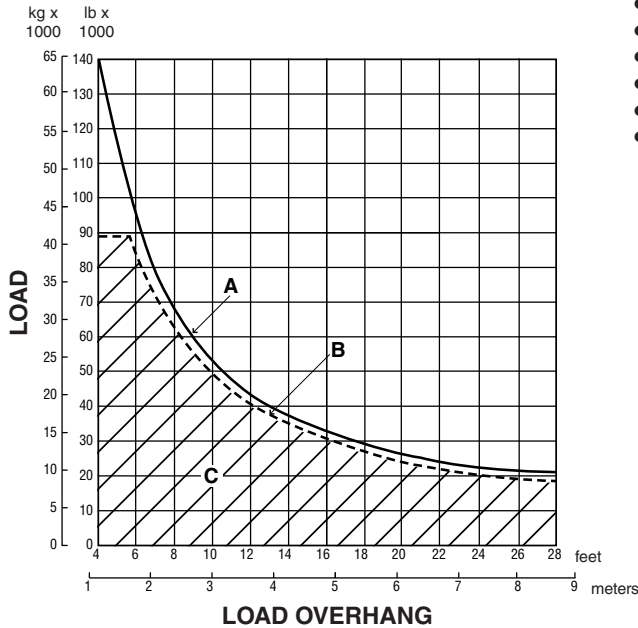
KEY

A — Max lift
B — Rated lift

NOTE: ISO stands for the International Standards Organization. ANSI stands for American National Standard Institute.

583T

LIFTING CAPACITY* 7.3 m, 8.5 m (24'0", 28'0") BOOMS



*Specified Equipment:

- 19 mm (3/4") diameter wire rope.
- 26 672 kg (**58,800 lb**) minimum breaking strength.
- 6 part load line.
- 5 part boom line.
- 9036 kg (**19,920 lb**) counterweight extended.
- Standard 7.3 m (24'0") Boom.
- Total operating weight 45 359 kg (**100,000 lb**).

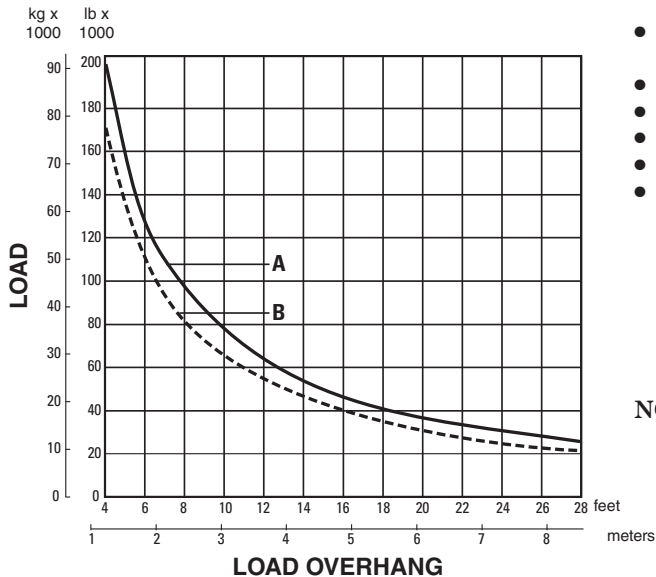
KEY

- A — Max lift capacity per ISO 8813
- B — Rated load per ANSI/ASME B30.14
- C — Working range per ANSI/ASME B30.14

7

587R/T

LIFTING CAPACITY* 8.5 m (28'0") BOOM



*Specified Equipment:

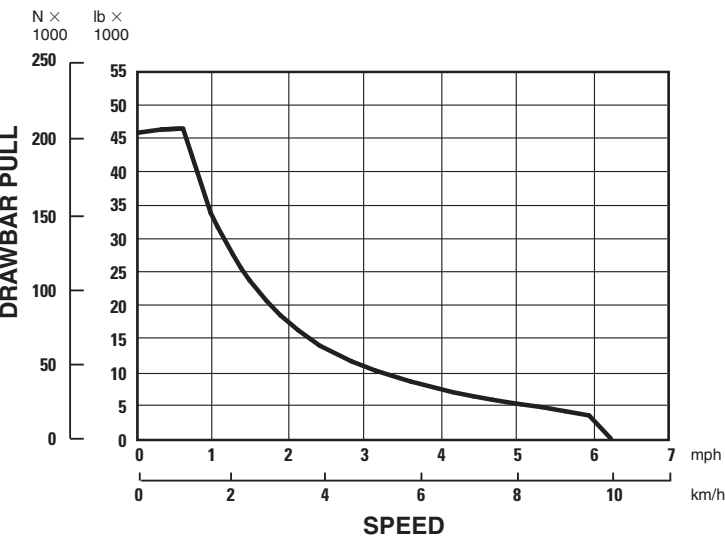
- Load: 19 mm (3/4") dia. wire rope 26 672 kg (**58,800 lb**) minimum breaking strength.
- Boom: 19 mm (3/4") dia. wire rope 26 672 kg (**58,800 lb**) minimum breaking strength.
- 8 part load line.
- 5 part boom line.
- 12 900 kg (**28,440 lb**) counterweight extended.
- Standard 8.5 m (28'0") Boom.
- Total operating weight 53 070 kg (**117,000 lb**).

KEY

- A — Max lift
- B — Rated lift

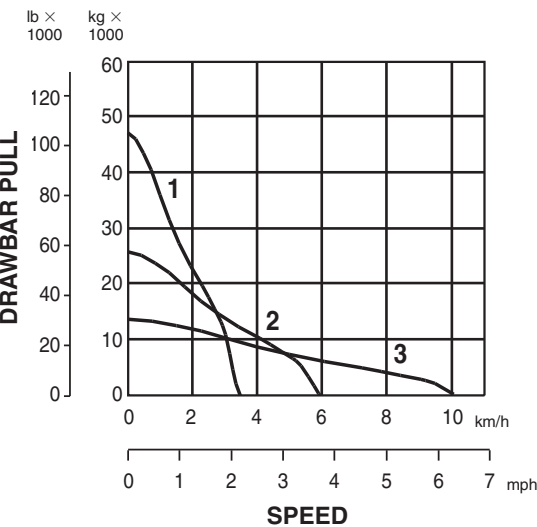
NOTE: ISO stands for the International Standards Organization. ANSI stands for American National Standard Institute.

PL61

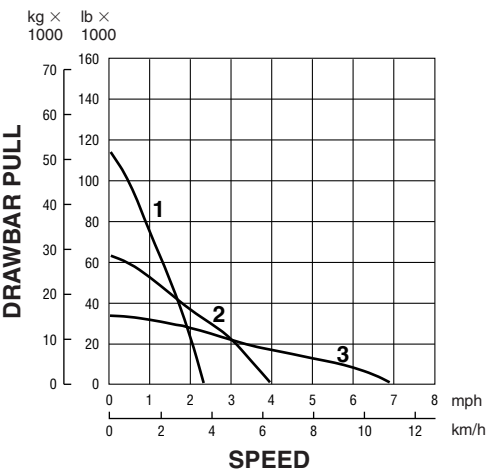


NOTE: Usable pull will depend upon weight and traction of equipped tractor.

572R Series 2



583T



- KEY
- 1 — 1st Gear
 - 2 — 2nd Gear
 - 3 — 3rd Gear

MODEL	PL61				572R Series 2			
Travel	Forward		Reverse		Forward		Reverse	
Speeds (at rated RPM)	km/h	mph	km/h	mph	km/h	mph	km/h	mph
1st Gear	3.1	1.9	3.8	2.3	3.5	2.2	4.5	2.8
2nd Gear	5.4	3.3	6.7	4.1	6.1	3.8	7.9	4.9
3rd Gear	10.0	6.2	10.0	6.2	10.6	6.6	13.5	8.4
Hydrostatic	10.0	6.2	10.0	6.2	—	—	—	—

MODEL	583T				587R				587T			
Travel	Forward		Reverse		Forward		Reverse		Forward		Reverse	
Speeds (at rated RPM)	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph
1st Gear	3.5	2.3	4.7	2.9	3.2	2.0	4.3	2.7	3.2	2.0	4.3	2.7
2nd Gear	6.4	4.0	8.1	5.0	5.6	3.5	7.4	4.6	5.8	3.6	7.6	4.7
3rd Gear	10.8	6.8	13.8	8.6	9.7	6.0	12.6	7.8	10.0	6.2	12.9	8.0

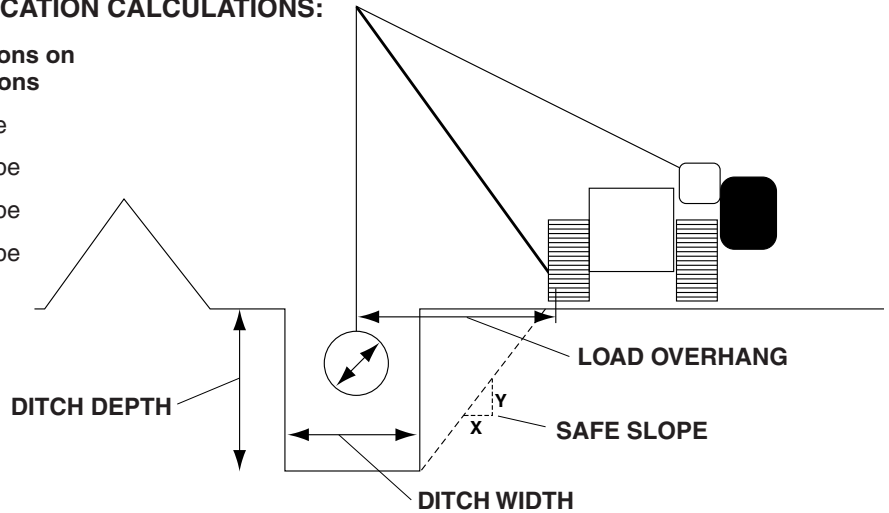
MODEL	PL61		572R Series 2	
Pipelayer Hook Speeds per minute, Bare drum at rated engine RPM	m/min	ft/min	m/min	ft/min
Low Raise & Lower	33.0	108	11.0	37
Hi Raise & Lower	69.5	228	22.0	72

MODEL	583T		587R/T	
Pipelayer Hook Speeds per minute, Bare drum at rated engine RPM	m/min	ft/min	m/min	ft/min
Low Raise	26.0	85	—	—
Low Lower	22.0	73	15.5	50.8
Hi Lower	30.0	98	15.5	50.8

PIPELAYER APPLICATION CALCULATIONS:

Typical pipelayer applications on flat, firm underfoot conditions

PL61	laying 8" to 16" pipe
572R2	laying 16" to 24" pipe
583T	laying 24" to 36" pipe
587R/T	laying 36" to 56" pipe



The chart above provides general information representing typical pipelayer applications. While the following scenario explores many of the variables involved in pipelaying it does not cover all the possible variables that must be considered by pipelaying contractors.

When sizing pipelayers for an application there are many considerations other than the machine's SAE rated lift capacity. These include but are not limited to:

- pipe diameter and weight per linear foot
- ditch width and depth
 - ditch width is typically $2 \times$ pipe diameter
 - ditch depth is typically $>2.5 \times$ pipe diameter
- distance from the ditch (safe slope) required by soil stability conditions
 - typically 2:1 (meaning the pipelayer must be $2 \times$ ditch depth from the ditch edge)

- acceptable distance between pipe lifting points while suspended (to prevent bending)
 - determined by the pipe's bending characteristics. If the lifting points are too far apart a pipe can sag enough due to its own weight that it will damage itself.
- the operating safety factor desired by the contractor
- the length of pipe that will need to be suspended while laying-in
 - determined by pipe bending characteristics, terrain, etc.
- ground conditions, road bed preparation

An important consideration is the necessary load overhang. This is the distance from the center of the pipe to the tractor's left track rail. The load overhang required for an application can be estimated by:

- load overhang = safe slope $\times$ ditch depth + $(0.5 \times \text{ditch width})$

The pipelayer's rated load capacity at a specific load overhang (per ANSI/ASME B30.14) can be found in the load capacity graphs in this section of the performance handbook. Once the load capacity is determined the maximum lift point spacing can be estimated by:

- max lift point spacing = $\frac{\text{load capacity at load overhang}}{\text{safety factor} \times \text{pipe weight per linear foot}}$

The maximum distance between pipe lift points (based on pipe bending characteristics) may be a shorter distance than the maximum spacing between lift points as calculated based on pipelayer load capacity. If this is the case, then in order to avoid damaging the pipe, the shorter distance should be considered to be the maximum distance between pipelayers.

As an example, consider a project involving 0.5" wall 24" diameter pipe which has a weight per linear foot of 125.5 lb and the soil has a safe slope of 2. Using the above formulas:

- the ditch depth would be $3 \times 2 \text{ ft} = 6 \text{ ft}$ deep
- the ditch width would be $2 \times 2 \text{ ft} = 4 \text{ ft}$
- the load overhang would be $2 \times 6 \text{ ft} + (0.5 \times 4 \text{ ft}) = 14 \text{ ft}$

Using the 572R Series 2's lift capacity chart we find that the 572R Series 2 has an ANSI rated load capacity of approximately 21,250 lb at a 14 ft load overhang.

When using rated load numbers it is important to understand that the lift capacity charts are based on SAE and ANSI test procedures that rate pipelayers on level, concrete surfaces. Working on softer underfoot conditions, working on slopes, (and other) can greatly reduce the pipelayer's load capacity.

If the contractor employs a safety factor of 2 then the maximum spacing between pipe lift points is:

$$\frac{21,250 \text{ lb}}{2 \times 125.5 \text{ lb/ft}} = 84.7 \text{ ft}$$

It is important to remember that this is the distance between the lift points, not the distance nose-to-tail between pipelayers. For this example, assume that 500 ft of pipe must be suspended during the laying-in process.

$$\frac{500 \text{ ft}}{84.7 \text{ ft per pipelayer}} = 5.9 \text{ which means that six pipelayers are needed}$$

The number of pipelayers required could also be determined by a second method:

$$\frac{\text{ft of pipe suspended} \times \text{pipe weight per ft} \times \text{safety factor}}{\text{rated load at overhang}}$$

In this case:

$$\frac{500 \text{ ft} \times 125.5 \text{ lb/ft} \times 2}{21,250 \text{ lb}} = 5.9 \text{ which again implies six pipelayers}$$

If, in this same example, soil conditions required a safe slope of 2.33 then the load overhang would have been 16 ft. At this load overhang the 572R Series 2's rated load capacity is approximately 18,125 lb. Using the equations above, this results in 72.2 ft between lift points which means that seven 572R Series 2 pipelayers are now necessary. Using the second method:

$$\frac{500 \text{ ft} \times 125.5 \text{ lb/ft} \times 2}{18,125 \text{ lb}} = 6.9 \text{ again implying that seven 572R2 pipelayers are needed}$$

Rather than adding another pipelayer, 583T's could be used. At a 16 ft load overhang the 583T has a rated load capacity of 29,400 lb. This translates to 117.1 ft between lift points. If the pipe's bending characteristics will allow this space between lift points, the job could be done with only five 583T's.

WHEEL TRACTOR-SCRAPERS

TOWED SCRAPERS

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TOWED SCRAPERS

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Features:

- **VHP engines** that deliver 10% more horsepower in gears 3 through 8 in the 620, 630 and 650 G series.
- **Controlled throttle shifting** improves power train life by reducing fuel injection rate just prior to shifting in the 620, 630 and 650 G series.
- **HEUI and (EUI) Electronic Unit Injection** electronically maintains fuel settings as well as automatically derate for altitude and air filter restrictions.
- **Hydraulic retarder** protects engine from over speeding and extends brake life on grades in the 620, 630 and 650 G series.
- **G Series implement valve** has been relocated to the scraper for improved serviceability on the 620, 630, and 650 G Series.
- **Electro-hydraulic implement controls** replace cab pilot valve and associated lines in the 620, 630, and 650 G Series.
- **Single lever implement control** — bowl, apron, ejector, elevator, transmission hold, cushion hitch, and optional bail/auger are controlled by one lever in the 620, 630, and 650 G Series.
- **Simplified transmission control** on 620, 630, and 650 G Series. Gear selection choices are 1, 2, and D. Operator can override transmission by manually selecting top gear.
- **G Series rear engines** can be started from the cab. Tachometer can monitor either front or rear engine.

- **G Series Scrapers EMS information** can be viewed in the cab by pressing a tractor/scraper switch. If EMS senses a fault in the scraper, it will automatically switch from tractor to scraper.
- **Eight speed semi-automatic power shift transmissions** used in the 620, 630, and 650 G series.
- **Six speed power shift transmission** used in the 613G.
- **Differential lock** connects both tractor drive wheels in poor underfoot conditions for positive traction.
- **Cushion Hitch** on 620, 630, and 650 G series absorbs haul road shocks, prevents loping as well as promotes operator comfort.

Tandem Powered:

- **Push-Pull arrangement** allows tandem engine scrapers to assist one another in loading. Recommended for high production applications.

Elevating:

- **Infinitely variable elevator speed** on 623G while the 613G has a two-speed elevator.

Auger:

- **Factory installed attachment** provides self loading capability. Wide material appetite and conditions material which promotes compaction in the fill. Controls adjust while loading.

Specifications
● Standard Scrapers

Wheel Tractor-Scrapers



MODEL	621G		631G	
Flywheel Power	246/272 kW	330/365 hp	345/373 kW	462/500 hp
Approx. Operating Weight (Empty)◀	33 995 kg	74,946 lb	47 628 kg	105,002 lb
Scraper Capacity: Struck	12 m³	15.7 yd³	18.3 m³	24 yd³
Heaped	17 m³	22 yd³	26 m³	34 yd³
Rated Load	23 950 kg	52,800 lb	37 013 kg	81,600 lb
Weight Distribution — Empty:				
Drive	67%		64%	
Rear	33%		36%	
Weight Distribution — Loaded:				
Drive	52%		52%	
Rear	48%		48%	
Engine Model	C15 ACERT		C18 ACERT	
Rated Engine RPM	1800		1800	
Displacement	15.2 L	928 in³	18.1 L	1105 in³
Top Speed (Loaded)	51 km/h	32 mph	53 km/h	33 mph
180° Curb-to-Curb Turning Width	11.7 m	38'5"	12.2 m	40'1"
Tires — Tractor Drive	33.25R29**E2/E3		37.25R35**E2/E3	
Scraper	33.25R29**E2/E3		37.25R35**E2/E3	
Width of Cut	3.02 m	9'11"	3.51 m	11'6"
Maximum Depth of Cut	333 mm	13.1"	437 mm	17.2"
Maximum Depth of Spread	522 mm	20.6"	480 mm	18.9"
Fuel Tank Refill Capacity	606 L	160 U.S. gal	814 L	215 U.S. gal
GENERAL DIMENSIONS:				
Height to Top of Scraper	3.71 m	12'2"	3.86 m	12'8"
Wheelbase	7.72 m	25'4"	8.77 m	28'9"
Overall Length	12.88 m	42'3"	14.71 m	48'3"
Overall Width	3.58 m	11'9"	3.94 m	** 12'11"
Shipping Width (Draft Arm on Inside of Bowl)		—	3.63 m	* 11'11"
Scraper Tread	2.23 m	7'4"	2.46 m	8'1"
Tractor Tread	2.20 m	7'3"	2.46 m	8'1"

*Optional Shipping Configuration.

**Standard Shipping Configuration.

◀Operating weight includes standard machine, coolant, lubricants, full fuel tank, and operator.

Single Engine Open Bowl

The Open Bowl Wheel Tractor-Scraper is available as a self-loading or push-loaded hauling system with a broad material appetite. The broad material appetite allows the Open Bowl Wheel Tractor-Scraper to be used in general construction, heavy construction, mining, and waste applications.

Open Bowl Advantages:

- Quick load/unload
- Spread evenly on-the-go
- Broad material appetite
- Aids in compaction
- Low cost
- Varying material conditions
- High production

Single Engine Advantages

(Compared to Tandem Engine):

- Low fuel usage
- Lower gross vehicle weight
- Loads quickly with the aid of a Track-Type Tractor and hauls to fill carrying minimum machine weight

Wheel Tractor-Scrapers

Specifications

- Tandem Powered
- Push-Pull



MODEL	627G		637G		657G	
Flywheel Power: Tractor	246/272 kW	330/365 hp	345/373 kW	462/500 hp	421/447 kW	564/600 hp
Scraper	178/198 kW	239/266 hp	198/211 kW	266/283 hp	306/337 kW	410/451 hp
Approx. Operating Weight (Empty)◄	37 922 kg	83,604 lb	51 963 kg	114,559 lb	68 384 kg	150,760 lb
Scraper Capacity: Struck	12 m³	15.7 yd³	18.3 m³	24 yd³	24.5 m³	32 yd³
Heaped	17 m³	22 yd³	26 m³	34 yd³	33.6 m³	44 yd³
Rated Load	23 950 kg	52,800 lb	37 013 kg	81,600 lb	47 174 kg	104,000 lb
Weight Distribution — Empty: Front		59%		59%		58%
Rear		41%		41%		42%
Weight Distribution — Loaded: Front		50%		50%		50%
Rear		50%		50%		50%
Engine Model: Tractor	C15 ACERT		C18 ACERT		C18 ACERT	
Scraper	C9 ACERT		C9 ACERT		C15 ACERT	
Rated Engine RPM: Tractor	1800		1800		1800	
Scraper	2000		2000		1800	
Displacement: Tractor	15.2 L	928 in³	18.1 L	1105 in³	18.1 L	1105 in³
Scraper	8.8 L	538 in³	8.8 L	538 in³	15.2 L	928 in³
Top Speed (Loaded)	51 km/h	32 mph	53 km/h	33 mph	53 km/h	33 mph
180° Curb-to-Curb Turning Width	11.7 m	38'5"	12.2 m	40'1"	14.2 m	46'7"
Tires — Tractor Drive	33.25R29**E2/E3		37.25R35**E2/E3		40.5/75R39	
Scraper	33.25R29**E2/E3		37.25R35**E2/E3		40.5/75R39	
Width of Cut	3.02 m	9'11"	3.51 m	11'6"	3.85 m	12'8"
Maximum Depth of Cut	333 mm	13.1"	437 mm	17"	440 mm	17.3"
Maximum Depth of Spread	522 mm	20.6"	480 mm	18.9"	660 mm	26"
Fuel Tank Refill Capacity: Tractor	—		—		—	
Scraper	1105 L	292 U.S. gal	1268 L	335 U.S. gal	1597 L	424 U.S. gal
GENERAL DIMENSIONS:						
Height to Top of Scraper	3.81 m	12'6"	4.18 m	13'9"	4.62 m	15'2"
Wheelbase	7.72 m	25'4"	8.77 m	28'9"	9.96 m	32'8"
Overall Length	12.88 m	42'3"	14.71 m	48'3"	16.2 m	53'1"
Overall Width	3.58 m	11'9"	3.94 m	** 12'11"	4.35 m	* 14'4"
Shipping Width (Draft Arm on Inside of Bowl)	—		3.63 m	* 11'11"	3.91 m	** 12'10"
Scraper Tread	2.23 m	7'4"	2.46 m	8'1"	2.81 m	9'3"
Tractor Tread	2.20 m	7'3"	2.46 m	8'1"	2.63 m	8'8"
PUSH-PULL GENERAL DIMENSIONS:						
Operating Weight (Empty)◄	39 443 kg	86,957 lb	54 057 kg	119,175 lb	72 804 kg	160,505 lb
Overall Length	15.2 m	49'7"	16.64 m	54'7"	18.01 m	59'1"
Weight Distribution — Empty: Front		59%		60%		58%
Rear		41%		40%		42%
Weight Distribution — Loaded: Front		51%		51%		51%
Rear		49%		49%		49%

*Optional Shipping Configuration.

**Standard Shipping Configuration.

◄Operating weight includes standard machine, coolant, lubricants, full fuel tank, and operator.

- Specifications
- Tandem Powered
 - Push-Pull

Wheel Tractor-Scrapers

Tandem Engine Open Bowl

The Open Bowl Wheel Tractor-Scraper is available as a self-loading, push-loaded, or push-pulled hauling system with a broad material appetite. The broad material appetite allows the Open Bowl Wheel Tractor-Scraper to be used in general construction, heavy construction, mining, and waste applications.

Open Bowl Advantages:

- Quick load/unload
- Spread evenly on-the-go
- Broad material appetite
- Aids in compaction
- Low cost/high production
- Varying material conditions
- High production

Tandem Engine Advantages

(Compared to Single Engine):

- More power for loading, traveling up grades, or over fill area
- Faster cycle times
- High rolling resistance applications
- Variable site conditions
- Poor underfoot conditions
- Steep grades
- Can be self-loaded, push loaded with the aid of a Track-Type Tractor, or push-pulled



MODEL	613G		623G	
Flywheel Power	135 kW	181 hp	246/272 kW	330/365 hp
Approx. Operating Weight (Empty)◀	16 887 kg	37,229 lb	37 510 kg	82,695 lb
Scraper Capacity: Struck	6.8 m³	8.9 yd³	13.8 m³	18 yd³
Heaped	8.4 m³	11 yd³	17.6 m³	23 yd³
Rated Load	11 975 kg	26,400 lb	25 038 kg	55,200 lb
Weight Distribution — Empty:				
Drive	66%		63%	
Rear	34%		37%	
Weight Distribution — Loaded:				
Drive	52%		52%	
Rear	48%		48%	
Engine Model	C6.6		C15 ACERT	
Rated Engine RPM	2200		1800	
Displacement	6.6 L	403 in³	15.2 L	928 in³
Top Speed (Loaded)	39 km/h	24 mph	51 km/h	32 mph
180° Curb-to-Curb Turning Width	9.0 m	29'6"	12.0 m	39'4"
Tires — Standard:				
Tractor	23.5R25★		33.25R29★★E2	
Scraper	23.5R25★		33.25R29★★E2	
Width of Cut	2.20 m	7'3"	3.5 m	11'6"
Maximum Depth of Cut	160 mm	6.3"	330 mm	13"
Elevator Flight Spacing	406 mm	16"	520 mm	20"
Number of Flights	15		15	
Maximum Floor Opening	1.14 m	3'9"	1.53 m	5'0"
Maximum Depth of Spread	370 mm	14.6"	380 mm	15"
Fuel Tank Refill Capacity	360 L	95 U.S. gal	606 L	160 U.S. gal
GENERAL DIMENSIONS:				
Height to Top of Scraper	3.01 m	9'11"	3.71 m	12'2"
Wheelbase	6.26 m	20'7"	7.98 m	26'2"
Overall Length	10.41 m	34'2"	13.17 m	43'2"
Overall Width	2.43 m	8'0"	3.58 m	11'9"
Scraper Tread	1.80 m	5'11"	2.23 m	7'4"
Tractor Tread	1.80 m	5'11"	2.20 m	7'3"

◀ Operating weight includes coolants, lubricants, full fuel tank and operator.

Elevating

The Elevating Wheel Tractor-Scraper is a self-loading hauling system with the added ability to mix/homogenize material and do precise finishing work.

Elevating Bowl Advantages:

- Load/haul/spread with little support equipment
- Conditions material as it loads
- Capable to work as a single machine
- Aids in compaction
- Finishing work
- Low rolling resistance applications
- Short cut areas
- Favorable material types
- Windrow applications
- Thin, precise lifts

Single Engine Advantages

(Compared to Tandem Engine):

- Low fuel usage
- Lower gross vehicle weight

Specifications
● Tandem Powered Auger

Wheel Tractor-Scrapers



MODEL	627G		637G		657G	
Flywheel Power: Tractor	246/272 kW	330/365 hp	345/373 kW	462/500 hp	421/447 kW	564/600 hp
Scraper	178/198 kW	239/266 hp	198/211 kW	266/283 hp	306/337 kW	410/451 hp
Approx. Operating Weight (Empty)◀	41 907 kg	92,388 lb	59 455 kg	131,076 lb	80 830 kg	178,200 lb
Scraper Capacity (Heaped)	15.96 m³	21 yd³	23.7 m³	31 yd³	33.6 m³	44 yd³
Rated Load	22 861 kg	50,400 lb	33 747 kg	74,400 lb	41 911 kg	92,400 lb
Approx. Operating Weight (Loaded)	64 768 kg	142,788 lb	93 202 kg	205,476 lb	122 742 kg	270,600 lb
AUGER ATTACHMENT:						
Auger Diameter	1320 mm	4'4"	1524 mm	5'0"	1676 mm	5'6"
Auger RPM	Variable 55 to 35 RPM		Variable 55 to 35 RPM		Variable 55 to 35 RPM	
Auger Power	149 kW	200 hp	201 kW	270 hp	354 kW	475 hp
Hydraulic Flow	273 L/min	72 gpm	378 L/min	100 gpm	549 L/min	145 gpm
Cooling Flow	—		—		132 L/min	35 gpm
System Pressure	41 370 kPa	6000 psi	37 923 kPa	5500 psi	41 340 kPa	5700 psi
Auger Control	electronic		electronic		electronic	
GENERAL DIMENSIONS:						
Height to Top of Scraper	3.81 m	12'6"	4.18 m	13'9"	4.62 m	15'2"
Height to Top of Auger Attachment	3.42 m	11'3"	3.82 m	12'6"	4.63 m	15'2"
Wheelbase	7.72 m	25'4"	8.77 m	28'9"	9.96 m	32'8"
Overall Length	12.88 m	42'3"	14.71 m	48'3"	16.2 m	53'1"
Overall Width	3.58 m	11'9"	3.94 m	12'11"	4.35 m	14'4"
Shipping Width						
(Draft Arm on Inside of Bowl)	—		3.63 m	11'11"	3.91 m	12'10"
Scraper Tread	2.23 m	7'4"	2.46 m	8'1"	2.81 m	9'3"
Tractor Tread	2.20 m	7'3"	2.46 m	8'1"	2.63 m	8'8"

◀ Operating weight includes standard machine, coolant, lubricants, full fuel tank and operator.

Auger

The auger scraper is a self-loading system that offers an alternative to conventional, push-pull or elevating scrapers. An independent hydrostatic system powers the auger which is located near the center of the bowl. The rotating auger lifts and evenly distributes over 50% of the material that flows over the scraper cutting edge. This action reduces the cutting edge resistance allowing the wheel tractor-scraper to continue moving through the cut and quickly obtain full rated loads.

Auger Advantages:

- Self-load in equal or less time
- Requires shorter cut distance
- Complete material ejection (angled ejector pushes material)
- Significantly reduces dust problems in dry material
- Increased tire life
- Broader material appetite
- Better material retention on haul road (closed apron instead of open elevator)

Tandem Engine Advantages

(Compared to Single Engine):

- More power for loading, traveling up grades, or over fill area
- Faster cycle times
- High rolling resistance applications
- Variable site conditions
- Poor underfoot conditions
- Steep grades



MODEL	637G		657G	
Flywheel Power: Tractor	345/373 kW	462/500 hp	421/447 kW	564/600 hp
Scraper	198/211 kW	266/283 hp	306/337 kW	410/451 hp
Approx. Operating Weight (Empty)	54 050 kg	118,909 lb	72 190 kg	158,817 lb
Scraper Capacity: Struck	31 m³	41 yd³	45 m³	59 yd³
Heaped	38 m³	50 yd³	56 m³	73 yd³
Rated Load	34 473 kg	76,000 lb	49 895 kg	110,000 lb
Approx. Operating Weight (Loaded)	88 409 kg	194,909 lb	121 933 kg	268,817 lb
Top Speed (Loaded)	53 km/h	33 mph	53 km/h	33 mph
180° Curb-to-Curb Turning Width	13.7 m	44'10"	15.6 m	51'3"
GENERAL DIMENSIONS:				
Height to Top of Scraper	4.18 m	13'9"	4.62 m	15'2"
Wheelbase	9.53 m	31'3"	11.01 m	36'1"
Overall Length	15.47 m	50'9"	17.21 m	56'5"
Overall Width	3.94 m	** 12'11"	4.35 m	* 14'4"
Shipping Width (Draft Arm on Inside of Bowl)	3.63 m	* 11'11"	3.91 m	** 12'10"
Scraper Tread	2.46 m	8'1"	2.81 m	9'3"
Tractor Tread	2.46 m	8'1"	2.63 m	8'8"

*Optional Shipping Configuration.
**Standard Shipping Configuration.

Coal Bowl

Coal Bowl Wheel Tractor-Scrapers are typically used for building and maintaining coal stockpiles and hauling coal to the supply system at coal power plants. The self-loading capability, large capacity, coal pile compaction, and high speed of Coal Bowl Wheel Tractor-Scrapers make them the tool of choice for moving coal both short and long distances. Coal Bowl Wheel Tractor-Scrapers are available in the 637G and 657G tandem engine models.

Coal Bowl Advantages:

- Load hoppers
- Manage coal stockpiles
- Compaction reduces risk of spontaneous combustion in coal stockpile
- Exclusively designed large capacity coal bowls

WHEEL TRACTOR-SCRAPER GROUND ENGAGING TOOLS

ROUTER BITS

Caterpillar router bits help prevent wear and costly damage to the scraper bowl. All router bits are forged DH-2 steel and through-hardened to prevent breakage and prolong life.



Standard Router Bit

- Available for all models.



Heavy Duty Router Bit

- 45% more wear material than the standard router bits.



ARM Router Bit

- Available for virtually all models in high abrasion, low impact applications.



Level Cut Bit

- Used for clean-up work and keeps material in front of the cutting edges.

CUTTING EDGES

Caterpillar cutting edges are rolled from DH-2 steel and through-hardened for strength and wear resistance and are available in standard, abrasion resistant material (ARM), and serrated versions.



Standard center and end-cutting edges

- For use on all scraper models (open bowl, auger and elevating scraper).
- Used in low-to-medium abrasion and low-to-high impact conditions.
- Available in various thicknesses and sizes for both stinger and level-cut arrangements.
- Can be reversed or propellered for prolonged edge use and improved cost per hour.



ARM center and end cutting edges

- For use on all scraper models (open bowl, auger and elevating scraper).
- Used in medium-to-high abrasion and low-to-high impact conditions.
- Available in various thicknesses and sizes for both stinger and level-cut arrangements.
- Can be reversed or propellered for prolonged edge use and improved cost per hour.

Wheel Tractor-Scrapers

Ground Engaging Tools

- Cutting Edges
- Sidebowl Protectors



ARM serrated center cutting edge

- For use on 620, 630 and 650 Series Scraper (open bowl, auger and elevating scraper).
- Used in medium-to-high abrasion and medium-to-high impact conditions where increased penetration and aggressive digging action is required.
- Available in various thicknesses and sizes for both stinger and level-cut arrangements.
- Edges can be reversed or propellered around for prolonged edge use and improved cost per hour.



Integrated tooth center cutting edge

- For use on 623 and 633 Elevating Scraper, and 620 Series Auger Scraper.
- Used in low-to-high abrasion conditions for improved penetration in medium-to-high impact conditions.
- Include cast-in-place adapters, which accept pin-on tips.



Bolt-on adapters

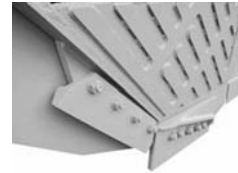
- For use on Elevating Scraper 613, 615, 623 and 633.
- Used in low-to-high abrasion conditions and low-to-medium impact conditions when improved penetration is needed.
- Bolt-on adapters accept pin-on tips.



Special serrated cutting edges

- For site-specific applications and conditions.
- Use on 620, 630 and 650 Series Scraper (open bowl, auger and elevating scraper).
- Custom-designed edges have sharp teeth for low-to-medium abrasion and low-to-medium impact conditions.

SIDEBOWL PROTECTORS



- Sidebowl protectors are available in two styles: Bolt on sidebowl protectors and pin on sidebowl protectors.
- Bolt on style takes a weld on adapter plate that accepts the bolt on sidebowl protector. This is available for 620, 630 and 650 series scrapers.
- Pin on style takes a weld on adapter plate that accepts the pin on sidebowl protector. This is available for 620, 630 and 650 series scrapers.

ELEVATING SCRAPER



- Flight assemblies.
- Chain assemblies.*
- Sprockets.*
- Idlers and idler groups.
- Rollers and roller groups.

*Optional heavy-duty chain and sprocket for 623G available through your Cat dealer.

In today's competitive environment, machines must operate efficiently. Inspections identify problems that cause machines to burn more fuel and shorten component life.

AUGER



Plastic liners

- For use in low-to-high abrasion, plastic liners prevent sticky material from building up on the auger.



Steel wear plates

- For use in medium-to-high abrasion and medium-to-high impact conditions to protect the auger surface.



Standard auger shoe

- For use in low-to-medium abrasion and low-to-high impact conditions where accelerated wear is not a problem.



Tungsten carbide auger shoe

- For use in medium-to-high abrasion and medium-to-high impact conditions where accelerated wear is a problem.



Auger cutting edge

- For use in low-to-high abrasion and low-to-high impact conditions.

Wheel Tractor-Scrapers

Ground Engaging Tools

- Application Guide
- Push-Load TTT Match

Application Guide	Elevator	Self-Load Single and Tandem Engine	Push-Load Single and Tandem Engine	Push Pull	Auger Tandem Engine	Coal Bowl	Remarks
Decomposed Granite/Soil							Excellent loading
Decomposed Granite (Ripped)							Excellent loading by push-loading or push-pull to reduce cutting of tires
Moist Top Soil							Good to Excellent Loading
Top Soil							Excellent for WTS
Clay/Sand mixture							Excellent for WTS
Sand	623 Only						Good to Excellent loading, but some cases may need to be push loaded by a TTT or Push-Pull
Antigo							Excellent WTS material: lower portion may require ripping depending on material density
Coal							Excellent for WTS: ripping may be required in dense material
Limestone							In natural state, not suitable for WTS
Granite							Not suitable for WTS
Sandstone							For WTS to be productive in sandstone, material needs to be ripped. In some cases where density is high, WTS would not be a good fit
Shot Rock							Below 610 mm (24") good for WTS when push-loaded by a TTT to reduce cutting of tires
Loess Overtill (Banked)							Excellent for WTS: ripping may be required in dense material
Loess Overtill (Ripped)							Excellent WTS material provided rock size does not exceed 610 mm (24")
Aridisols							Excellent WTS material, ripping will decrease load times
Glacial Outwash/ River Rock	623 Only						Excellent WTS material provided rock size does not exceed 610 mm (24")

FOR MORE INFORMATION ON WHEEL TRACTOR-SCRAPER MATERIAL APPLICATIONS REFERENCE PUBLICATION AEXQ0442.

Push-Load TTT Match	D8	D9	D10	D10
621				
627				
631				
637				
657				

MODEL TIRE SIZE	PLY RATING/ STAR RATING*	TYPE
613G		
23.5R25◀	★	L-3
23.5-25	20	E-3
621G		
623G		
627G		
33.25R29◀	★★	E-2/E-3
33.25-29	32	E-3
29.5R29	★★	E-2
29.5-29	34	E-2

MODEL TIRE SIZE	PLY RATING/ STAR RATING*	TYPE
631G		
637G		
37.25R35◀	★★	E-2/E-3
37.25-35	42	E-3
657G		
40.5/75R39◀	★★	E-3

*Manufacturer uses star (★) rating system instead of ply rating.
◀Recommended tire.

USE OF RIMPULL-SPEED-GRADEABILITY CURVES

The following explanation applies to Rimpull-Speed-Gradeability curves for Wheel Tractor-Scrapers, Construction & Mining Trucks/Tractors and Articulated Trucks.

Maximum speed attainable, gear range and available rimpull can be determined from curves on the following pages when machine weight and total effective grade (or total resistance) are known.

Rimpull is the force (in kg, lb or kN) available between the tire and the ground to propel the machine (limited by traction).

Weight is defined as Gross Machine Weight (kg or lb) = Machine + Payload.

Total Effective Grade (or Total Resistance) is grade resistance plus rolling resistance expressed as percent grade.

Grade is measured or estimated.

Rolling resistance is estimated (see Tables section for typical values.)

10 kg/metric ton (20 lb/U.S. ton) = 1% adverse grade.

Example

With a 6% grade and a rolling resistance of 40 kg/metric ton (80 lb/U.S. ton), find total resistance.

Rolling resistance = $40 \text{ kg/t} \div 10 = 4\%$ Effective Grade

(English: $80 \text{ lb} \div 20 = 4\%$)

Total resistance = 4% rolling + 6% grade = 10%

Altitude Derating

Rimpull force and speed must be derated for altitude similar to flywheel horsepower. The percentage loss in rimpull force approximately corresponds to the percentage loss in flywheel horsepower. See Tables Section for altitude derations.

Rimpull-Speed-Gradeability

To determine gradeability performance: Read from gross weight down to the % of total resistance. (Total resistance equals actual % grade *plus* 1% for each 10 kg/metric ton (20 lb./U.S. ton) of rolling resistance.) From this weight-resistance point, read horizontally to the curve with the highest obtainable speed range, then down to the maximum speed. Usable rimpull depends upon traction and weight on drive wheels.

Example problem:

A 631G with an estimated payload of 37 013 kg (81,600 lb) is operating on a total effective grade of 10%. Find the available rimpull and maximum attainable speed.

Empty weight payload = Gross Weight
 $47\,628 \text{ kg} + 37\,013 \text{ kg} = 84\,641 \text{ kg}$
 $(105,002 \text{ lb} + 81,600 \text{ lb} = 186,602 \text{ lb})$

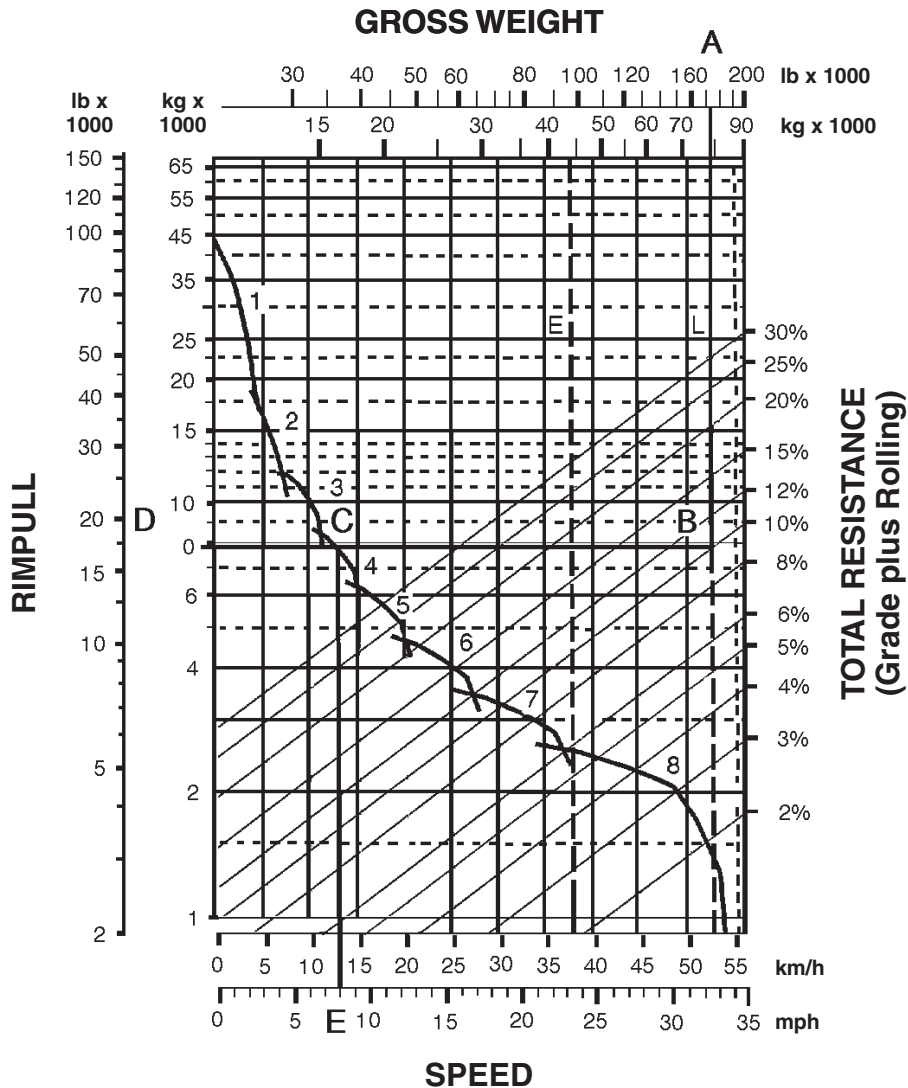
Solution: Using graph on the next page, read from 84 641 kg (186,602 lb) (point A) on top of gross weight scale down the line to the intersection of the 10% total resistance line (point B).

Go across horizontally from B to the Rimpull Scale on the left (point D). This gives the required rimpull: 7756 kg (17,100 lb).

Where the line cuts the speed curve (point C), read down vertically (point E) to obtain the maximum speed attainable for the 10% effective grade: 12.9 km/h (8 mph).

ANSWER: The machine will climb the 10% effective grade at a maximum speed of 12.9 km/h (8 mph) in 4th gear. Available rimpull is 7756 kg (17,100 lb).





USE OF TRAVEL TIME CHARTS

The following explanation applies to travel time charts for Wheel Tractor-Scrapers, Construction & Mining Trucks and Articulated Trucks.

One-way travel time can be determined from graphs on the following pages when one-way travel distance and total resistance (expressed in percent) are known. 10 kg/metric ton (20 lb/U.S. ton) equals 1% equivalent grade.

If total resistance is negative (grade assistance greater than rolling resistance) machine may accelerate downhill requiring the use of retarder or brakes. Travel time charts *cannot* be used in these cases. Consult respective machine retarder curve to establish maximum safe downhill speed.

Two graphs are given for each hauling unit: one for the machine carrying its rated payload and one for the empty machine.

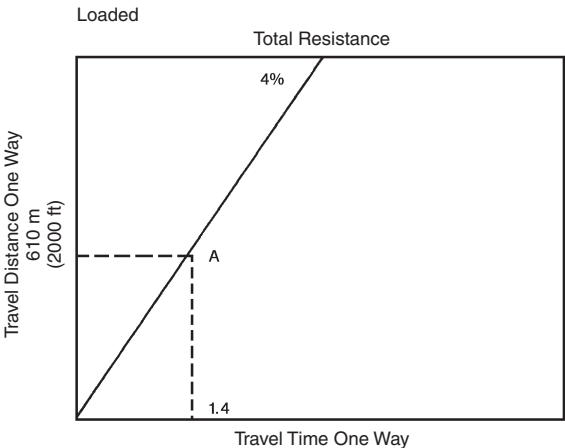
Travel times were derived using Cat Machine Simulation Program and standard tire inputs. Travel times for machines equipped with (larger) optional tires vary slightly.

Example problem:

631G hauls its rated payload 37 013 kg — 26 bank cubic meters (81,600 lb — 34 bank cubic yards) on a 4% road for 610 m (2000 feet) and returns on a 0% road for 760 m (2500 feet). Find the cycle time.

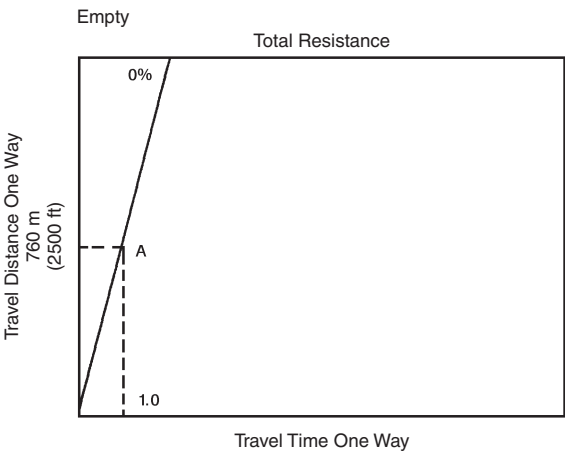
Haul —

Using the graph for the Loaded machine, read from the Travel Distance (one way) scale at 610 m (2000 feet) across to the 4% total resistance line (point A). From (point A) read down to the Travel Time (one way) scale to determine haul time = 1.4 minutes.



Return —

Using the graph for the Empty machine, read from the Travel Distance (one way) scale at 760 m (2500 feet) across to the 0% total resistance line (point A). From (point A) read down to the Travel Time (one way) scale to determine return time = 1 min.



Cycle Time —

$$= \text{load}^* + \text{haul} + \text{maneuver \& spread}^* + \text{return} \\ = 0.6 + 1.4 + 0.7 + 1.0 \\ = 3.7 \text{ min.}$$

*For fixed time (load, maneuver and spread) see the table below.

When cycle time and payload are known, productivity can be calculated. For a more complex example see the Earthmoving Section.



TYPICAL FIXED TIMES FOR SCRAPERS

(Times may vary depending on job conditions)

Model	Loaded By	Load Time (Min.)	Maneuver and Spread or Maneuver and Dump (Min.)
613G	Self	0.9	0.7
623G	Self	0.9	0.7
621G	One D8R	0.5	0.7
627G	One D8R	0.5	0.6
621G	One D9R	0.4	0.7
627G	One D9R	0.4	0.6
627G/PP	Self	0.9*	0.6
631G	One D9R	0.6	0.7
637G	One D9R	0.6	0.6
631G	One D10R	0.5	0.7
637G	One D10R	0.5	0.6
637G/PP	Self	1.0*	0.6
657G	One D11R	0.6	0.6
657G	Push Pull	1.1*	0.6
	Self		
627G	Auger	0.7	0.7
637G	Auger	0.8	0.7
637G	Coal	0.8	0.7
657G	Auger	1.0	0.6
657G	Coal	0.8	0.6

*Load time per pair, including transfer time.

NOTE: Empty Weights shown on the Wheel Tractor-Scraper charts includes ROPS Canopy. The travel times will remain within acceptable limits when applied to a non-ROPS equipped machine. When calculating TMPH loadings any additional weight must be considered in establishing mean tire loads.

USE OF RETARDER CURVES

The following explanation applies to retarder curves for Wheel Tractor-Scrapers and Articulated Trucks.

The speed that can be maintained (without use of service brake) when the machine is descending a grade with retarder fully on can be determined from the retarder curves in this section if gross machine weight and total effective grade are known.

Total Effective Grade (or Total Resistance) is grade assistance *minus* rolling resistance.

10 kg/metric ton (20 lb/U.S. ton) = 1% adverse grade.

Example

15% favorable grade with 5% rolling resistance. Find Total Effective Grade.

Total Effective Grade = 15% Grade Assistance — 5%

Rolling Resistance = 10% Total Effective Grade Assistance.

Example problem:

A 651E with an estimated payload of 47 175 kg (104,000 lb) descends a 10% total effective grade. Find constant speed and gear range with maximum retarder effort. Find travel time if the slope is 610 m (2000 ft) long.

$$\begin{aligned} \text{Empty Weight} + \text{Payload} &= \text{Gross Weight} \\ &= 60\,950 \text{ kg} + 47\,175 \text{ kg} = 108\,125 \text{ kg} \\ &= (134,370 \text{ lb} + 104,000 \text{ lb} = 238,370 \text{ lb}) \end{aligned}$$

Solution: Using the retarder curve below, read from 108 125 kg (238,370 lb) (point A) on top of gross weight scale down the line to the intersection of the 10% effective grade line (point B).

Go across horizontally from point B to the intersection of the retarder curve (point C). Point C intersects at the 5 (5th gear) range.

Where point C intersects the retarder curve, read down vertically to point D on the bottom scale to obtain the constant speed: 21.7 km/h (13.5 mph).

ANSWER: The 651E will descend the slope at 21.7 km/h (13.5 mph) in 5th gear. Travel time is 1.68 minutes.

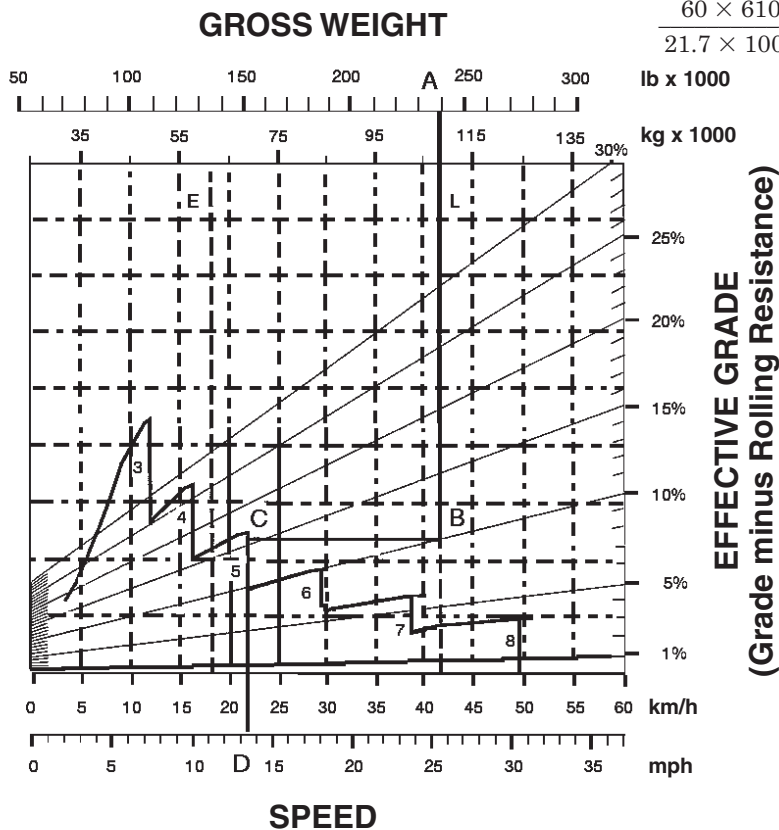
$$\frac{610 \text{ m}}{363 \text{ m/min}} = 1.68 \text{ min}$$

*(mph × 88 = F.P.M.)

$$\frac{2000 \text{ ft}}{13.5 \text{ mph} \times 88^*} = 1.68 \text{ min}$$

NOTE: The basic Distance-Speed-Time formula is $60 D \div S = T$ (or “60 D Street”), where 60 is minutes, D is distance, S is speed and T is time. In the above problem, $60 \times 610 \text{ m} \div 21.7 \text{ km/h} \times 1000 = T$.

$$\frac{60 \times 610}{21.7 \times 1000} = T = (1.68)$$

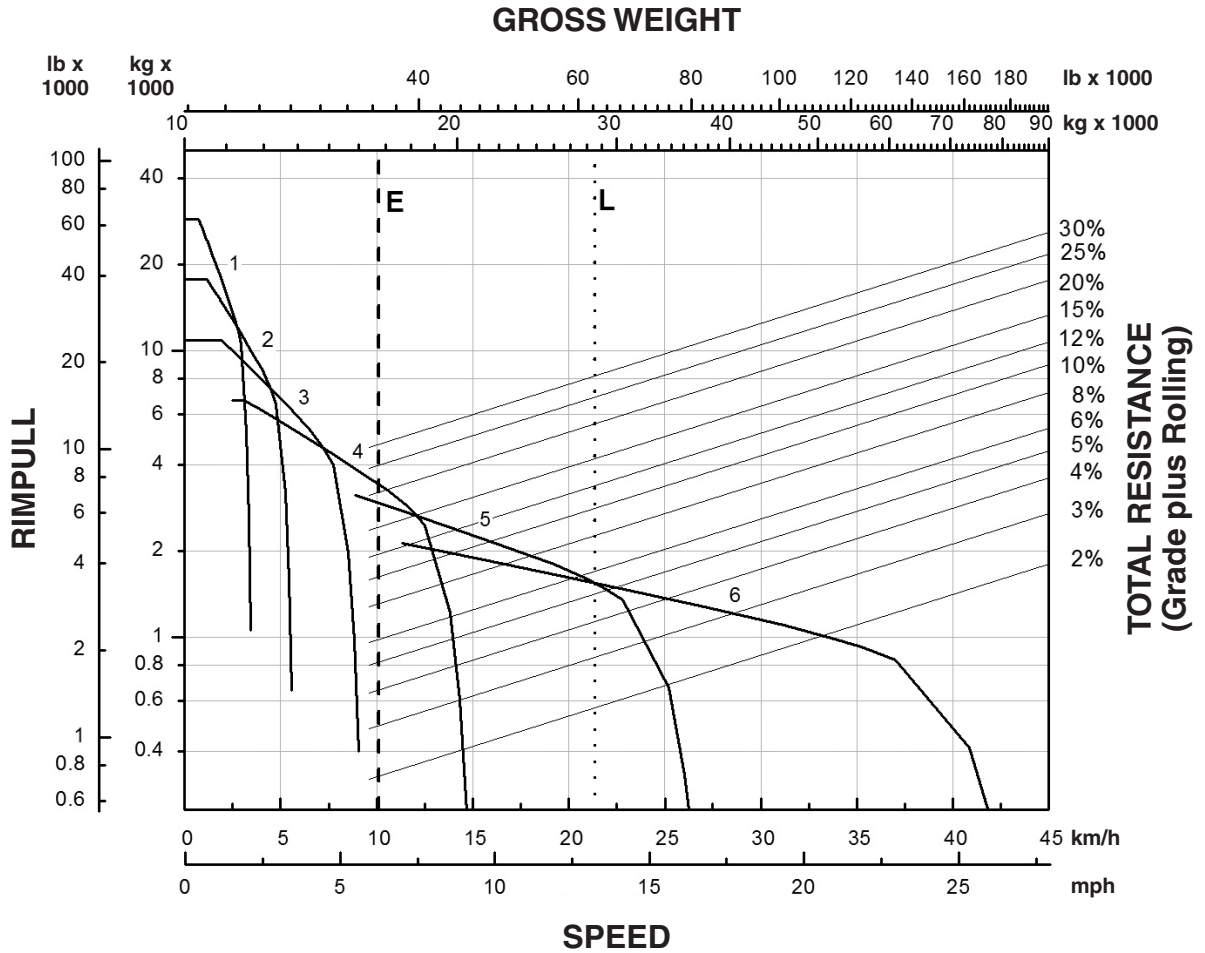


KEY

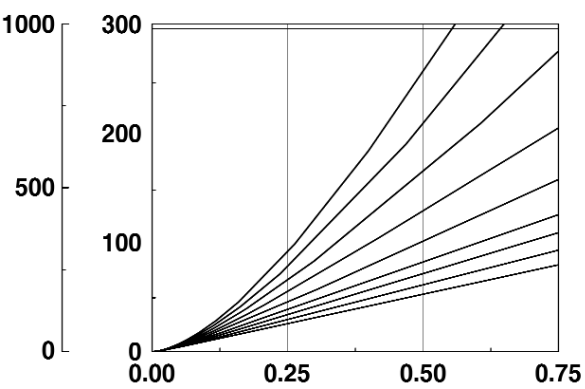
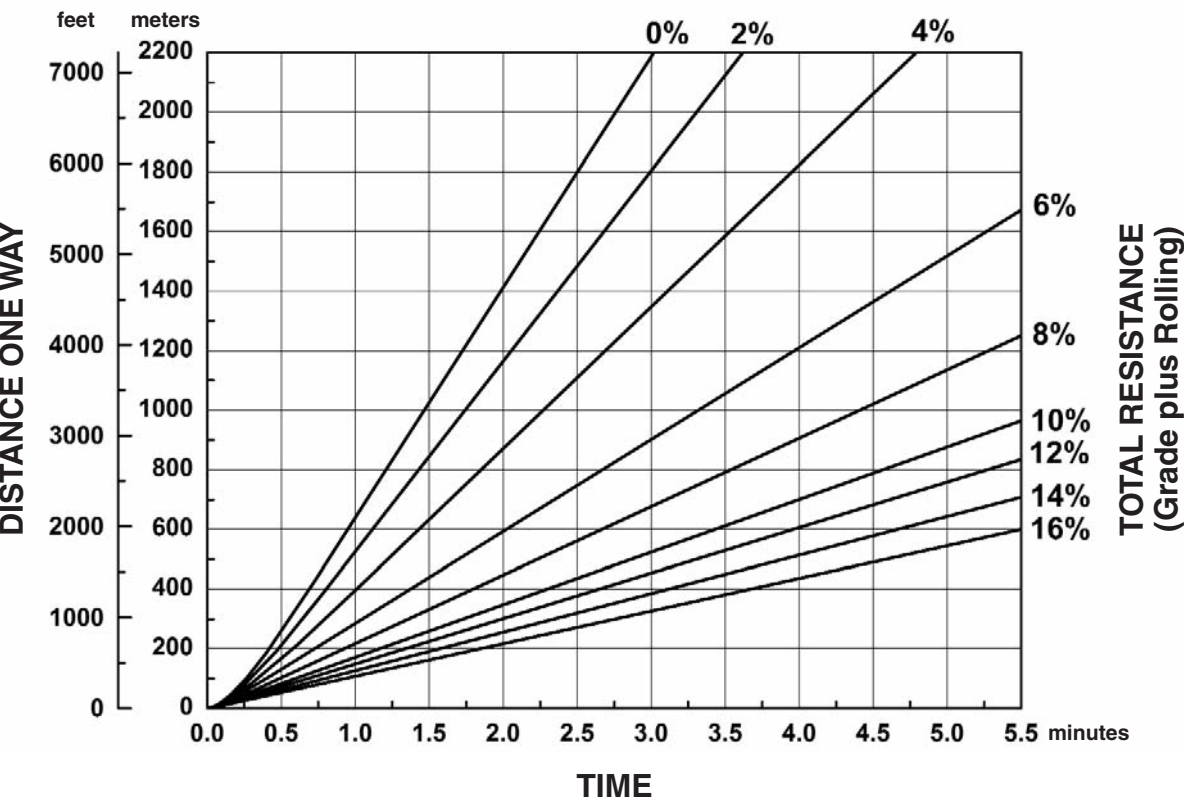
- 3 — 3rd Gear Direct Drive
- 4 — 4th Gear Direct Drive
- 5 — 5th Gear Direct Drive
- 6 — 6th Gear Direct Drive
- 7 — 7th Gear Direct Drive
- 8 — 8th Gear Direct Drive

KEY

- A — Loaded 108 125 kg (238,370 lb)
- B — Intersection with 10% effective grade line
- C — Intersection with retarder curve (5th gear)
- D — Constant speed 21.7 km/h (13.5 mph)

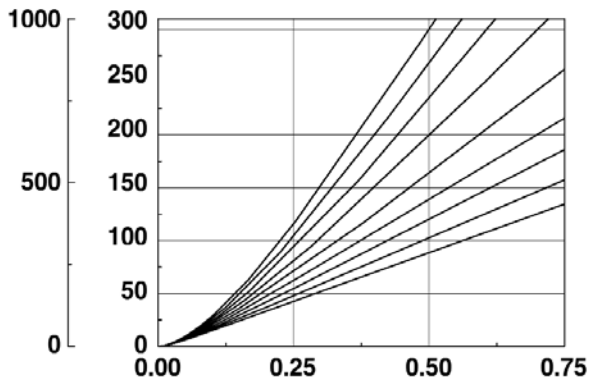
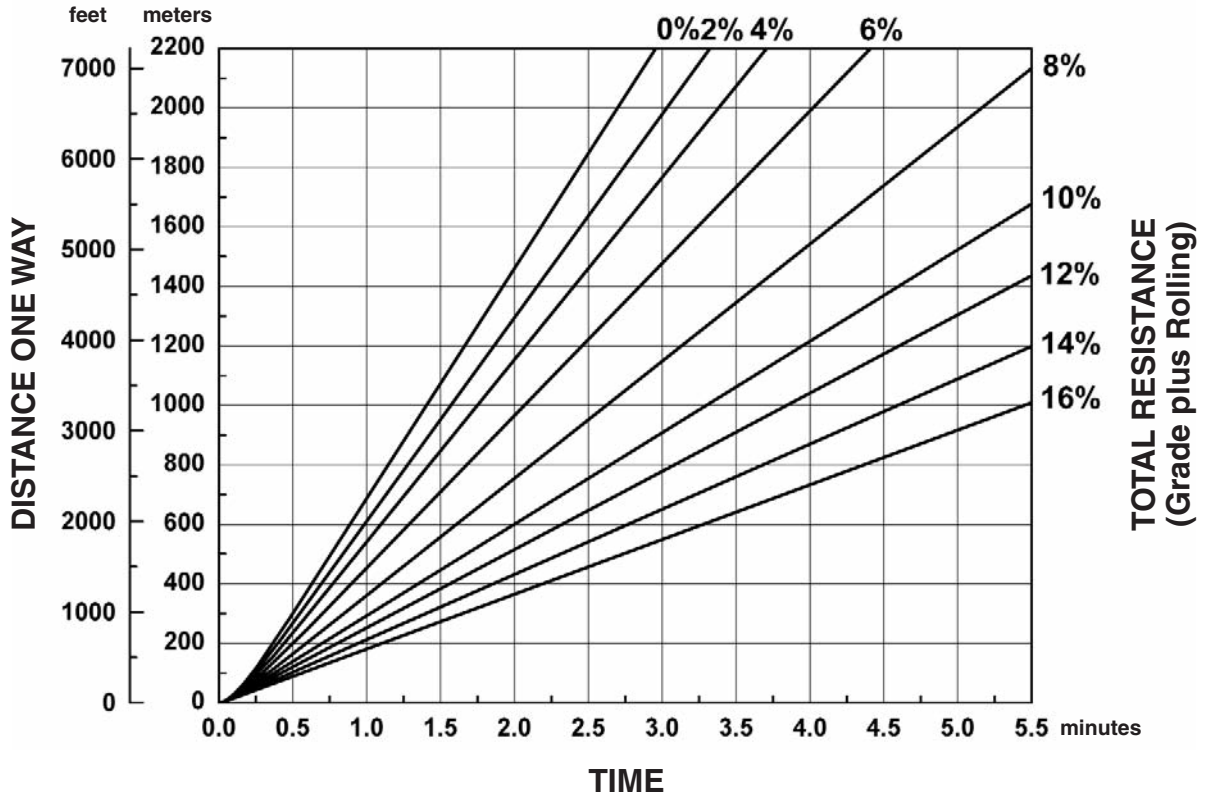


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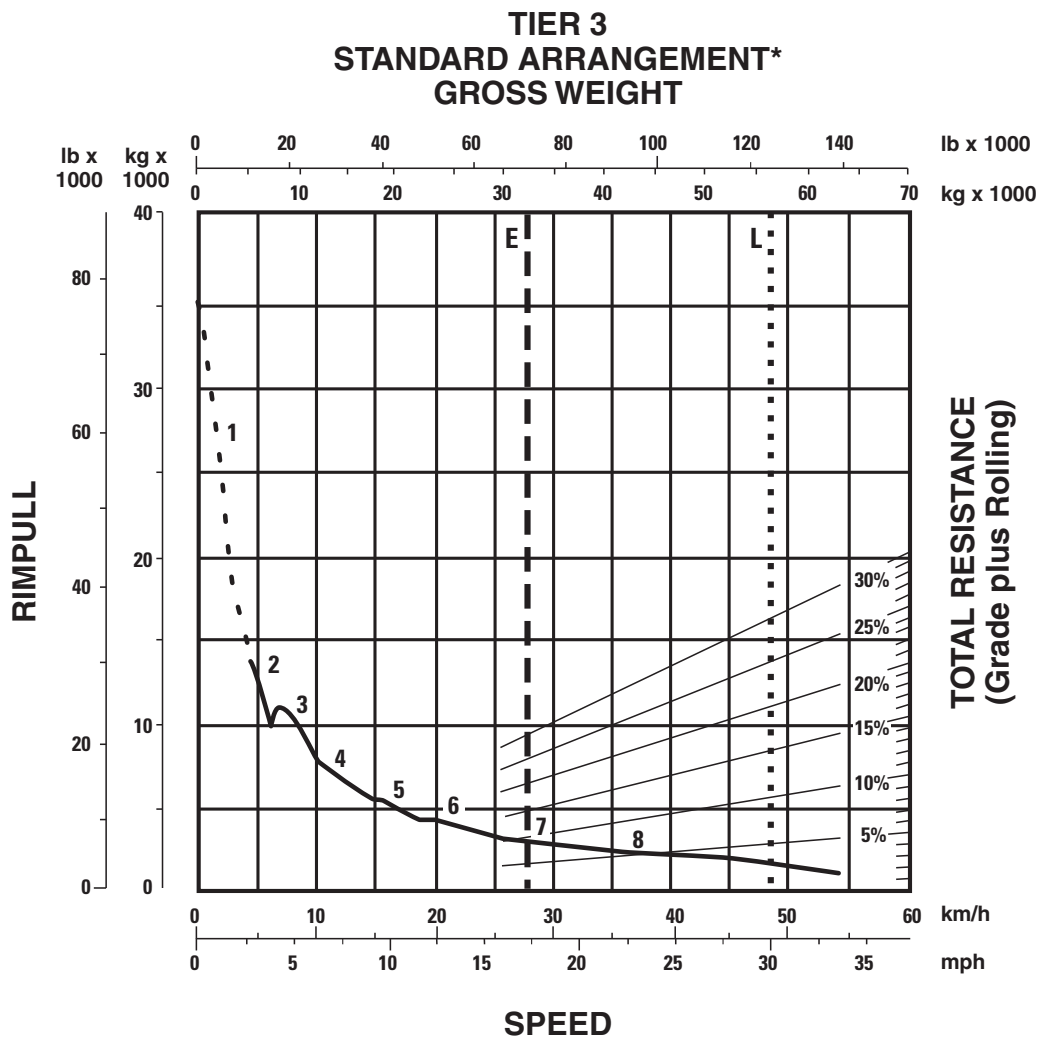


Empty weight: 16 887 kg (37,229 lb)
Payload: 11 975 kg (26,400 lb)

EMPTY



Empty weight: 16 887 kg (37,229 lb)



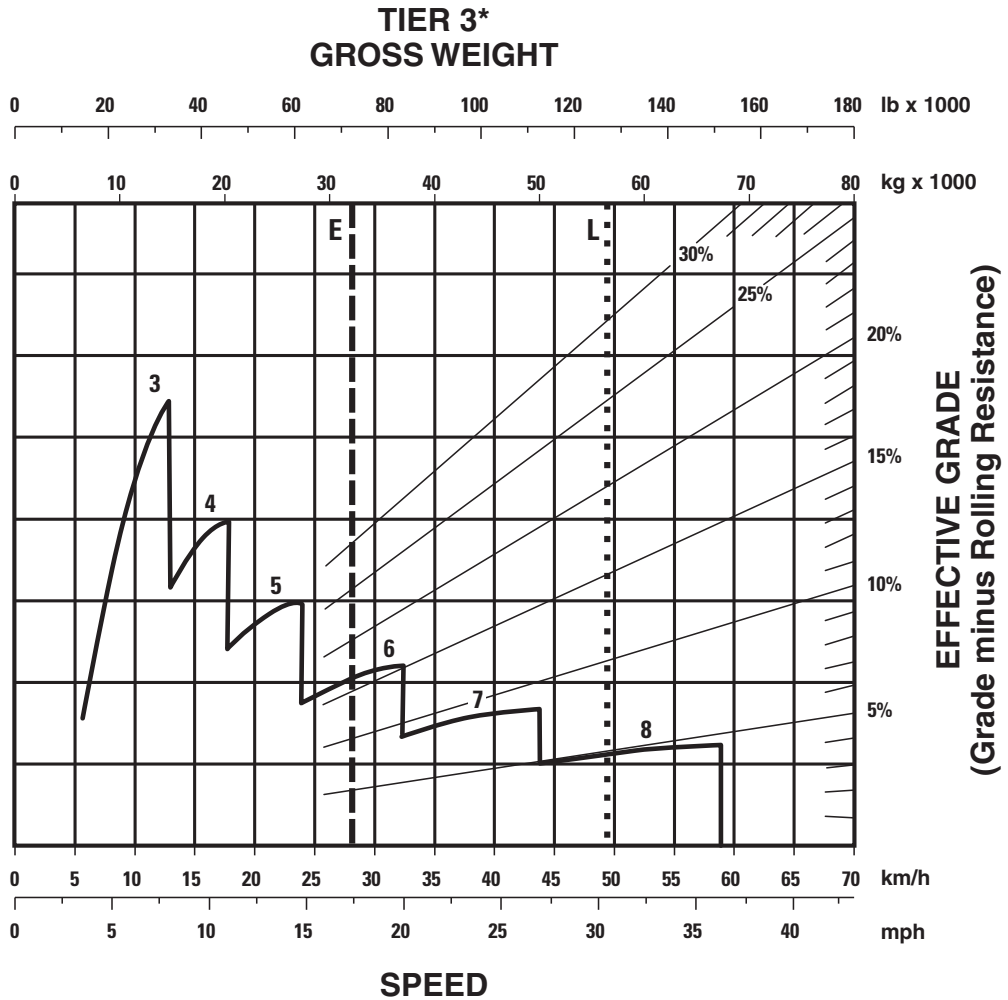
*at sea level

KEY

- 1 — 1st Gear Torque Converter Drive
- 2 — 2nd Gear Torque Converter Drive
- 3 — 3rd Gear Direct Drive
- 4 — 4th Gear Direct Drive
- 5 — 5th Gear Direct Drive
- 6 — 6th Gear Direct Drive
- 7 — 7th Gear Direct Drive
- 8 — 8th Gear Direct Drive

KEY

- E — Empty 33 995 kg (74,946 lb)
- L — Loaded 57 945 kg (127,746 lb)



*at sea level

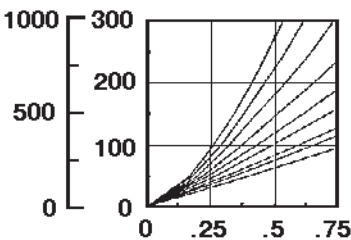
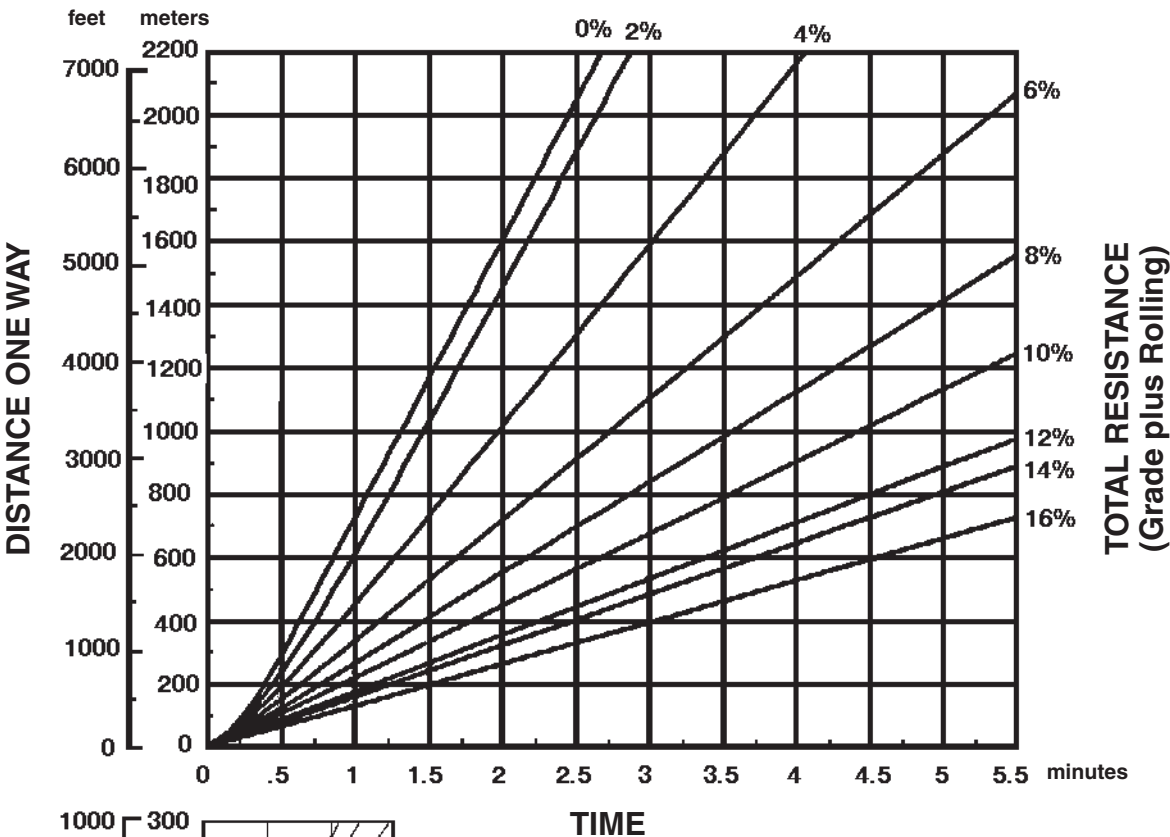
KEY

3 — 3rd Gear Direct Drive
4 — 4th Gear Direct Drive
5 — 5th Gear Direct Drive
6 — 6th Gear Direct Drive
7 — 7th Gear Direct Drive
8 — 8th Gear Direct Drive

KEY

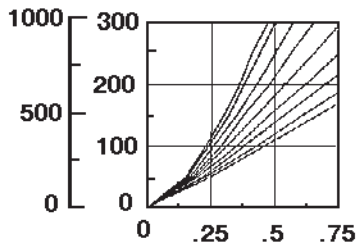
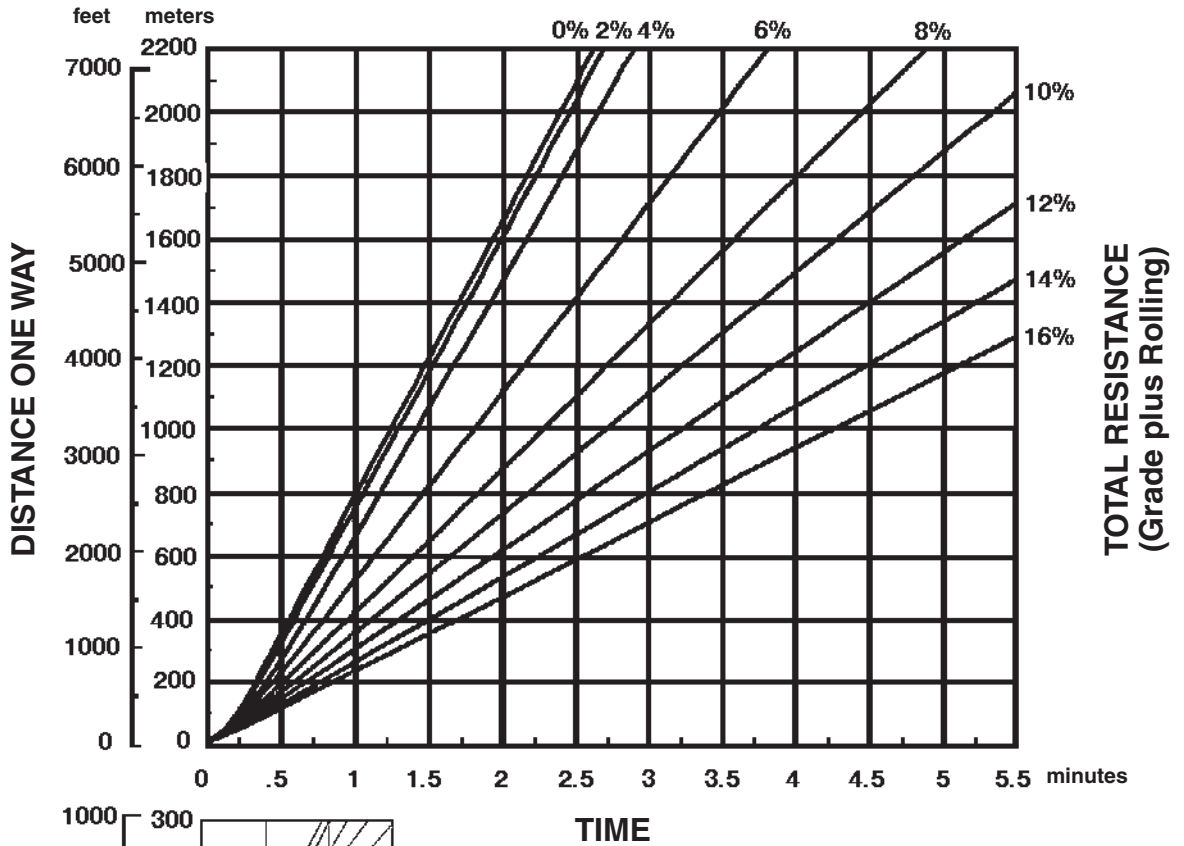
E — Empty 33 995 kg (74,946 lb)
L — Loaded 57 945 kg (127,746 lb)

LOADED

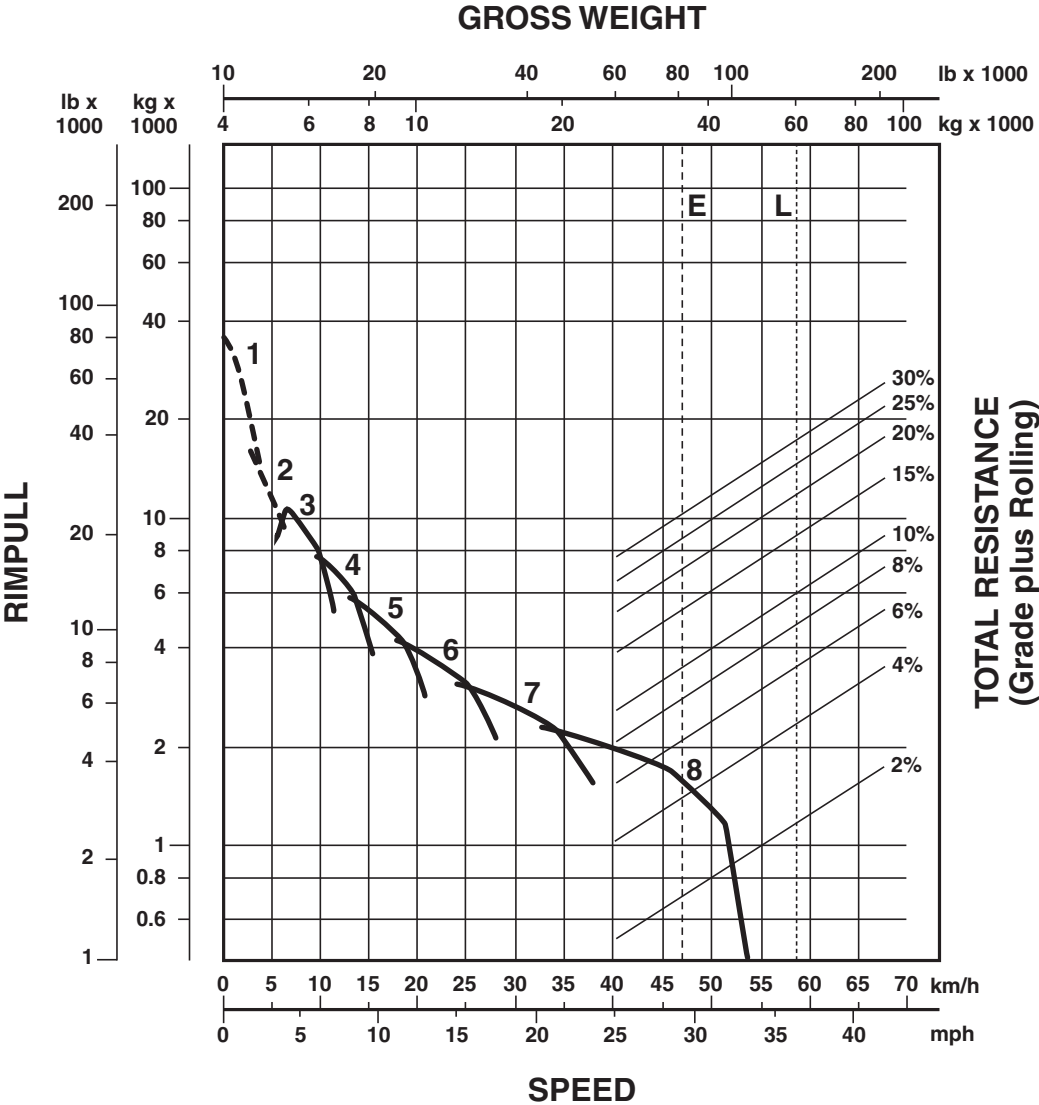


Empty weight: 33 995 kg (74,946 lb)
Payload: 23 950 kg (52,800 lb)

EMPTY



Empty weight: 33 995 kg (74,946 lb)

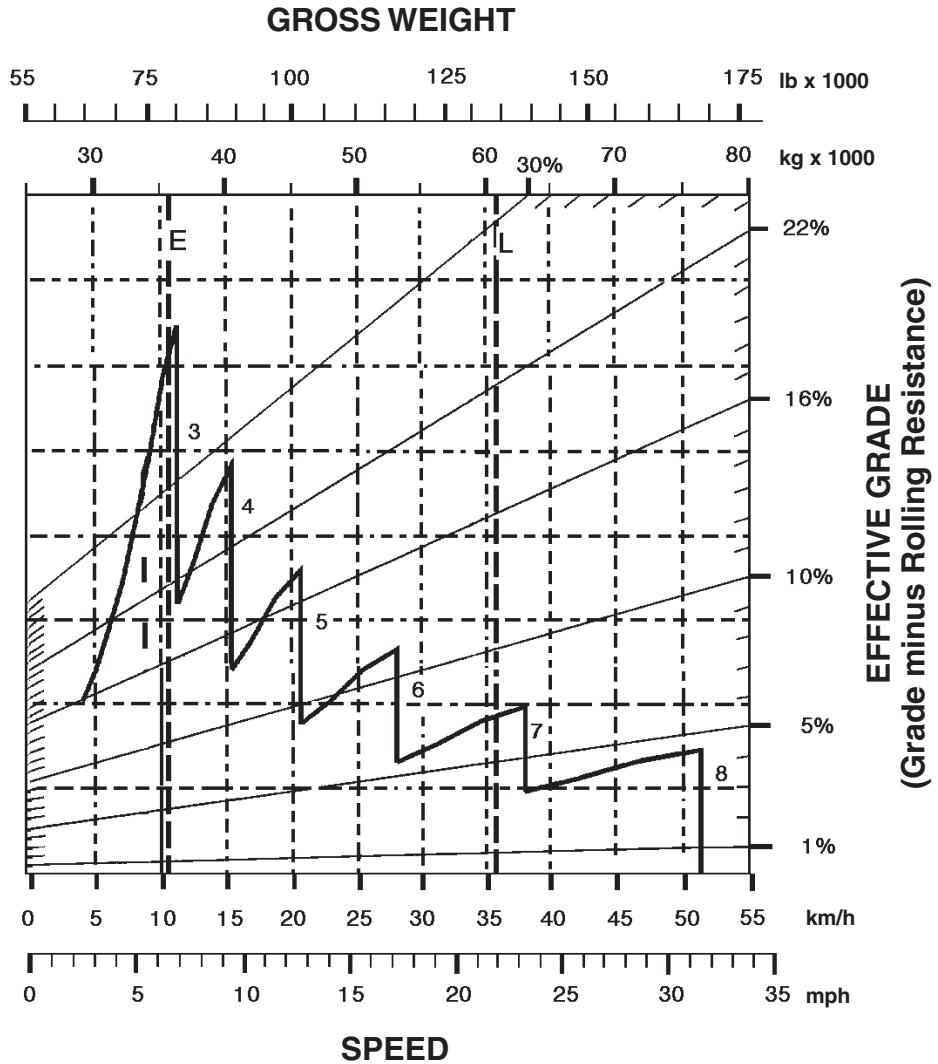


KEY

- 1 — 1st Gear Torque Converter Drive
- 2 — 2nd Gear Torque Converter Drive
- 3 — 3rd Gear Direct Drive
- 4 — 4th Gear Direct Drive
- 5 — 5th Gear Direct Drive
- 6 — 6th Gear Direct Drive
- 7 — 7th Gear Direct Drive
- 8 — 8th Gear Direct Drive

KEY

- E — Empty 37 510 kg (82,695 lb)
- L — Loaded 62 548 kg (137,895 lb)



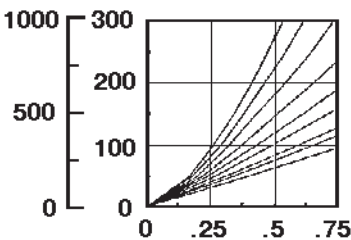
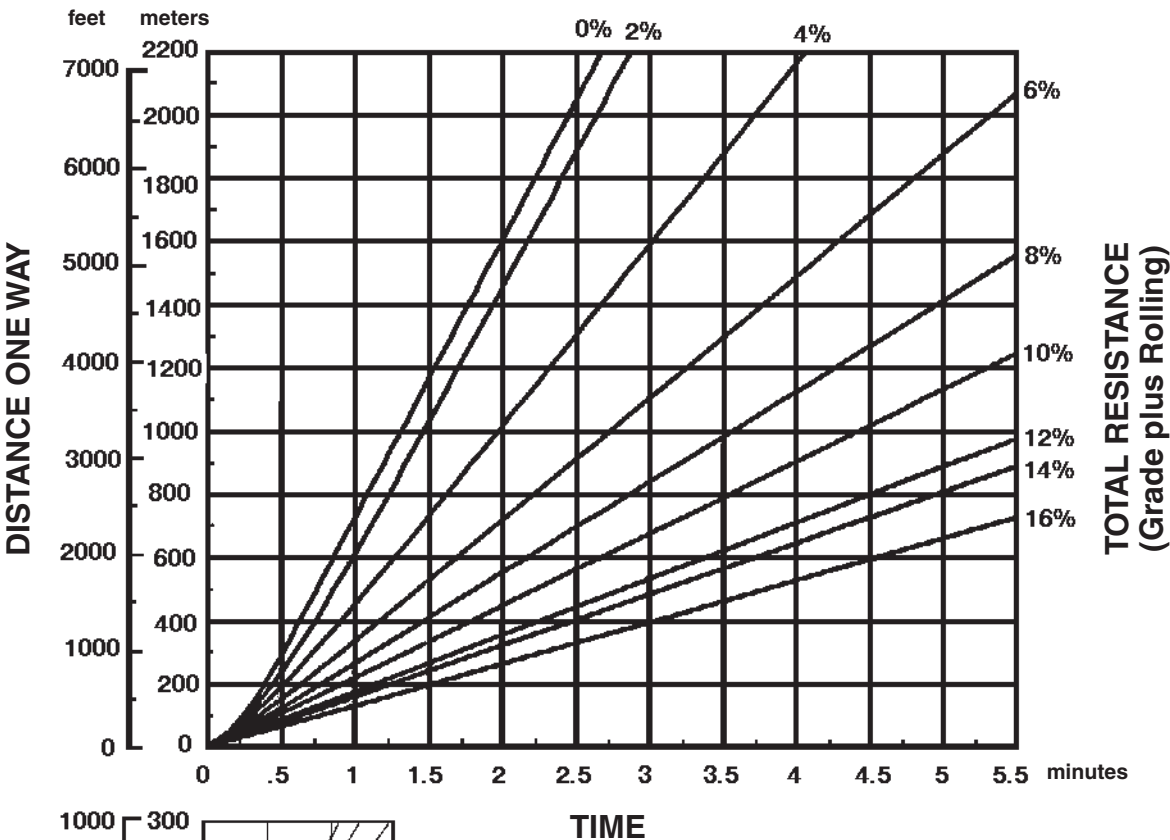
KEY

- 3 — 3rd Gear Direct Drive
- 4 — 4th Gear Direct Drive
- 5 — 5th Gear Direct Drive
- 6 — 6th Gear Direct Drive
- 7 — 7th Gear Direct Drive
- 8 — 8th Gear Direct Drive

KEY

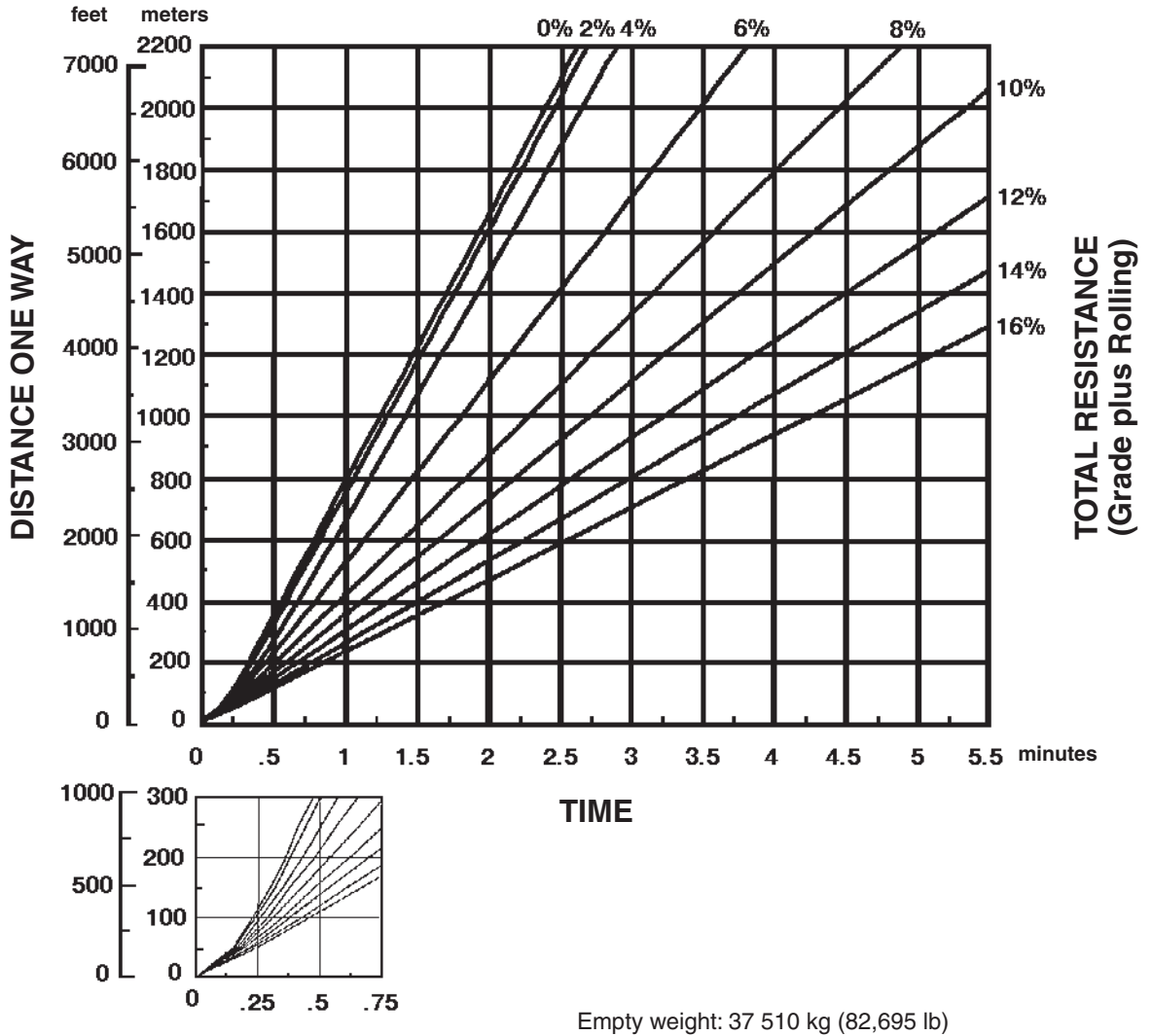
- E — Empty 37 510 kg (82,695 lb)
- L — Loaded 62 548 kg (137,895 lb)

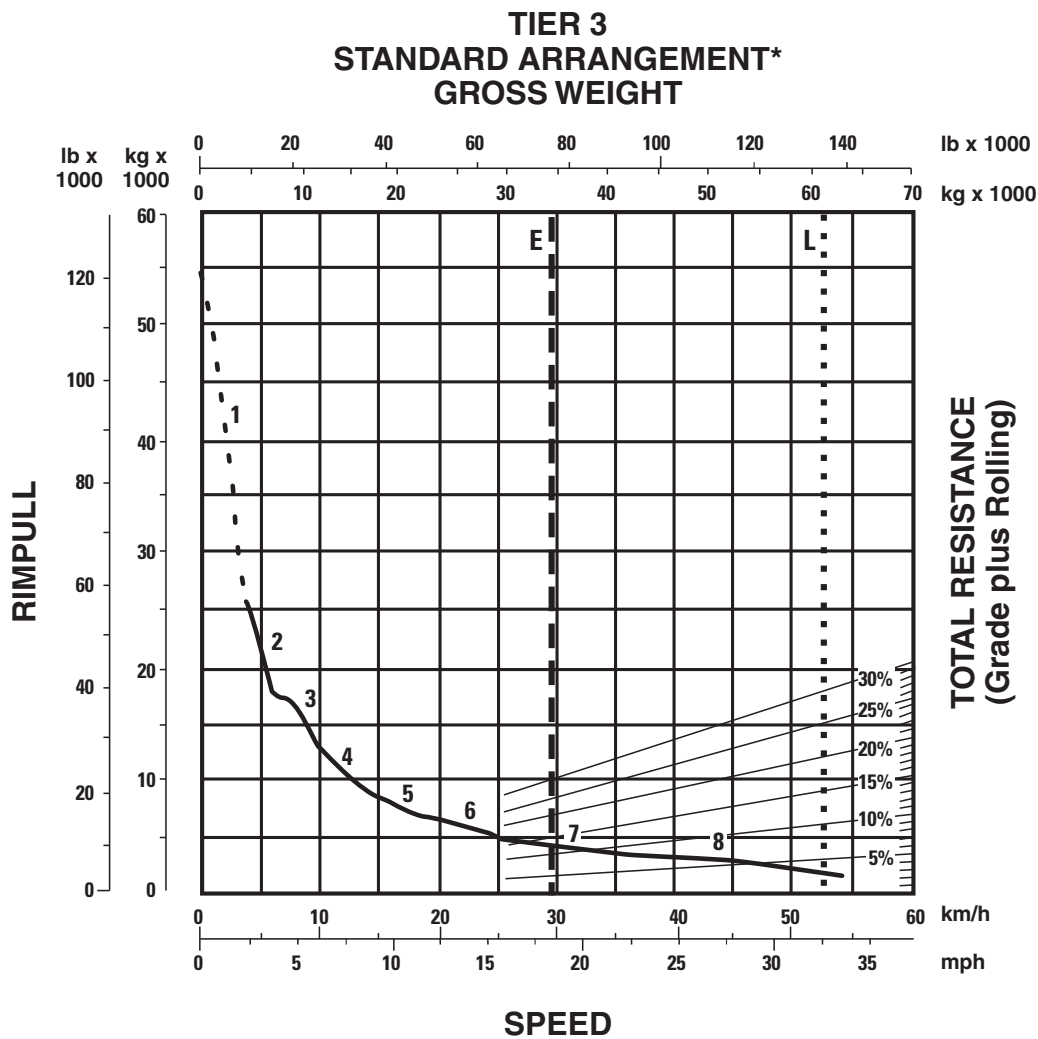
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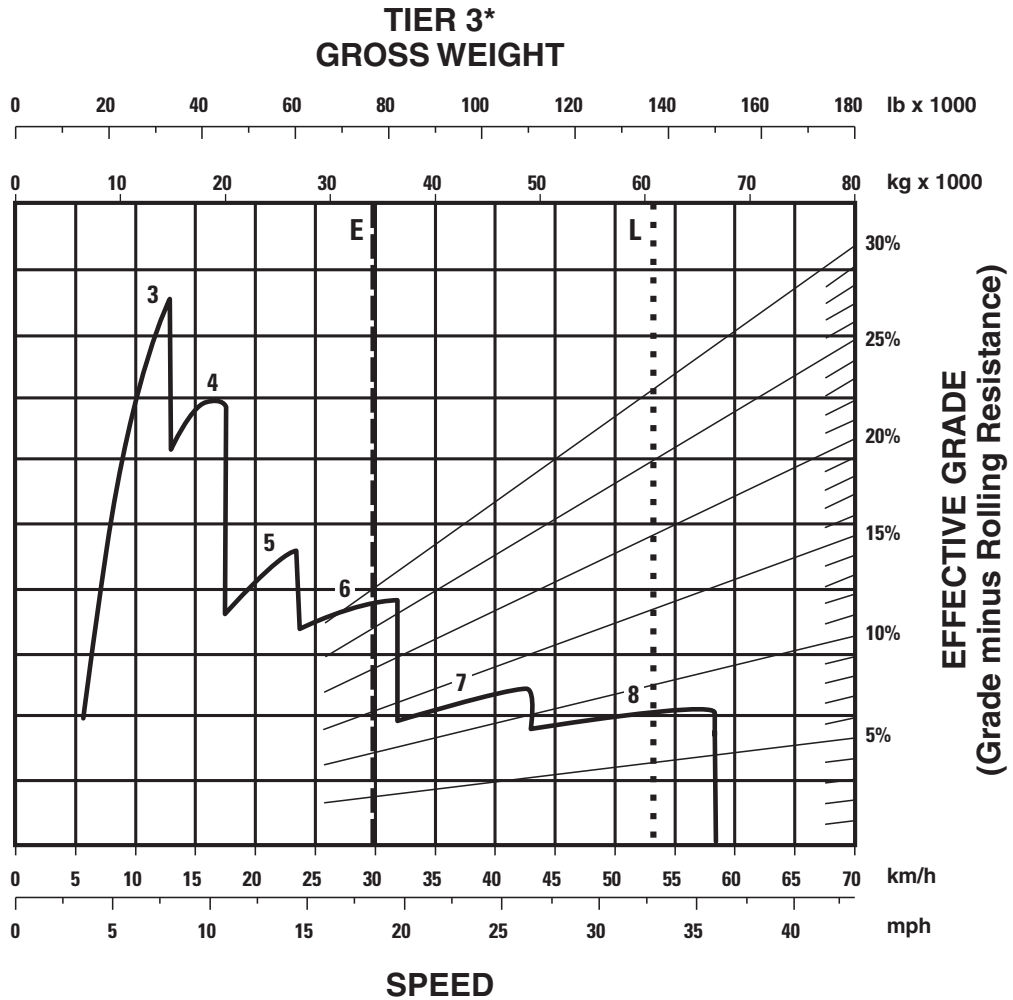
Empty weight: 37 510 kg (82,695 lb)
Payload: 25 038 kg (55,200 lb)

EMPTY





*at sea level



*at sea level

KEY

- 3 — 3rd Gear Direct Drive
- 4 — 4th Gear Direct Drive
- 5 — 5th Gear Direct Drive
- 6 — 6th Gear Direct Drive
- 7 — 7th Gear Direct Drive
- 8 — 8th Gear Direct Drive

KEY

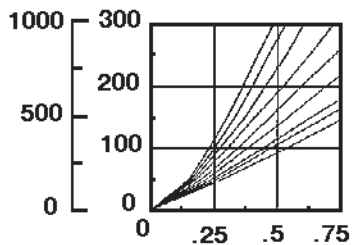
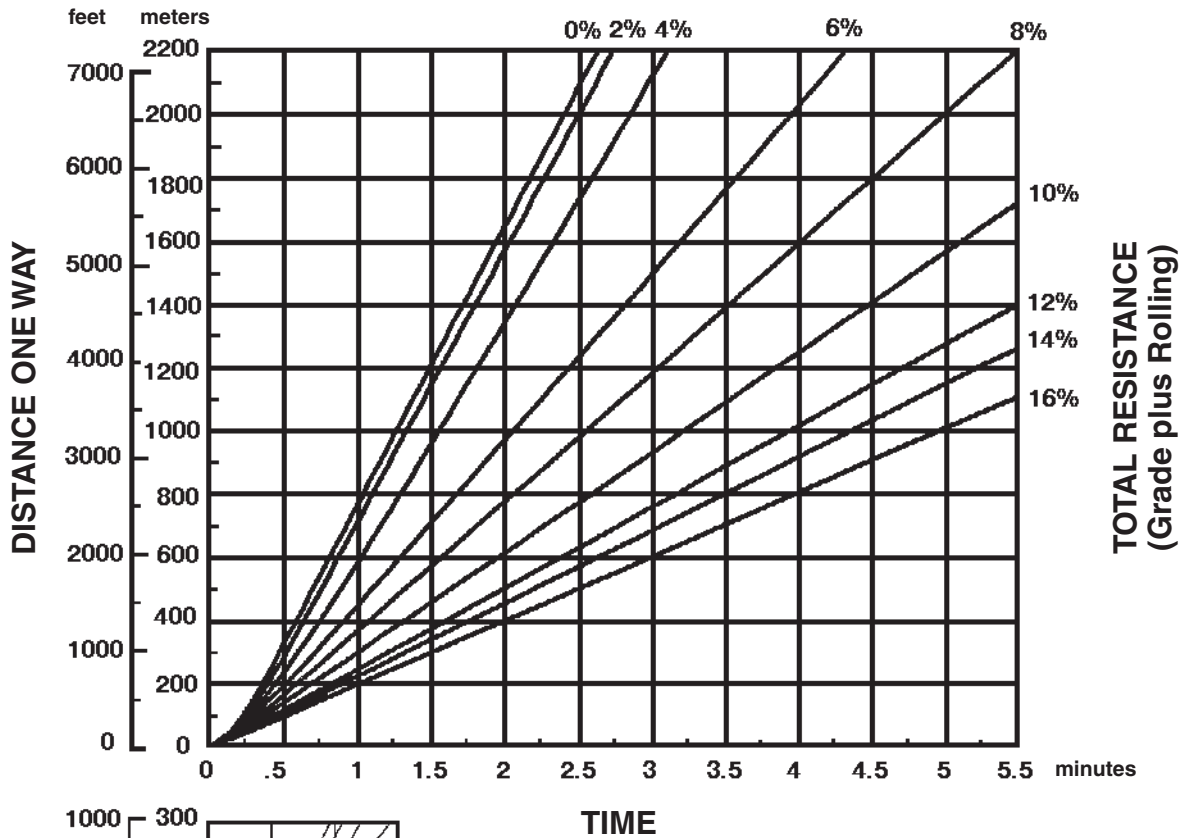
- E — Empty 39 443 kg (86,957 lb)
- L — Loaded 63 393 kg (139,757 lb)

Wheel Tractor-Scrapers

627G Travel Time — Loaded

- 33.25R29 Tires
- Standard and Push-Pull

LOADED

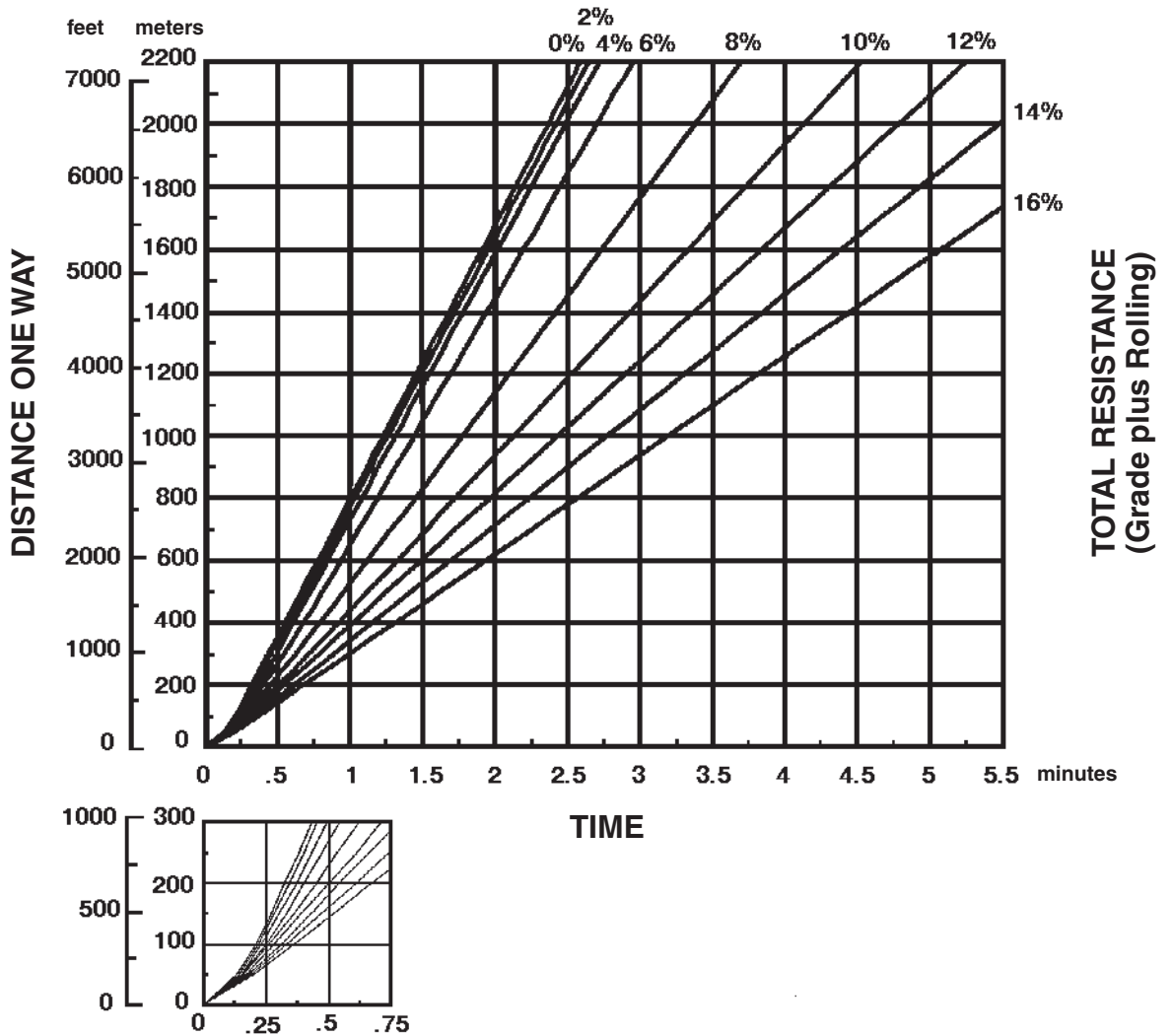


Empty weight: 39 443 kg (86,957 lb)
Payload: 23 950 kg (52,800 lb)

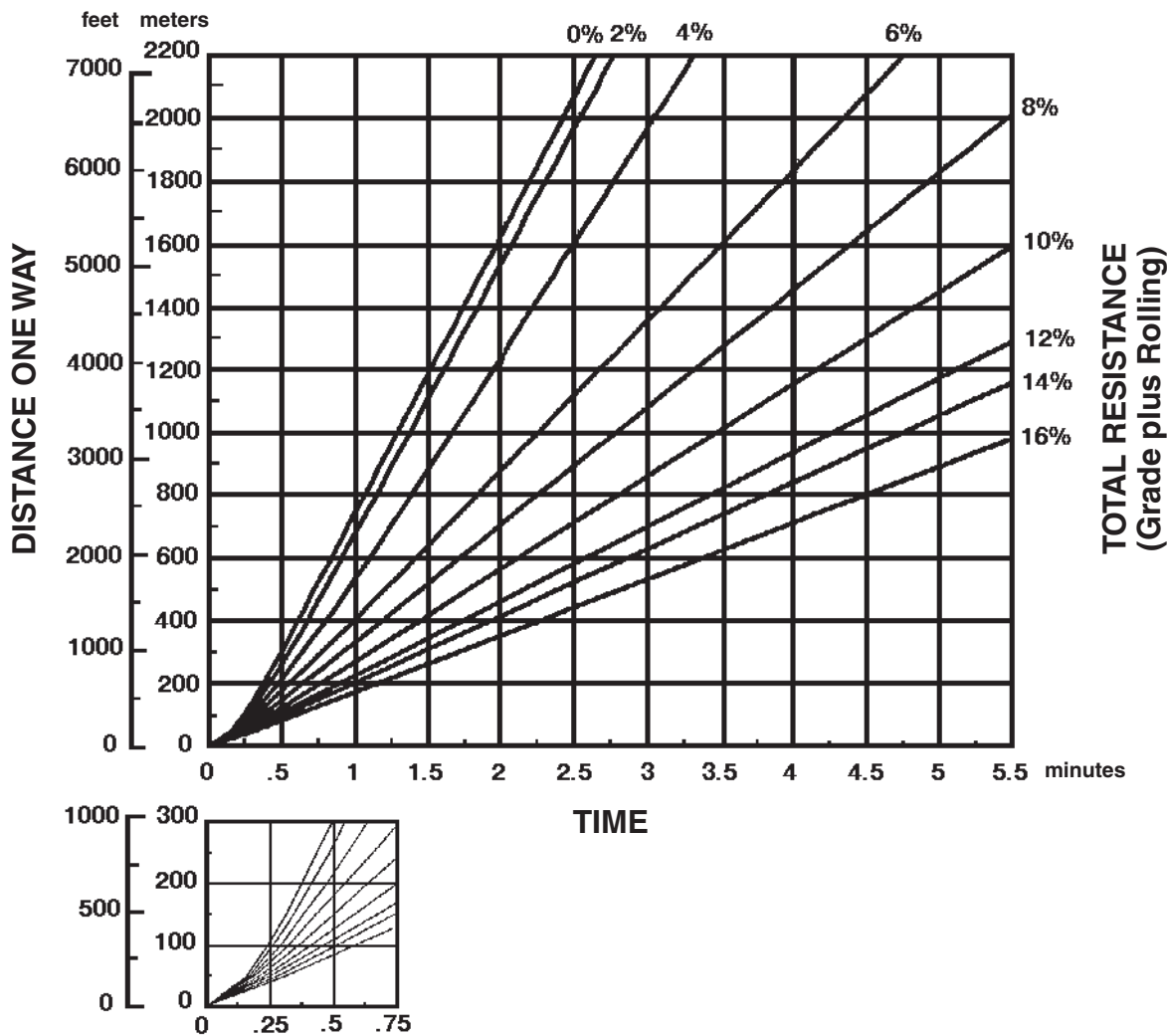
627G Travel Time — Empty
 • 33.25R29 Tires
 • Standard and Push-Pull

Wheel Tractor-Scrapers

EMPTY

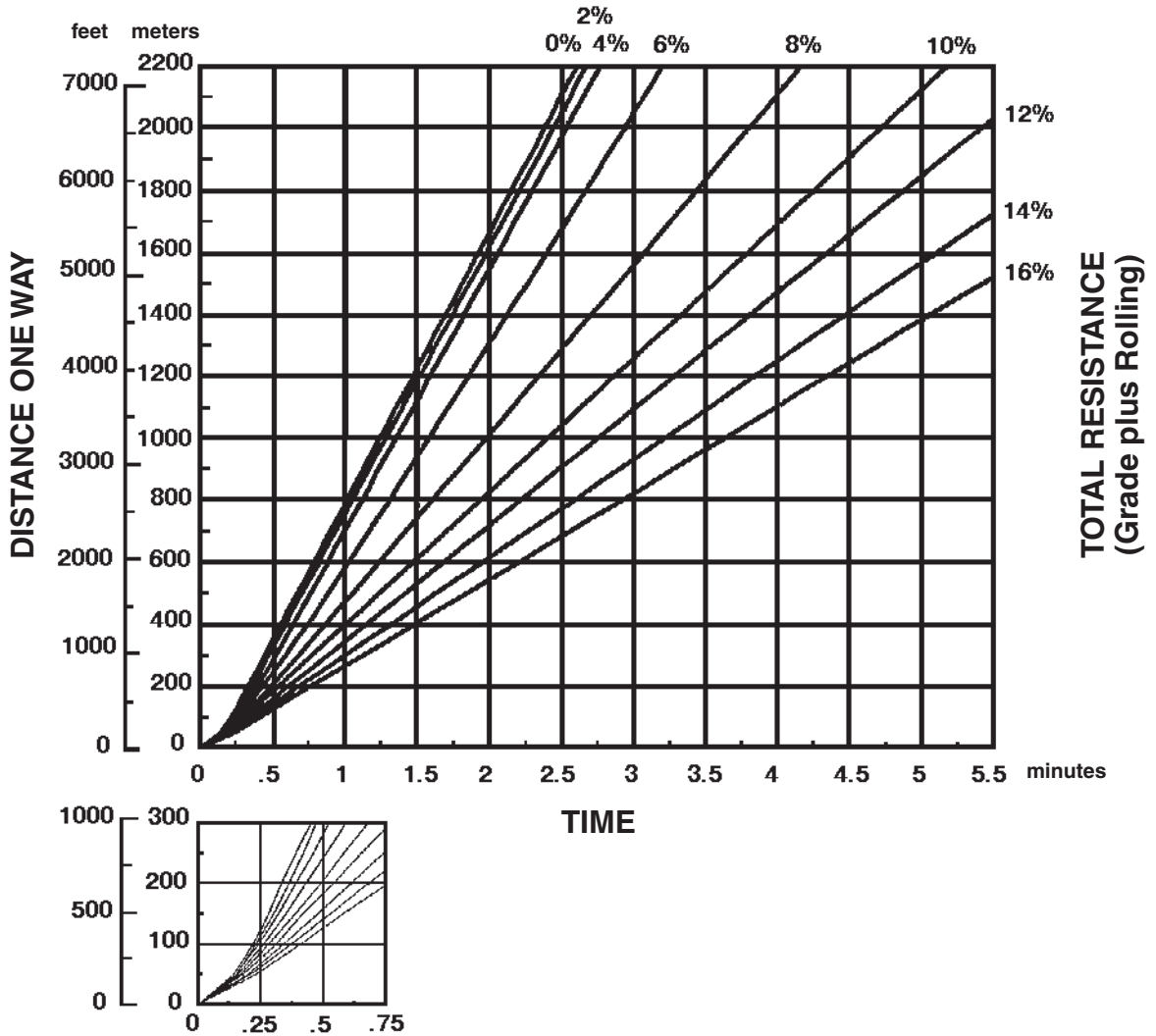


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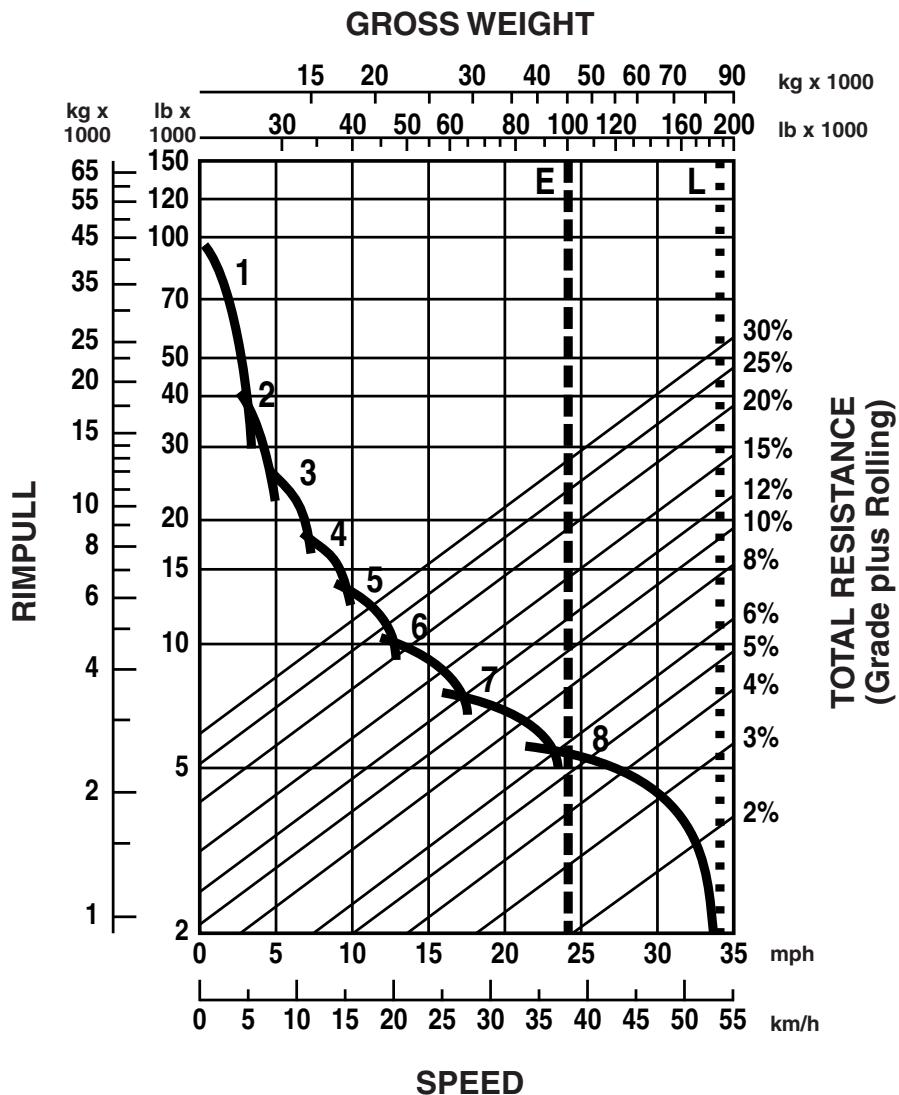


Empty weight: 41 907 kg (92,388 lb)
Payload: 22 861 kg (50,400 lb)

EMPTY



Empty weight: 41 907 kg (92,388 lb)

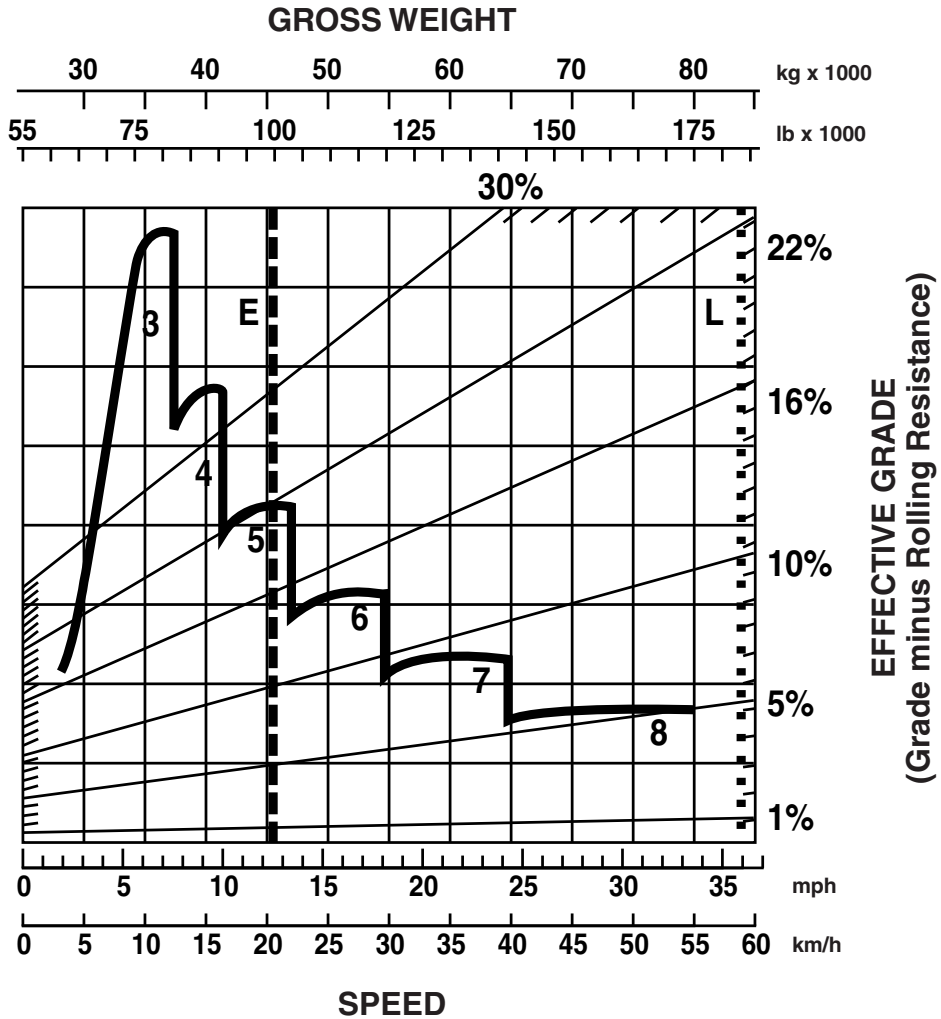


KEY

- 1 — 1st Gear Torque Converter Drive
- 2 — 2nd Gear Torque Converter Drive
- 3 — 3rd Gear Direct Drive
- 4 — 4th Gear Direct Drive
- 5 — 5th Gear Direct Drive
- 6 — 6th Gear Direct Drive
- 7 — 7th Gear Direct Drive
- 8 — 8th Gear Direct Drive

KEY

- E — Empty 47 628 kg (105,002 lb)
- L — Loaded 84 641 kg (186,602 lb)



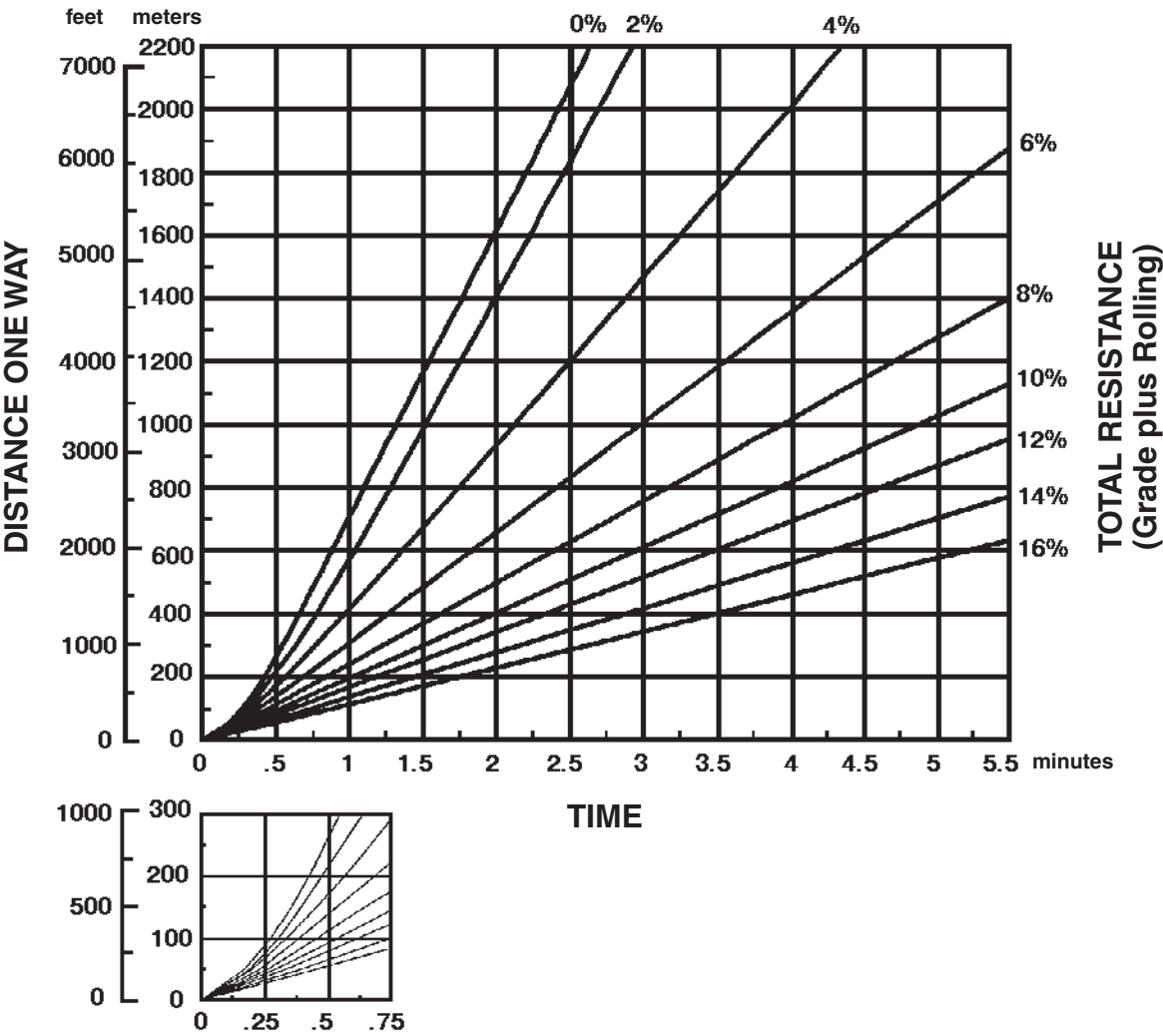
KEY

3 — 3rd Gear Direct Drive
4 — 4th Gear Direct Drive
5 — 5th Gear Direct Drive
6 — 6th Gear Direct Drive
7 — 7th Gear Direct Drive
8 — 8th Gear Direct Drive

KEY

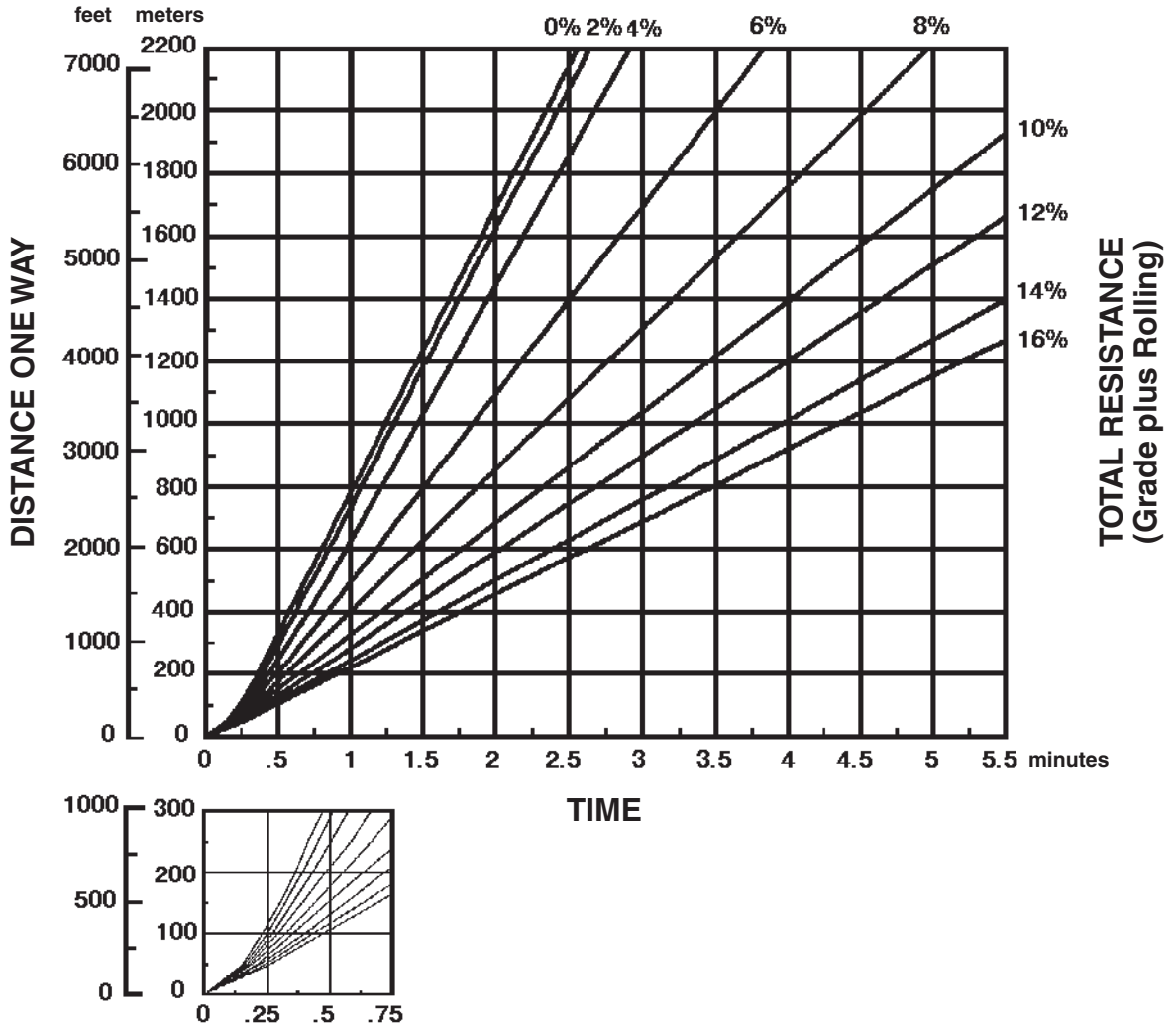
E — Empty 47 628 kg (105,002 lb)
L — Loaded 84 641 kg (186,602 lb)

LOADED

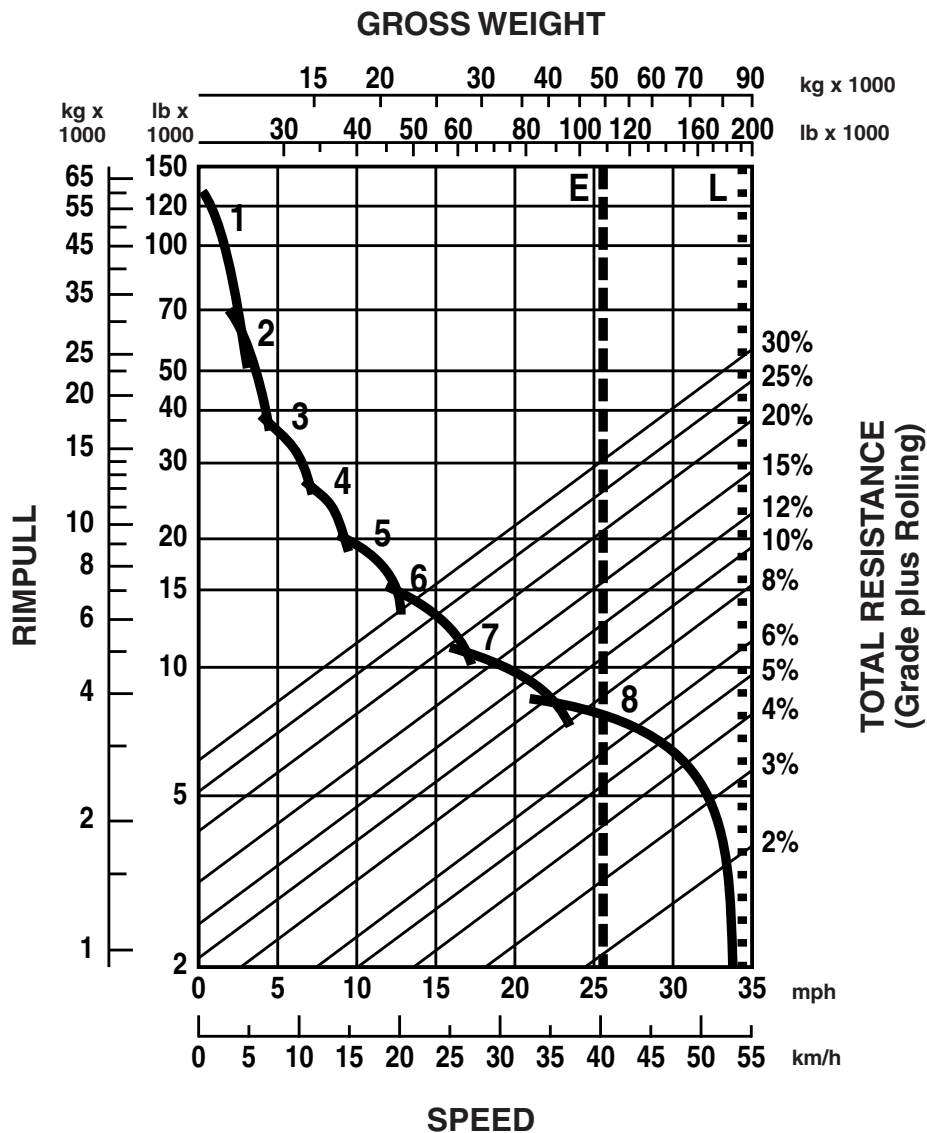


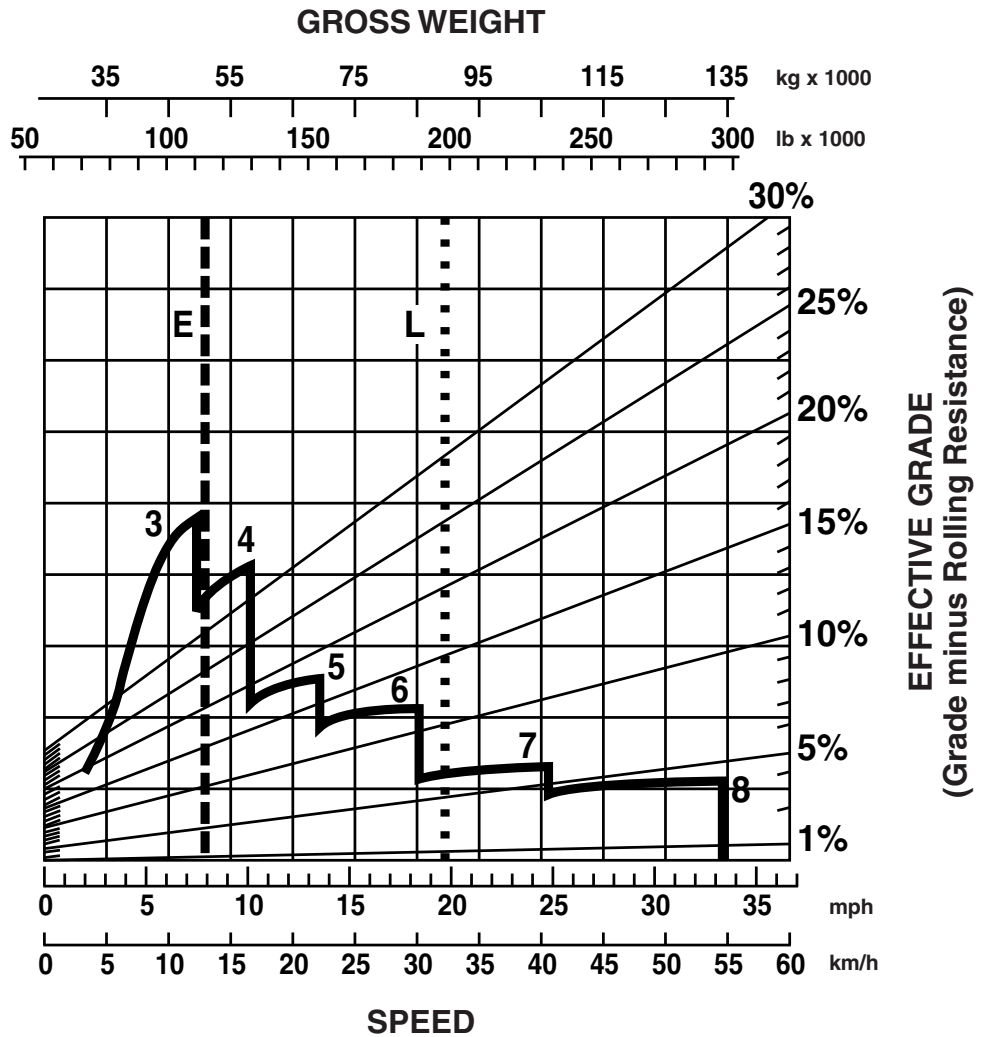
Empty weight: 47 628 kg (105,002 lb)
Payload: 37 013 kg (81,600 lb)

EMPTY



Empty weight: 47 628 kg (105,002 lb)





KEY

3 — 3rd Gear Direct Drive
4 — 4th Gear Direct Drive
5 — 5th Gear Direct Drive
6 — 6th Gear Direct Drive
7 — 7th Gear Direct Drive
8 — 8th Gear Direct Drive

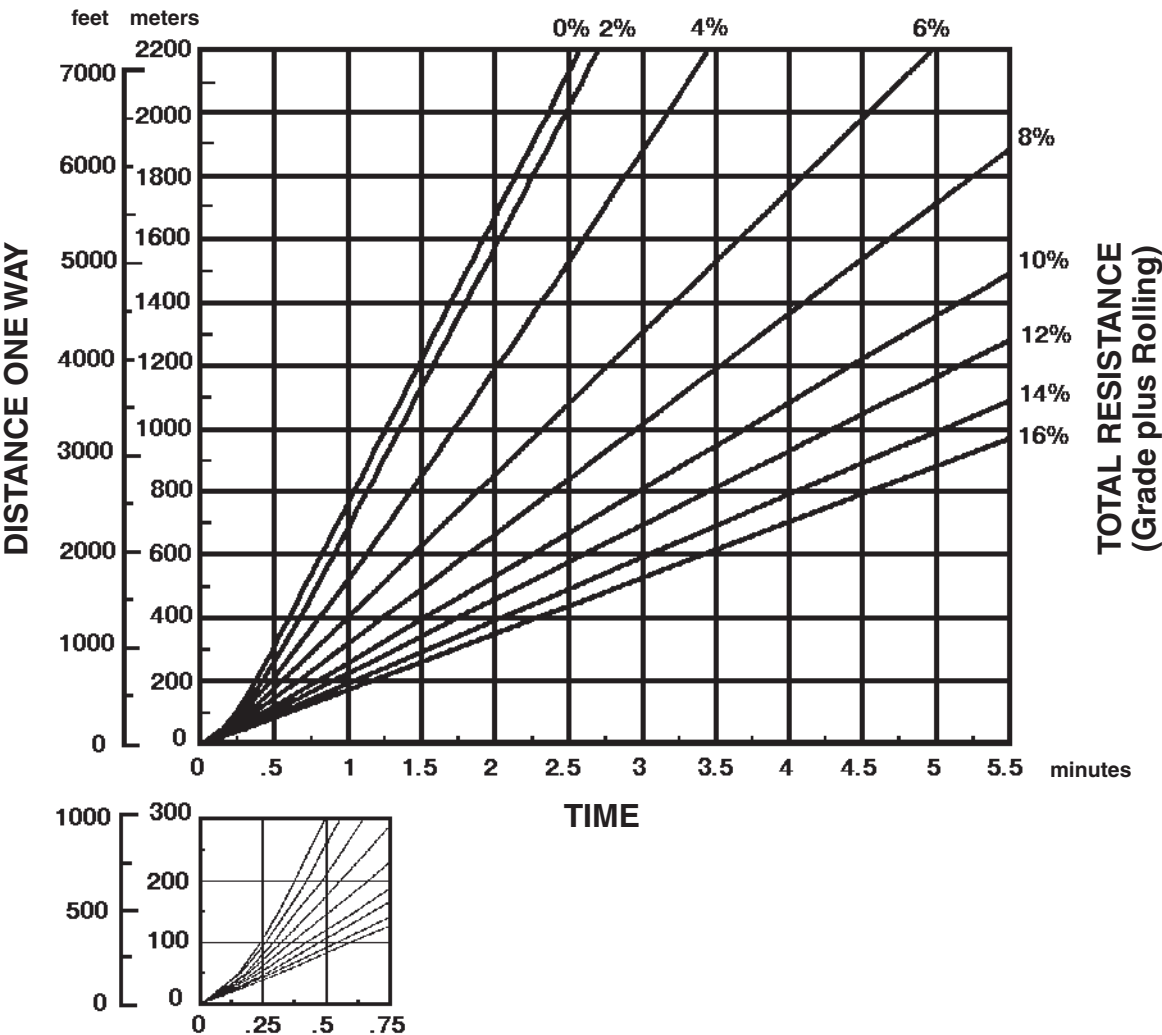
KEY

E — Empty 54 057 kg (119,175 lb)
L — Loaded 91 070 kg (200,775 lb)

Wheel Tractor-Scrapers

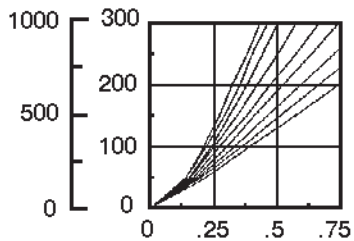
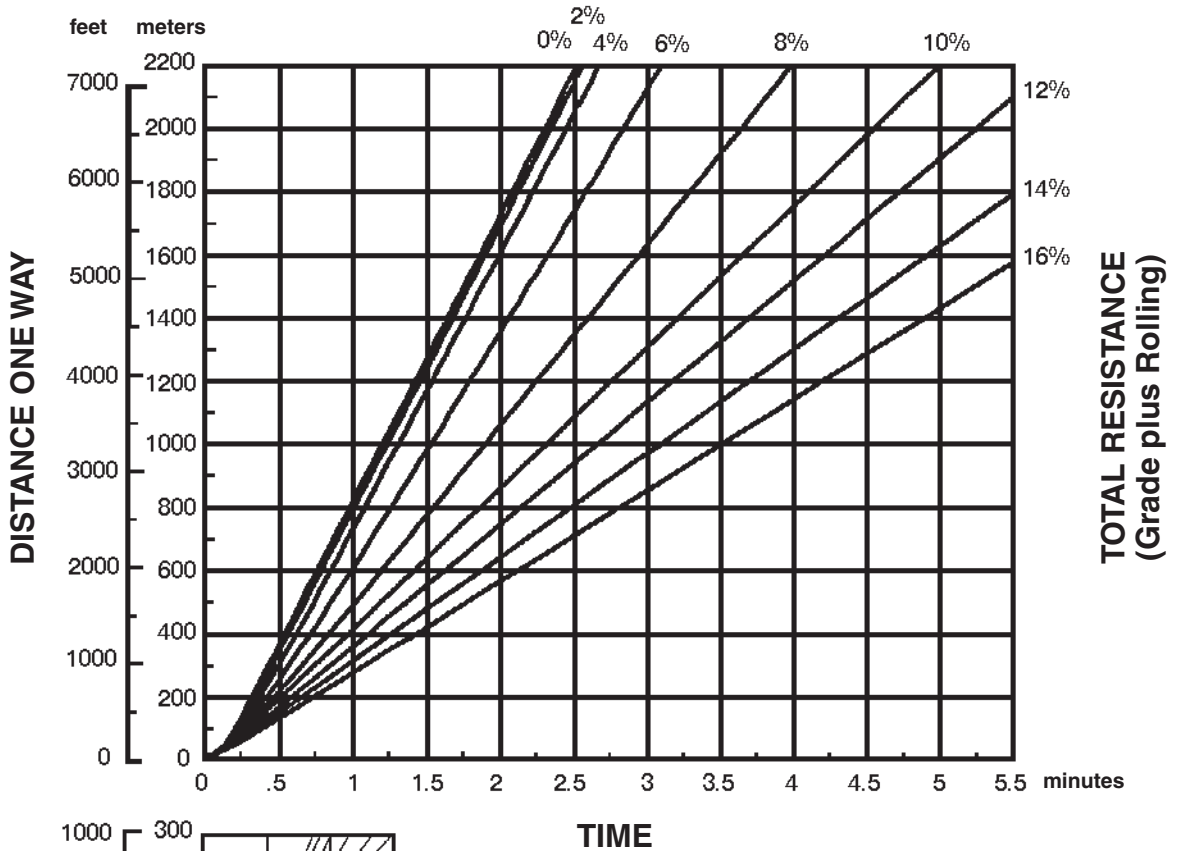
- 637G Travel Time — Loaded
- 37.25R35 Tires
 - Standard and Push-Pull

LOADED



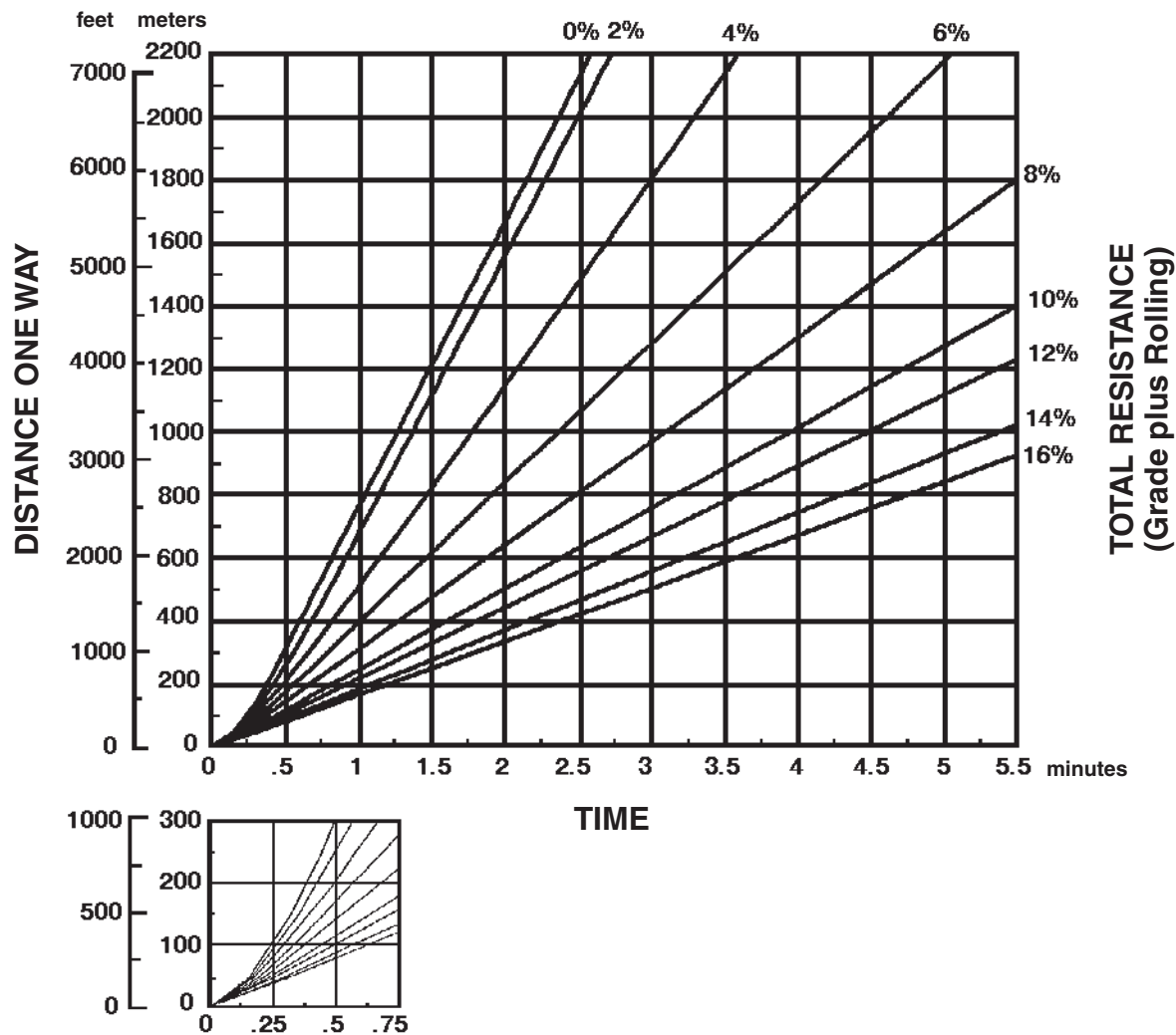
Empty weight: 54 057 kg (119,175 lb)
Payload: 37 013 kg (81,600 lb)

EMPTY

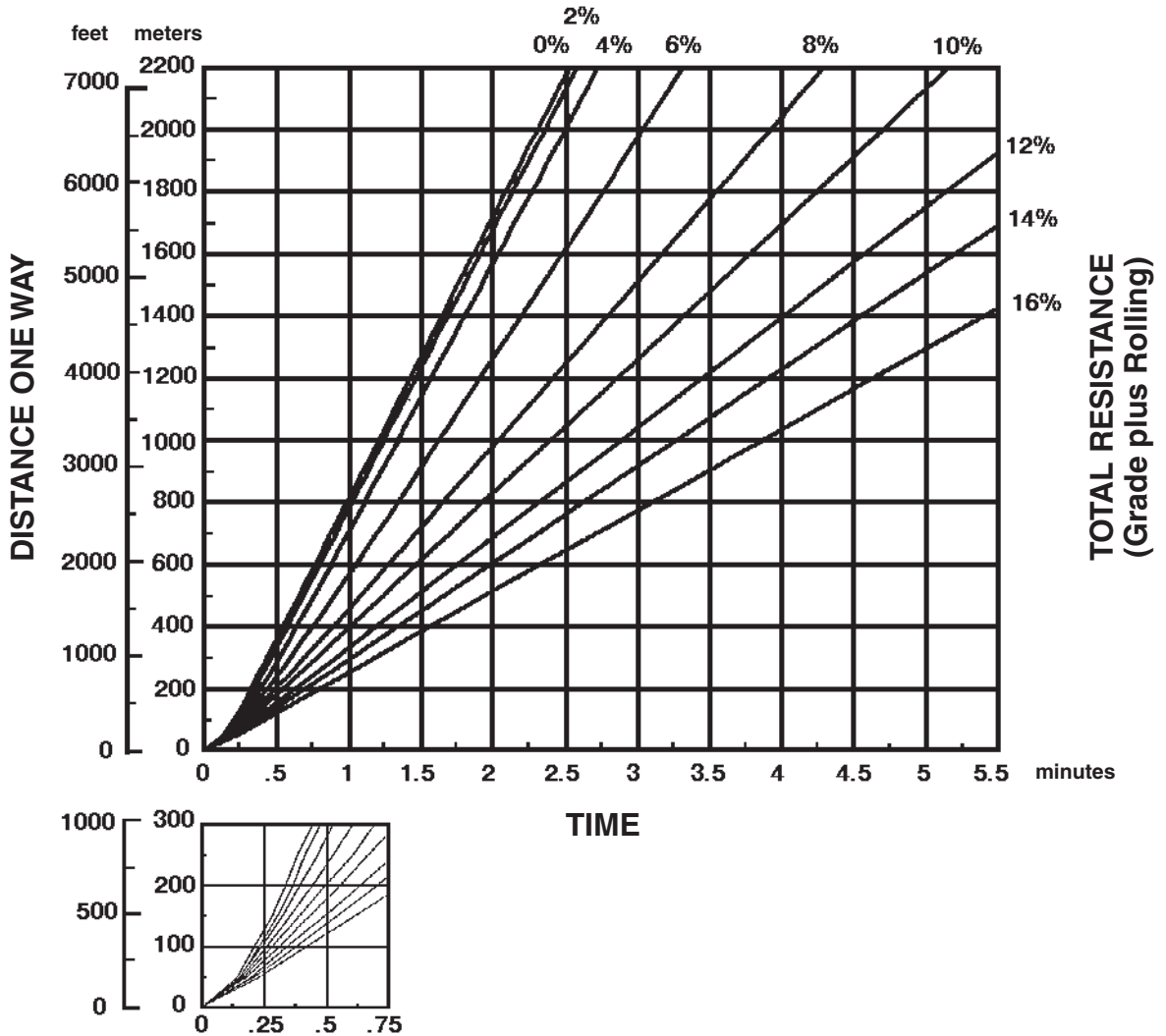


Empty weight: 54 057 kg (119,175 lb)

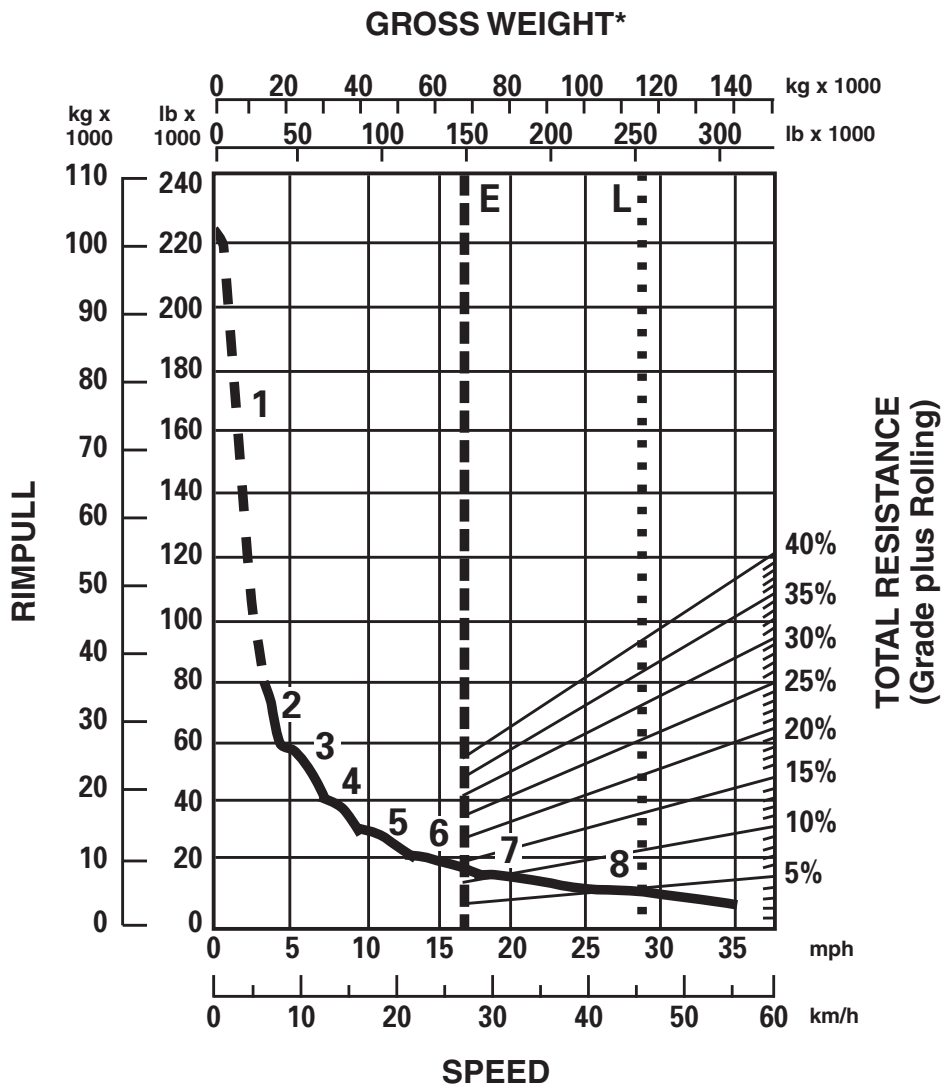
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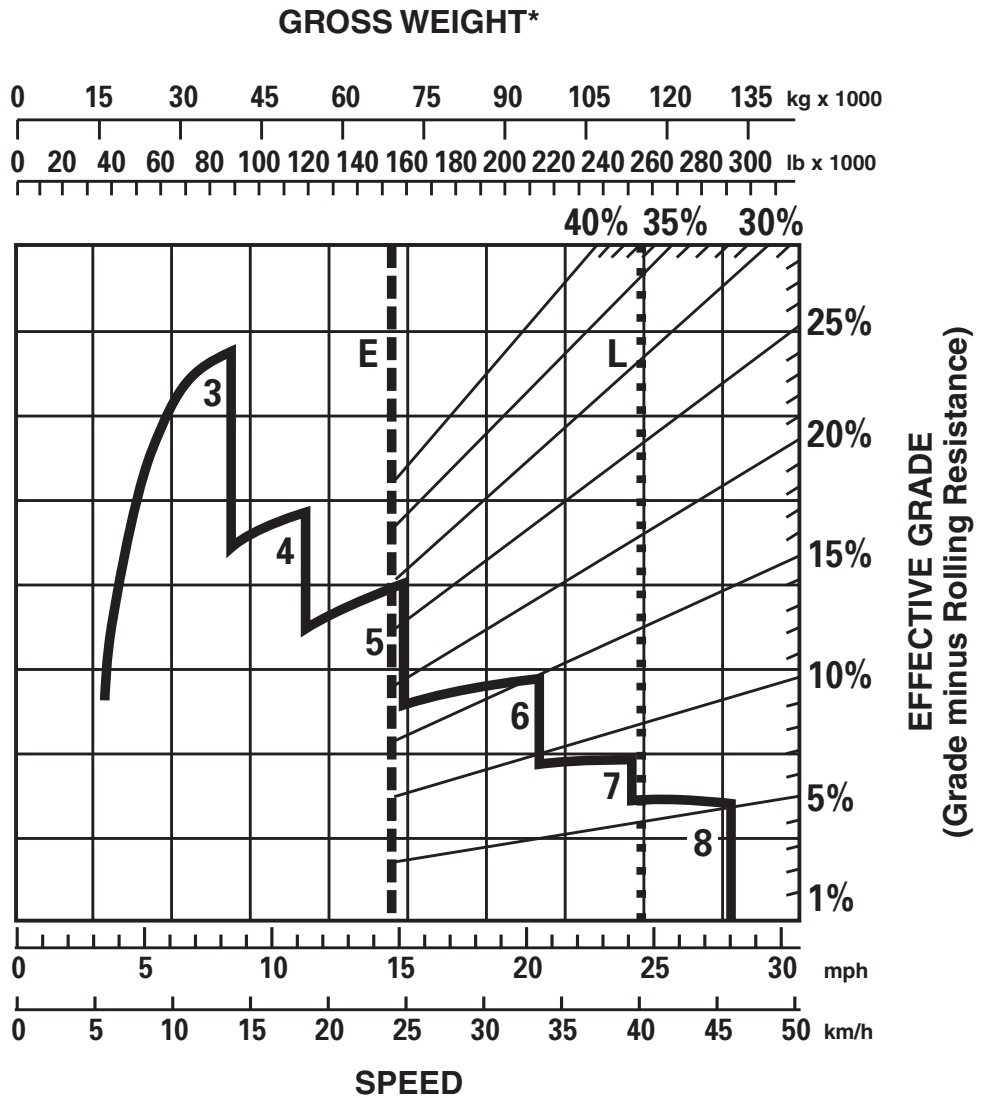
EMPTY



Empty weight: 59 455 kg (131,076 lb)



*at sea level



*at sea level

KEY

- 3 — 3rd Gear Direct Drive
- 4 — 4th Gear Direct Drive
- 5 — 5th Gear Direct Drive
- 6 — 6th Gear Direct Drive
- 7 — 7th Gear Direct Drive
- 8 — 8th Gear Direct Drive

KEY

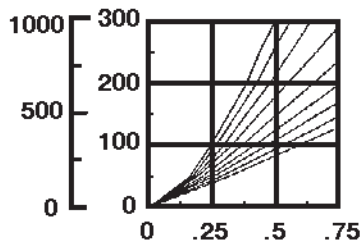
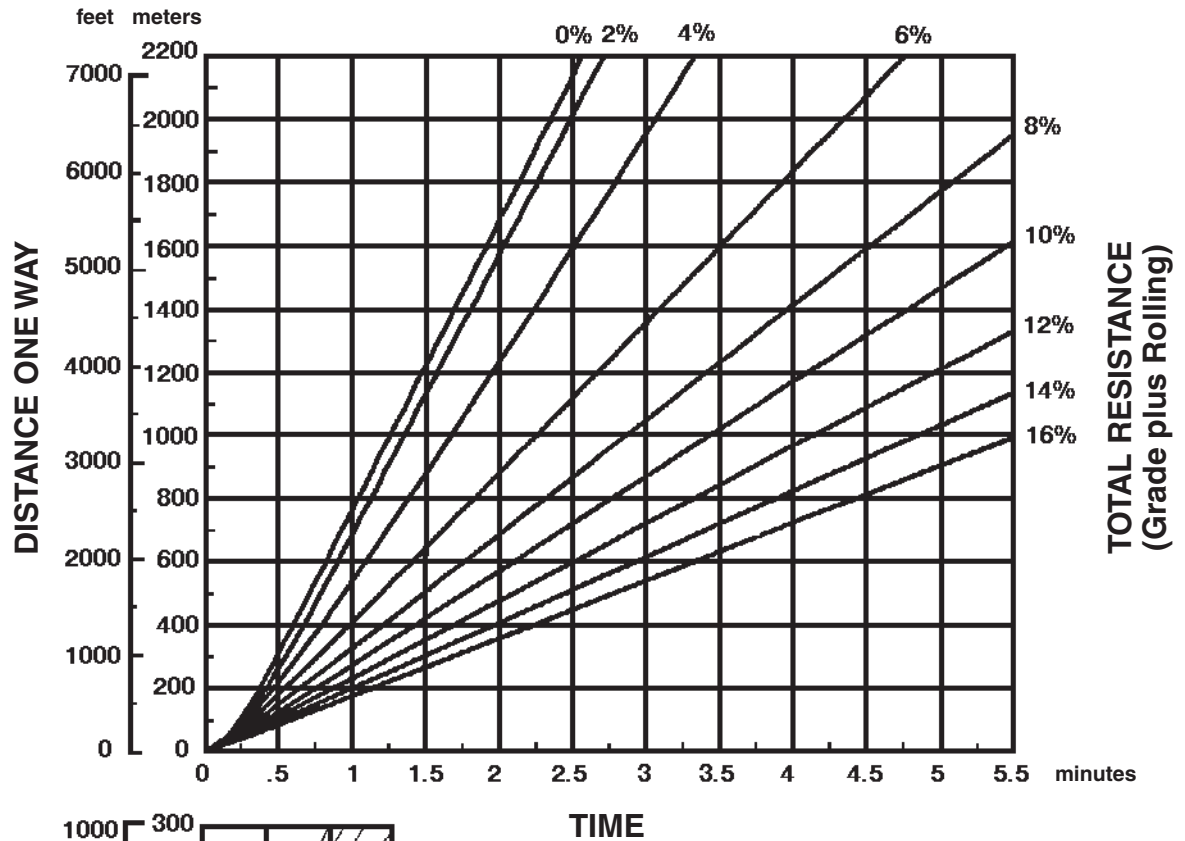
- E — Empty 72 804 kg (160,505 lb)
- L — Loaded 119 978 kg (264,505 lb)

Wheel Tractor-Scrapers

657G Travel Time — Loaded

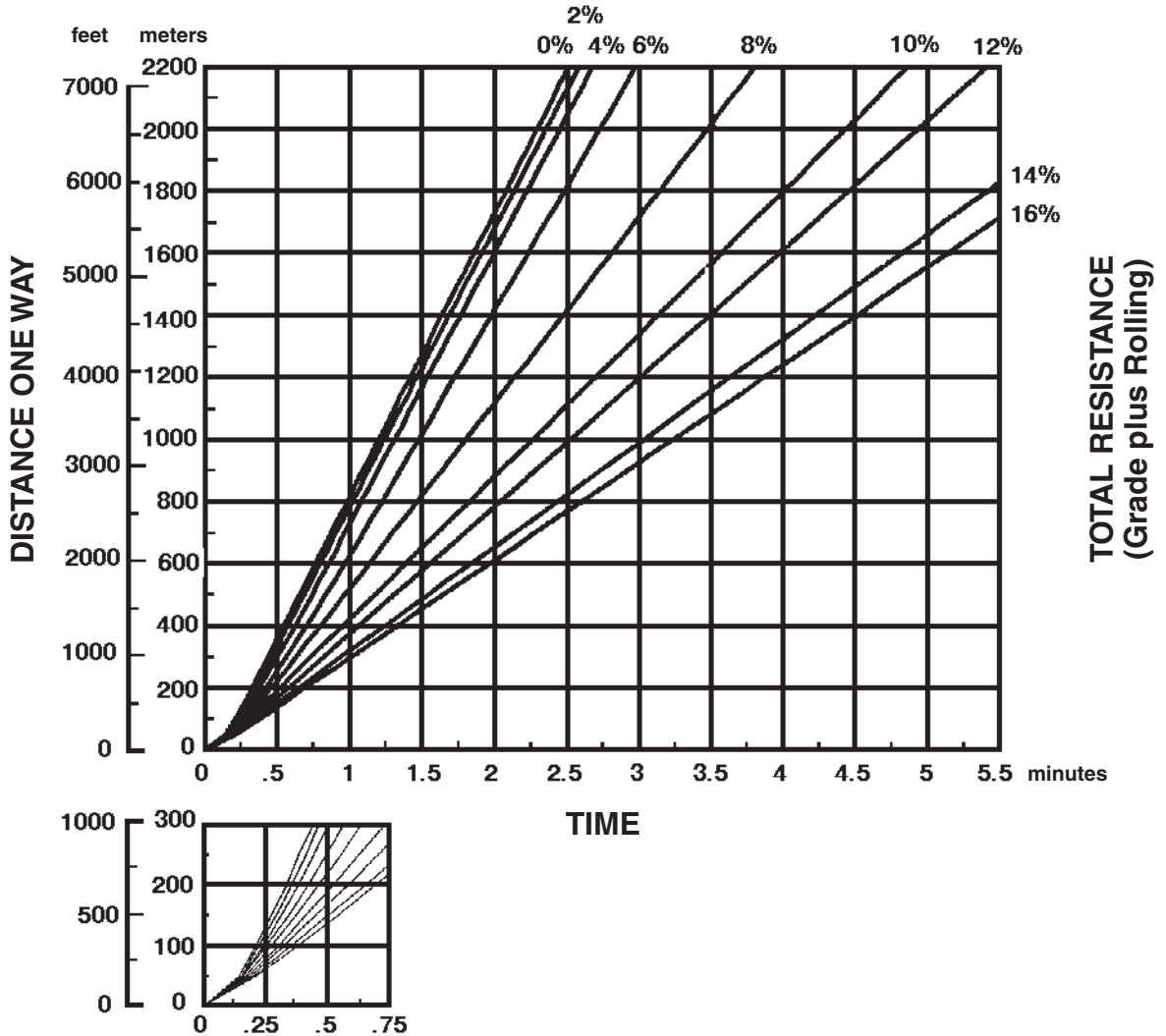
- 40.5/75R39 Tires
- Standard and Push-Pull

LOADED



Empty weight: 72 804 kg (160,505 lb)
Payload: 47 174 kg (104,000 lb)

EMPTY



Empty weight: 72 804 kg (160,505 lb)

TOWED SCRAPERS

CONTENTS

TOWED SCRAPERS

Features	8-51
Applications	8-51
Recommended Pull Units	8-51
Specifications	8-52

Features:

- High-strength, abrasion-resistant steel is used inside the bowl on the floor, walls, apron and ejector face for maximum strength and wear life. The bowl uses a cellular design for superior strength and dent resistance.
- Standard heavy-duty, dry-disc brake calipers ensure effective stopping from safe operating speeds.
- The bolted hitch design eliminates pin wear. The tongue's robust, straight-line design efficiently transfers maximum power to the cutting edge for outstanding performance.
- Standard radial tires provide maximum flotation and durability.
- Cat Towed Scrapers easily adapt to jobsite conditions. They can be pulled in single or tandem configurations, top loaded with an excavator, or — on an intermittent basis — be push loaded with a track-type tractor.
- Ideally suited to be pulled by Cat Track-Type Tractors and Challenger® Special Application Tractors.

Applications:

On any given jobsite, there are several ways to accomplish the task of hauling/moving material:

- Hydraulic excavators with articulated trucks.
- Wheel tractor-scrapers (self-loading, push loading, or push-pull loading).
- Wheel loaders with rigid-frame trucks.
- Agricultural tractors (tired or rubber tracked) with towed scrapers.
- Track-type tractors dozing material.
- Track-type tractors with towed scrapers.

Towed scrapers excel for contractors removing top soil with the following ideal conditions:

- Haul distance under 0.8 km (2500 ft).
- Materials with a bank density of less than 1780 kg/m³ (3000 lb/yd³).
- No large rocks or stumps.

Towed scrapers also complement wheel tractor scrapers by expanding the work season with high flotation in the softest underfoot conditions. Adding towed scrapers to the Cat product line gives contractors more solutions for selecting the earthmoving system that is most cost effective for their application. Caterpillar offers the full range of earthmoving and hauling machines — dozers, wheel tractor scrapers, towed scrapers, wheel loaders with rigid frame trucks and hydraulic excavators with articulated trucks.

Recommended Pull Units:

Cat Towed Scrapers are designed to be pulled by Cat Track-Type Tractors and Challenger MTS800 and MTS900 Special Application Tractors. The following tables show the minimum recommended power required for single and tandem towed scraper applications.



MODEL	TS180		TS185	
Scraper Bowl:				
Capacity — Heaped	14.8 m ³	18.8 yd³	14.5 m ³	19.0 yd³
Width of Cut, to Router Bits	3200 mm	10.5 ft	3785 mm	12.4 ft
Rated Load	20 800 kg	45,900 lb	21 050 kg	46,400 lb
Capacity Struck	9.9 m ³	13 yd³	11 m ³	14.4 yd³
Depth of Cut — Maximum	203 mm	8 in	305 mm	12 in
Ground Clearance — Maximum	533 mm	21 in	597 mm	23.5 in
Cutting Edge — Thickness	22 mm	0.87 in	22 mm	0.87 in
Depth of Spread — Maximum	610 mm	24 in	711.2 mm	28 in
Apron Opening	1600 mm	63 in	1600 mm	63 in
Weights:				
Empty Weight	11 748 kg	25,900 lb	11 748 kg	32,020 lb
Distribution, Empty — Tongue		28%		28%
— Axle		72%		72%
Distribution, Loaded — Tongue		29%		29%
— Axle		71%		71%
Brakes and Tires:				
Brake Type	Dry-Disc		Dry-Disc	
Calipers, Lead — Qty	2 per side		2 per side	
Calipers, Trail — Qty	1 per side		1 per side	
Tires — Qty	2		4	
Tire — Standard	29.5R25		23.5R25	
Optional	875 65R29		26.5R25	
Dimensions:				
Width — Inside of Bowl	3048 mm	120 in	3632 mm	143 in
— Outside Rear Rires	3099 mm	122 in	3835 mm	151 in
— Outside Bowl	3378 mm	133 in	3988 mm	157 in
Height — Overall Shipping	2362 mm	93 in	2515 mm	99 in
— Floor to Top of Ejector	1930 mm	76 in	1930 mm	76 in
— Sidewall	1219 mm	48 in	1219 mm	48 in
— Ground to Cutting Edge — Maximum	657 mm	25.9 in	687 mm	27.0 in
Length — Maximum	8915 mm	351 in	9119 mm	359 in
— Floor	1295 mm	51 in	1219 mm	48 in
Hydraulics:				
Front Bowl Cylinder — Bore	127 mm	5 in	127 mm	5 in
— Stroke	508 mm	20 in	508 mm	20 in
Rear Bowl Cylinder — Bore		N/A	127 mm	5 in
— Stroke		N/A	203 mm	8 in
Apron Cylinder — Bore	102 mm	4 in	102 mm	4 in
— Stroke	813 mm	32 in	965 mm	38 in
Ejector Cylinder — Bore	127 mm	5 in	127 mm	5 in
— Stroke	1372 mm	54 in	914 mm	36 in
Pull Unit Recommendations:				
Steel Track-Type Tractor — Single Scraper		D7		D8
— Tandem Scrapers		D8		D9
Rubber Tracked Ag Tractor — Single Scraper	224-298 kW	300-400 hp	298-373 kW	400-500 hp
— Tandem Scrapers	298-373 kW	400-500 hp	373-447 kW	500-600 hp
Rubber Tired Ag Tractor — Single Scraper	224-298 kW	300-400 hp	298-373 kW	400-500 hp
— Tandem Scrapers	298-373 kW	400-500 hp	373-447 kW	500-600 hp
Hydraulic Services Required — Single Scraper		2		3
— Tandem Scraper		4		6

**MODEL****TS220****TS225****Scraper Bowl:**

Capacity — Heaped	18.0 m ³	23.5 yd³	18.0 m ³	23.5 yd³
Width of Cut, to Router Bits	3480 mm	11.4 ft	3785 mm	12.4 ft
Rated Load	25 580 kg	56,400 lb	25 580 kg	56,400 lb
Capacity Struck	13 m ³	17 yd³	13 m ³	17 yd³
Depth of Cut — Maximum	262 mm	10.3 in	262 mm	10.3 in
Ground Clearance — Maximum	508 mm	20 in	660 mm	26 in
Cutting Edge — Thickness	22 mm	0.87 in	22 mm	0.87 in
Depth of Spread — Maximum	737 mm	29 in	737 mm	29 in
Apron Opening	1600 mm	63 in	1600 mm	63 in

Weights:

Empty Weight	13 145 kg	28,980 lb	15 250 kg	33,620 lb
Distribution, Empty — Tongue		28%		28%
— Axle		72%		72%
Distribution, Loaded — Tongue		29%		29%
— Axle		71%		71%

Brakes and Tires:

Brake Type	Dry-Disc	Dry-Disc
Calipers, Lead — Qty	2 per side	2 per side
Calipers, Trail — Qty	2 per side	2 per side
Tires — Qty	2	4
Tire — Standard	875 65R29	26.5R25
— Optional	N/A	N/A

Dimensions:

Width — Inside of Bowl	3353 mm	132 in	3632 mm	143 in
— Outside Rear Rires	3378 mm	133 in	3912 mm	154 in
— Outside Bowl	3683 mm	145 in	3988 mm	157 in
Height — Overall Shipping	2464 mm	97 in	2515 mm	99 in
— Floor to Top of Ejector	2134 mm	84 in	1930 mm	76 in
— Sidewall	1219 mm	48 in	1219 mm	48 in
— Ground to Cutting Edge — Maximum	698 mm	27.5 in	819 mm	31.9 in
Length — Maximum	9677 mm	381 in	10287 mm	405 in
— Floor	1448 mm	57 in	1346 mm	53 in

Hydraulics:

Front Bowl Cylinder — Bore	140 mm	5.5 in	140 mm	5.5 in
— Stroke	508 mm	20 in	508 mm	20 in
Rear Bowl Cylinder — Bore	N/A		152 mm	6 in
— Stroke	N/A		203 mm	8 in
Apron Cylinder — Bore	102 mm	4 in	102 mm	4 in
— Stroke	965 mm	38 in	965 mm	38 in
Ejector Cylinder — Bore	127 mm	5 in	127 mm	5 in
— Stroke	1524 mm	60 in	1219 mm	48 in

Pull Unit Recommendations:

Steel Track-Type Tractor — Single Scraper	D8	D8
— Tandem Scrapers	D10	D10
Rubber Tracked Ag Tractor — Single Scraper	298-373 kW	400-500 hp
— Tandem Scrapers	373-447 kW	500-600 hp
Rubber Tired Ag Tractor — Single Scraper	298-373 kW	400-500 hp
— Tandem Scrapers	373-447 kW	500-600 hp
Hydraulic Services Required — Single Scraper	2	3
— Tandem Scraper	4	6

Pull Unit	Hauling Distance	Materials
Cat Track-Type Tractors	250-300 m (800-1000 ft)	Soil, dirt and small rock, sand and shale (no shot rock)
Challenger MT800 Series Tractors	Up to 915 m (3000 ft)	Soil, sand and gravel mix
Challenger MT900 Series Tractors	Up to 1215 m (4000 ft)	

TS180 Recommended Pull Units

Configuration	Track-Type Tractor	Ag Tractor
Single	D7	224-298 kW (300-400 hp)
Tandem	D8	298-373 kW (400-500 hp)

CONSTRUCTION & MINING TRUCKS

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Features:

- **Cat Four-Stroke Diesel Engines** — Turbo-charged, aftercooled, adjustment-free fuel system (direct injection).
- **Electronically-Controlled Automatic Transmission** — Speed sensing device automatically shifts transmission between 1st and gear selected by operator.
- **Truck Production Management System (TPMS) (option)** — Utilizes strut pressure sensors and an on-board microprocessor to determine payload weight, cycle segment times, delay times, actual clock time and date of each cycle.
- **VIMS™** — Monitors all vital machine functions. Keeps operator informed of current machine operating conditions, helps reduce downtime and allows service personnel easy access to data for fast accurate diagnosis. VIMS includes the Truck Production Management System.
- **Mechanical Electronic Unit Injection (MEUI)** in the 770 through 789C — Electronically maintains fuel settings, provides automatic altitude and air filter restriction compensation, and features automatic variable timing, improved diagnostics and increased fuel efficiency.

- **Oil Cooled Disc Brakes** — Provide retarding, service, parking, and secondary braking in a single sealed, fade-resistant, maintenance-free unit. Standard on the 770 through 775F and optional on the 777F, front brakes are caliper disc and can be switched out of the service system when not needed but activate as part of the secondary system. Standard on the 785C through 797F, front brakes are oil-cooled disc, providing excellent control in slippery conditions.
- **Automatic Retarder Control (ARC)** This option is standard on 770-797F — Electronically controls braking on grade to maintain optimal engine RPM and oil cooling. ARC benefits include engine over-speed protection, ease of operation, faster downhill speeds, smoother ride and better control in slippery conditions, and fuel efficiency.
- **Traction Control System (TCS) (option)** — Electronically monitors and controls rear wheel slippage for greater traction and enhanced truck performance in poor underfoot conditions. If slippage exceeds a set limit, the oil-cooled disc brakes engage to slow the spinning wheel. Torque is then automatically transferred to the wheel with better traction. Available on the 770 through 797F.
- **Full Hydraulic Steering** — Functions with front suspension cylinders serving as kingpins.
- **Suspension Cylinders** — Four independent, self-contained, nitrogen/oil-pneumatic suspension cylinders absorb loading and road shocks. Wide spacing for stability.

- **Truck Bodies** — A variety of truck bodies are available to meet your application specific requirements. Those options include MSDII (mine specific design), X, flat floor, dual slope and gateless coal bodies. The Caterpillar body program ensures the truck is configured for an optimal haulage solution.
- **Integral Roll Over Protective Structure (ROPS)** — Integral Four-Post ROPS cab standard on all models. Resiliently mounted to the main frame to reduce vibration and sound, the integral ROPS structure is designed as an extension of the truck frame. The ROPS/FOPS structure provides “five sided protection” for the operator and trainer.
- **Separate Hydraulic Systems** — Prevent cross contamination.
- **Safety** — Caterpillar continues to be proactive in developing construction and mining trucks that meet or exceed safety standards. Safety is an integral part of the machine design and includes a twin double-acting cylinder steering system, slip-resistance surfaces, and low-level interior sound levels.

Non-Dumper Offerings:

For certain applications the Caterpillar OEM Solution Group offers non-dumper arrangements for the 773F, 775F, 777F and 785D.

Non-dumper arrangements include a water truck and tractor configuration. For updates on additional offerings please contact Caterpillar OEM Solutions Group.

NOTE: Listed features may be standard on some models. Optional on others. Contact your Cat dealer for specific information.

**MODEL****770****770****772**

	Medium Impact Steel Flat Floor		Medium Impact Steel Dual Slope		Medium Impact Steel Flat Floor	
Body Type						
Gross Machine Weight	71 214 kg	157,000 lb	71 214 kg	157,000 lb	82 100 kg	181,000 lb
Chassis Weight*	24 613 kg	54,262 lb	24 613 kg	54,262 lb	25 425 kg	56,053 lb
Body System Weight	10 029 kg	22,110 lb	10 019 kg	22,088 lb	10 439 kg	23,013 lb
Target Payload**	36 572 kg	80,628 lb	36 582 kg	80,650 lb	46 236 kg	101,934 lb
Capacity:						
Struck (SAE)	16.4 m ³	21.5 yd³	16.4 m ³	21.5 yd³	23.3 m ³	30.5 yd³
Heaped (2:1) (SAE)	25.1 m ³	32.8 yd³	25.1 m ³	32.8 yd³	31.3 m ³	41.0 yd³
Distribution Empty:						
Front		48%		48%		48%
Rear		52%		52%		52%
Distribution Loaded:						
Front		33%		33%		33%
Rear		67%		67%		67%
Engine Model	C15 ACERT		C15 ACERT		C18 ACERT	
Number of Cylinders	6		6		6	
Bore	137 mm	5.4"	137 mm	5.4"	145 mm	5.7"
Stroke	171 mm	6.7"	171 mm	6.7"	183 mm	7.2"
Displacement	15 L	928 in³	15 L	928 in³	18 L	1105 in³
Net Power	355 kW	476 hp	355 kW	476 hp	399 kW	535 hp
Gross Power	381 kW	511 hp	381 kW	511 hp	446 kW	598 hp
Standard Tires	18.00R33 (E4)		18.00R33 (E4)		21.00R33 (E4)	
Machine Clearance Turning Circle	20.2 m	66'3"	20.2 m	66'3"	21.6 m	70'10"
Fuel Tank Refill Capacity	529 L	140 U.S. gal	529 L	140 U.S. gal	529 L	140 U.S. gal
Top Speed (Loaded)	74.8 km/h	46.5 mph	74.8 km/h	46.5 mph	79.7 km/h	49.5 mph
GENERAL DIMENSIONS (Empty):						
Height to Canopy Rock Guard Rail	4.14 m	13'7"	4.14 m	13'7"	4.22 m	13'10"
Wheelbase	3.96 m	13'0"	3.96 m	13'0"	3.96 m	13'0"
Overall Length (Operating)	8.74 m	28'9"	8.74 m	28'9"	8.74 m	28'9"
Overall Length (Shipping)	8.74 m	28'9"	8.74 m	28'9"	8.74 m	28'9"
Loading Height (Empty)	3.12 m	10'3"	3.12 m	10'3"	3.50 m	11'6"
Height at Full Dump	8.28 m	27'2"	8.28 m	27'2"	8.36 m	27'5"
Body Length (Target Length)	5.55 m	18'3"	5.55 m	18'3"	5.55 m	18'3"
Width (Operating)	4.75 m	15'8"	4.75 m	15'8"	4.75 m	15'8"
Width (Shipping)***	3.96 m	13'0"	3.96 m	13'0"	3.95 m	13'0"
Front Tire Tread	3.11 m	10'3"	3.11 m	10'3"	3.17 m	10'5"

*Weights include lubricants, coolants and 100% fuel.

**Refer to Caterpillar's 10/10/20 Payload Policy for Quarry & Construction Trucks.

***Disassembled.



MODEL	772		773E		773F	
Body Type	Medium Impact Steel Dual Slope		Medium Impact Steel Dual Slope		Medium Impact Steel Flat Floor	
Gross Machine Weight	82 100 kg	181,000 lb	99 300 kg	219,000 lb	100 698 kg	222,000 lb
Chassis Weight*	25 425 kg	56,053 lb	30 200 kg	66,580 lb	32 164 kg	70,908 lb
Body System Weight	10 413 kg	22,956 lb	9210 kg	20,305 lb	12 905 kg	28,451 lb
Target Payload**	46 262 kg	101,991 lb	55 460 kg	122,268 lb	55 629 kg	122,641 lb
Capacity:						
Struck (SAE)	24.2 m ³	31.7 yd³	26.6 m ³	34.8 yd³	25.9 m ³	33.8 yd³
Heaped (2:1) (SAE)	31.2 m ³	40.8 yd³	35.2 m ³	46 yd³	35.1 m ³	45.9 yd³
Distribution Empty:						
Front		48%		47.3%		51%
Rear		52%		52.7%		49%
Distribution Loaded:						
Front		33%		33.3%		35%
Rear		67%		66.7%		65%
Engine Model	C18 ACERT		3412E		C27 ACERT	
Number of Cylinders	6		12		12	
Bore	145 mm	5.7"	137 mm	5.4"	137 mm	5.4"
Stroke	183 mm	7.2"	152 mm	6"	152 mm	6"
Displacement	18 L	1105 in³	27 L	1649 in³	27 L	1649 in³
Net Power	399 kW	535 hp	501 kW	671 hp	524 kW	703 hp
Gross Power	446 kW	598 hp	530 kW	710 hp	552 kW	740 hp
Standard Tires	21.00R33 (E4)		24.00R35 (E4)		24.00R35 (E4)	
Machine Clearance Turning Circle	21.6 m	70'10"	25 m	82'0"	26.1 m	85'8"
Fuel Tank Refill Capacity	529 L	140 U.S. gal	700 L	185 U.S. gal	700 L	185 U.S. gal
Top Speed (Loaded)	79.7 km/h	49.5 mph	62.2 km/h	38.6 mph	67.5 km/h	41.9 mph
GENERAL DIMENSIONS (Empty):						
Height to Canopy Rock Guard Rail	4.22 m	13'10"	4.39 m	14'5"	4.44 m	14'7"
Wheelbase	3.96 m	13'0"	4.19 m	13'9"	4.22 m	13'10"
Overall Length (Operating)	8.74 m	28'9"	9.60 m	31'6"	10.33 m	33'11"
Overall Length (Shipping)	8.74 m	28'9"	9.12 m	29'11"	9.20 m	30'2"
Loading Height (Empty)	3.50 m	11'6"	3.77 m	12'4"	3.77 m	12'5"
Height at Full Dump	8.36 m	27'5"	8.79 m	28'10"	9.26 m	30'5"
Body Length (Target Length)	5.55 m	18'3"	6.40 m	21'0"	6.34 m	20'9"
Width (Operating)	4.75 m	15'8"	5.07 m	16'8"	5.43 m	17'10"
Width (Shipping)***	3.95 m	13'0"	3.99 m	13'1"	3.99 m	13'1"
Front Tire Tread	3.17 m	10'5"	3.28 m	10'9"	3.21 m	10'6"

*Weights include lubricants, coolants and 100% fuel.

**Refer to Caterpillar's 10/10/20 Payload Policy for Quarry & Construction Trucks.

***Disassembled.

**MODEL****773F****775F****775F**

	Medium Impact Steel Dual Slope		Medium Impact Steel Flat Floor		Medium Impact Steel Dual Slope	
Body Type						
Gross Machine Weight	100 698 kg	222 000 lb	109 769 kg	242,000 lb	109 769 kg	242,000 lb
Chassis Weight*	32 164 kg	70,908 lb	32 164 kg	70,908 lb	32 164 kg	70,908 lb
Body System Weight	12 961 kg	28,574 lb	13 456 kg	29,665 lb	13 552 kg	29,877 lb
Target Payload**	55 573 kg	122,518 lb	64 149 kg	141,427 lb	64 053 kg	141,215 lb
Capacity:						
Struck (SAE)	26.8 m ³	35.0 yd³	32.0 m ³	41.8 yd³	33.1 m ³	43.3 yd³
Heaped (2:1) (SAE)	35.6 m ³	46.5 yd³	41.9 m ³	54.8 yd³	42.5 m ³	55.6 yd³
Distribution Empty:						
Front	51%		49%		49%	
Rear	49%		51%		51%	
Distribution Loaded:						
Front	35%		33%		33%	
Rear	65%		67%		67%	
Engine Model	C27 ACERT		C27 ACERT		C27 ACERT	
Number of Cylinders	12		12		12	
Bore	137 mm	5.4"	137 mm	5.4"	137 mm	5.4"
Stroke	152 mm	6"	152 mm	6"	152 mm	6"
Displacement	27 L	1649 in³	27 L	1649 in³	27 L	1649 in³
Net Power	524 kW	703 hp	552 kW	740 hp	552 kW	740 hp
Gross Power	552 kW	740 hp	587 kW	787 hp	587 kW	787 hp
Standard Tires	24.00R35 (E4)		24.00R35 (E4)		24.00R35 (E4)	
Machine Clearance Turning Circle	26.1 m	85'8"	26.1 m	85'8"	26.1 m	85'8"
Fuel Tank Refill Capacity	700 L	185 U.S. gal	700 L	185 U.S. gal	700 L	185 U.S. gal
Top Speed (Loaded)	67.5 km/h	41.9 mph	67.5 km/h	41.9 mph	67.5 km/h	41.9 mph
GENERAL DIMENSIONS (Empty):						
Height to Canopy Rock Guard Rail	4.46 m	14'8"	4.43 m	14'6"	4.43 m	14'6"
Wheelbase	4.22 m	13'10"	4.22 m	13'10"	4.22 m	13'10"
Overall Length (Operating)	10.25 m	33'7"	10.33 m	33'11"	10.33 m	33'11"
Overall Length (Shipping)	9.20 m	30'2"	9.21 m	30'3"	9.21 m	30'3"
Loading Height (Empty)	3.82 m	12'6"	3.97 m	13'0"	3.95 m	12'11"
Height at Full Dump	9.26 m	30'5"	9.26 m	30'5"	9.26 m	30'5"
Body Length (Target Length)	6.25 m	20'6"	6.20 m	20'4"	6.12 m	20'1"
Width (Operating)	5.43 m	17'10"	5.39 m	17'8"	5.26 m	17'2"
Width (Shipping)***	3.99 m	13'1"	3.97 m	13'0"	3.97 m	13'0"
Front Tire Tread	3.21 m	10'6"	3.21 m	10'6"	3.21 m	10'6"

*Weights include lubricants, coolants and 100% fuel.

**Refer to Caterpillar's 10/10/20 Payload Policy for Quarry & Construction Trucks.

***Disassembled.



MODEL	777D†		777F	
	Dual Slope Lined		Dual Slope Lined	
Body Type				
Target Gross Machine Weight §	163 360 kg	360,143 lb	163 293 kg	360,000 lb
Basic Machine Weight*	33 951 kg	74,849 lb	33 438 kg	73,718 lb
Attachments**	17 377 kg	38,310 lb	17 114 kg	37,730 lb
Body Weight without Liners***	16 070 kg	35,428 lb	16 420 kg	36,200 lb
Full Liner	5432 kg	11,975 lb	5767 kg	12,714 lb
Operating Machine Weight	72 830 kg	160,562 lb	72 739 kg	160,360 lb
Debris (2% of Operating Machine Weight)	1457 kg	3211 lb	1455 kg	3207 lb
Empty Operating Weight	74 287 kg	163,774 lb	74 194 kg	163,568 lb
Target Payload §	90.9 m tons	100 tons	90.7 m tons	100 tons
Capacity:				
Heaped (2:1) (SAE) Base Body	60.1 m³	78.6 yd³	60.2 m³	78.8 yd³
Distribution Empty:				
Front		47%		45%
Rear		53%		55%
Distribution Loaded:				
Front		33%		33%
Rear		67%		67%
Engine Model	3508B EU1		C32 ACERT	
Number of Cylinders	8		12	
Bore	170 mm	6.7"	145 mm	5.7"
Stroke	190 mm	7.5"	162 mm	6.4"
Displacement	34.5 L	2105 in³	32.1 L	1959 in³
Net Power	699 kW	938 hp	700 kW	938 hp
Gross Power	746 kW	1000 hp	758 kW	1016 hp
Standard Tires	27.00-R49 (E4)		27.00R49 (E4)	
Machine Clearance Turning Circle	28.4 m	93'2"	28.4 m	93'2"
Fuel Tank Refill Capacity	1137 L	300 U.S. gal	1136 L	300 U.S. gal
Top Speed (Loaded)	60.4 km/h	39.9 mph	64.5 km/h	40.1 mph
GENERAL DIMENSIONS (Empty):				
Height to Canopy Rock Guard Rail	5.14 m	16'10"	5.17 m	17'0"
Wheelbase	4.57 m	15'0"	4.56 m	15'0"
Overall Length (Base Body)	9.78 m	32'1"	10.54 m	34'7"
Loading Height (Base Body)	4.38 m	14'4"	4.38 m	14'4"
Height at Full Dump	10.06 m	33'0"	10.33 m	33'11"
Body Length (Target Length)	7.23 m	23'9"	9.83 m	32'3"
Width (Operating)	6.11 m	20'0"	6.49 m	21'4"
Width (Shipping)***	3.51 m	11'5"	3.51 m	11'5"
Front Tire Tread	4.17 m	13'8"	4.05 m	13'3"

*See Weight Definitions and Relations on 9-11. Note: No mandatory or optional attachments or fuel.

**Typical selection of mandatory and optional attachments.

***Data provided is for a representative body and liner package. Several dual slope, flat floor, and mine specific design (MSD) bodies and liner packages are available. All weights, capacities, and dimensions are dependent on the machine configuration (body type, attachments, tires, and optional equipment selected).

§ Reference Caterpillar's latest 10/10/20 Payload Policy for information on gross machine operating weight and target payload.

† India sourced, only available in Asia Pacific.



MODEL

785C

785D

789C

	Dual Slope		Dual Slope		Dual Slope	
Body Type						
Target Gross Machine Weight §	249 476 kg	550,000 lb	249 476 kg	550,000 lb	317 515 kg	700,000 lb
Basic Machine Weight*	59 669 kg	131,548 lb	53 265 kg	117,429 lb	67 344 kg	148,425 lb
Attachments**	23 267 kg	51,295 lb	30 786 kg	67,871 lb	30 668 kg	67,592 lb
Body Weight without Liners***	22 153 kg	48,839 lb	22 293 kg	49,148 lb	27 094 kg	59,715 lb
Full Liner	7739 kg	17,062 lb	7876 kg	17,364 lb	9392 kg	20,701 lb
Standard Sideboard	1263 kg	2785 lb	1263 kg	2785 lb	1292 kg	2848 lb
Operating Machine Weight	112 828 kg	248,744 lb	114 220 kg	251,812 lb	135 790 kg	299,281 lb
Debris (2% of Operating Machine Weight)	2257 kg	4975 lb	2284 kg	5035 lb	1905 kg	4198 lb
Empty Operating Weight	115 085 kg	253,718 lb	116 505 kg	256,849 lb	137 695 kg	303,479 lb
Target Payload §	134 m tons	148 tons	133 m tons	147 tons	177 m tons	195 tons
Capacity:						
Heaped (2:1) (SAE) Base Body	78 m³	102 yd³	78 m³	102 yd³	105 m³	137 yd³
Heaped (2:1) (SAE) with Std. Sideboards	91 m³	119 yd³	91 m³	119 yd³	120 m³	157 yd³
Distribution Empty:						
Front		43.5%		46%		46.9%
Rear		56.5%		54%		53.1%
Distribution Loaded:						
Front		33%		33%		33.6%
Rear		67%		67%		66.4%
Engine Model	3512B EUI		3512C HD-EUI		3516B EUI	
Number of Cylinders	12		12		16	
Bore	170 mm	6.7"	170 mm	6.7"	170 mm	6.7"
Stroke	190 mm	7.5"	215 mm	8.46"	190 mm	7.5"
Displacement	51.8 L	3158 in³	58.56 L	3574 in³	69 L	4210 in³
Net Power	1005 kW	1348 hp	1005 kW	1348 hp	1320 kW	1771 hp
Gross Power	1082 kW	1450 hp	1082 kW	1450 hp	1417 kW	1900 hp
Standard Tires	33.00R51		33.00R51		37.00R57	
Machine Clearance Turning Circle	30.6 m	100'5"	33.2 m	108'11"	30.2 m	99'2"
Fuel Tank Refill Capacity	1893 L	500 U.S. gal	1893 L	500 U.S. gal	3222 L	850 U.S. gal
Top Speed (Loaded)	55 km/h	34 mph	55 km/h	34 mph	53 km/h	33 mph
GENERAL DIMENSIONS (Empty):						
Height to Canopy Rock Guard Rail	5.77 m	18'11"	5.68 m	18'7"	6.15 m	20'2"
Wheelbase	5.18 m	17'0"	5.18 m	17'0"	5.70 m	18'8"
Overall Length (Base Body)	10.62 m	34'10"	11.55 m	37'9"	12.18 m	39'11"
Loading Height (Base Body)	4.97 m	16'4"	4.97 m	16'4"	5.21 m	17'1"
Height at Full Dump	11.21 m	36'9"	11.81 m	38'9"	11.90 m	39'1"
Body Length (Target Length)	7.65 m	25'1"	7.65 m	25'2"	8.15 m	26'9"
Width (Operating)	6.64 m	21'4"	7.06 m	23'2"	7.67 m	25'2"
Width (Shipping)***	3.91 m	12'10"	3.91 m	12'10"	3.84 m	12'7"
Front Tire Tread	4.85 m	15'11"	4.85 m	15'11"	5.43 m	17'10"

*See Weight Definitions and Relations on 9-11. Note: No mandatory or optional attachments or fuel.

**Typical selection of mandatory and optional attachments.

***Data provided is for a representative body and liner package. Several dual slope, flat floor, and mine specific design (MSD) bodies and liner packages are available. All weights, capacities, and dimensions are dependent on the machine configuration (body type, attachments, tires, and optional equipment selected).

§ Reference Caterpillar's latest 10/10/20 Payload Policy for information on gross machine operating weight and target payload.


**793D
Standard
(MA1)**
**793D
Additional
Retarding (MA2)**
**793D
Extra Top
Speed (MA3)**

MODEL	793D Standard (MA1)		793D Additional Retarding (MA2)		793D Extra Top Speed (MA3)	
	MSD II		MSD II		MSD II	
Body Type						
Target Gross Machine Weight §	383 673 kg	846,000 lb	383 673 kg	846,000 lb	383 673 kg	846,000 lb
Basic Machine Weight*	51 932 kg	114,513 lb	52 107 kg	114,843 lb	47 881 kg	105,530 lb
Attachments**	45 292 kg	99,861 lb	46 669 kg	102,898 lb	50 752 kg	111,900 lb
Body Weight without Liners***	26 960 kg	59,437 lb	26 960 kg	59,437 lb	26 960 kg	59,437 lb
Operating Machine Weight	154 059 kg	339,667 lb	155 611 kg	343,090 lb	155 468 kg	342,775 lb
Debris (2% of Operating Machine Weight)	3081 kg	6793 lb	3112 kg	6862 lb	3109 kg	6855 lb
Empty Operating Weight	157 140 kg	346,460 lb	158 723 kg	349,951 lb	158 577 kg	349,630 lb
Target Payload §	227 m tons	250 tons	225 m tons	248 tons	226 m tons	249 tons
Capacity:						
Heaped (2:1) (SAE) Base Body	176 m³	230 yd³	176 m³	230 yd³	176 m³	230 yd³
Distribution Empty:						
Front	47%		47%		47%	
Rear	53%		53%		53%	
Distribution Loaded:						
Front	33%		33%		33%	
Rear	67%		67%		67%	
Engine Model	3516B HD EUI		3516B HD EUI		3516B HD EUI	
Number of Cylinders	16		16		16	
Bore	170 mm	6.7"	170 mm	6.7"	170 mm	6.7"
Stroke	215 mm	8.5"	215 mm	8.5"	215 mm	8.5"
Displacement	78 L	4760 in²	78 L	4760 in²	78 L	4760 in²
Net Power	1743 kW	2337 hp	1743 kW	2337 hp	1743 kW	2337 hp
Gross Power	1801 kW	2415 hp	1801 kW	2415 hp	1801 kW	2415 hp
Standard Tires	46/90R57		46/90R57		46/90R57	
Machine Clearance Turning Circle	33 m	107'0"	33 m	107'0"	33 m	107'0"
Fuel Tank Refill Capacity	4353 L	1150 U.S. gal	4353 L	1150 U.S. gal	4353 L	1150 U.S. gal
Top Speed (Loaded)	54.2 km/h	33.7 mph	54.2 km/h	33.7 mph	60 km/h	37.3 mph
GENERAL DIMENSIONS (Empty):						
Height to Canopy Rock Guard Rail	6.6 m	21'8"	6.6 m	21'8"	6.6 m	21'8"
Wheelbase	5.91 m	19'5"	5.91 m	19'5"	5.91 m	19'5"
Overall Length (Base Body)	13.01 m	42'9"	13.01 m	42'9"	13.01 m	42'9"
Loading Height (Base Body)	6.5 m	21'5"	6.5 m	21'5"	6.5 m	21'5"
Height at Full Dump	13.25 m	43'6"	13.25 m	43'6"	13.25 m	43'6"
Body Length (Target Length)	8.99 m	29'6"	8.99 m	29'6"	8.99 m	29'6"
Width (Operating)	8.3 m	27'3"	8.3 m	27'3"	8.3 m	27'3"
Width (Shipping)***	4.1 m	13'5"	4.1 m	13'5"	4.1 m	13'5"
Front Tire Tread	5.63 m	18'6"	5.63 m	18'6"	5.63 m	18'6"

*See Weight Definitions and Relations on 9-11. Note: No mandatory or optional attachments or fuel.

**Typical selection of mandatory and optional attachments.

***Data provided for the 793D Standard (MA1) is for a representative body and liner package. Several dual slope, flat floor, and mine specific design (MSD) bodies and liner packages are available. All weights, capacities, and dimensions are dependent on the machine configuration (body type, attachments, tires, and optional equipment selected).

§ Reference Caterpillar's latest 10/10/20 Payload Policy for information on gross machine operating weight and target payload.



**793D
Extra Life
Wheel Stations (MA4)**

**793D
High Altitude (MA5)**

MODEL	MSD II		MSD II	
Body Type				
Target Gross Machine Weight §	383 673 kg	846,00 lb	383 673 kg	846,000 lb
Basic Machine Weight*	52 107 kg	115,381 lb	52 352 kg	115,437 lb
Attachments**	46 623 kg	102,895 lb	69 906 kg	154,113 lb
Body Weight without Liners***	26 960 kg	59,437 lb	32 650 kg	71,961 lb
Operating Machine Weight	160 675 kg	354,254 lb	154 908 kg	341,511 lb
Debris (2% of Operating Machine Weight)	3213 kg	7085 lb	2370 kg	5224 lb
Empty Operating Weight	163 888 kg	361,339 lb	157 278 kg	346,735 lb
Target Payload §	220 m tons	242 tons	226 m tons	250 tons
Capacity:				
Heaped (2:1) (SAE) Base Body	176 m³	230 yd³	140 m³	195 yd³
Distribution Empty:				
Front	47%		46.9%	
Rear	53%		53.1%	
Distribution Loaded:				
Front	33%		33.3%	
Rear	67%		66.7%	
Engine Model	3516B EUI		3516B HD EUI	
Number of Cylinders	16		16	
Bore	170 mm	6.7"	170 mm	6.7"
Stroke	190 mm	7.5"	215 mm	8.5"
Displacement	69 L	4210 in³	78 L	4760 in²
Net Power	1615 kW	2166 hp	1743 kW	2337 hp
Gross Power	1715 kW	2300 hp	1801 kW	2415 hp
Standard Tires	46/90R57		40.00R57	
Machine Clearance Turning Circle	33 m	107'0"	32.7 m	107'3"
Fuel Tank Refill Capacity	4353 L	1150 U.S. gal	4353 L	1150 U.S. gal
Top Speed (Loaded)	54.2 km/h	33.7 mph	54.2 km/h	33.7 mph
GENERAL DIMENSIONS (Empty):				
Height to Canopy Rock Guard Rail	6.6 m	21'8"	6.59 m	21'8"
Wheelbase	5.91 m	19'5"	5.91 m	19'5"
Overall Length (Base Body)	13.01 m	42'9"	13.01 m	42'9"
Loading Height (Base Body)	6.5 m	21'5"	5.87 m	19'4"
Height at Full Dump	13.25 m	43'6"	13.25 m	43'6"
Body Length (Target Length)	8.99 m	29'6"	8.99 m	29'6"
Width (Operating)	8.3 m	27'3"	8.28 m	27'2"
Width (Shipping)	4.1 m	13'5"	4.09 m	13'5"
Front Tire Tread	5.63 m	18'6"	5.61 m	18'5"

*See Weight Definitions and Relations on 9-11. Note: No mandatory or optional attachments or fuel.

**Typical selection of mandatory and optional attachments.

***Data provided is for a representative body and liner package. Several dual slope, flat floor, and mine specific design (MSD) bodies and liner packages are available. All weights, capacities, and dimensions are dependent on the machine configuration (body type, attachments, tires, and optional equipment selected).

§ Reference Caterpillar's latest 10/10/20 Payload Policy for information on gross machine operating weight and target payload.



MODEL	793F Standard		793F Extra Life Wheel Stations		797F	
	MSD II		MSD II		MSD II	
Body Type						
Target Gross Machine Weight §	386 007 kg	851,000 lb	390 089 kg	860,000 lb	623 690 kg	1,375,000 lb
Basic Machine Weight*	42 638 kg	94,000 lb	42 638 kg	94,000 lb	129 550 kg	285,609 lb
Attachments**	55 349 kg	122,024 lb	57 856 kg	127,551 lb	78 591 kg	173,264 lb
Body Weight without Liners***	26 960 kg	59,437 lb	26 960 kg	59,437 lb	43 820 kg	96,607 lb
Full Liner†	—		—		3298 kg	7271 lb
Operating Machine Weight	157 234 kg	346,642 lb	159 741 kg	352,169 lb	258 357 kg	569,580 lb
Debris (2% of Operating Machine Weight)	3145 kg	6933 lb	3195 kg	7043 lb	5167 kg	11,391 lb
Empty Operating Weight	160 379 kg	353,575 lb	162 936 kg	359,212 lb	263 524 kg	580,971 lb
Target Payload §	226 m tons	249 tons	228 m tons	250 tons	345-363 m tons	380-400 tons
Capacity:						
Heaped (2:1) (SAE) Base Body	176 m³	230 yd³	176 m³	230 yd³	240-267 m³	315-350 yd³
Distribution Empty:						
Front	48%		48%		43.5%	
Rear	52%		52%		56.5%	
Distribution Loaded:						
Front	33%		33%		33.3%	
Rear	67%		67%		66.7%	
Engine Model	C175-16		C175-16		C175-20	
Number of Cylinders	16		16		20	
Bore	175 mm	6.9"	175 mm	6.9"	175 mm	6.9"
Stroke	220 mm	8.7"	220 mm	8.7"	220 mm	8.7"
Displacement	85 L	5187 in³	85 L	5187 in³	106 L	6469 in³
Net Power	1848 kW	2478 hp	1848 kW	2478 hp	2830 kW	3795 hp
Gross Power	1976 kW	2650 hp	1976 kW	2650 hp	2983 kW	4000 hp
Standard Tires	46/90R57		46/90R57		59/80R63	
Machine Clearance Turning Circle	33 m	107'0"	33 m	107'0"	42.1 m	138'1"
Fuel Tank Refill Capacity	2839 L	750 U.S. gal	2839 L	750 U.S. gal	7571 L	2000 U.S. gal
Top Speed (Loaded)	60 km/h	37.3 mph	60 km/h	37.3 mph	67.6 km/h	42 mph
GENERAL DIMENSIONS (Empty):						
Height to Canopy Rock Guard Rail	6.6 m	21'8"	6.6 m	21'8"	7.71 m	25'4"
Wheelbase	5.91 m	19'5"	5.91 m	19'5"	7.2 m	23'7"
Overall Length (Base Body)	13.7 m	44'11"	13.7 m	44'11"	14.87 m	48'9"
Loading Height (Base Body)	6.5 m	21'5"	6.5 m	21'5"	7.0 m	23'0"
Height at Full Dump	13.9 m	45'6"	13.9 m	45'6"	15.7 m	51'6"
Body Length (Target Length)	8.99 m	29'6"	8.99 m	29'6"	9.9 m	32'6"
Width (Operating)	8.3 m	27'3"	8.3 m	27'3"	9.75 m	32'0"
Width (Shipping)	4.1 m	13'5"	4.1 m	13'5"	9.7 m	31'10"
Front Tire Tread	5.63 m	18'6"	5.63 m	18'6"	6.23 m	20'5"

*See Weight Definitions and Relations on 9-11. Note: No mandatory or optional attachments or fuel.

**Typical selection of mandatory and optional attachments.

***Data provided is for a representative body and liner package. Several dual slope, flat floor, and mine specific design (MSD) bodies and liner packages are available. All weights, capacities, and dimensions are dependent on the machine configuration (body type, attachments, tires, and optional equipment selected).

§Reference Caterpillar's latest 10/10/20 Payload Policy for information on gross machine operating weight and target payload.

†Liner used for 797F is a 1/3 solid liner.

CAT LARGE TRUCK WEIGHT DEFINITIONS

Target Gross Machine Weight	– Loaded operating machine weight – Optimum productivity and cost per ton – Used for performance curves and calculations
Basic Machine Weight	Basic chassis weight including shipping fluids, but no attachments, options, body, or tires
Attachments	Combined weight of mandatory attachments and a minimal representation of optional attachments
Body Weight without Liners	Representative weight of body called out in Body Type
Full Liner	Weight of solid steel full liner package for selected Body Type
Standard Sideboard	Weight of appropriate sideboard for selected Body Type and Model
Operating Machine Weight	Basic machine weight plus full fuel, tires, rims, selected attachments, operator, and body
Debris	2%–8% of operating machine weight depending on application
Empty Operating Weight	Operating machine weight plus debris
Target Payload	Target gross machine weight minus empty operating weight

CAT LARGE TRUCK WEIGHT RELATIONS*

Operating Machine Weight	$\text{Operating Machine Weight} = \text{Basic Machine Weight} + \text{Attachments} + \text{Body Weight without Liners} + \text{Full Liner} + \text{Standard Sideboard}$
Empty Operating Weight	$\text{Empty Operating Weight} = \text{Operating Machine Weight} + \text{Debris}$
Target Payload	$\text{Target Payload} = \text{Target Gross Machine Weight} - \text{Empty Operating Weight}$
Target Gross Machine Weight	TGMW
Basic Machine Weight	BMW
Operating Machine Weight	OMW
Empty Operating Weight	EOW
Target Payload	TP

*Reference Caterpillar’s latest 10/10/20 Payload Policy.

MODEL TIRE SIZE	PLY RATING/ STAR RATING*	TYPE	MODEL TIRE SIZE	PLY RATING/ STAR RATING*	TYPE
770			789C		
18.00-33	32	E-4	37.00R57	HH	E-4
18.00R33	HH	E-3	793D		
18.00R33◀	HH	E-4	40.00-57	68	E-4
21/90R33	HH	E-4	45R57	HH	E-4
772			46/90R57	HH	E-4
21.00R33◀	HH	E-4	793F		
773E			40.00-57	68	E-4
24.00-35	42	E-4	45R57	HH	E-4
24.00R35	HH	E-3	46/90R57	HH	E-4
773F			50/80R57	HH	E-4
24.00-35	36	E-4	797F		
24.00-35	42	E-4	59/80R63	HH	E-4
24.00R35	HH	E-3	* Manufacturer uses star (H) rating system instead of ply rating.		
24.00R35◀	HH	E-4	◀No charge tire.		
775F					
24.00R35◀	HH	E-4			
24.00R35	HH	E-3			
24.00-35	42	E-4			
777D, 777F					
27.00R49	HH	E-3			
27.00R49◀	HH	E-4			
27.00-49	48	E-4			
785C, 785D					
33.00R51	HH	E-3			
33.00R51	HH	E-4			

USE OF BRAKE PERFORMANCE CURVES

The speed that can be maintained when the machine is descending a grade with retarder applied can be determined from the retarder curves in this section when gross machine weight and total effective grade are known.

Select appropriate grade distance chart that covers total downhill haul; don't break haul into individual segments.

To determine brake performance: Read from gross weight down to the percent effective grade. (Effective grade equals actual % grade *minus* 1% for each 10 kg/metric ton (20 lb./U.S. ton) of rolling resistance.) From this weight-effective grade point, read horizontally to the curve with the highest obtainable speed range, then down to maximum descent speed brakes can safely handle without exceeding cooling capacity. When braking, engine RPM should be maintained at the highest possible level without overspeeding. If cooling oil overheats, reduce ground speed to allow transmission to shift to next lower speed range.

USE OF RIMPULL-SPEED-GRADEABILITY CURVES

(See Wheel Tractor Scraper Section)

Total Effective Grade (or Total Resistance) is grade assistance *minus* rolling resistance.

10 kg/metric ton (20 lb./U.S. ton) = 1% adverse grade.

Example —

With a favorable grade of 20% and rolling resistance of 50 kg/metric ton (100 lb./U.S. ton), find Total Effective Grade.

$$\begin{aligned} (50 \text{ kg/metric ton}) &= 50 \div 10 = 5\% \text{ Effective Grade} \\ &\quad \text{(from Rolling Resistance)} \\ 100 \text{ lb/ton} &= 100 \div 20 = 5\% \text{ Effective Grade} \\ 20\% (\text{grade}) - 5\% (\text{resistance}) &= \\ 15\% &\text{ Total Effective Grade} \end{aligned}$$

TYPICAL FIXED TIMES FOR HAULING UNITS

Wait time, delays and operator efficiency all impact cycle time. Minimizing truck exchange time can have a significant effect on productivity.

Fixed time for hauling units include:

1. Truck load time (various with loading tool)
2. Truck maneuver in load area (Truck exchange) (Typically 0.6-0.8 min.)
3. Maneuver and dump time at dump point (Typically 1.0-1.2 min.)

Total cycle time is the combination of:

1. The above fixed time
2. Hauling time (Loaded)
3. Return time (Empty)

Example — assume load tool spots hauler with full bucket

	988F	5130B
cycle times	.60	.45
First pass (dump time)	.10 min.	.05 min.
2 passes (full cycle)	.70	.50
3 passes	1.30	.95
4 passes	1.90	1.40
5 passes	2.50	1.85
6 passes	3.10	2.30
7 passes	3.70	2.75
8 passes	4.30	3.20
9 passes	4.90	3.65
10 passes	5.40	4.10

NOTE: Other sizes of loading tools will have different cycle times. See Wheel Loader section for **average** cycle times for truck loading.

MECHANICAL POWER TRAIN EFFICIENCIES

In selling against electric drive trucks, power train efficiency is an important consideration. To better illustrate the advantages of mechanical drive performance, grade horsepower, power train efficiency, and retarding horsepower should be compared to electric drive trucks.

Grade horsepower can be calculated by the following formula:

Metric

$$\text{grade HP} = \frac{\text{GMW (kg)} \times \text{TR} \times \text{Speed (km/h)}}{273.75}$$

English

$$= \frac{\text{GMW (lb)} \times \text{TR} \times \text{Speed (mph)}}{375}$$

where TR
(total
resistance) = Rolling resistance + Grade resistance
(expressed as a decimal)

English example

700,000 lb GMW, 2% rolling resistance, +8% actual grade at 8.2 mph would require 1530 HP

$$\frac{700,000 \times (.02 + .08) \times 8.2}{375} = 1530 \text{ HP}$$

Metric example

317 520 kg GMW, 2% rolling resistance, +8% actual grade at 13.2 km/h would require 1530 HP

$$\frac{317\,520 \times (.02 + .08) \times 13.2}{273.75} = 1530 \text{ HP}$$

We then calculate power train efficiency by dividing grade horsepower by the gross horsepower produced by the engine. Most electric drive trucks run at constant maximum horsepower while under load. Mechanical drive trucks, however, lug the engine and may produce somewhat less than maximum horsepower. Engine power curves must be utilized to determine exact horsepower produced.

Example

$$\frac{1530 \text{ grade horsepower}}{1800 \text{ gross engine HP}} \times 100 = 85\% \text{ power train efficiency}$$

This exercise illustrates the effect of an efficient mechanical drive power train and should yield results in the 80-85% efficiency range. The same calculation for electric drive trucks would be lower (70-78% range) with a maximum efficiency of about 78% for the most common systems.

Likewise, retarding horsepower being consumed by the retarding system can be calculated by the following formula:

Metric

$$\text{retarding HP} = \frac{\text{GMW (kg)} \times \text{TR} \times \text{Speed (km/h)}}{273.75}$$

English

$$= \frac{\text{GMW (lb)} \times \text{TR} \times \text{Speed (mph)}}{375}$$

where TR
(total
resistance) = Rolling resistance + Grade resistance
(expressed as a decimal)

English example

700,000 lb GMW, 2% rolling resistance, -8% actual grade at 14.7 mph would equate to -1646 HP

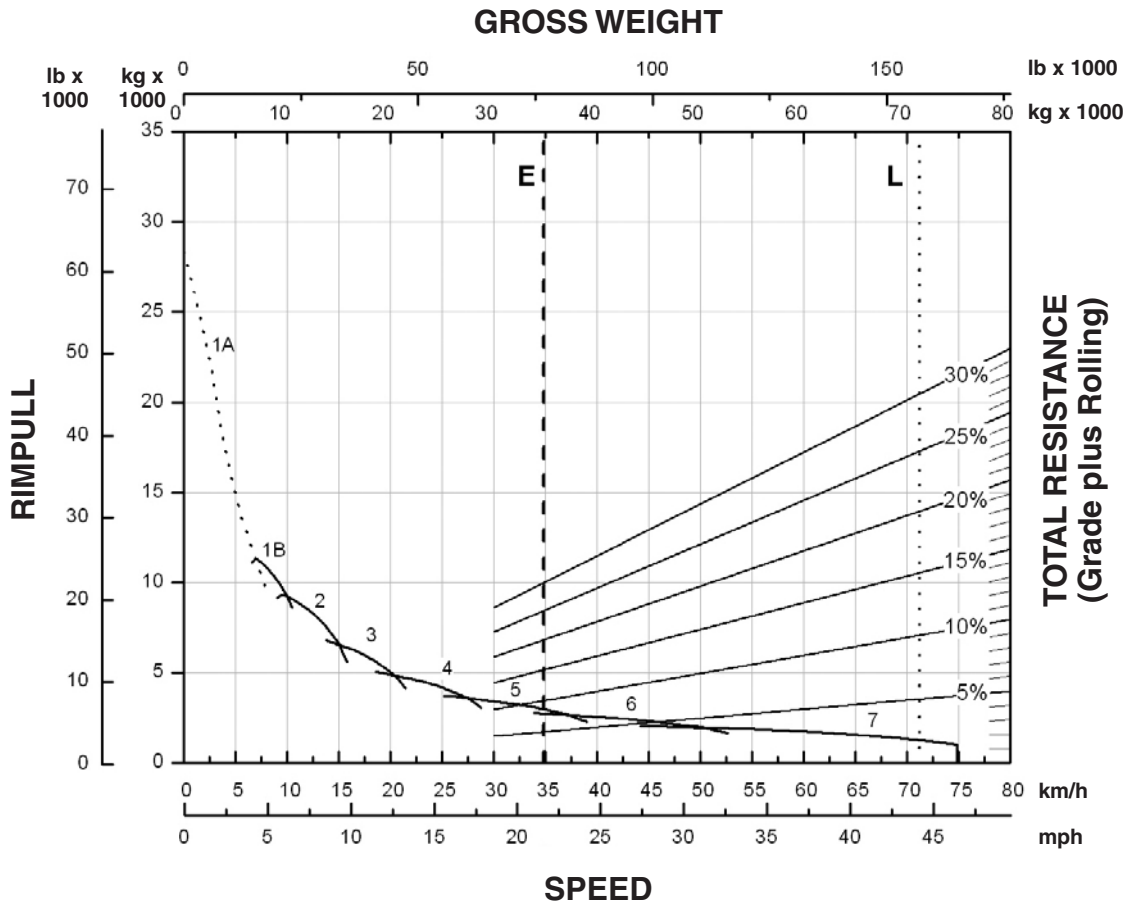
$$\frac{700,000 \times (.02 - .08) \times 14.7}{375} = 1646 \text{ HP}$$

Metric example

317 520 kg GMW, 2% rolling resistance, -8% actual grade at 23.6 km/h would equate to -1646 HP

$$\frac{317\,520 \times (.02 - .08) \times 23.6}{273.75} = 1646 \text{ HP}$$

This formula is intended for use in determining horsepower being consumed in the field based on field measurements. It is not intended to indicate how fast trucks should be operated on grade. Only job conditions, proper operating procedure, and good judgement should determine safe operating speeds during retarder use.

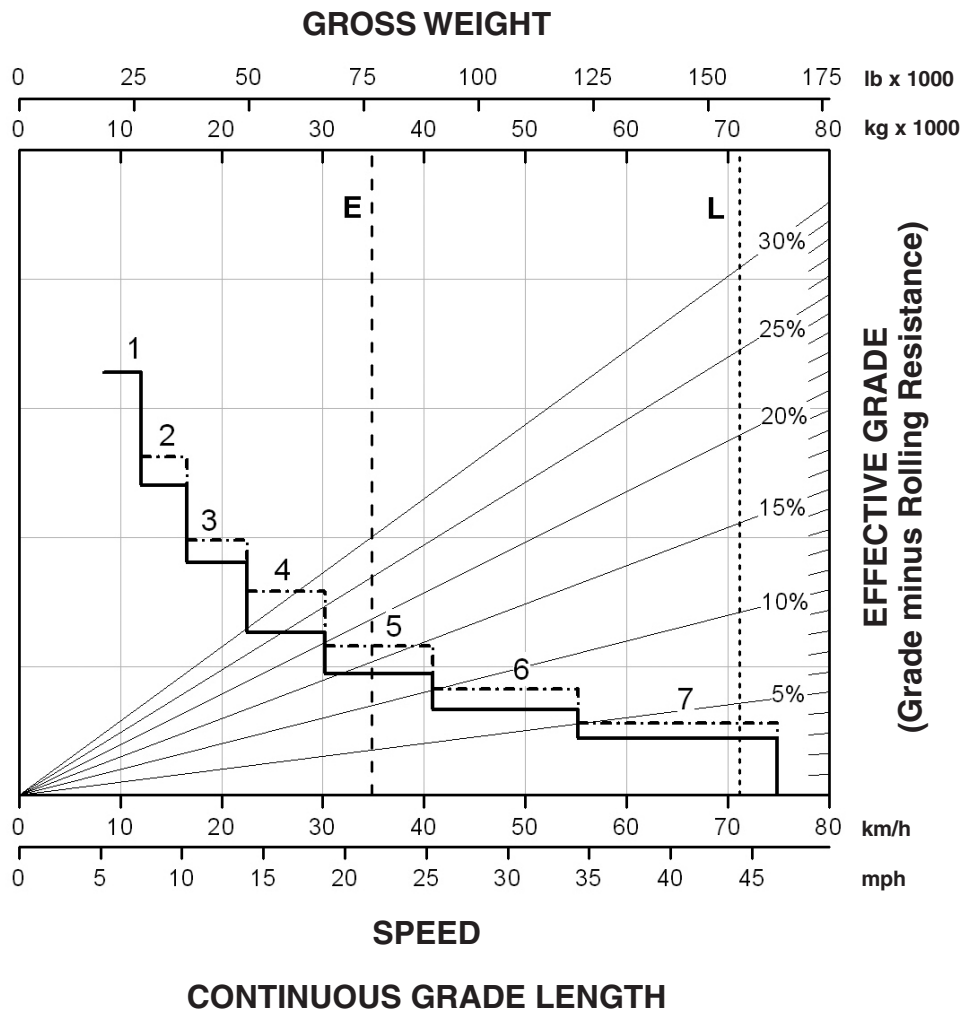


KEY

- 1A — 1st Gear (Torque Converter)
- 1B — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear
- 7 — 7th Gear

KEY

- E — Empty 34 642 kg (76,372 lb)
- L — Target GMW 71 214 kg (157,000 lb)



KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear
- 7 — 7th Gear

KEY

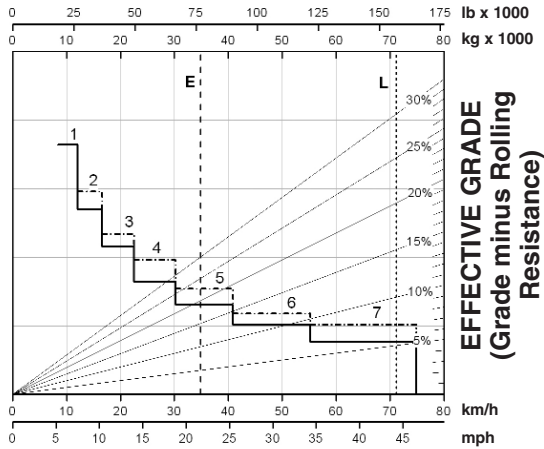
- E — Empty 34 642 kg (76,372 lb)
- L — Target GMW 71 214 kg (157,000 lb)
- With ARC Only
- - - - - ARC and Engine Brake

770 Brake Performance

- 450 m (1500 ft)
- 600 m (2000 ft)
- 900 m (3000 ft)
- 1500 m (5000 ft)

Construction & Mining Trucks

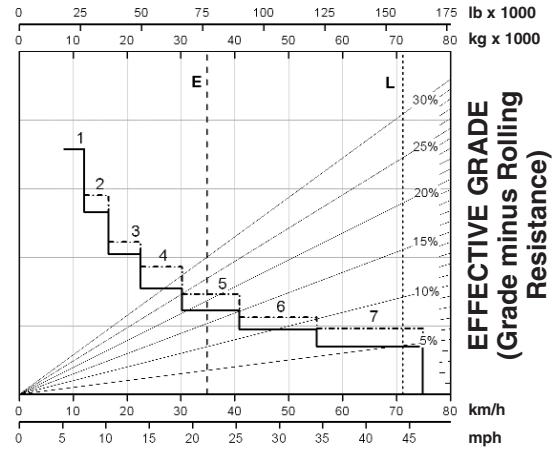
GROSS WEIGHT



SPEED

GRADE DISTANCE — 450 m (1500 ft)

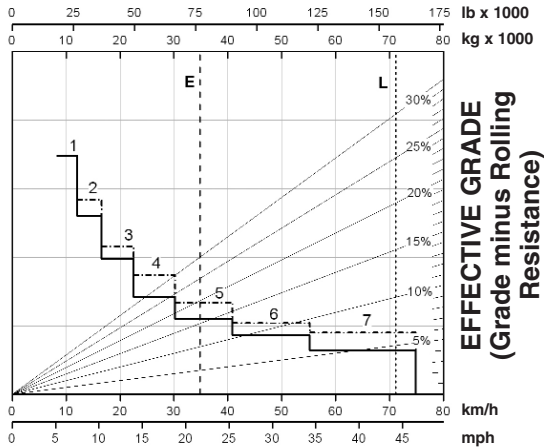
GROSS WEIGHT



SPEED

GRADE DISTANCE — 600 m (2000 ft)

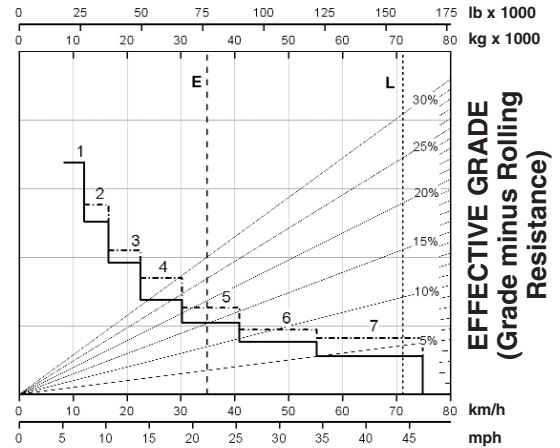
GROSS WEIGHT



SPEED

GRADE DISTANCE — 900 m (3000 ft)

GROSS WEIGHT



SPEED

GRADE DISTANCE — 1500 m (5000 ft)

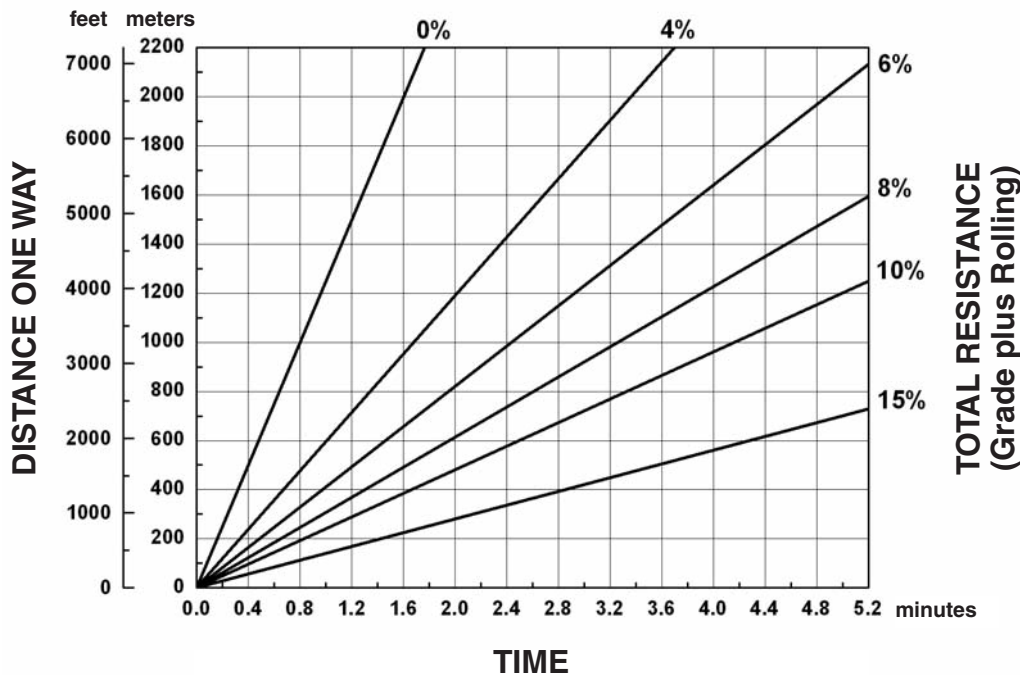
KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear
- 7 — 7th Gear

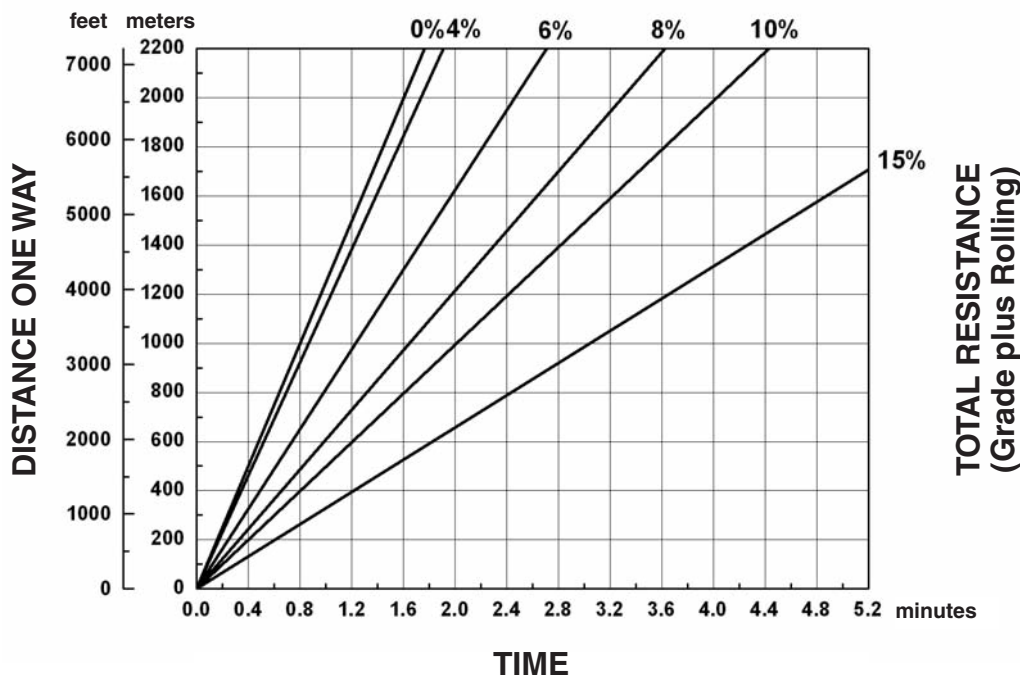
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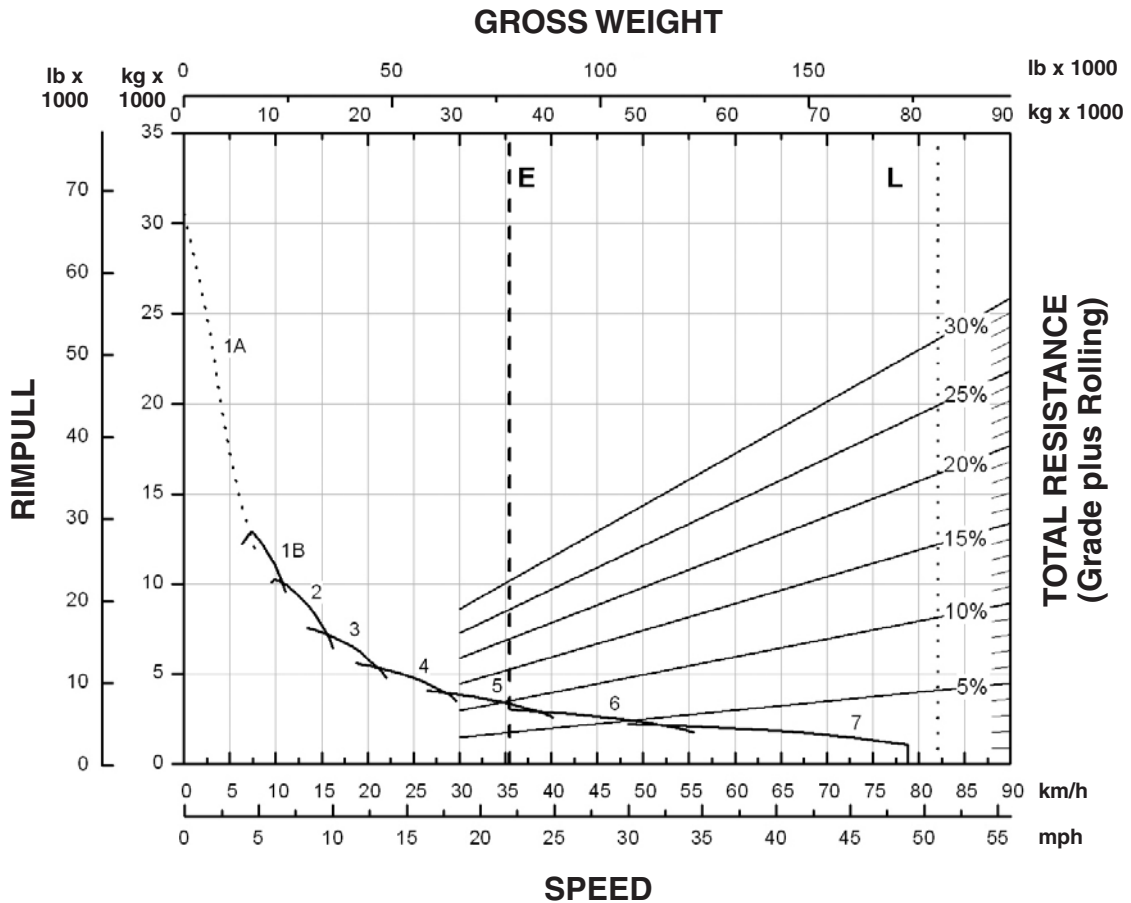
- E — Empty 34 642 kg (76,372 lb)
- L — Target GMW 71 214 kg (157,000 lb)
- With ARC Only
- ARC and Engine Brake

LOADED



EMPTY



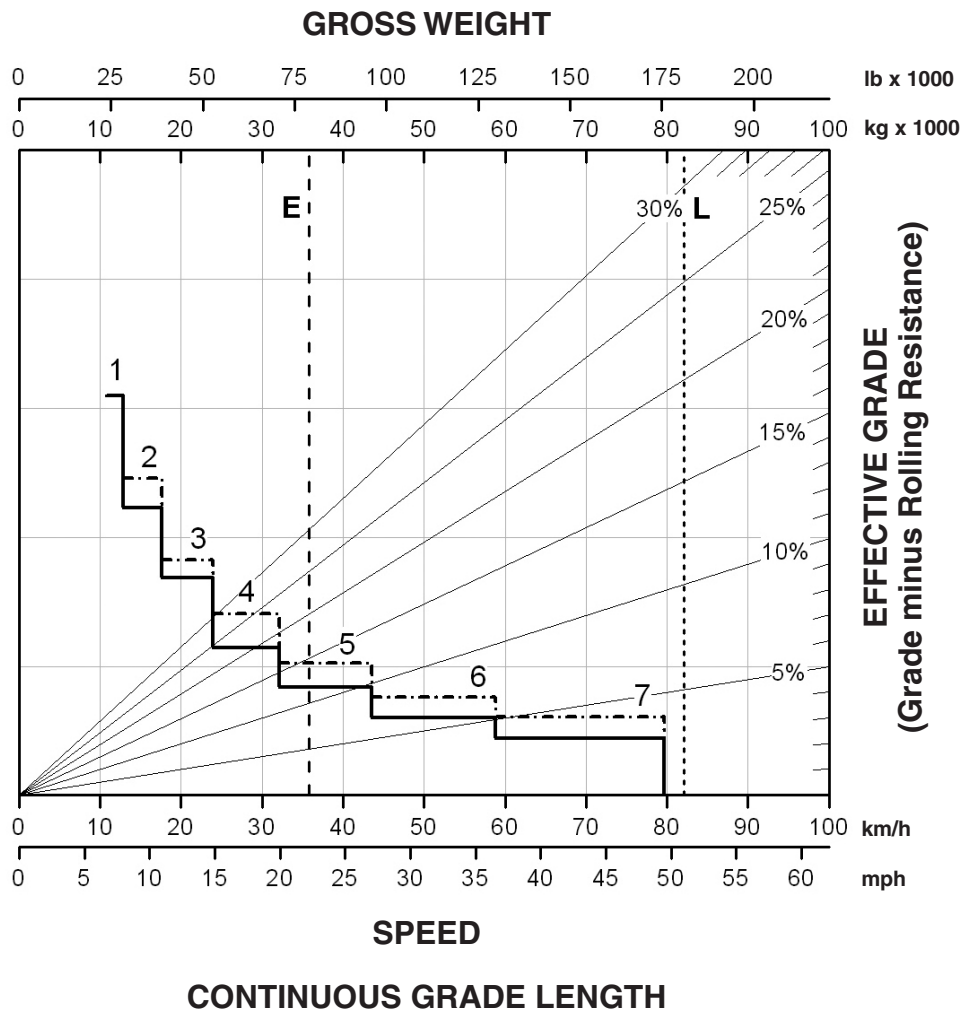


KEY

- 1A — 1st Gear (Torque Converter)
- 1B — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear
- 7 — 7th Gear

KEY

- E — Empty 35 864 kg (79,066 lb)
- L — Target GMW 82 100 kg (181,000 lb)



KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear
- 7 — 7th Gear

KEY

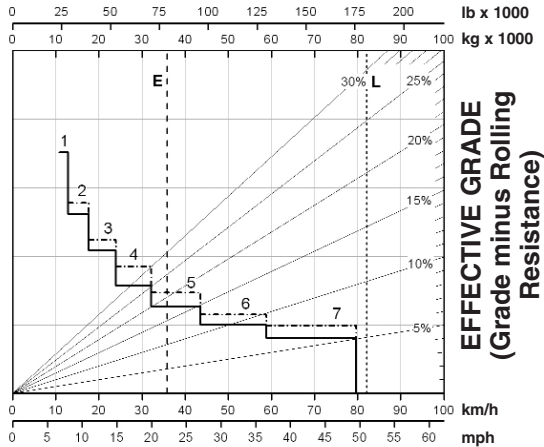
- E — Empty 35 864 kg (79,066 lb)
- L — Target GMW 82 100 kg (181,000 lb)
- With ARC Only
- - - - - ARC and Engine Brake

772 Brake Performance

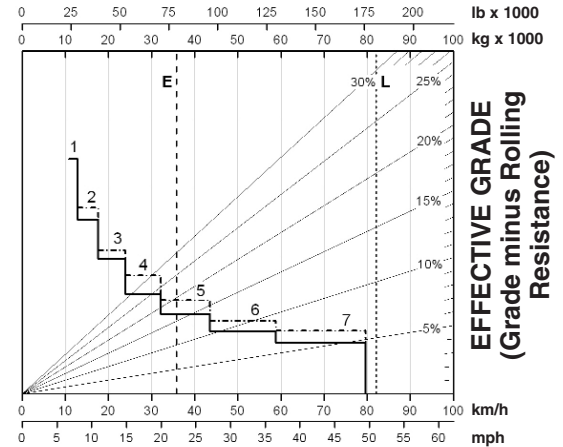
- 450 m (1500 ft)
- 600 m (2000 ft)
- 900 m (3000 ft)
- 1500 m (5000 ft)

Construction & Mining Trucks

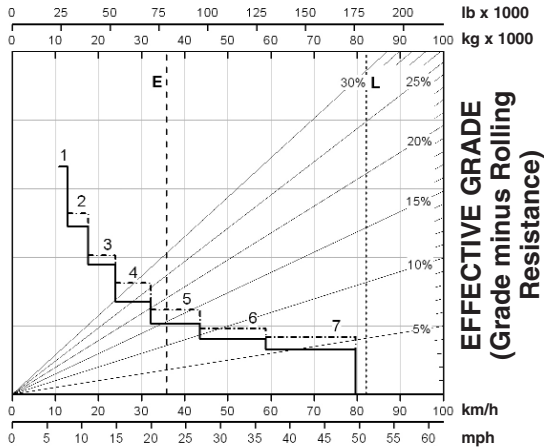
GROSS WEIGHT



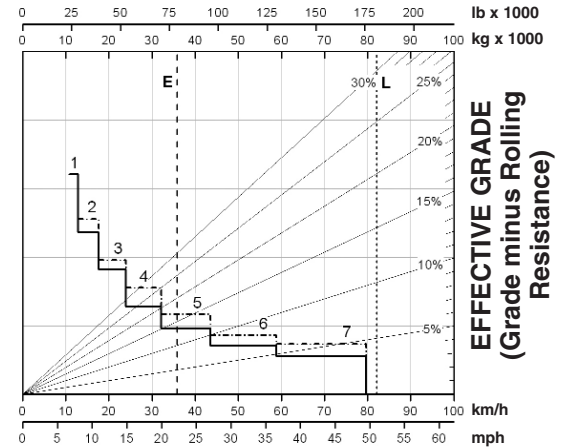
GROSS WEIGHT



GROSS WEIGHT



GROSS WEIGHT



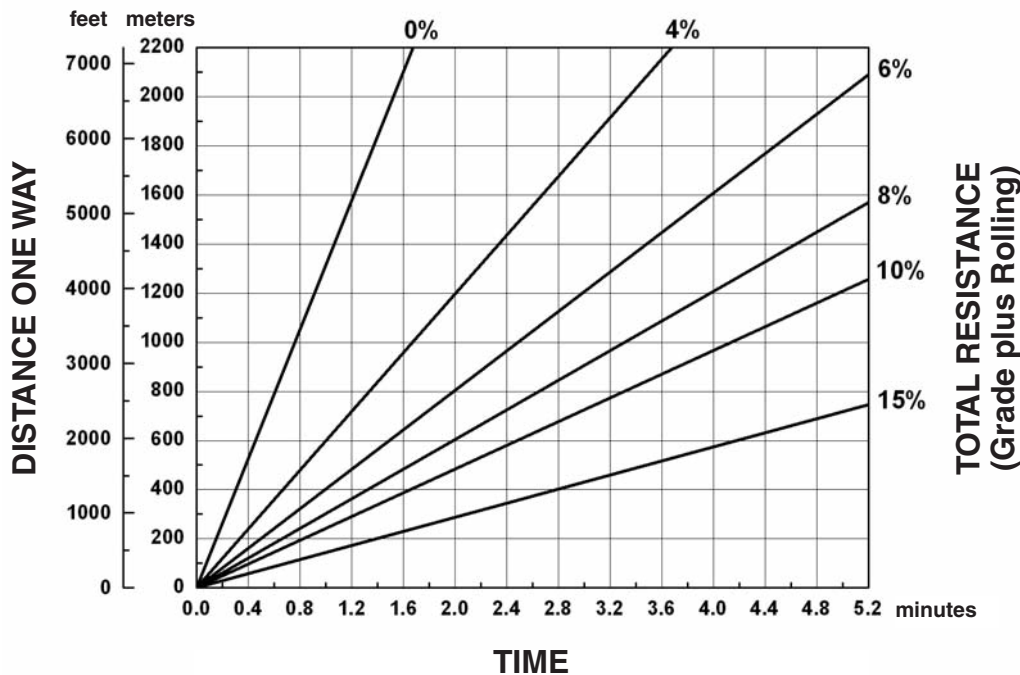
KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear
- 7 — 7th Gear

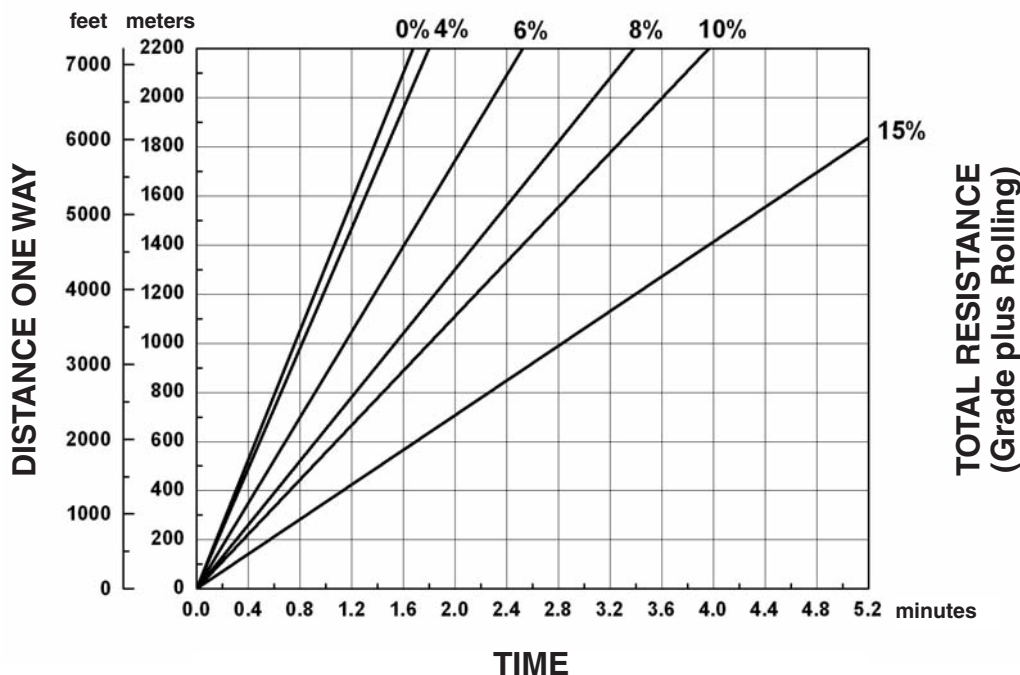
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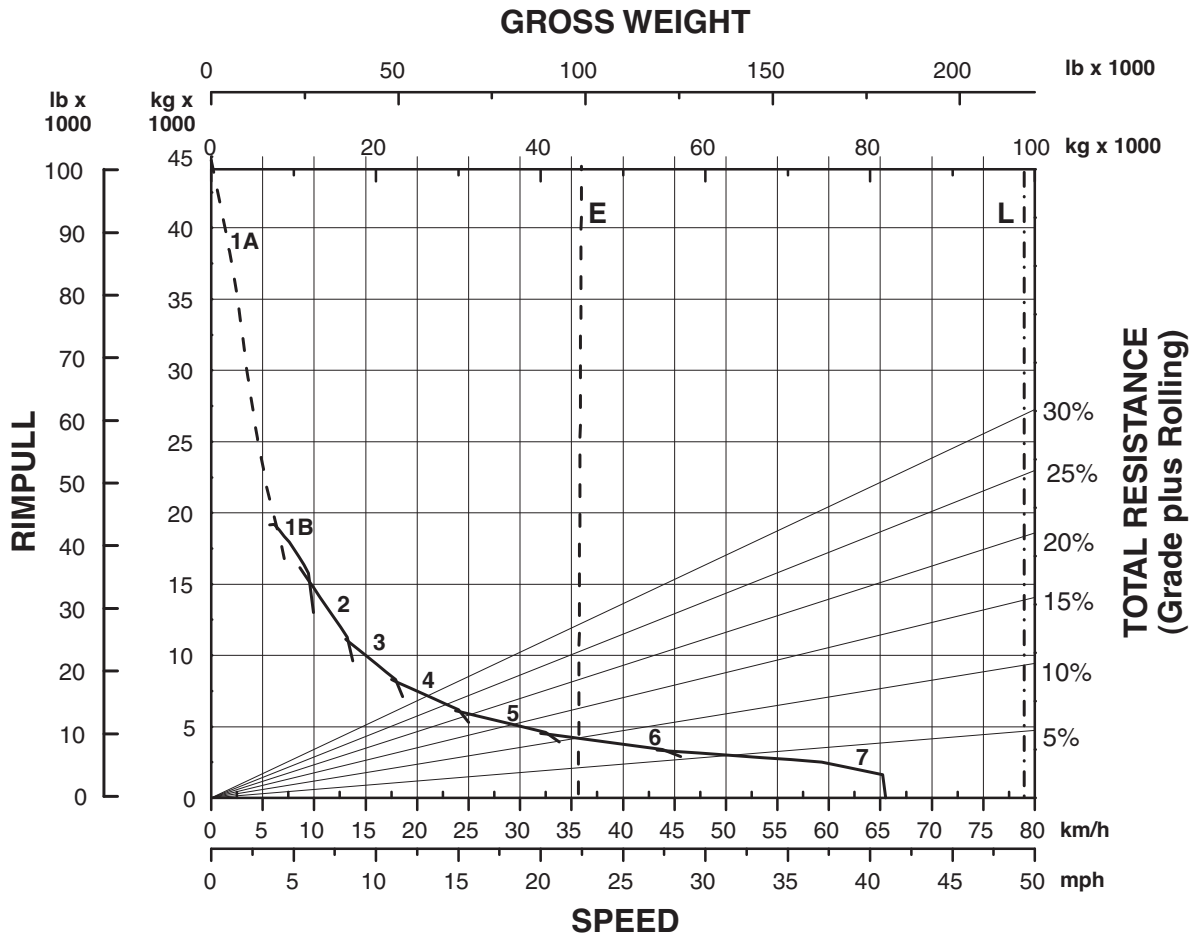
- E — Empty 35 864 kg (79,066 lb)
- L — Target GMW 82 100 kg (181,000 lb)
- With ARC Only
- ARC and Engine Brake

LOADED



EMPTY



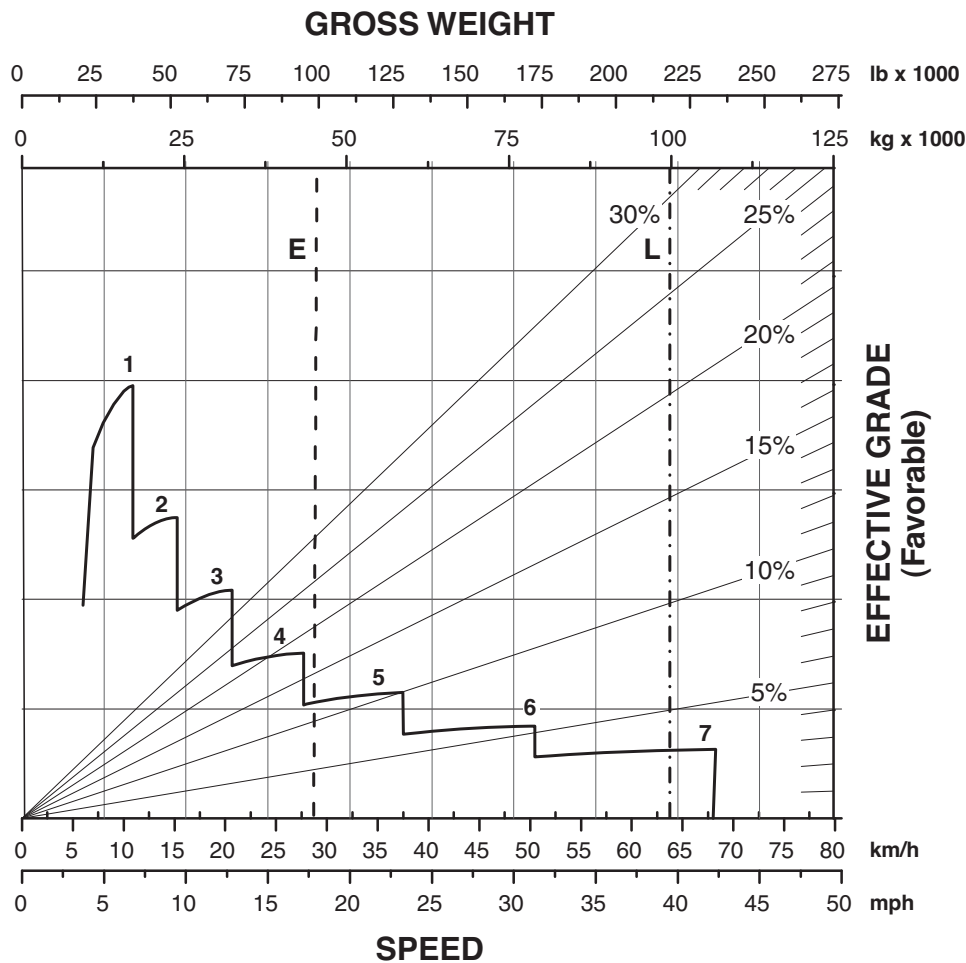


KEY

1A — 1st Gear (Torque Converter)
1B — 1st Gear
2 — 2nd Gear
3 — 3rd Gear
4 — 4th Gear
5 — 5th Gear
6 — 6th Gear
7 — 7th Gear

KEY

E — Empty Weight 39 940 kg (88,053 lb)
L — Target GMW 99 300 kg (219,000 lb)



CONTINUOUS GRADE LENGTH

KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear
- 7 — 7th Gear

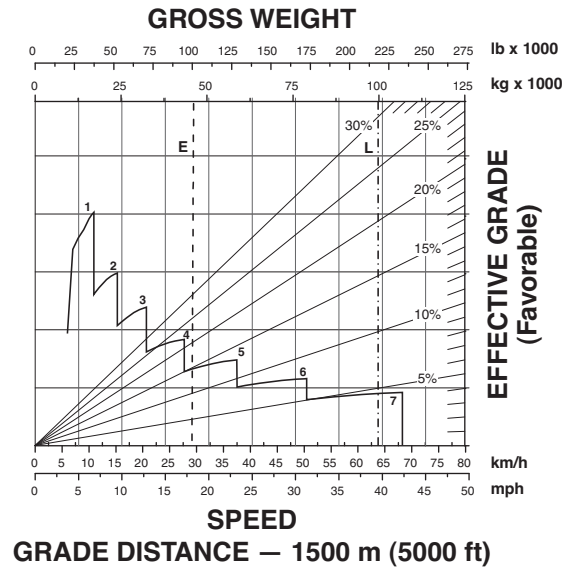
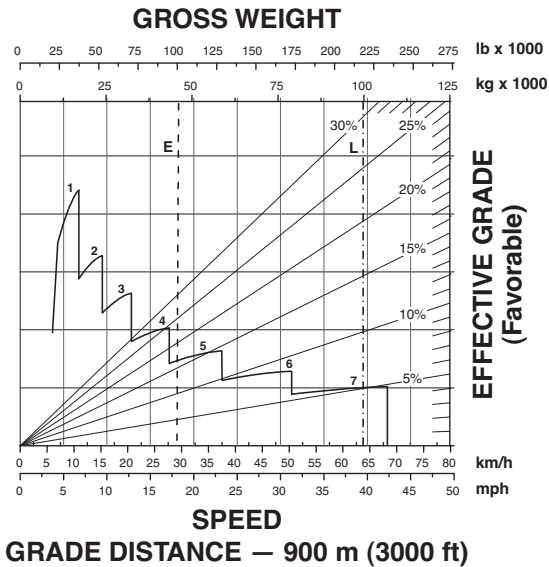
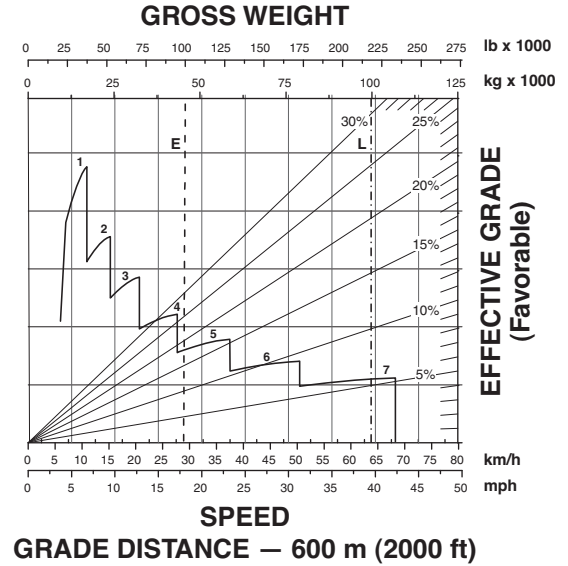
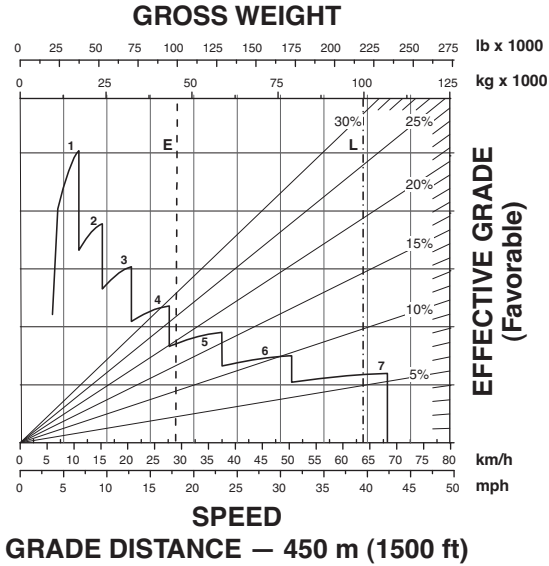
KEY

- E — Empty Weight 39 940 kg (88,053 lb)
- L — Target GMW 99 300 kg (219,000 lb)

773E Brake Performance

- 450 m (1500 ft)
- 600 m (2000 ft)
- 900 m (3000 ft)
- 1500 m (5000 ft)

Construction & Mining Trucks



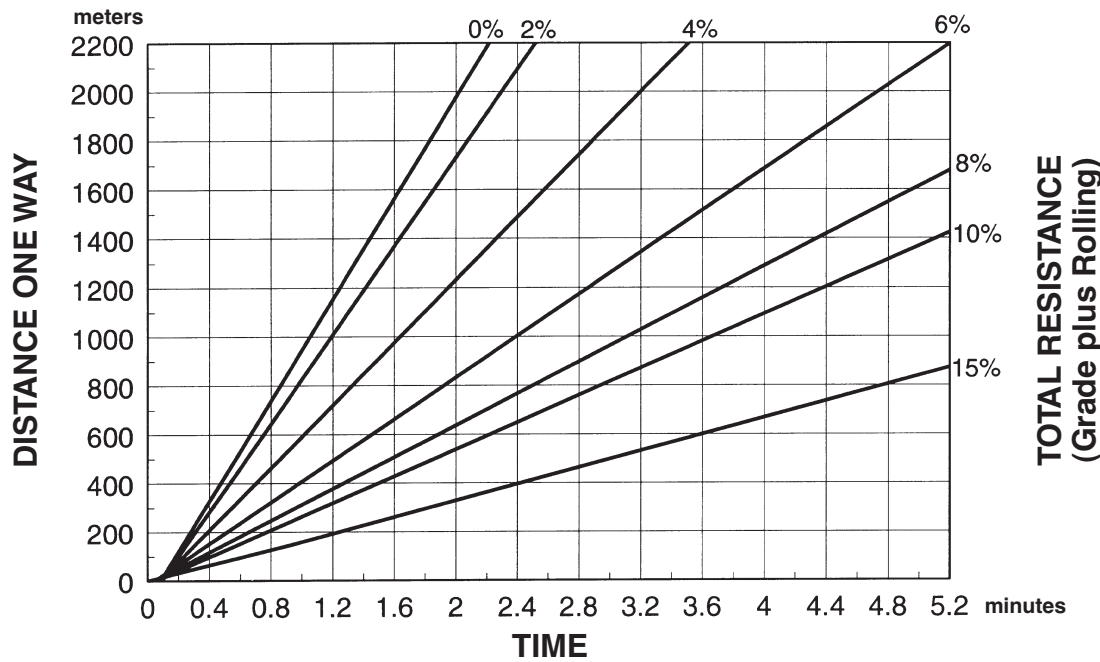
KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear
- 7 — 7th Gear

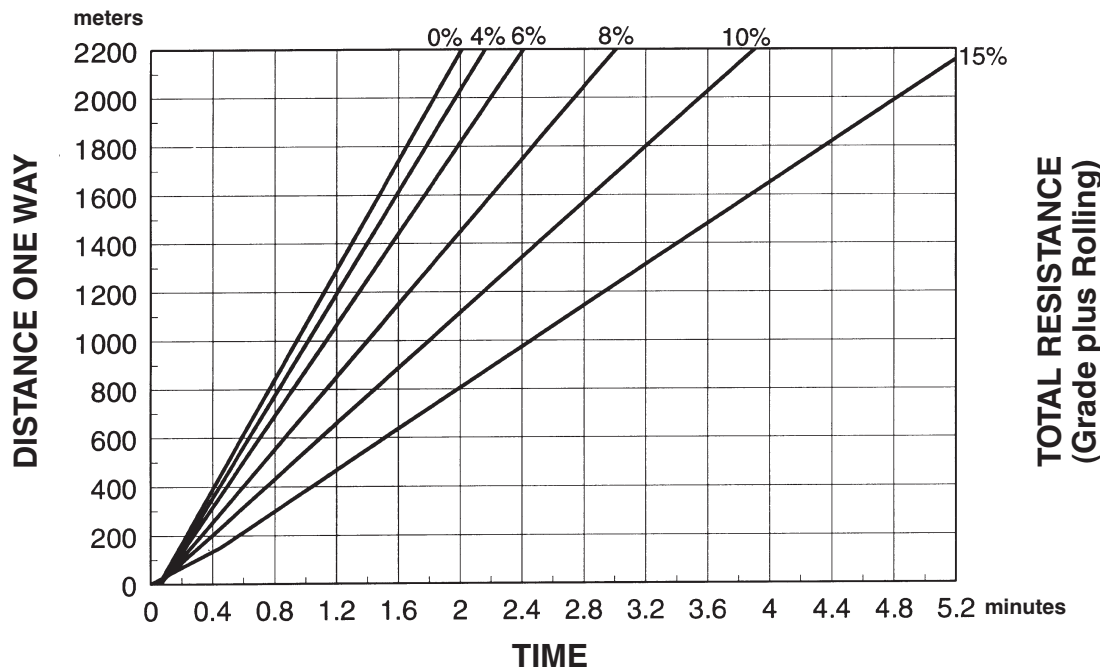
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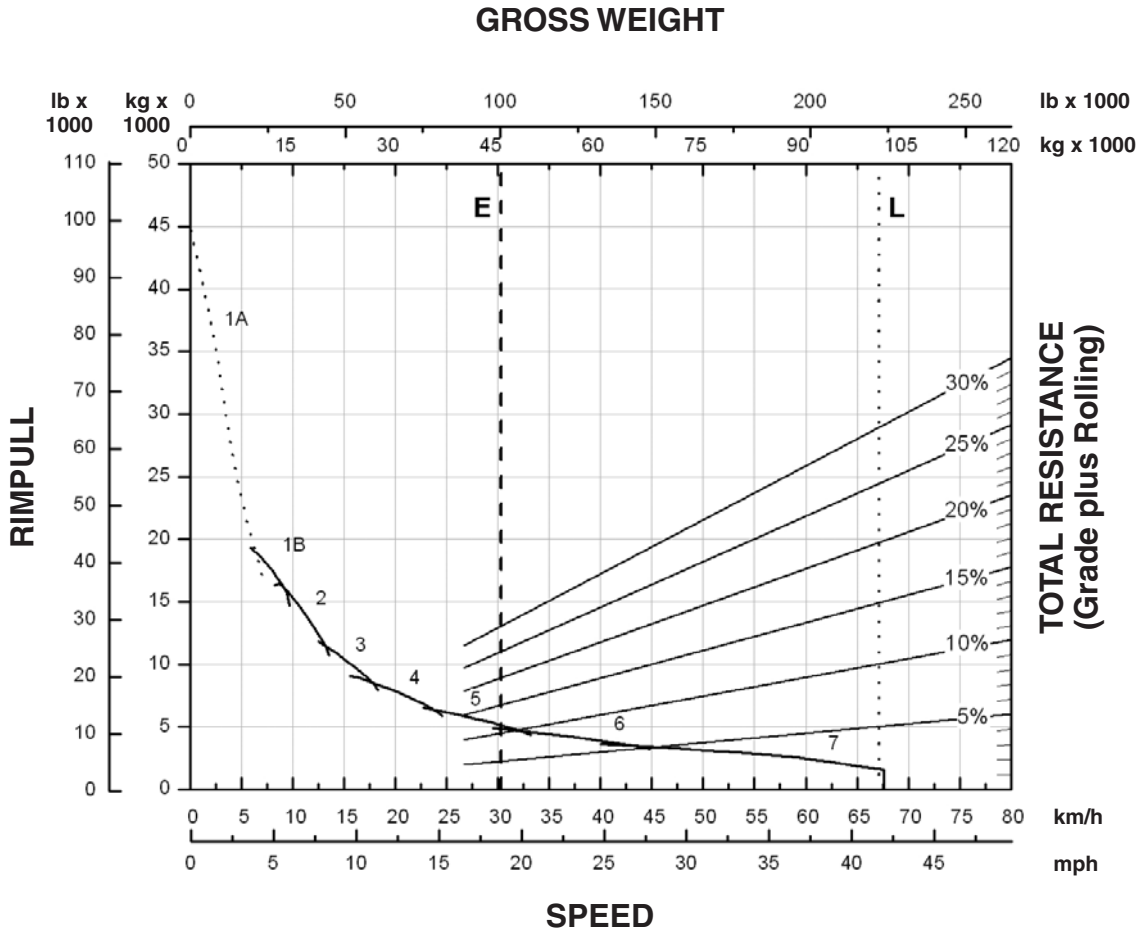
- E — Empty Weight 39 940 kg (88,053 lb)
- L — Target GMW 99 300 kg (219,000 lb)

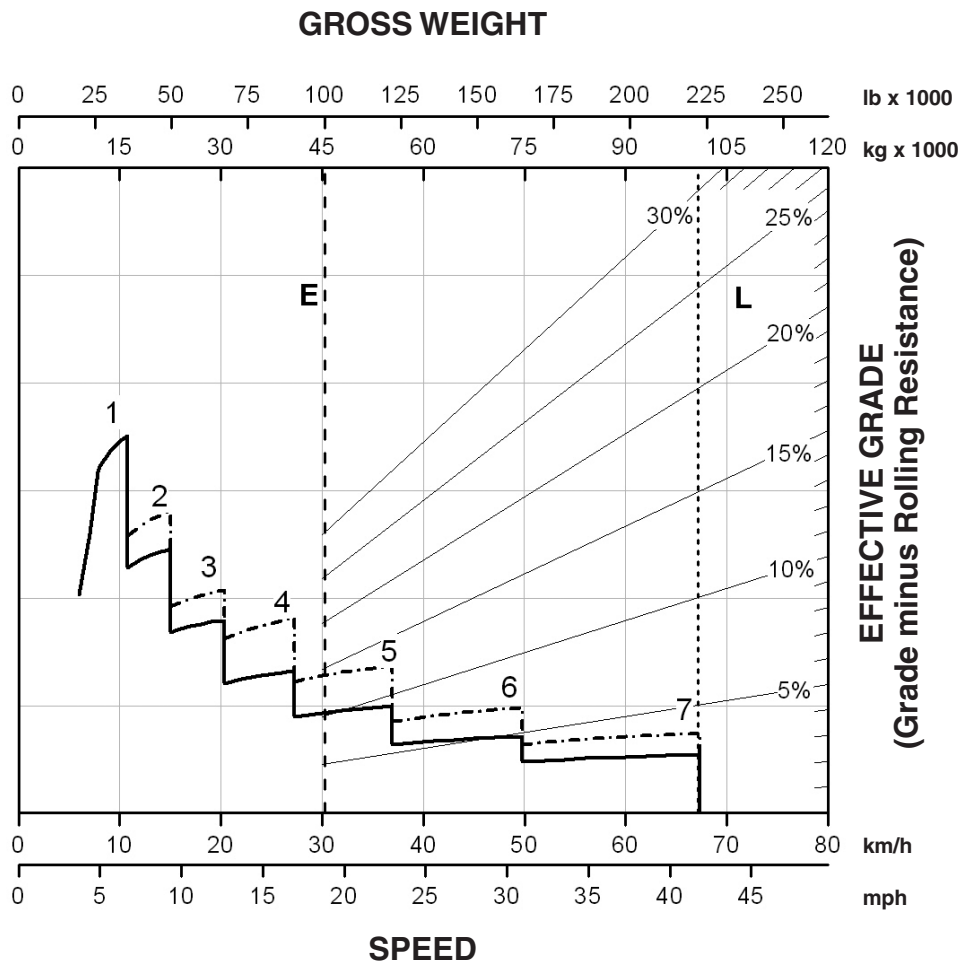
LOADED



EMPTY







KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear
- 7 — 7th Gear

KEY

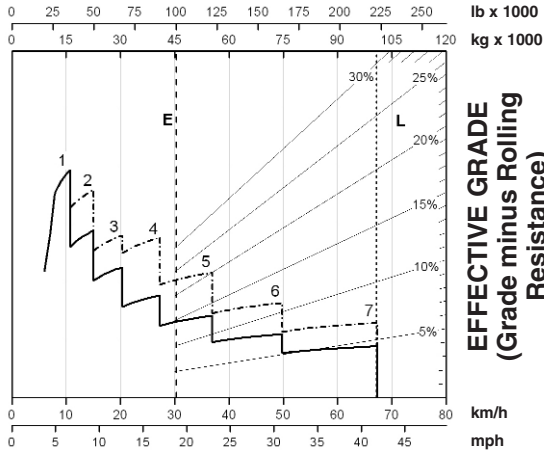
- E — Empty 45 647 kg (100,633 lb)
- L — Target GMW 100 698 kg (222,000 lb)
- With ARC Only
- - - - - ARC and Engine Brake

773F Brake Performance

- 450 m (1500 ft)
- 600 m (2000 ft)
- 900 m (3000 ft)
- 1500 m (5000 ft)

Construction & Mining Trucks

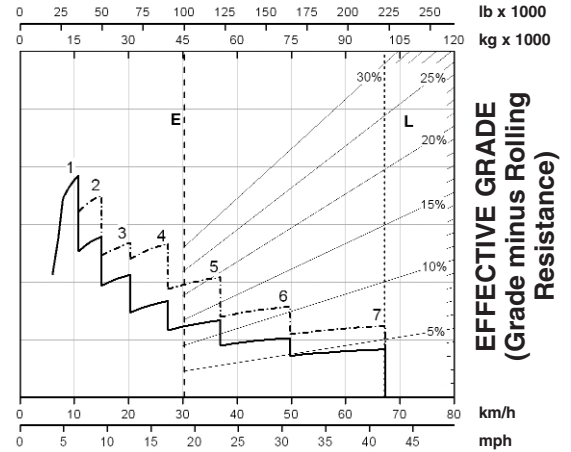
GROSS WEIGHT



SPEED

GRADE DISTANCE — 450 m (1500 ft)

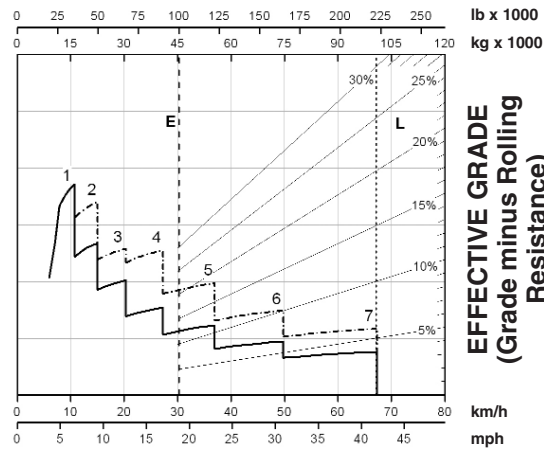
GROSS WEIGHT



SPEED

GRADE DISTANCE — 600 m (2000 ft)

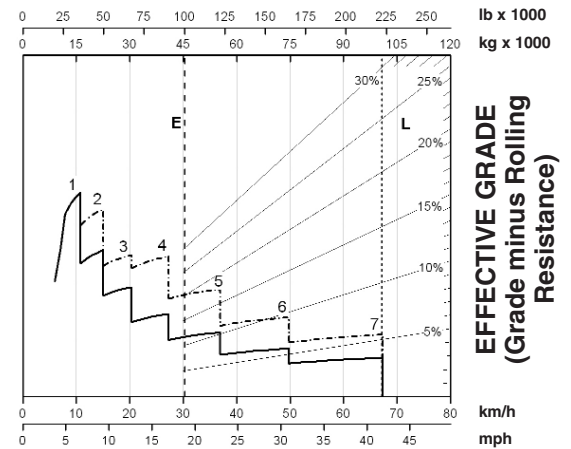
GROSS WEIGHT



SPEED

GRADE DISTANCE — 900 m (3000 ft)

GROSS WEIGHT



SPEED

GRADE DISTANCE — 1500 m (5000 ft)

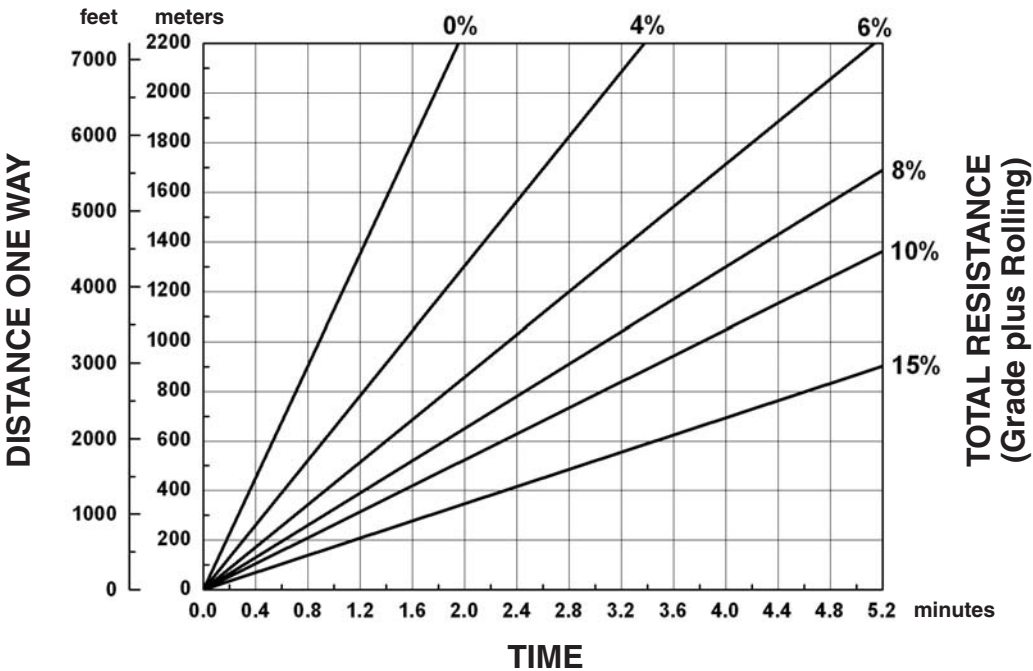
KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear
- 7 — 7th Gear

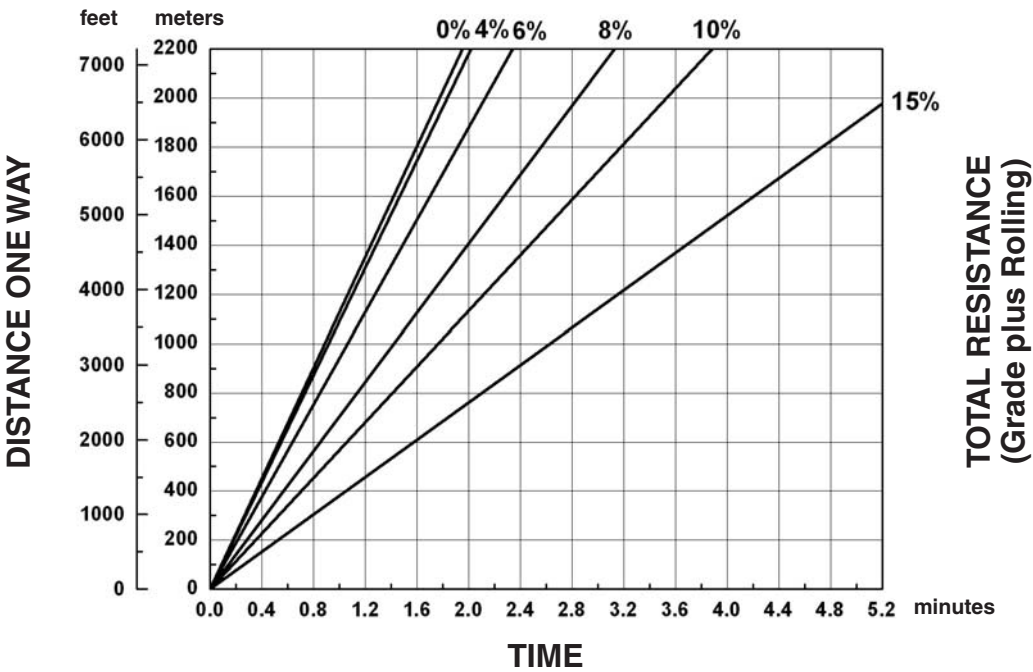
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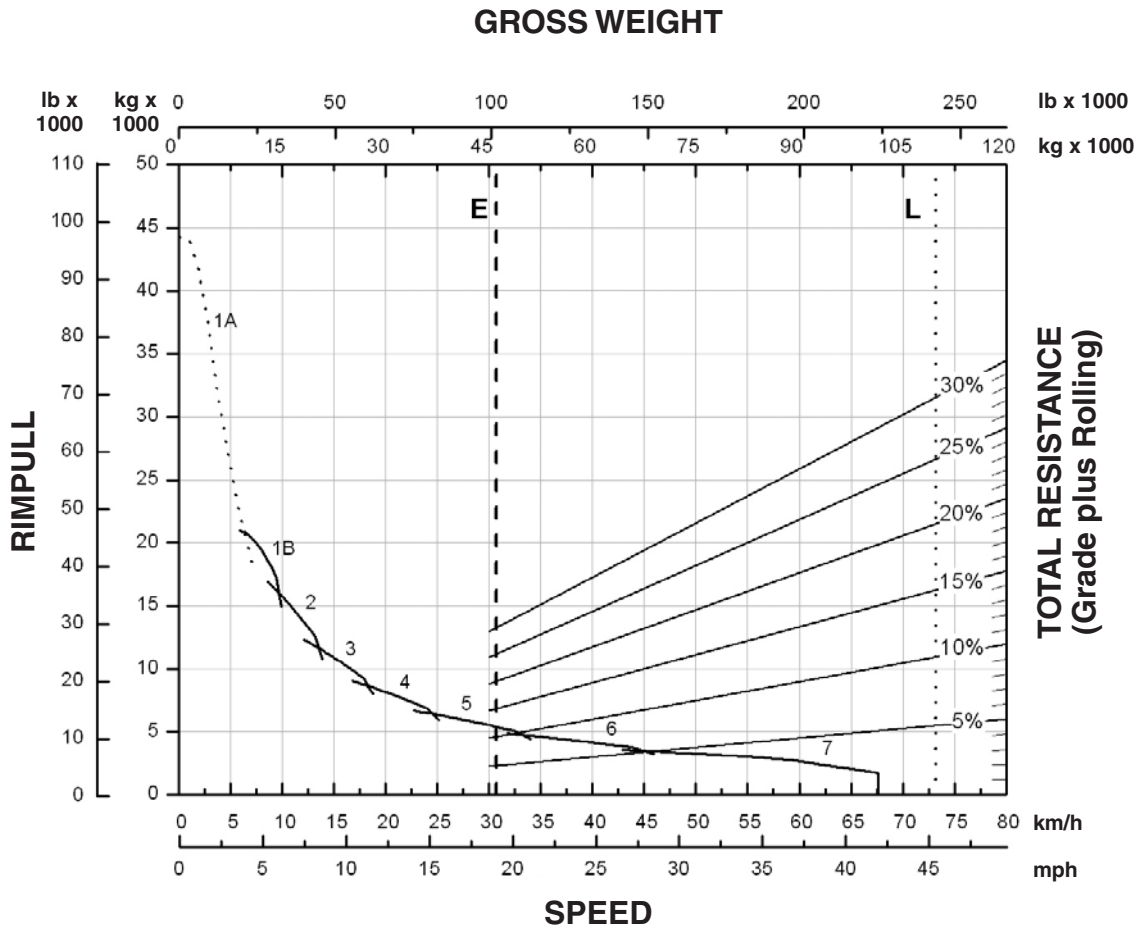
- E — Empty 45 647 kg (100,633 lb)
- L — Target GMW 100 698 kg (222,000 lb)
- With ARC Only
- - - - - ARC and Engine Brake

LOADED



EMPTY



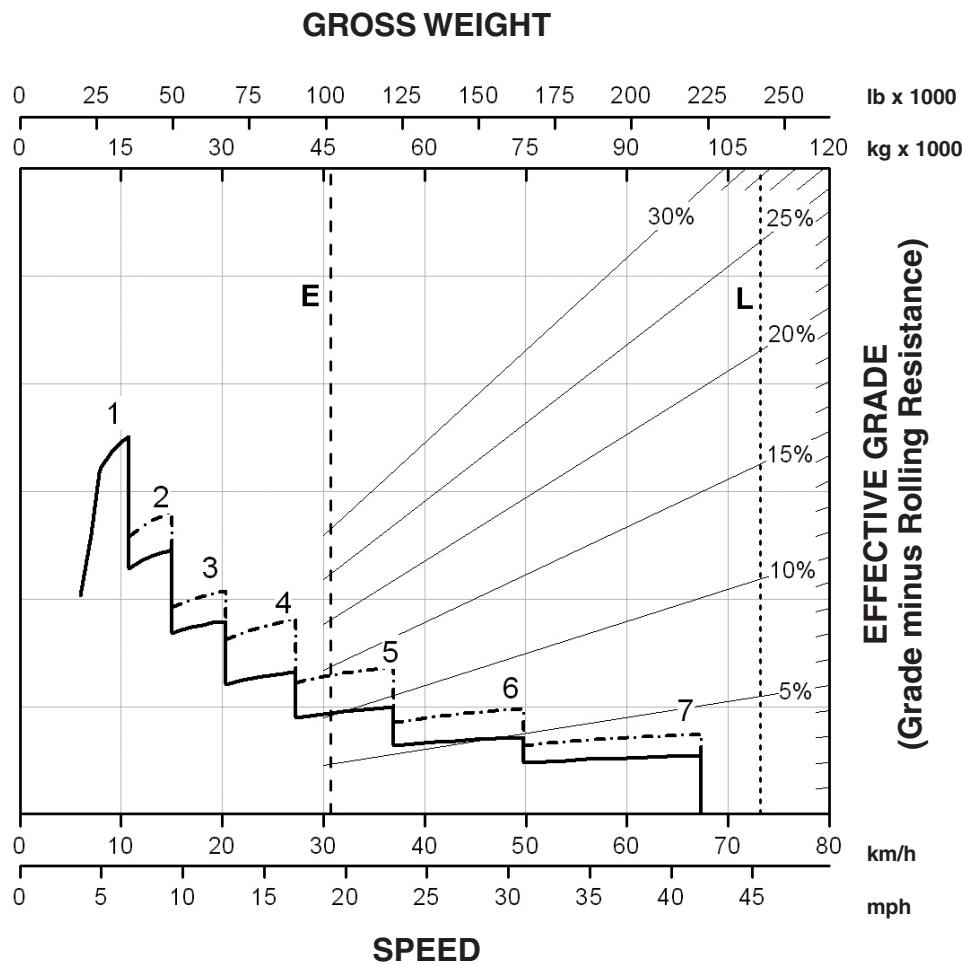


KEY

1A — 1st Gear (Torque Converter)
1B — 1st Gear
2 — 2nd Gear
3 — 3rd Gear
4 — 4th Gear
5 — 5th Gear
6 — 6th Gear
7 — 7th Gear

KEY

E — Empty 46 342 kg (102,165 lb)
L — Target GMW 109 769 kg (242,000 lb)



KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear
- 7 — 7th Gear

KEY

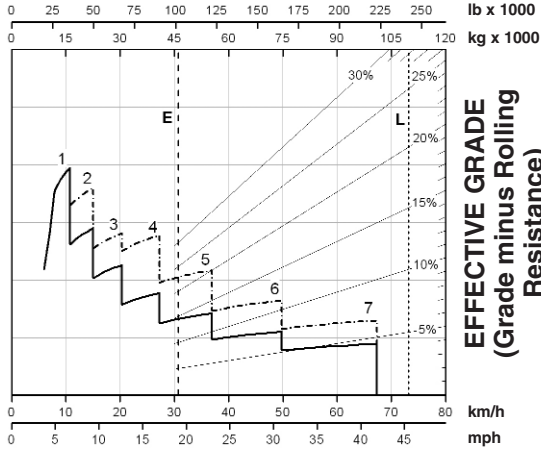
- E — Empty 46 342 kg (102,165 lb)
- L — Target GMW 109 769 kg (242,000 lb)
- With ARC Only
- - - - - ARC and Engine Brake

775F Brake Performance

- 450 m (1500 ft)
- 600 m (2000 ft)
- 900 m (3000 ft)
- 1500 m (5000 ft)

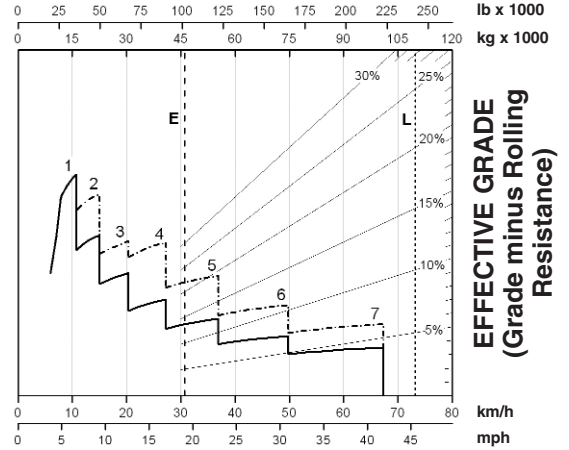
Construction & Mining Trucks

GROSS WEIGHT



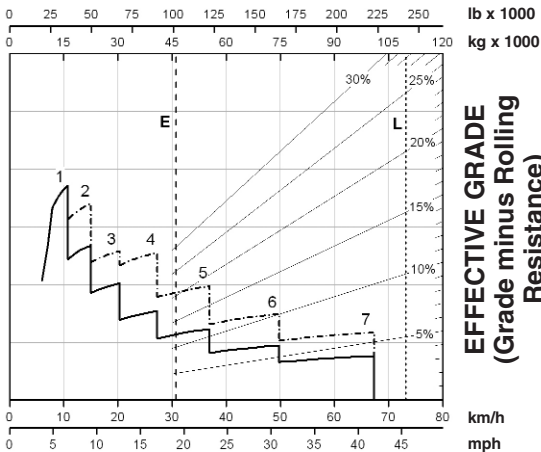
SPEED
GRADE DISTANCE — 450 m (1500 ft)

GROSS WEIGHT



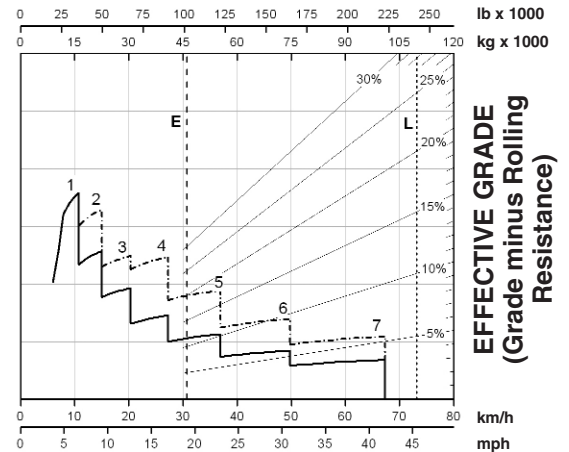
SPEED
GRADE DISTANCE — 600 m (2000 ft)

GROSS WEIGHT



SPEED
GRADE DISTANCE — 900 m (3000 ft)

GROSS WEIGHT



SPEED
GRADE DISTANCE — 1500 m (5000 ft)

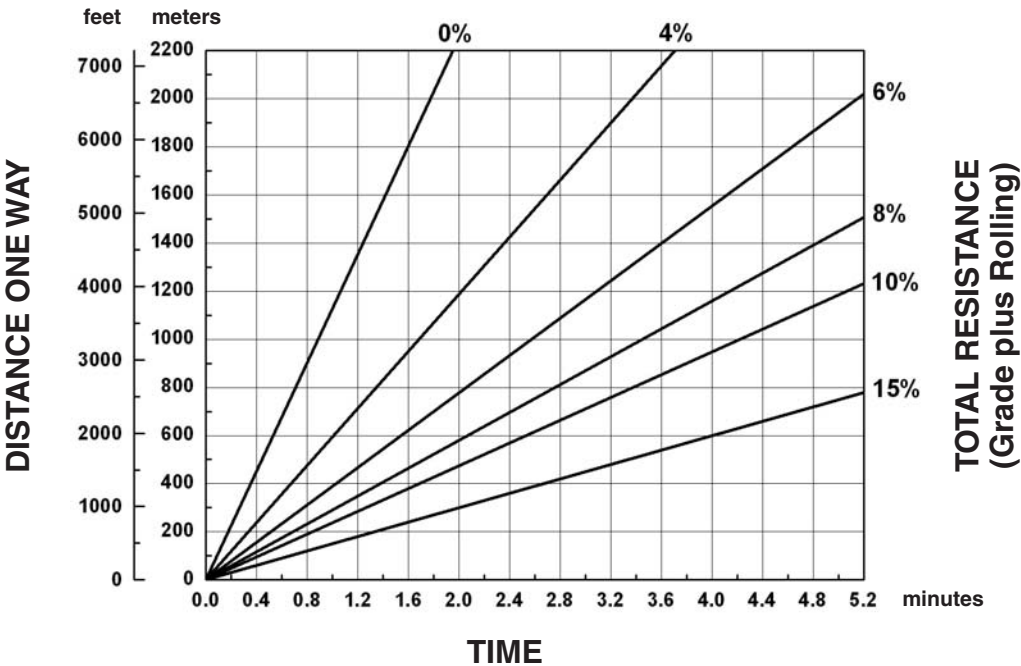
KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear
- 7 — 7th Gear

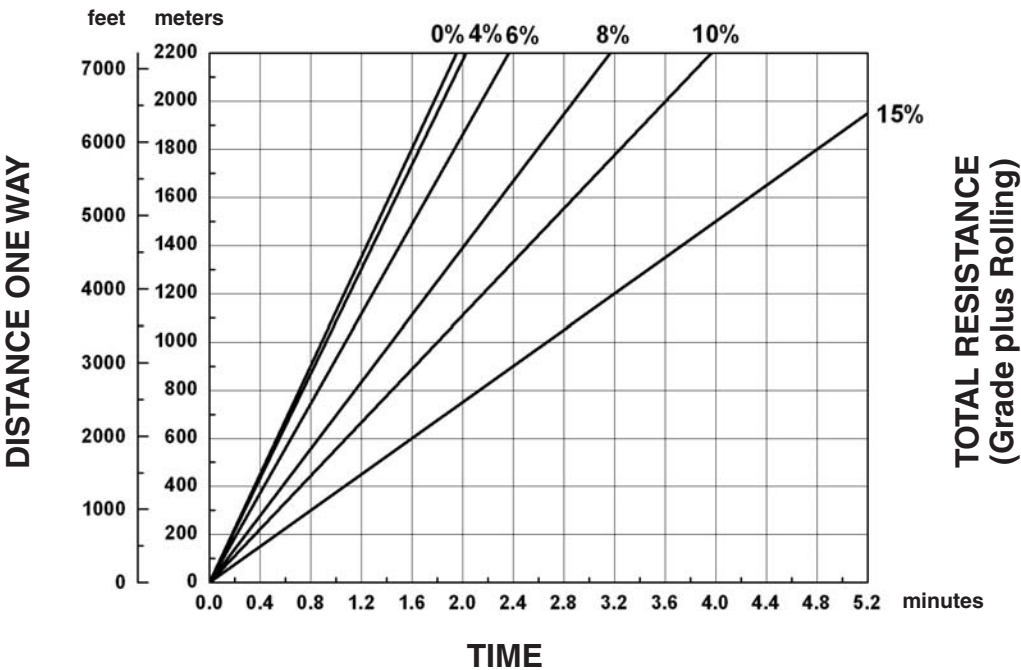
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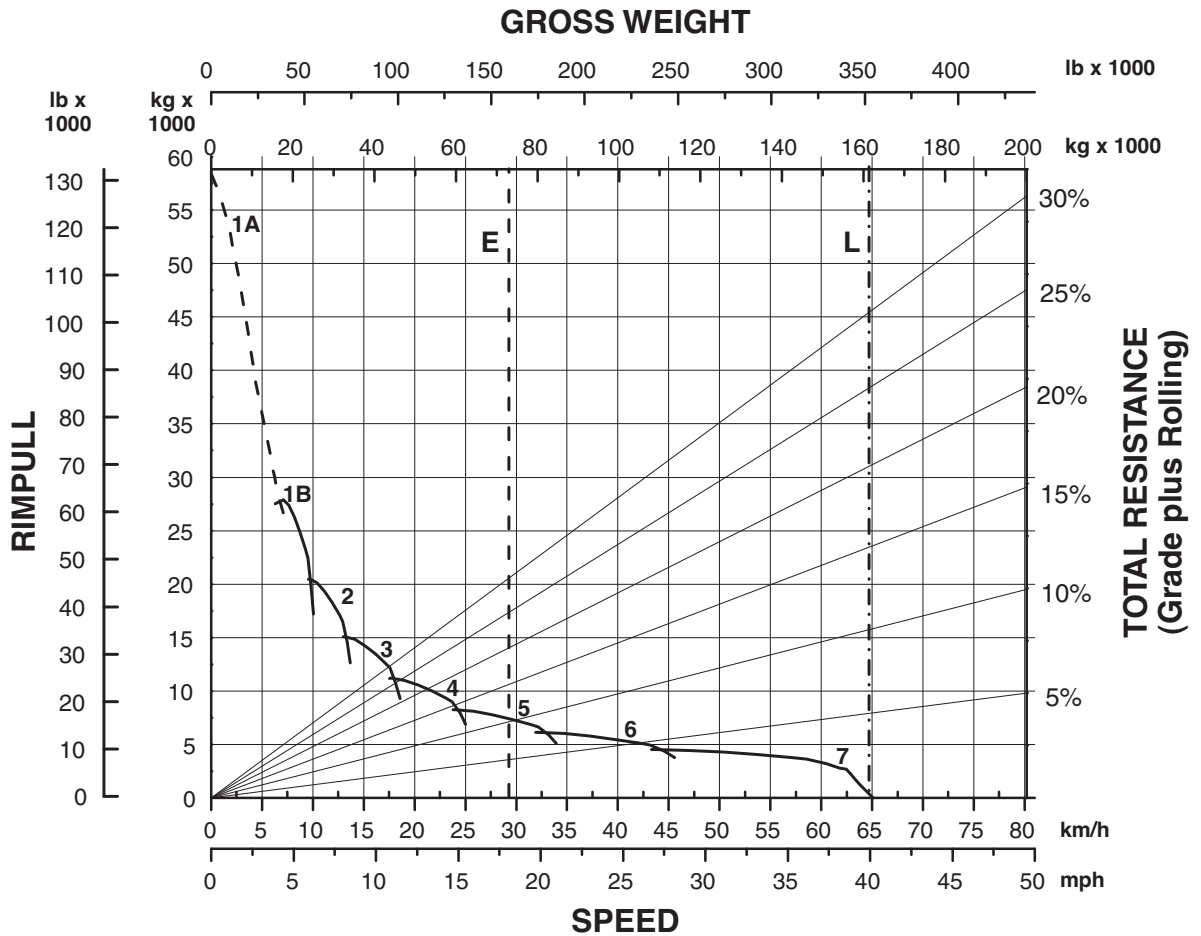
- E — Empty 46 342 kg (102,165 lb)
- L — Target GMW 109 769 kg (242,000 lb)
- With ARC Only
- - - - - ARC and Engine Brake

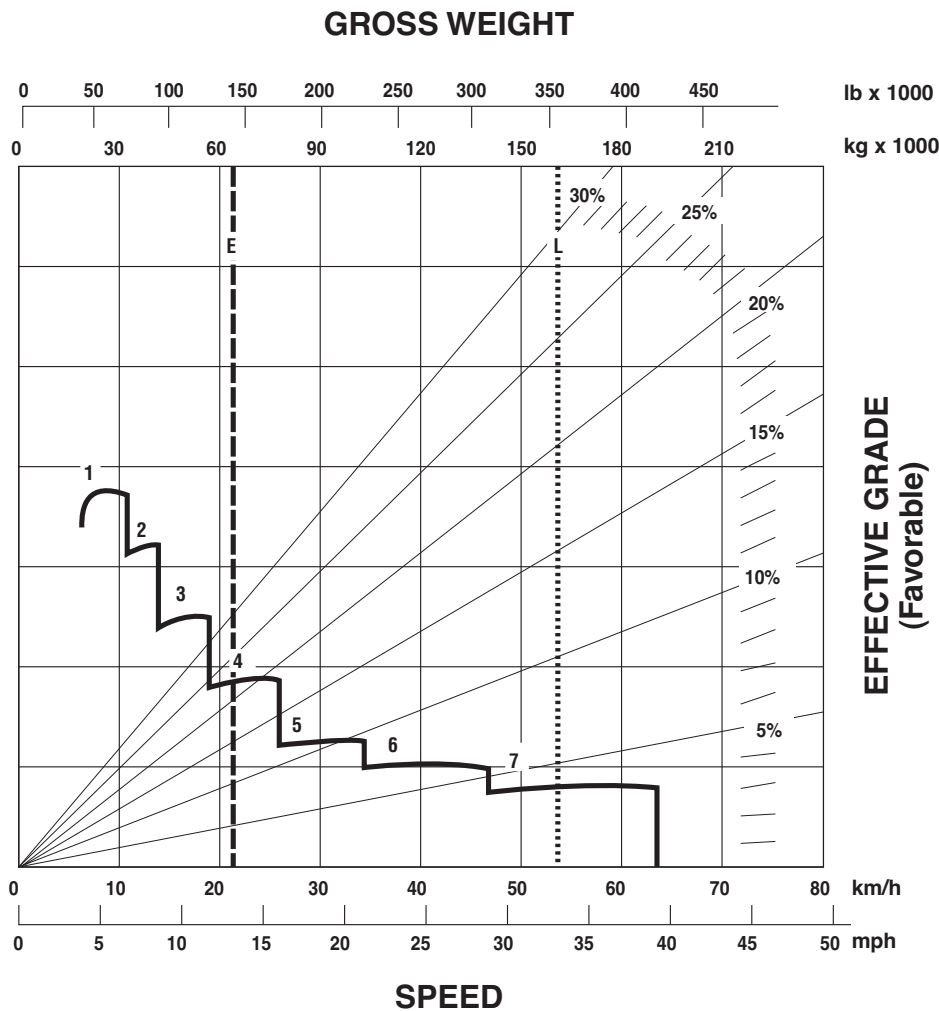
LOADED



EMPTY







CONTINUOUS GRADE LENGTH

KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear
- 7 — 7th Gear

KEY

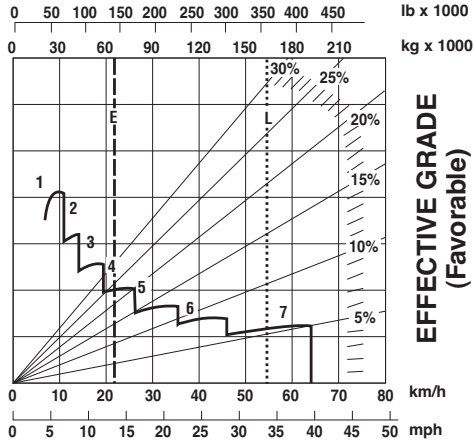
- E — Empty 64 359 kg (141,889 lb)
- L — Max GMW 163 360 kg (360,149 lb)

777D Brake Performance

- 450 m (1500 ft)
- 600 m (2000 ft)
- 900 m (3000 ft)
- 1500 m (5000 ft)

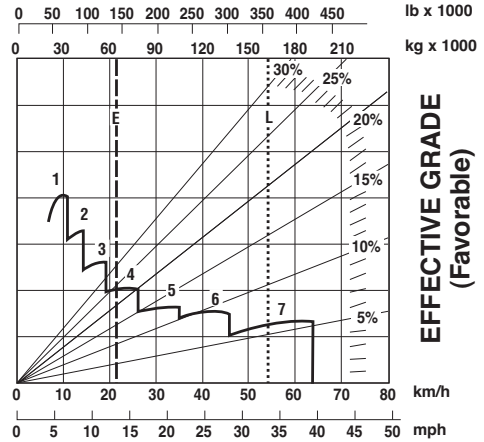
Construction & Mining Trucks

GROSS WEIGHT



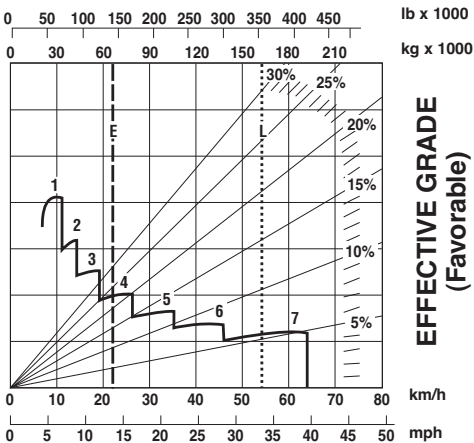
SPEED
GRADE DISTANCE — 450 m (1500 ft)

GROSS WEIGHT



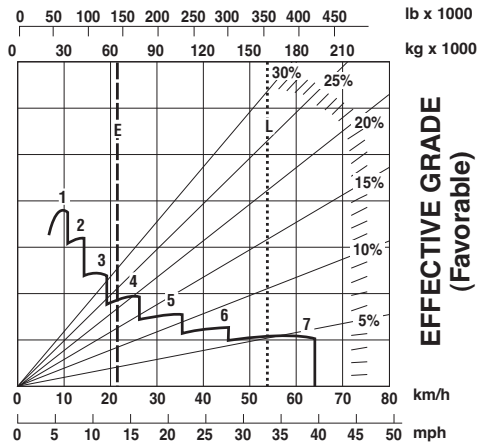
SPEED
GRADE DISTANCE — 600 m (2000 ft)

GROSS WEIGHT



SPEED
GRADE DISTANCE — 900 m (3000 ft)

GROSS WEIGHT



SPEED
GRADE DISTANCE — 1500 m (5000 ft)

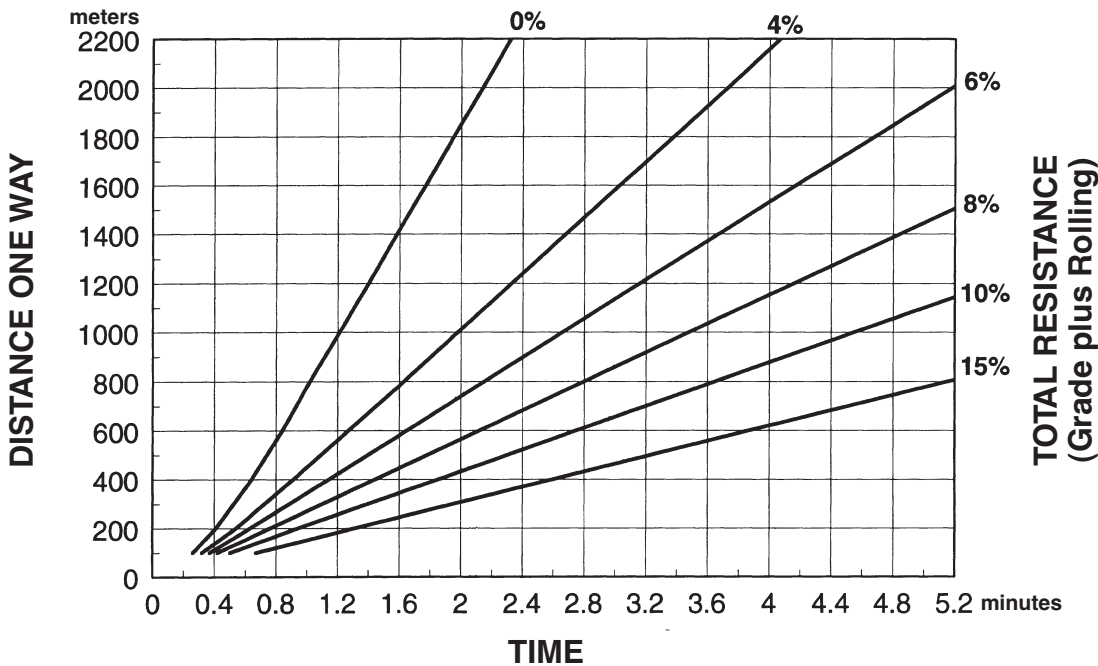
KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear
- 7 — 7th Gear

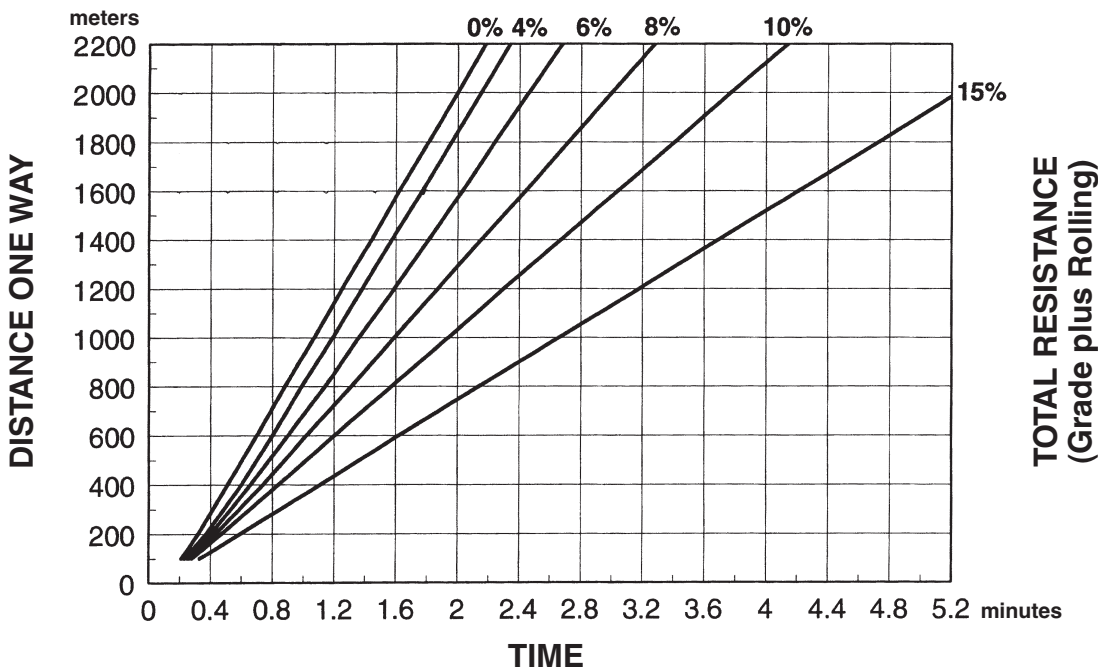
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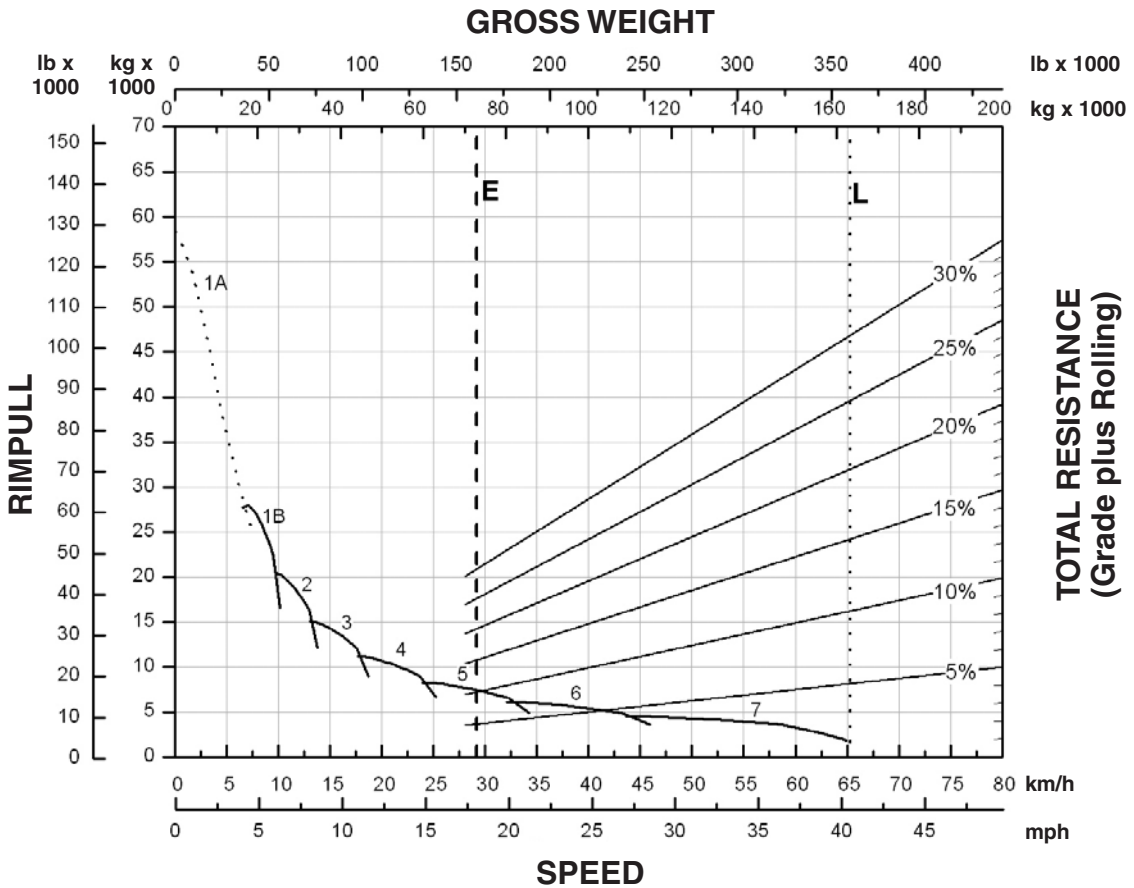
- E — Empty 64 359 kg (141,889 lb)
- L — Max GMW 163 360 kg (360,149 lb)

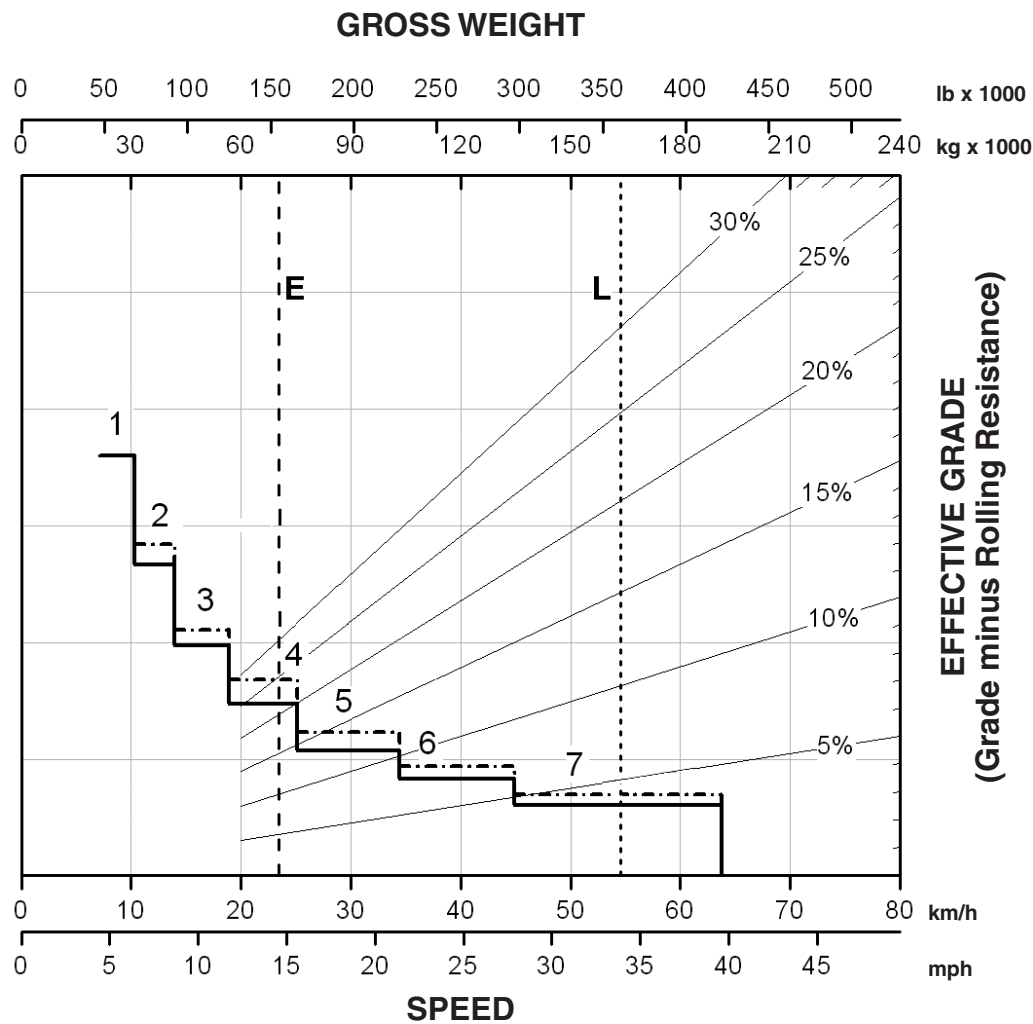
LOADED



EMPTY







CONTINUOUS GRADE LENGTH

KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear
- 7 — 7th Gear

KEY

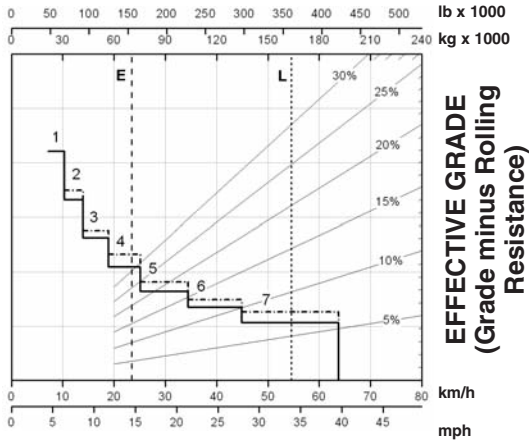
- E — Empty 72 977 kg (160,885 lb)
- L — Target GMW 163 293 kg (360,000 lb)

777F Brake Performance

- 450 m (1500 ft)
- 600 m (2000 ft)
- 900 m (3000 ft)
- 1500 m (5000 ft)

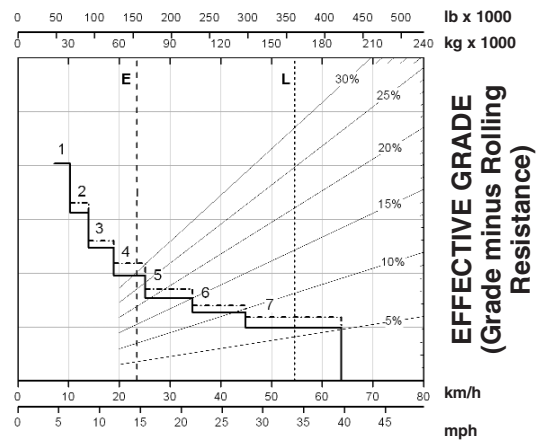
Construction & Mining Trucks

GROSS WEIGHT



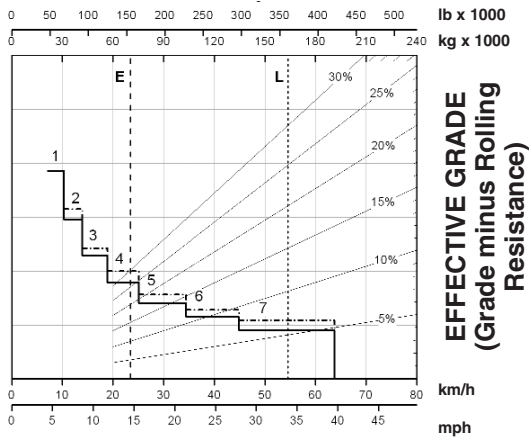
SPEED
GRADE DISTANCE — 450 m (1500 ft)

GROSS WEIGHT



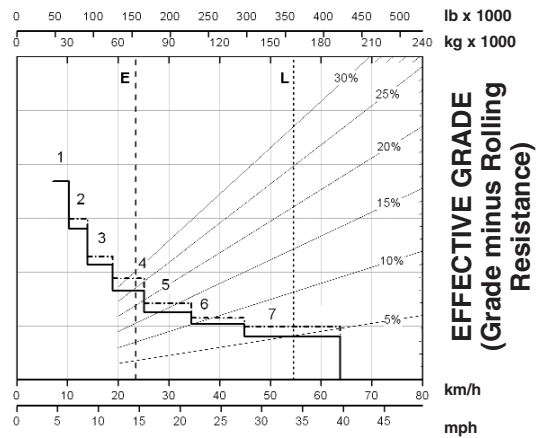
SPEED
GRADE DISTANCE — 600 m (2000 ft)

GROSS WEIGHT



SPEED
GRADE DISTANCE — 900 m (3000 ft)

GROSS WEIGHT



SPEED
GRADE DISTANCE — 1500 m (5000 ft)

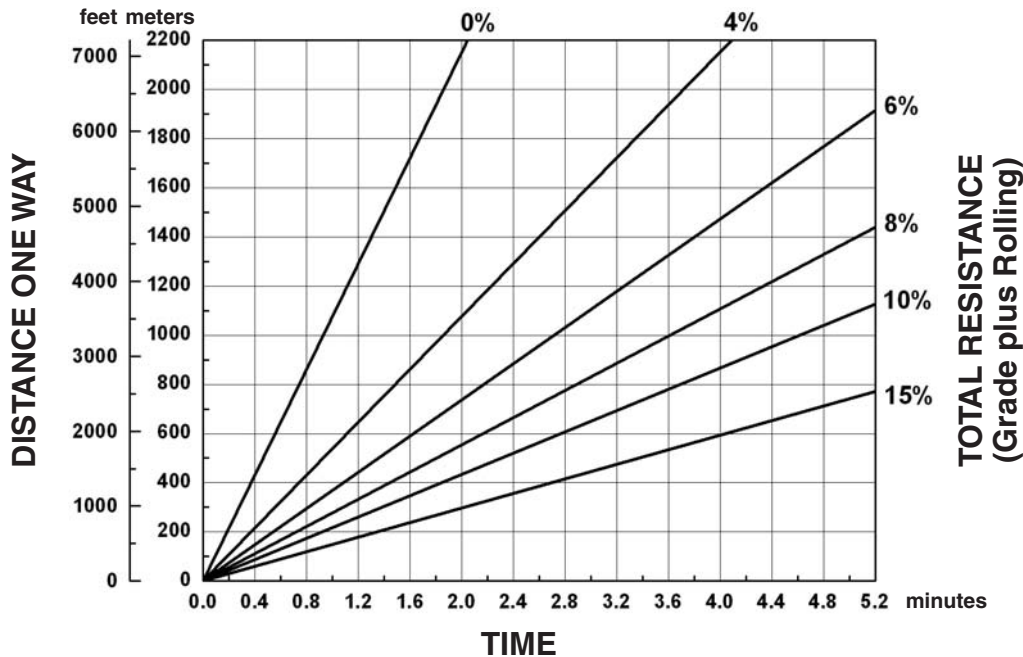
KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear
- 7 — 7th Gear

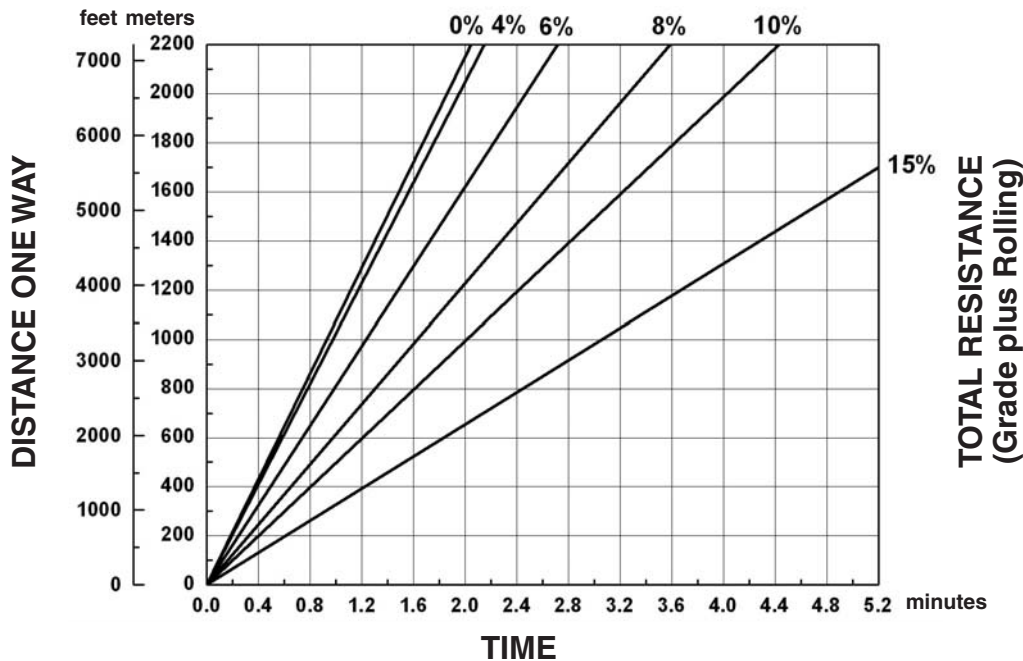
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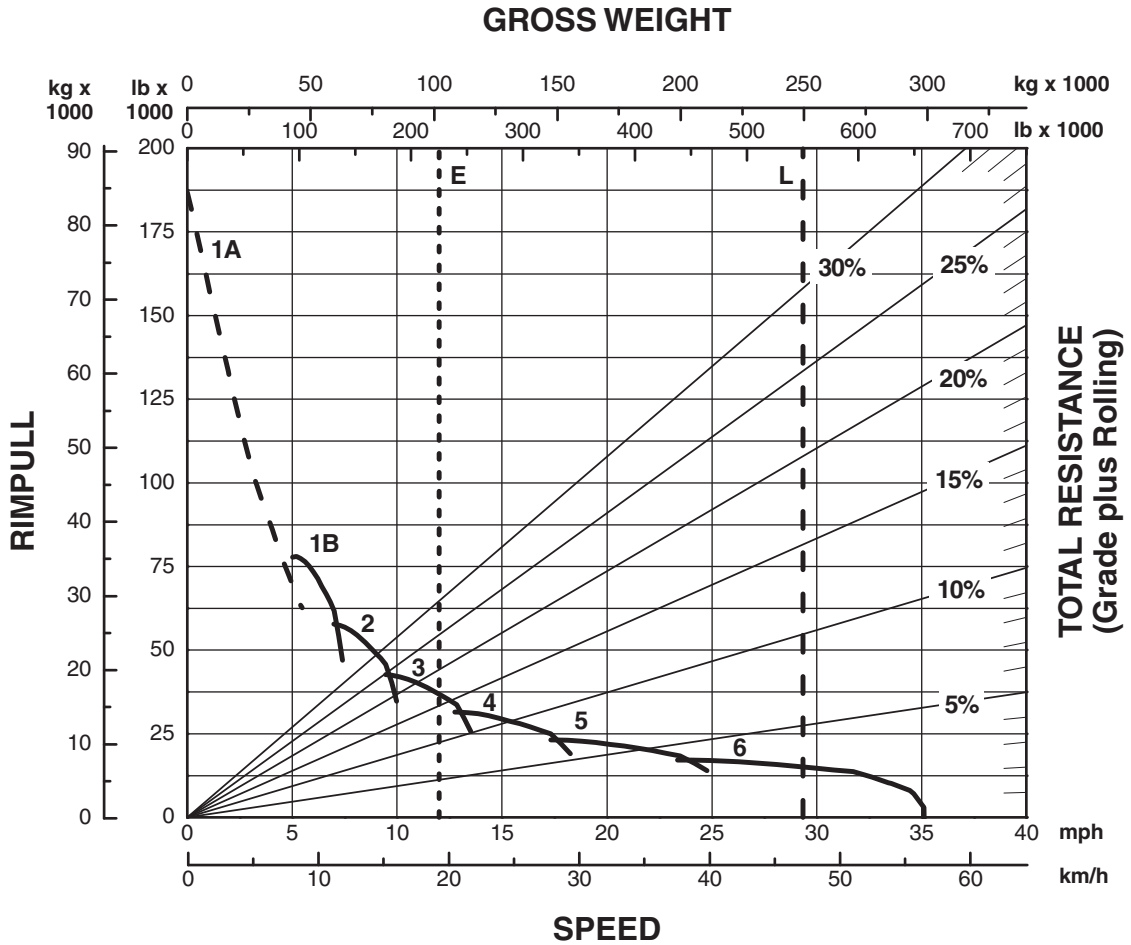
- E — Empty 72 977 kg (160,885 lb)
- L — Target GMW 163 293 kg (360,000 lb)

LOADED



EMPTY





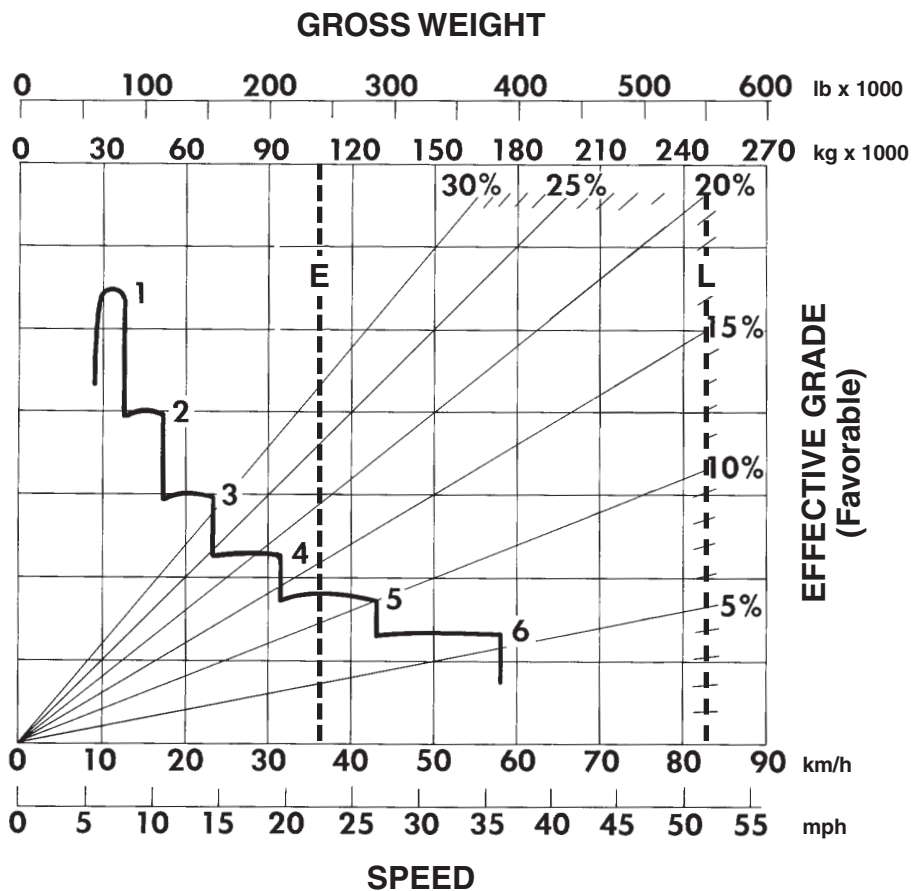
KEY

- 1A— 1st Gear (Torque Converter)
- 1B— 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear

KEY

- E — Est. Max Field Empty Weight 115 085 kg (253,719 lb)
- L — Max GMW 249 475 kg (550,000 lb)

*At Sea Level.



KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear

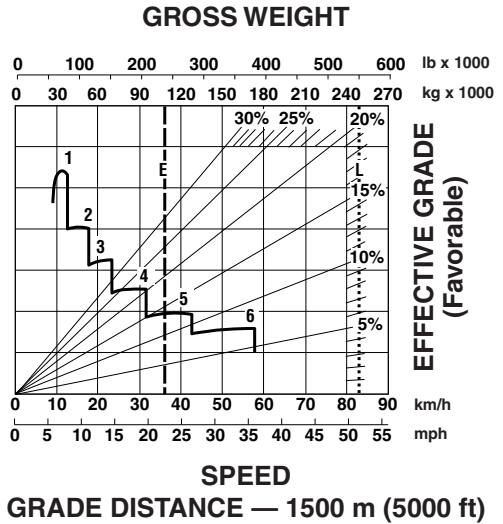
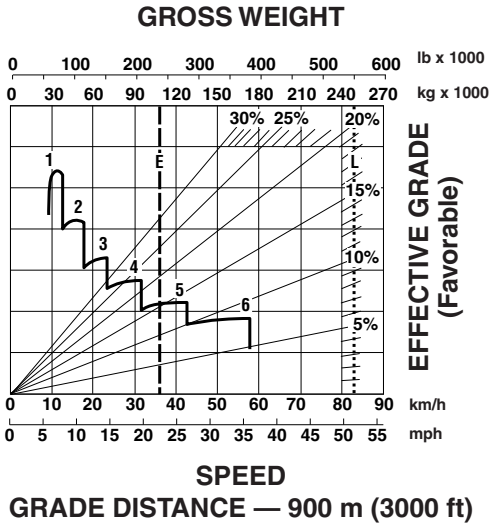
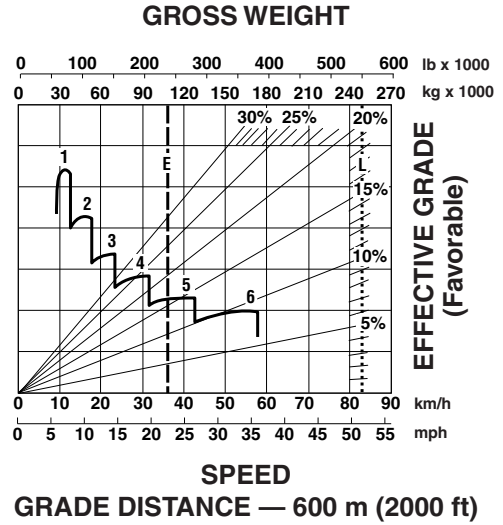
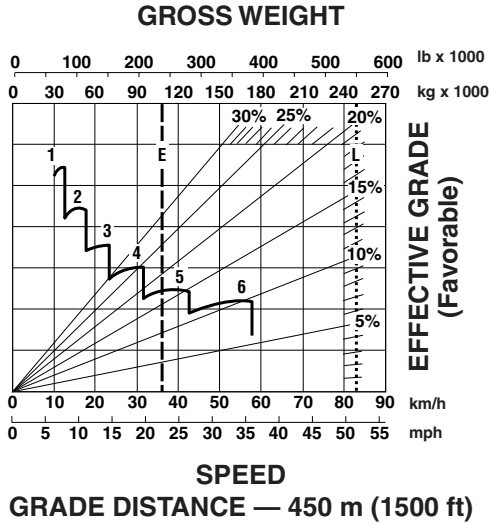
KEY

- E — Est. Field Empty Weight 107 190 kg (236,314 lb)
- L — Max GMW 249 433 kg (550,000 lb)

785C Brake Performance

- 450 m (1500 ft)
- 600 m (2000 ft)
- 900 m (3000 ft)
- 1500 m (5000 ft)

Construction & Mining Trucks



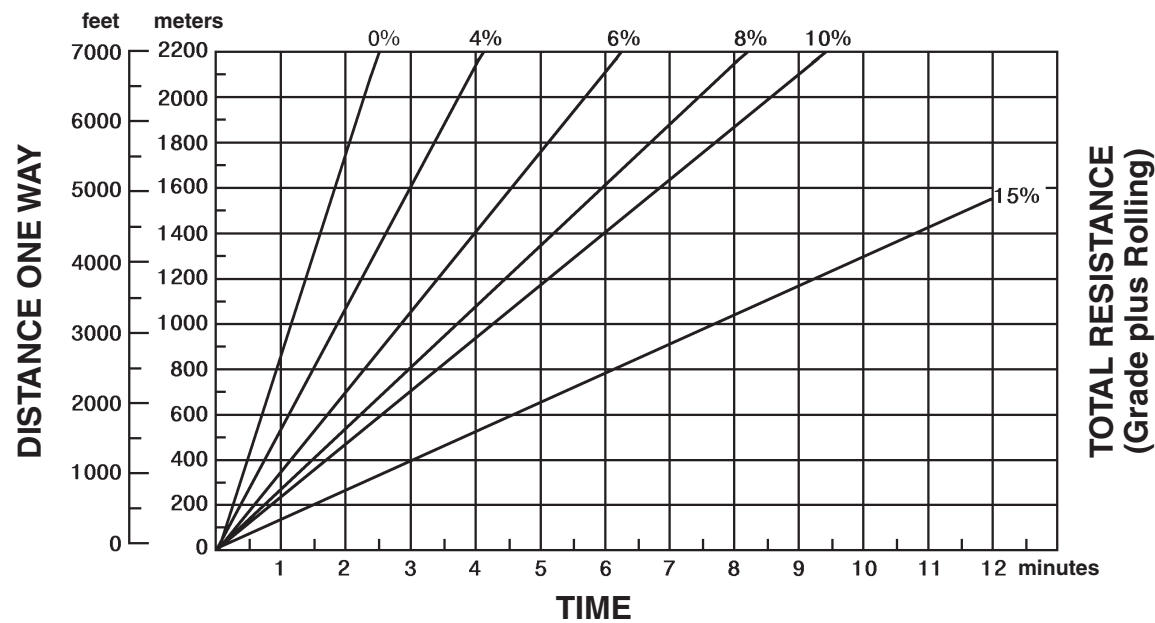
KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear

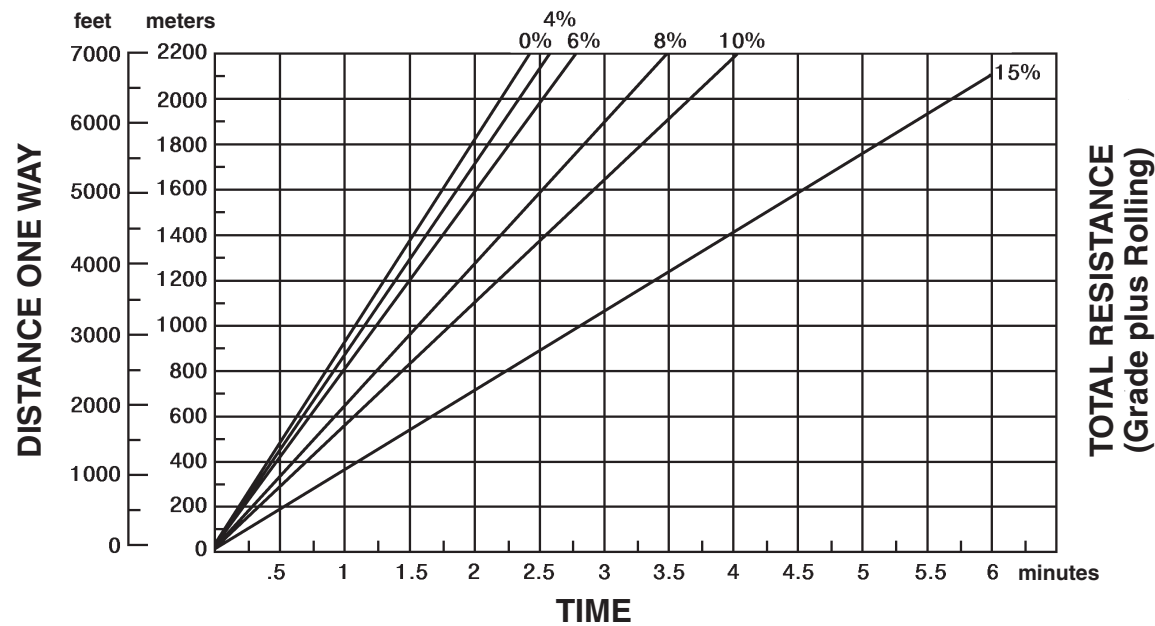
KEY

- E — Est. Field Empty Weight 107 190 kg (236,314 lb)
- L — Max GMW 249 433 kg (550,000 lb)

LOADED

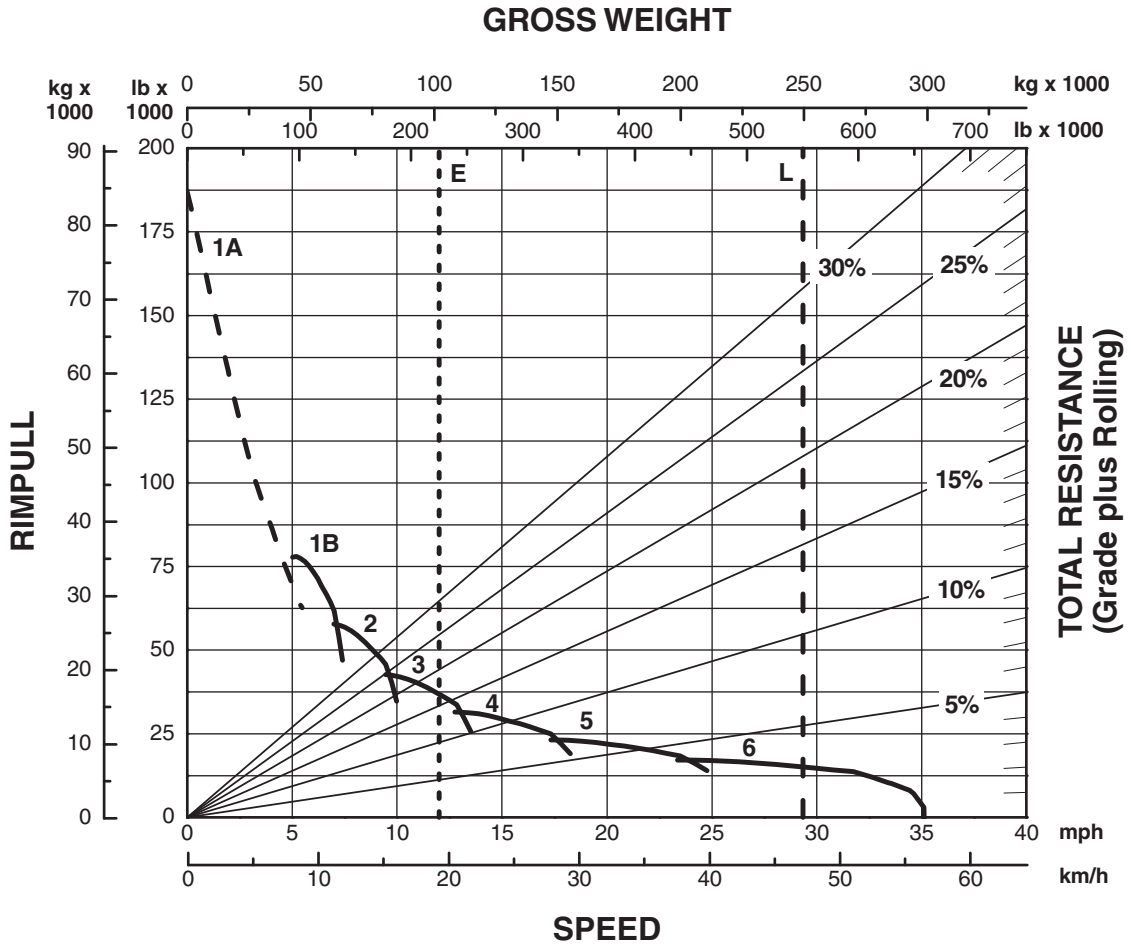


EMPTY



785D Rimpull-Speed-Gradeability
 • 33.00R51 Tires*
 • 1433 mm (4'8.4") Tire Radius

Construction & Mining Trucks



9

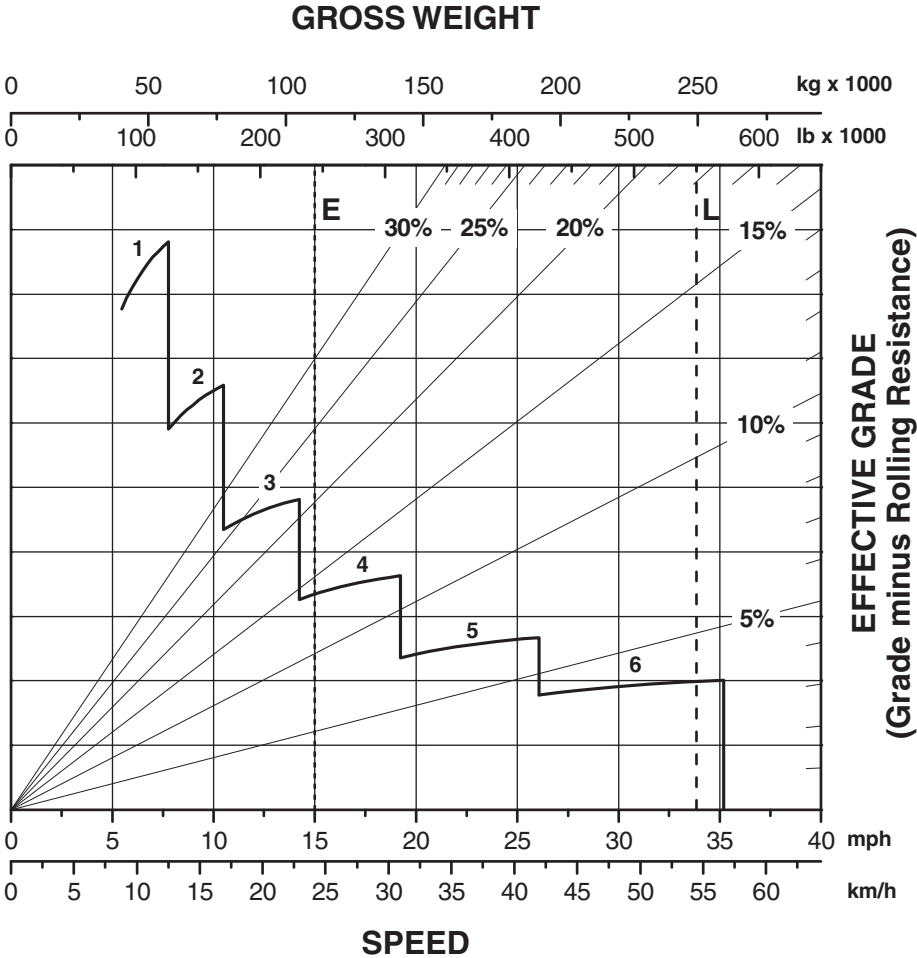
KEY

- 1A— 1st Gear (Torque Converter)
- 1B— 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear

KEY

- E — Est. Max Field Empty Weight 116 505 kg (256,849 lb)
- L — Max GMW 249 475 kg (550,000 lb)

*At Sea Level.



CONTINUOUS GRADE LENGTH

KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear

KEY

- E — Est. Field Empty Weight 108 481 kg (239,160 lb)
- L — Max GMW 249 433 kg (550,000 lb)

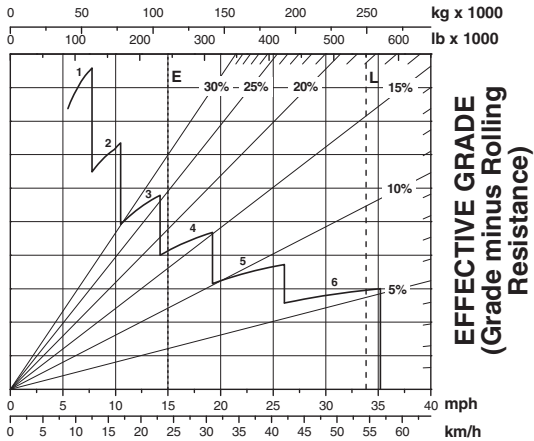
*At Sea Level.

785D Brake Performance

- 450 m (1500 ft)
- 600 m (2000 ft)
- 900 m (3000 ft)
- 1500 m (5000 ft)

Construction & Mining Trucks

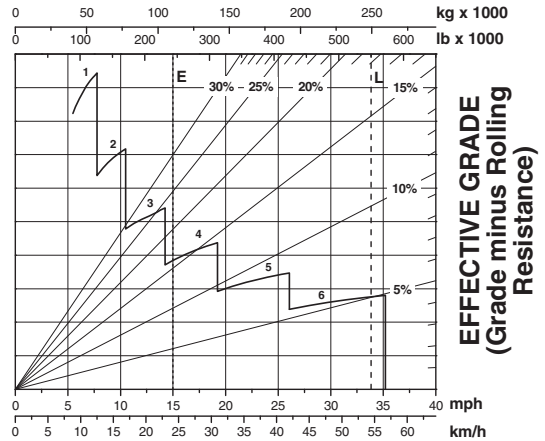
GROSS WEIGHT



SPEED

GRADE DISTANCE — 450 m (1500 ft)*

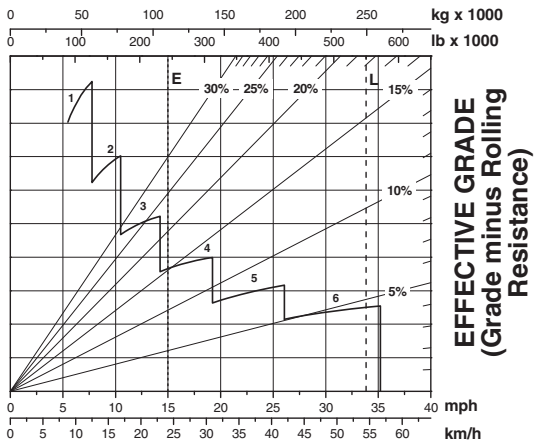
GROSS WEIGHT



SPEED

GRADE DISTANCE — 600 m (2000 ft)*

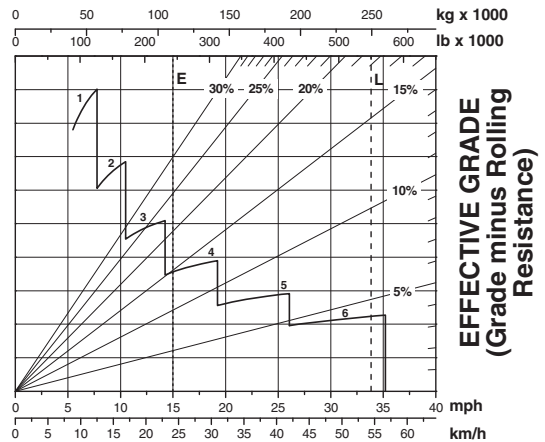
GROSS WEIGHT



SPEED

GRADE DISTANCE — 900 m (3000 ft)*

GROSS WEIGHT



SPEED

GRADE DISTANCE — 1500 m (5000 ft)*

KEY

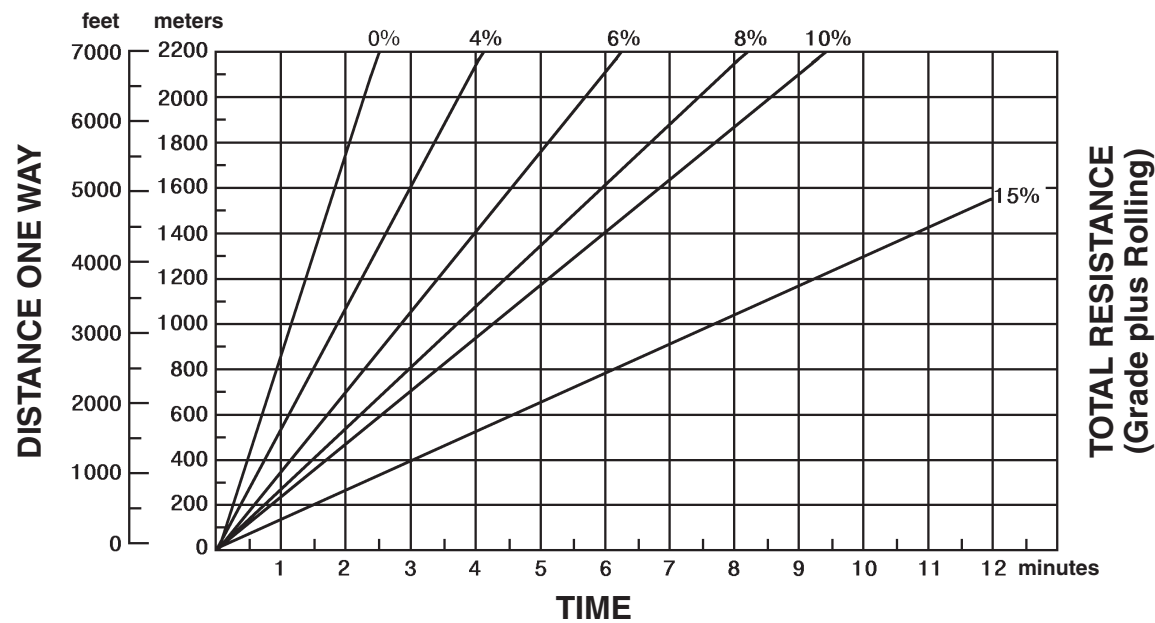
- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear

KEY

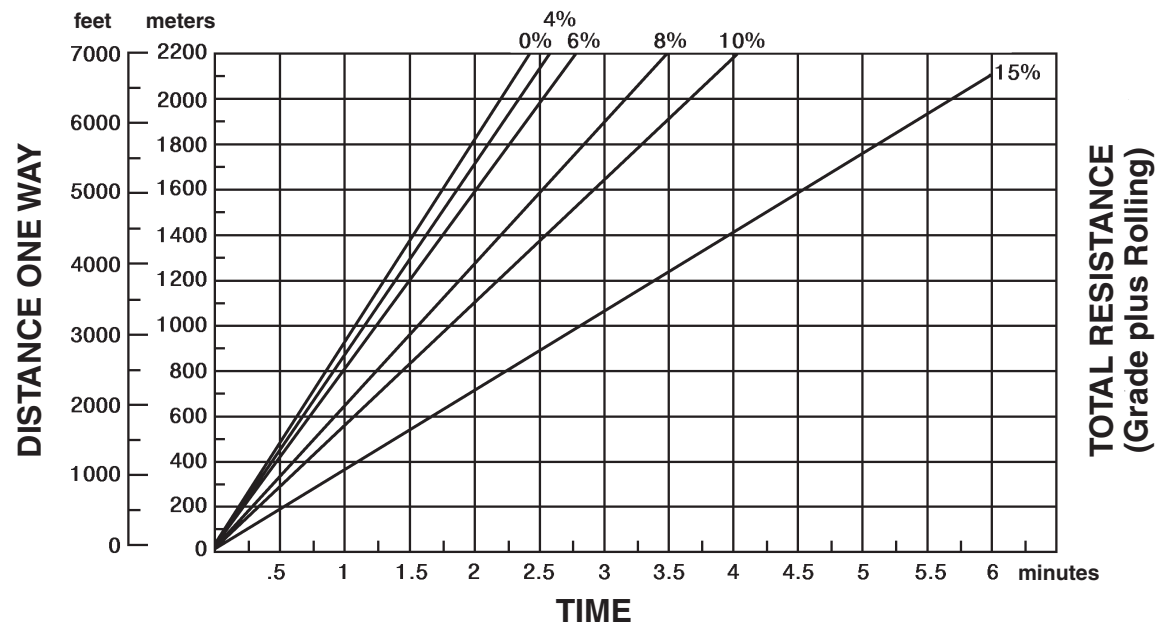
- E — Est. Field Empty Weight 108 481 kg (239,160 lb)
- L — Max GMW 249 433 kg (550,000 lb)

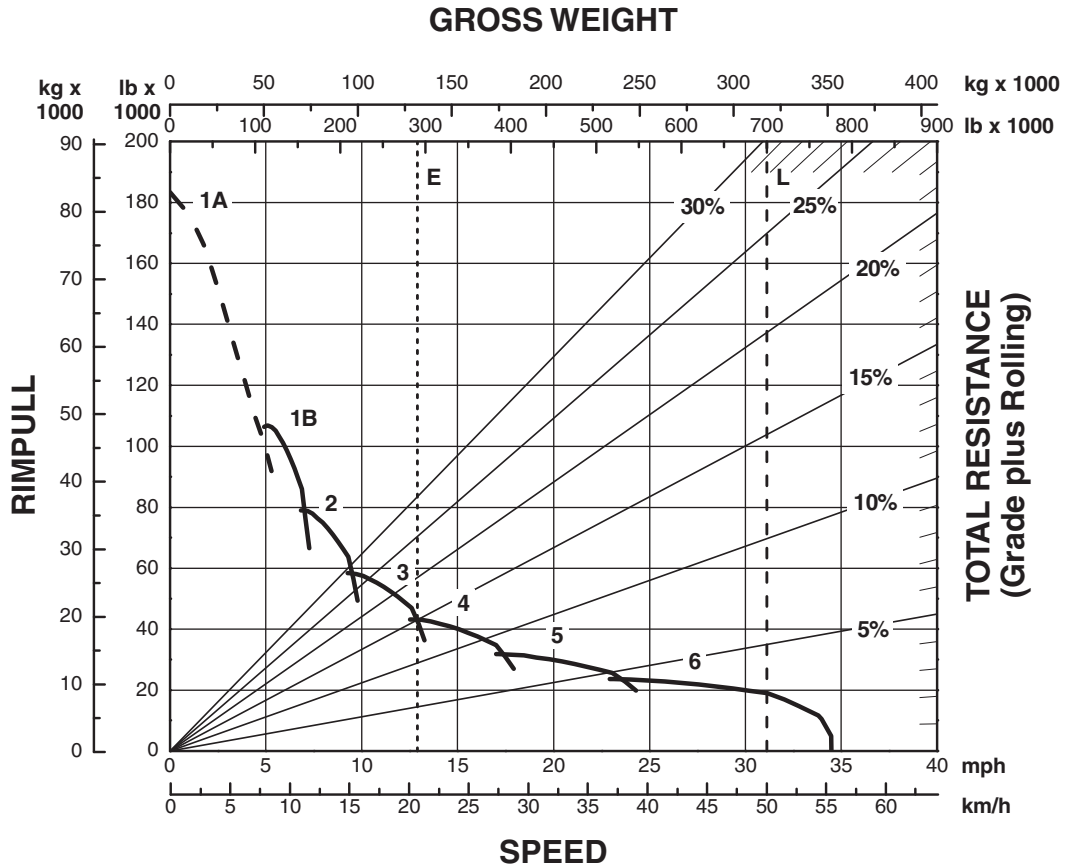
*At Sea Level.

LOADED



EMPTY





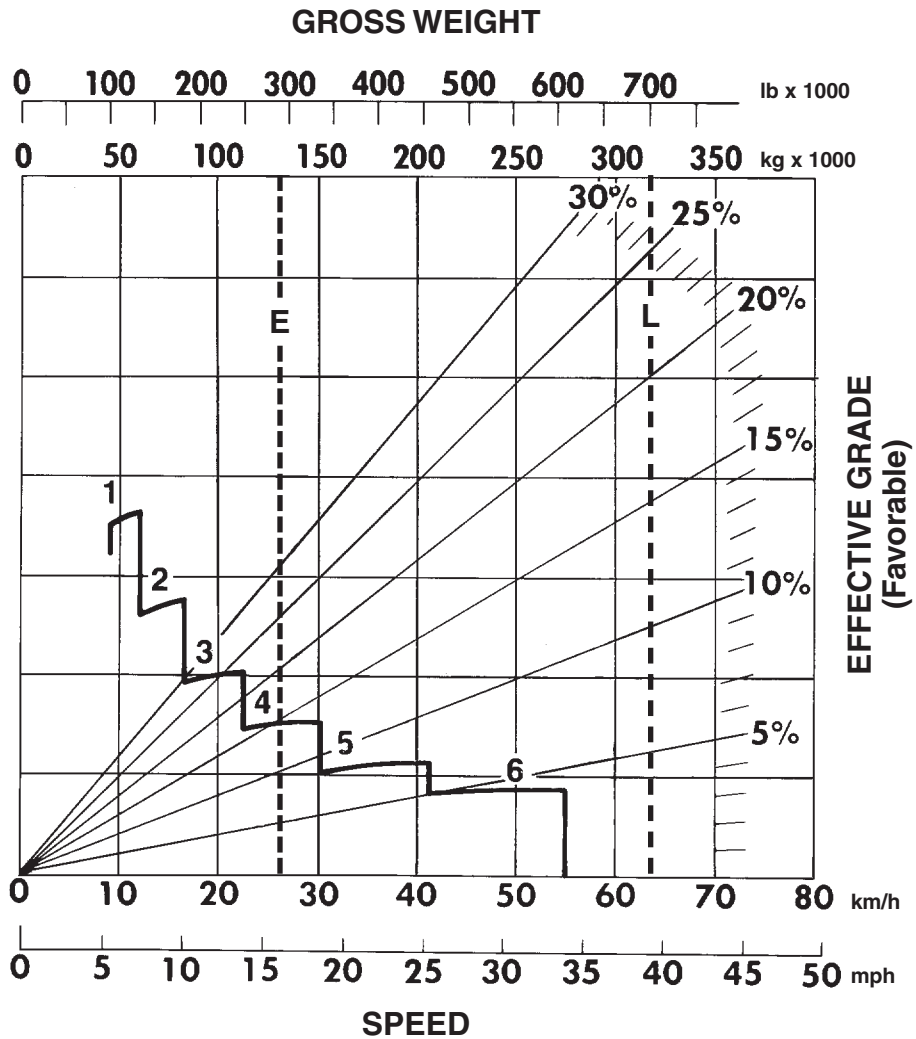
KEY

- 1A — 1st Gear (Torque Converter)
- 1B — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear

KEY

- E — Est. Max Field Empty Weight 132 651 kg (292,447 lb)*
- L — Max GMW 317 460 kg (700,000 lb)

*Truck equipped with sideboards and liners.
 **At Sea Level.



KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear

KEY

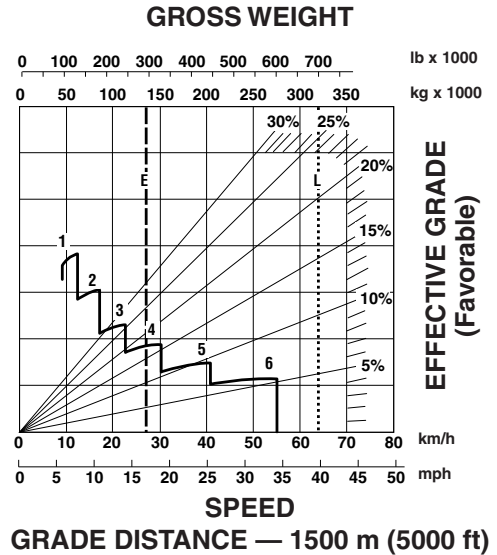
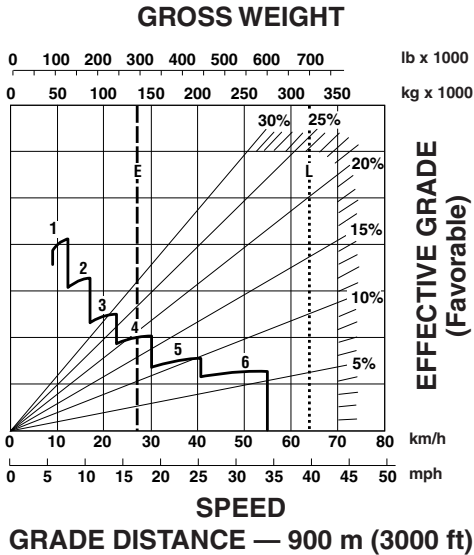
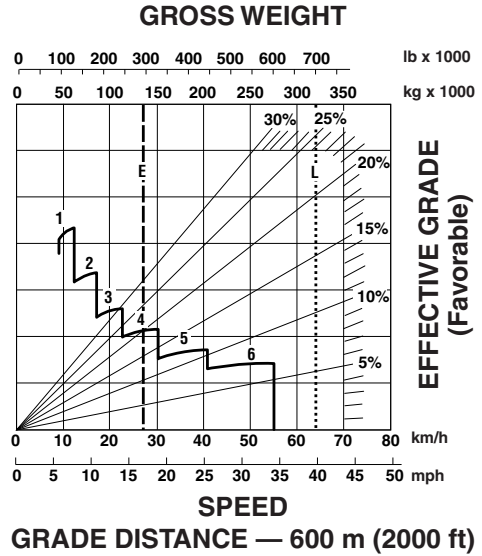
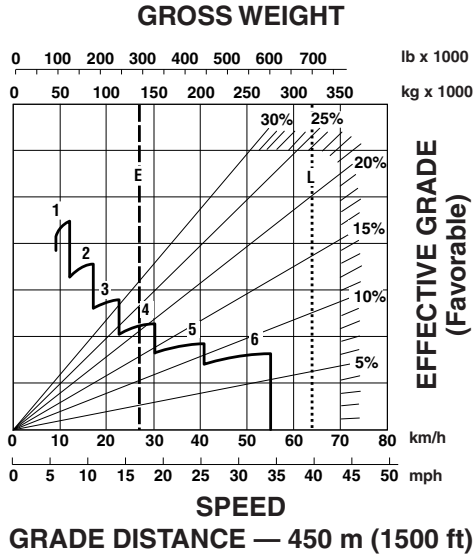
- E — Est. Field Empty Weight 132 651 kg (292,447 lb)*
- L — Max GMW 317 460 kg (700,000 lb)

*Truck equipped with sideboards and liners.

789C Brake Performance

- 450 m (1500 ft) ● 600 m (2000 ft)
- 900 m (3000 ft) ● 1500 m (5000 ft)

Construction & Mining Trucks



KEY

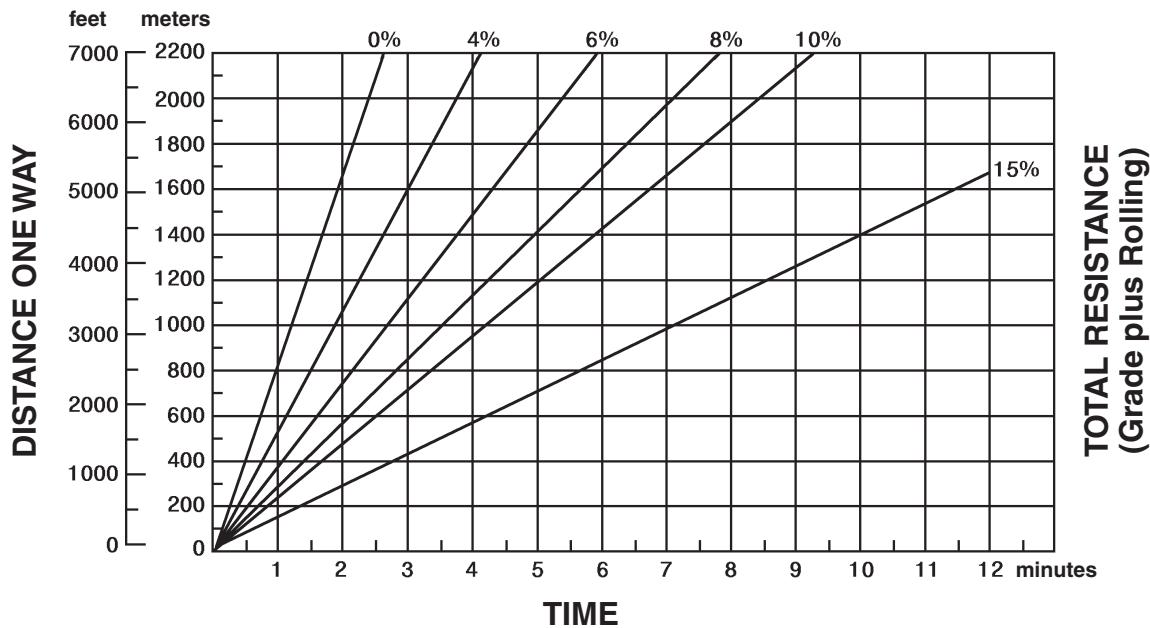
- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear

KEY

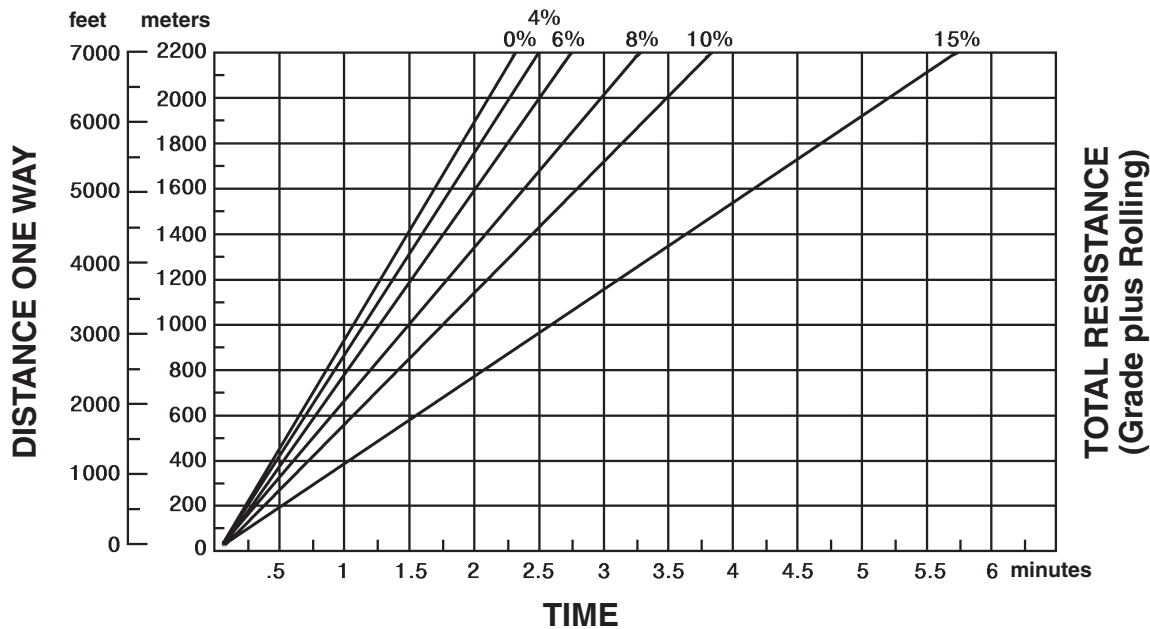
- E — Est. Field Empty Weight 132 651 kg (292,447 lb)*
- L — Max GMW 317 460 kg (700,000 lb)

*Truck equipped with sideboards and liners.

LOADED

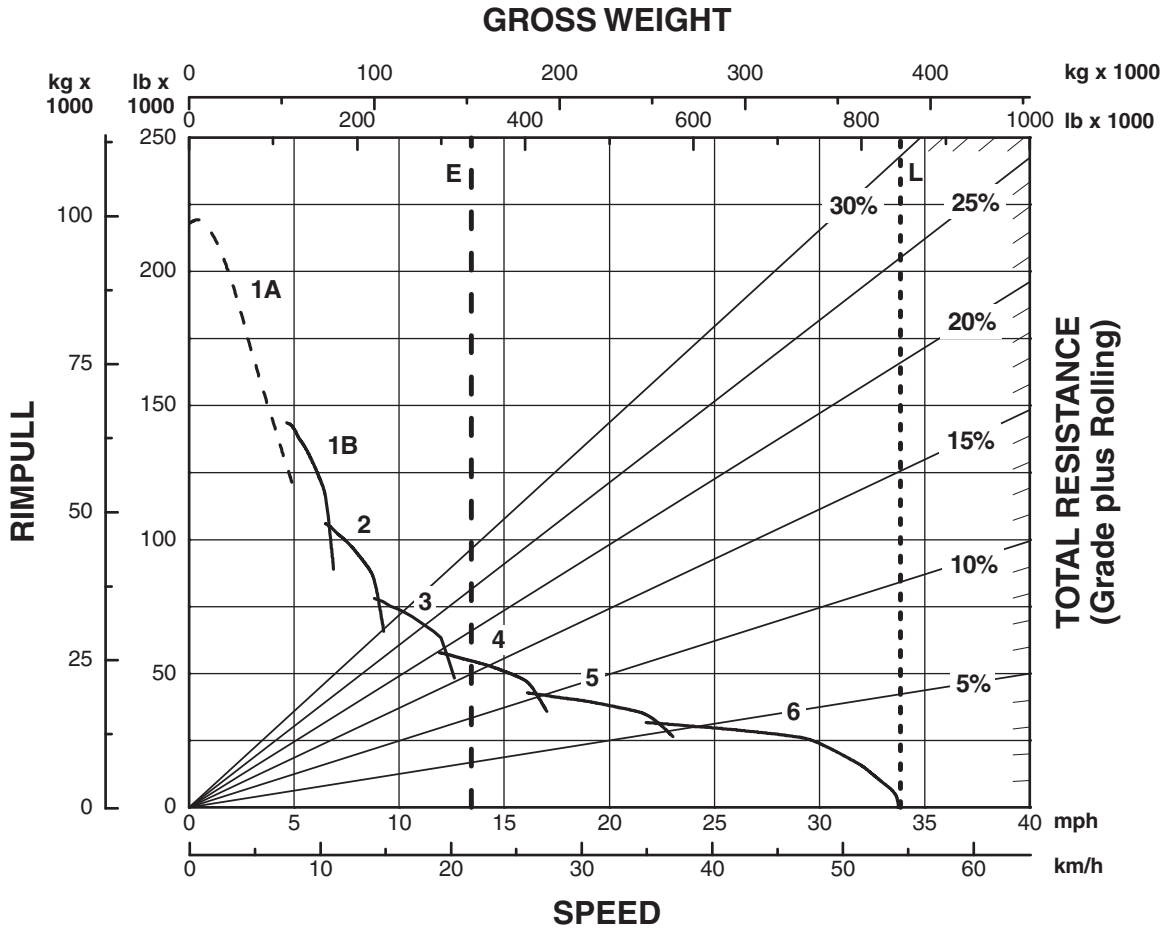


EMPTY



793D Rimpull-Speed-Gradeability
 • Standard Arrangement**
 • 40.00R57 Tires
 • 1778 mm (5'10") Tire Radius

Construction & Mining Trucks



KEY

- 1A — 1st Gear (Torque Converter)
- 1B — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear

KEY

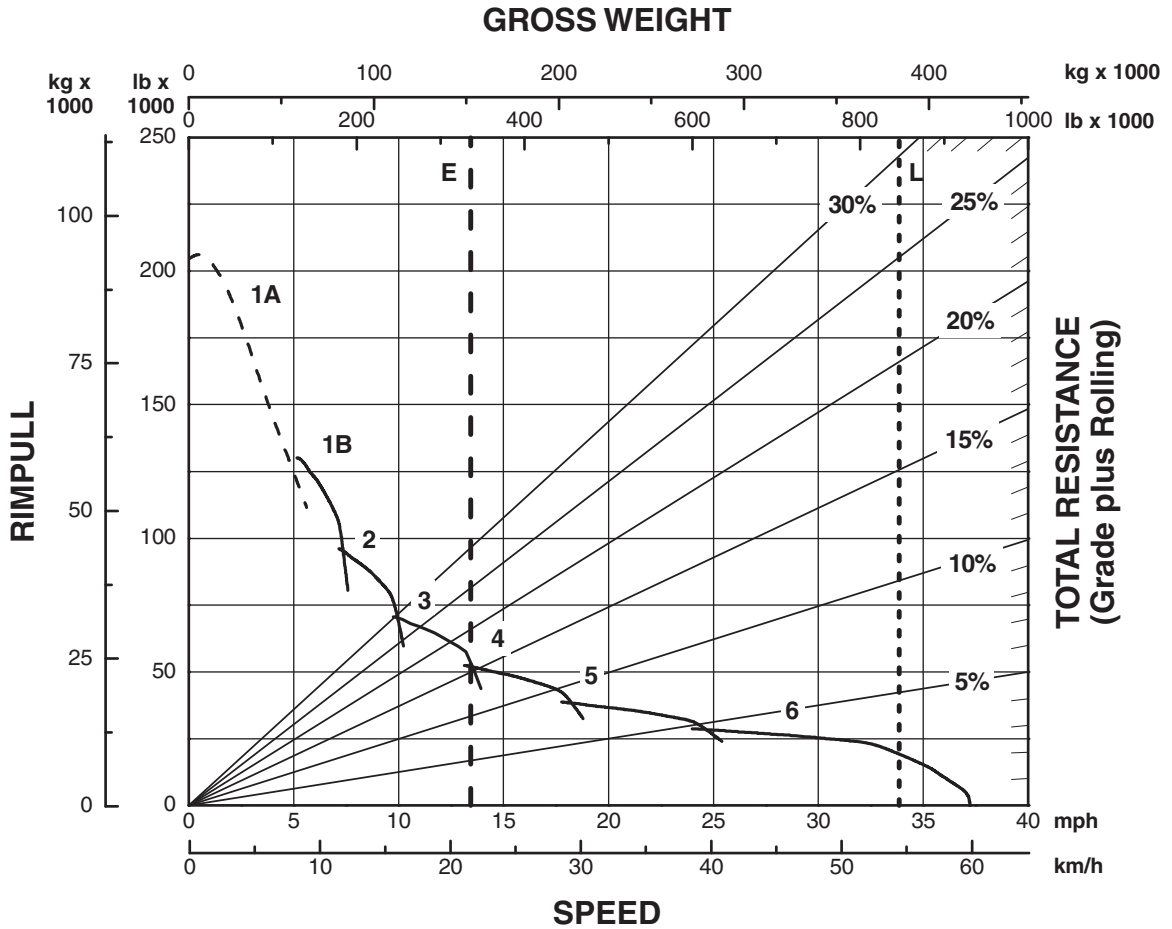
- E — Est. Max Field Empty Weight 156 470 kg (344,960 lb)*
- L — Max GMW 383 740 kg (846,000 lb)

*Truck equipped with sideboards and liners.
 **At Sea Level.

Construction & Mining Trucks

793D Rimpull-Speed-Gradeability

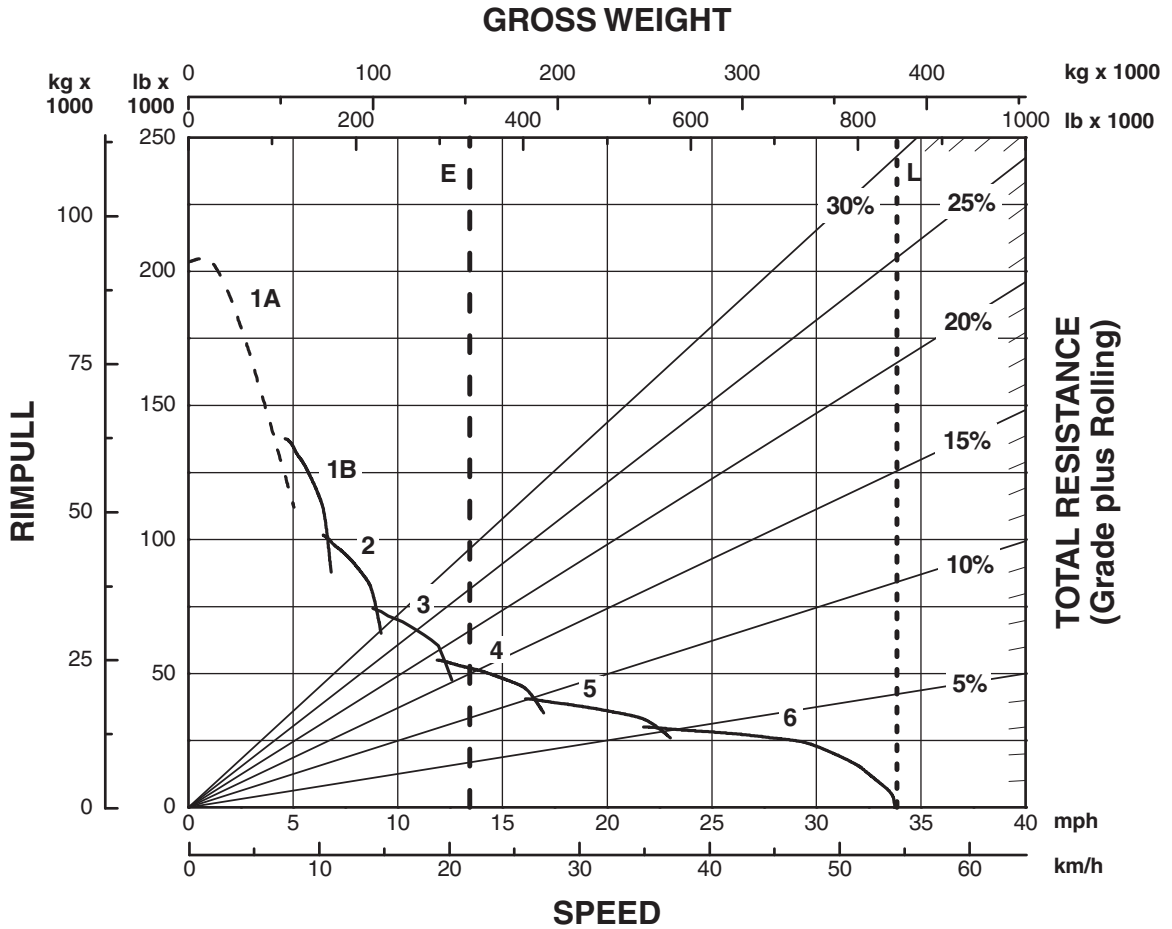
- High Speed Arrangement**
- 40.00R57 Tires
- 1778 mm (5'10") Tire Radius



793D Rimpull-Speed-Gradeability

- High Altitude Arrangement**
- 40.00R57 Tires
- 1778 mm (5'10") Tire Radius

Construction & Mining Trucks



KEY

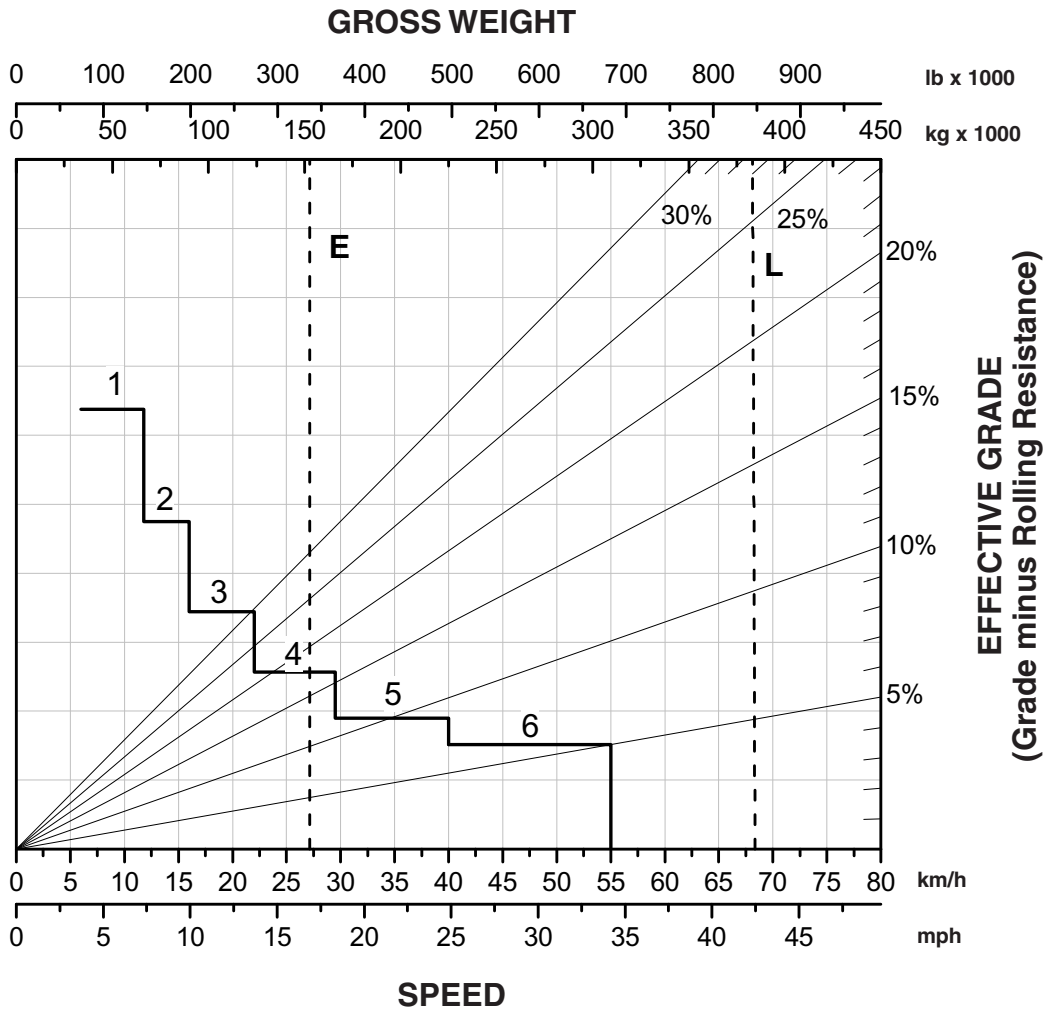
- 1A — 1st Gear (Torque Converter)
- 1B — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear

KEY

- E — Est. Max Field Empty Weight 156 470 kg (344,960 lb)*
- L — Max GMW 383 740 kg (846,000 lb)

*Truck equipped with sideboards and liners.
 **At Sea Level.

- 793D Brake Performance
- Standard Arrangement**
- Continuous Grade Retarding



CONTINUOUS GRADE LENGTH

KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear

KEY

- E — Est. Field Empty Weight 156 470 kg (344,960 lb)*
- L — Max GMW 383 740 kg (846,000 lb)

*Truck equipped with sideboards and liners.
**At Sea Level.

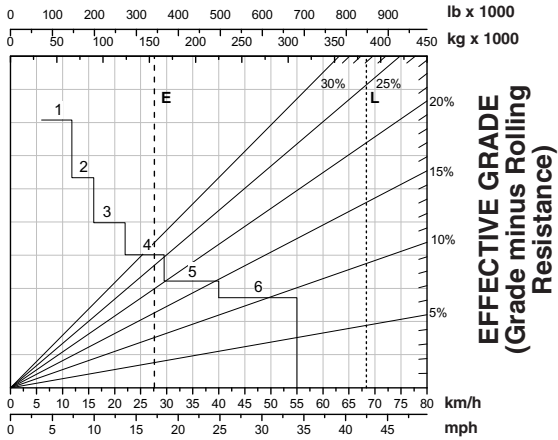
793D Brake Performance

• Standard Arrangement***

- 450 m (1500 ft)
- 600 m (2000 ft)
- 900 m (3000 ft)
- 1500 m (5000 ft)

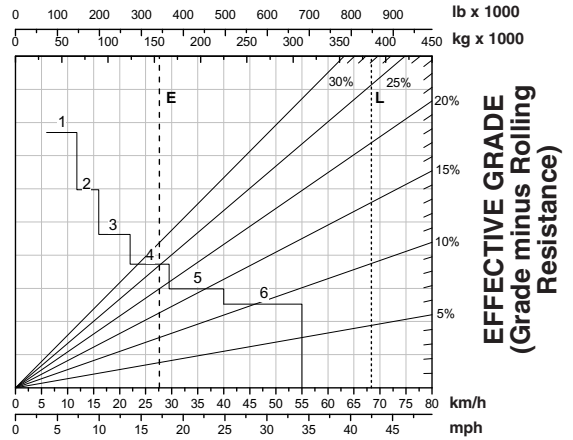
Construction & Mining Trucks

GROSS WEIGHT



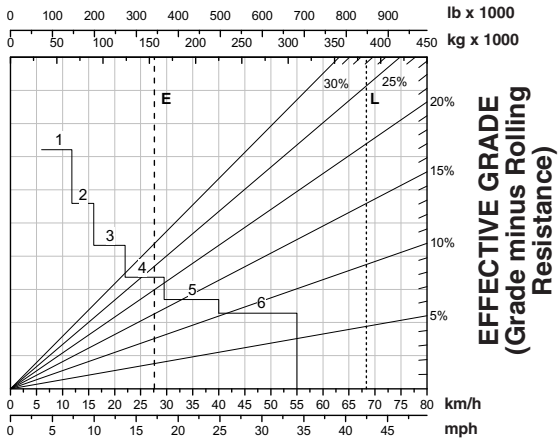
SPEED
GRADE DISTANCE — 450 m (1500 ft)

GROSS WEIGHT



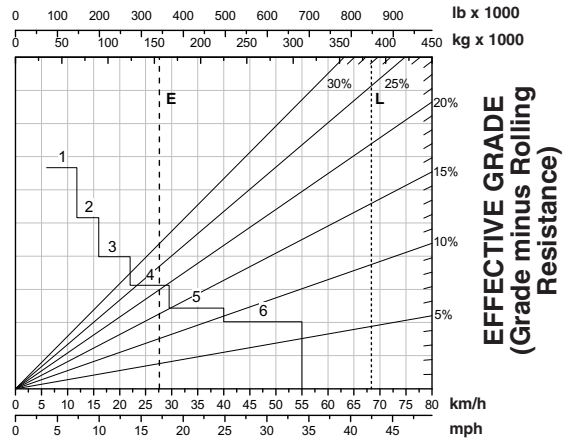
SPEED
GRADE DISTANCE — 600 m (2000 ft)

GROSS WEIGHT



SPEED
GRADE DISTANCE — 900 m (3000 ft)

GROSS WEIGHT



SPEED
GRADE DISTANCE — 1500 m (5000 ft)

KEY

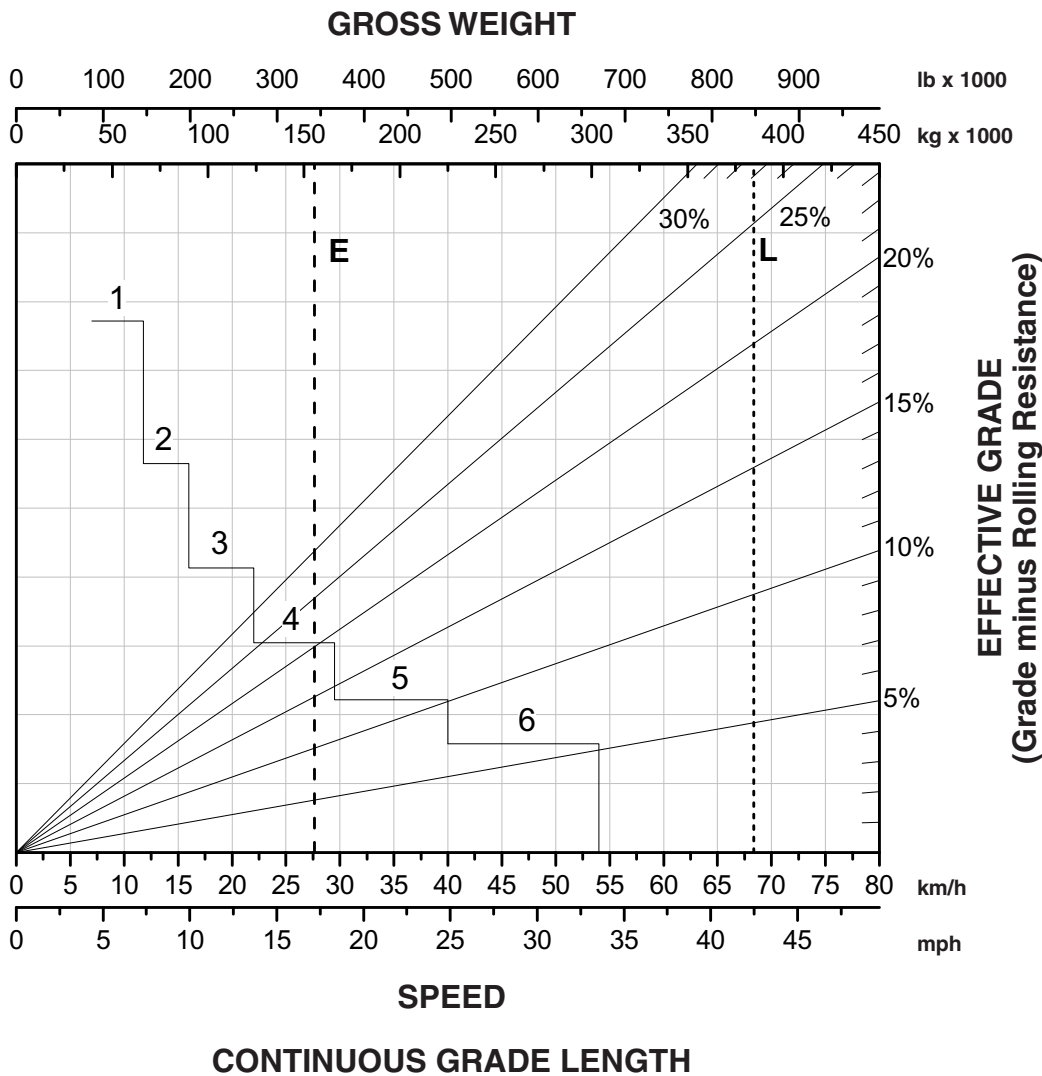
- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear

KEY

- E — Est. Field Empty Weight 156 470 kg (344,960 lb)*
- L — Max GMW 383 740 kg (846,000 lb)

*Truck equipped with sideboards and liners.
**At Sea Level.

- 793D Brake Performance
- Additional Retarding Arrangement**
 - Continuous Grade Retarding



KEY

- 1 — 1st Gear
2 — 2nd Gear
3 — 3rd Gear
4 — 4th Gear
5 — 5th Gear
6 — 6th Gear

KEY

- E — Est. Field Empty Weight 156 470 kg (344,960 lb)*
L — Max GMW 383 740 kg (846,000 lb)

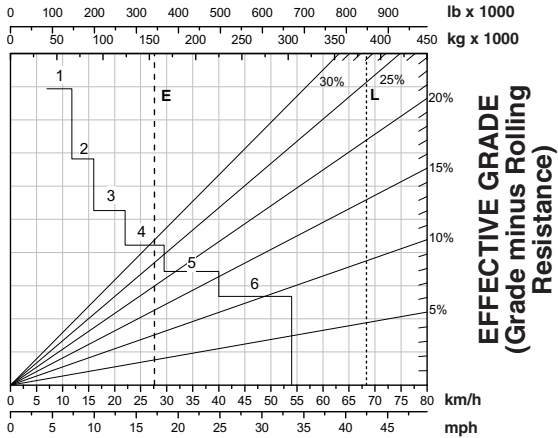
*Truck equipped with sideboards and liners.
**At Sea Level.

793D Brake Performance

- Additional Retarding Arrangement^{†**}
- 450 m (1500 ft) • 600 m (2000 ft)
- 900 m (3000 ft) • 1500 m (5000 ft)

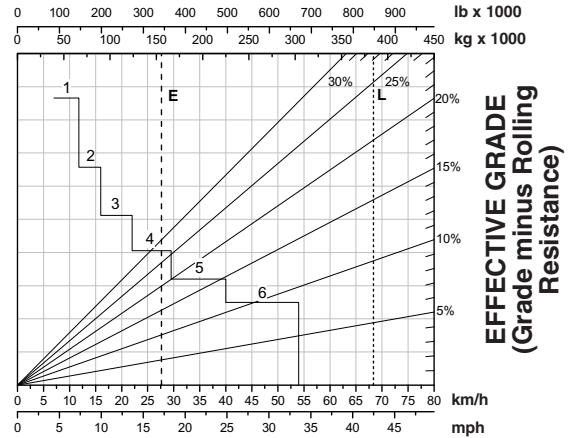
Construction & Mining Trucks

GROSS WEIGHT



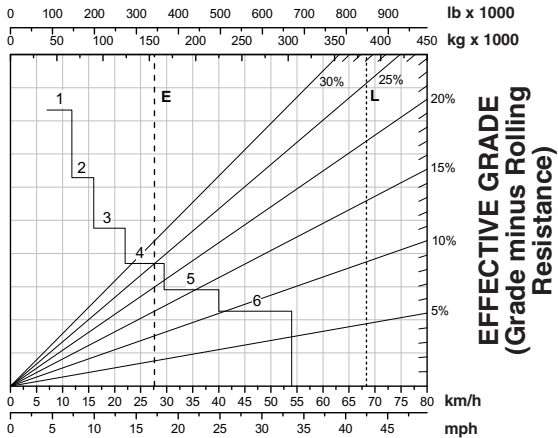
SPEED
GRADE DISTANCE — 450 m (1500 ft)

GROSS WEIGHT



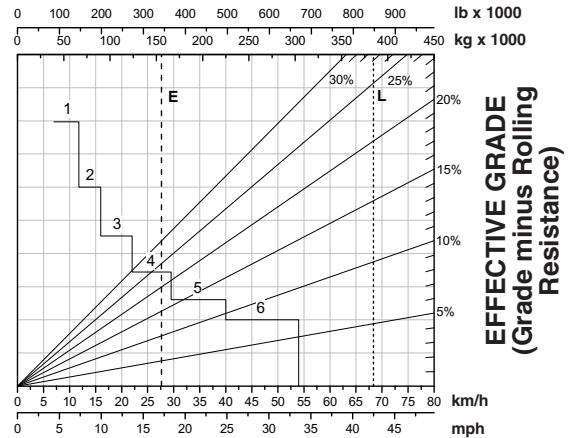
SPEED
GRADE DISTANCE — 600 m (2000 ft)

GROSS WEIGHT



SPEED
GRADE DISTANCE — 900 m (3000 ft)

GROSS WEIGHT



SPEED
GRADE DISTANCE — 1500 m (5000 ft)

KEY

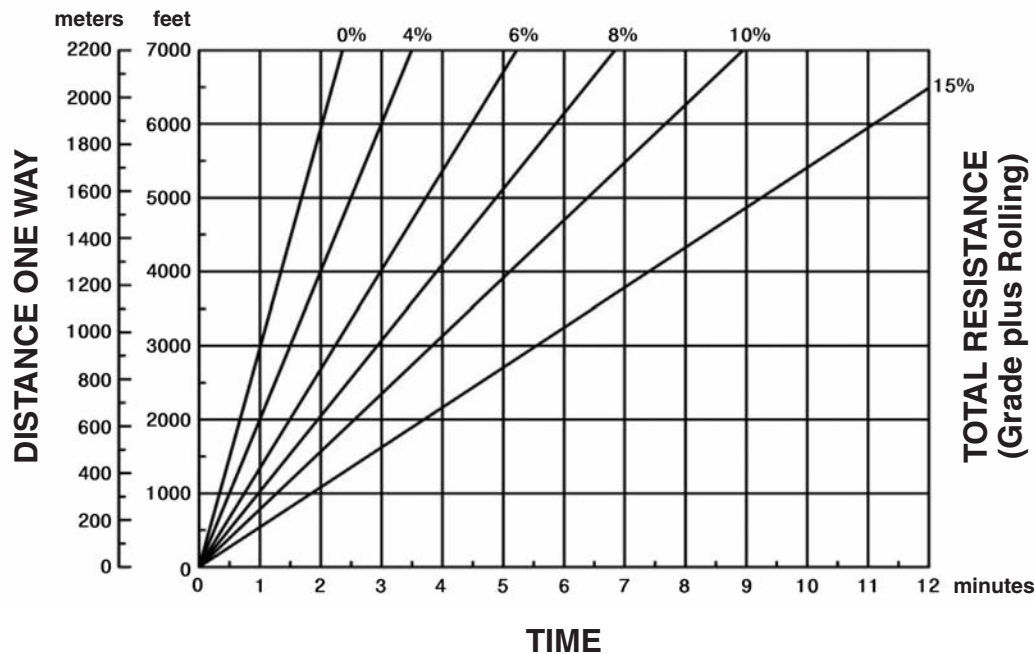
- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear

KEY

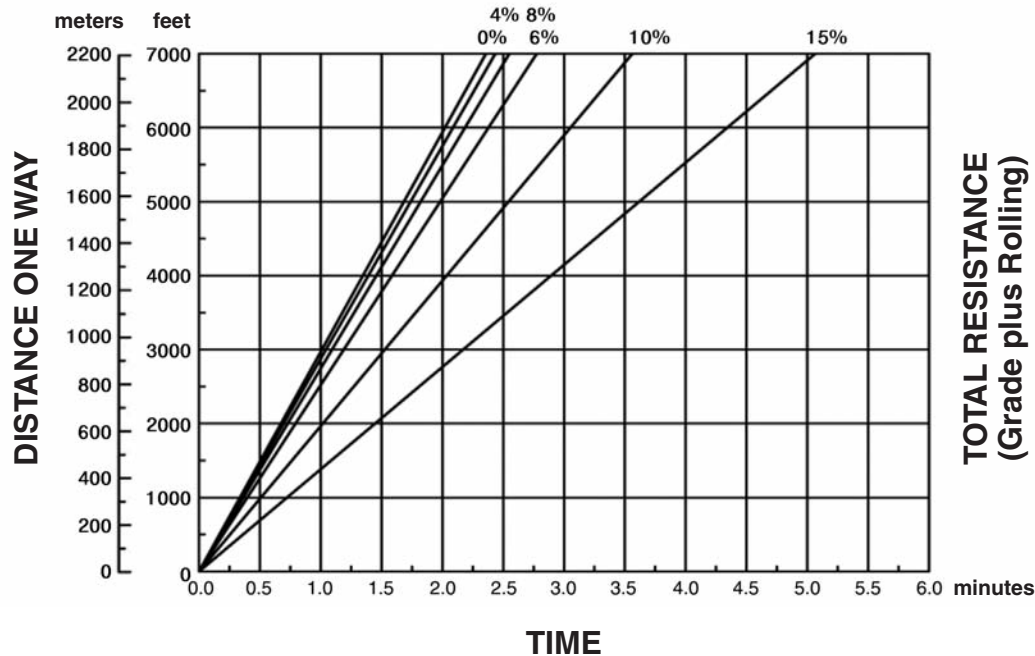
- E — Est. Field Empty Weight 156 470 kg (344,960 lb)*
- L — Max GMW 383 740 kg (846,000 lb)

*Truck equipped with sideboards and liners.
**At Sea Level.

LOADED

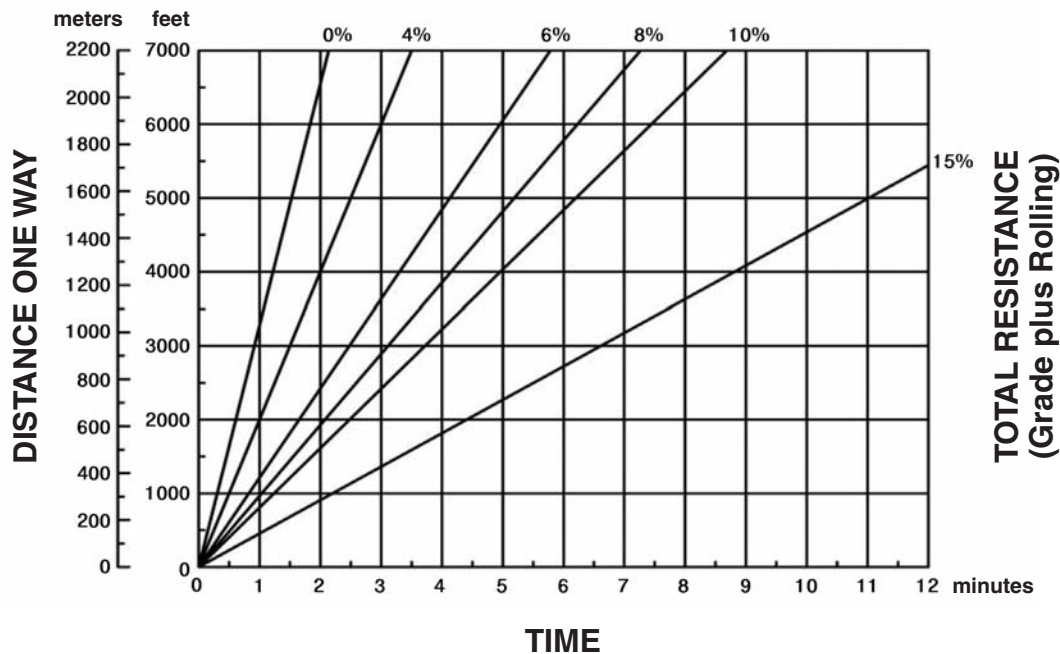


EMPTY

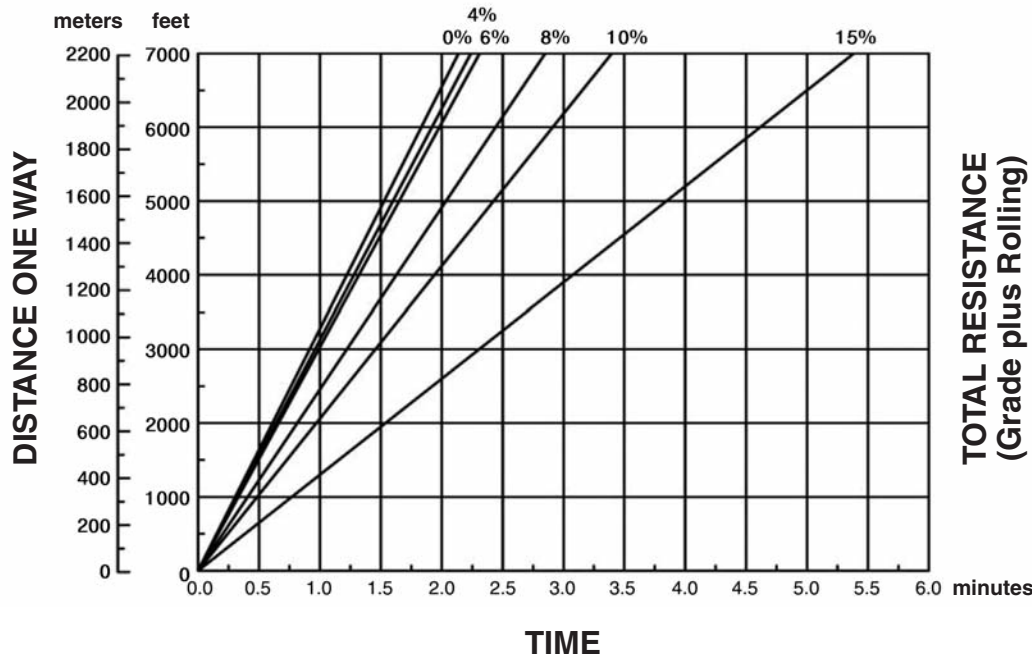


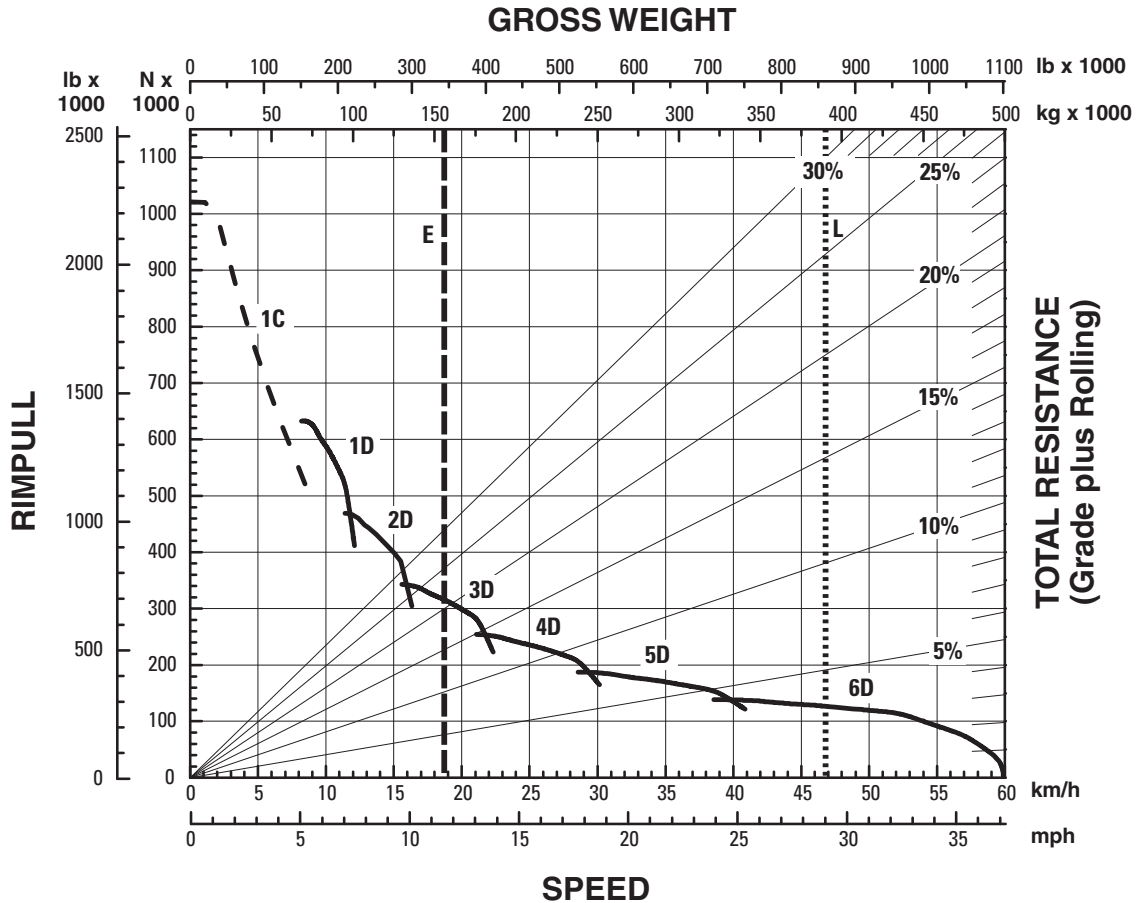
- 793D Travel Time
- Extra Top Speed Arrangement
- 40.00R57 Tires

LOADED



EMPTY





KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear

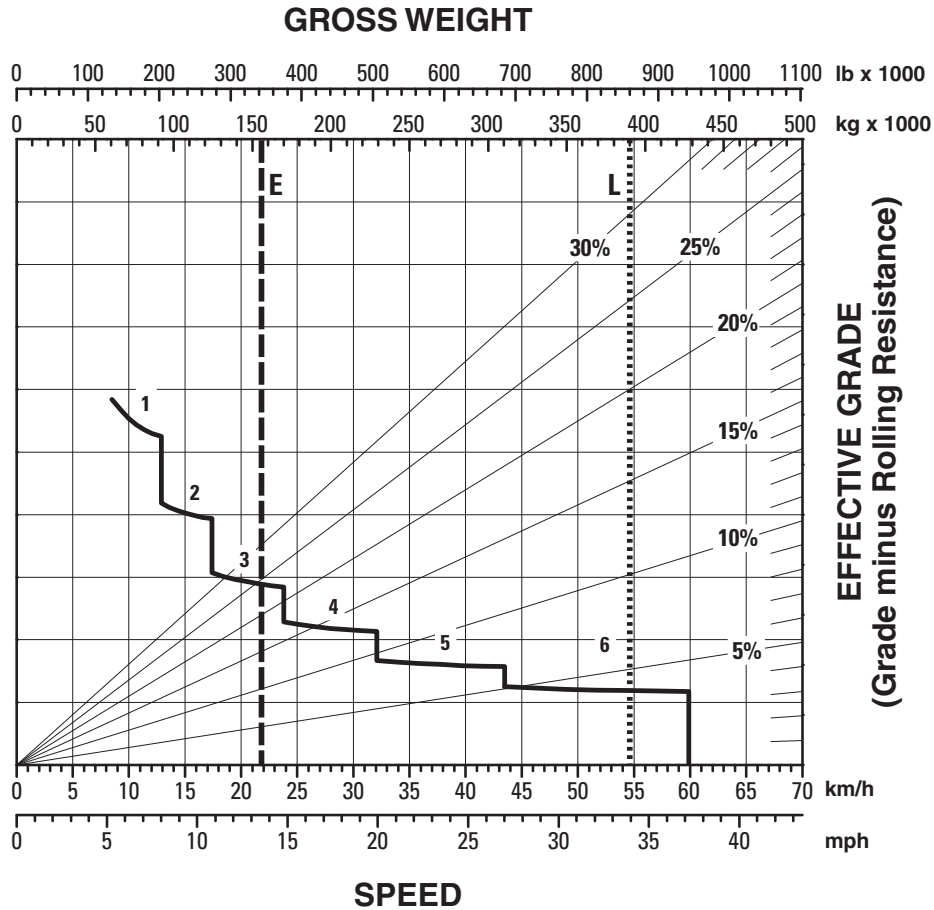
KEY

- E — Empty
- L — Loaded

*At Sea Level.

- Typical Field Empty Weight
- Gross Machine Operating Weight
390 089 kg (860,000 lb)

- Torque Converter Drive
- Direct Drive



CONTINUOUS GRADE LENGTH

KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear

KEY

- E — Empty
- L — Loaded

*At Sea Level.

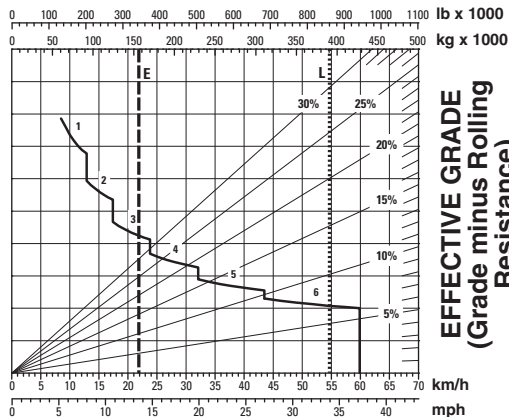
- Typical Field Empty Weight
- Gross Machine Operating Weight
390 089 kg (860,000 lb)

Construction & Mining Trucks

793F Brake Performance

- Standard Retarding
- 450 m (1500 ft) • 600 m (2000 ft)
- 900 m (3000 ft) • 1500 m (5000 ft)

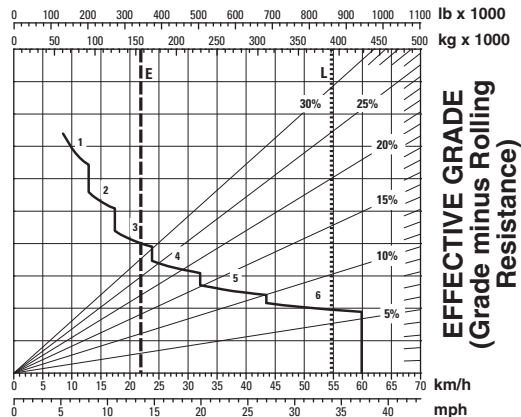
GROSS WEIGHT



SPEED

GRADE DISTANCE — 450 m (1500 ft)*

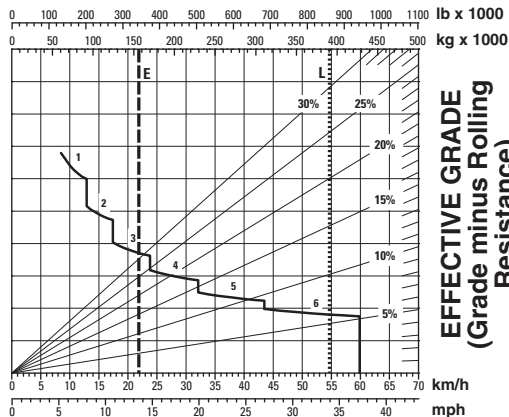
GROSS WEIGHT



SPEED

GRADE DISTANCE — 600 m (2000 ft)*

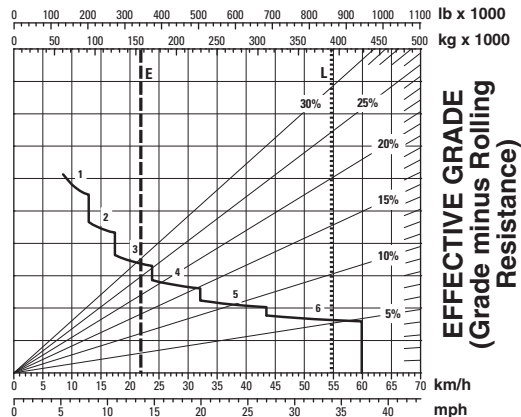
GROSS WEIGHT



SPEED

GRADE DISTANCE — 900 m (3000 ft)*

GROSS WEIGHT



SPEED

GRADE DISTANCE — 1500 m (5000 ft)*

KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear

- Typical Field Empty Weight
- Gross Machine Operating Weight
390 089 kg (860,000 lb)

KEY

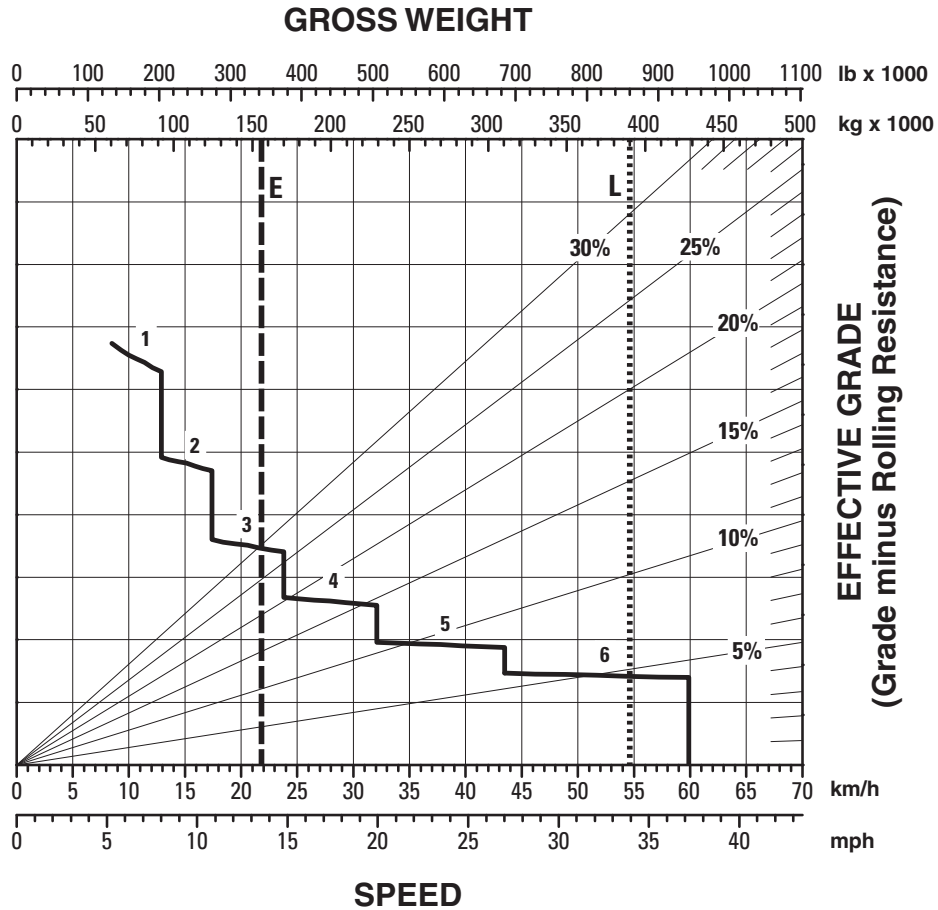
- E — Empty
- L — Loaded

*At Sea Level.

793F Brake Performance

- Additional Retarding
- Continuous Grade Retarding*

Construction & Mining Trucks



CONTINUOUS GRADE LENGTH

KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear

KEY

- E — Empty
- L — Loaded

*At Sea Level.

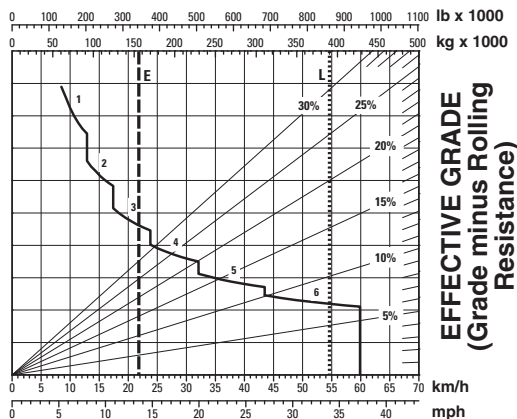
- Typical Field Empty Weight
- Gross Machine Operating Weight
390 089 kg (860,000 lb)

Construction & Mining Trucks

793F Brake Performance

- Additional Retarding
- 450 m (1500 ft) • 600 m (2000 ft)
- 900 m (3000 ft) • 1500 m (5000 ft)

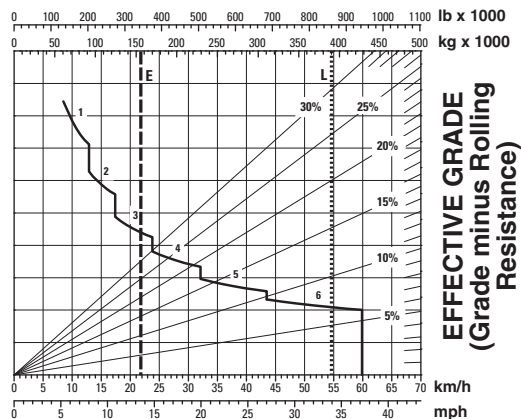
GROSS WEIGHT



SPEED

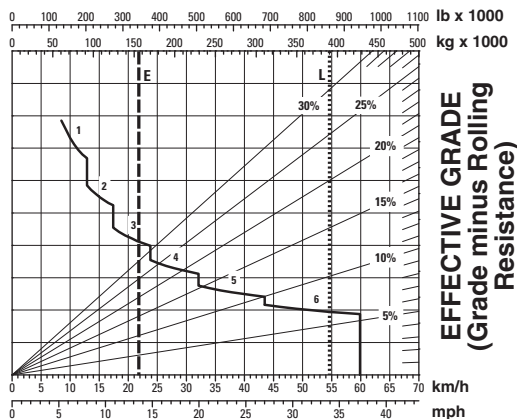
GRADE DISTANCE — 450 m (1500 ft)*

GROSS WEIGHT



GRADE DISTANCE — 600 m (2000 ft)*

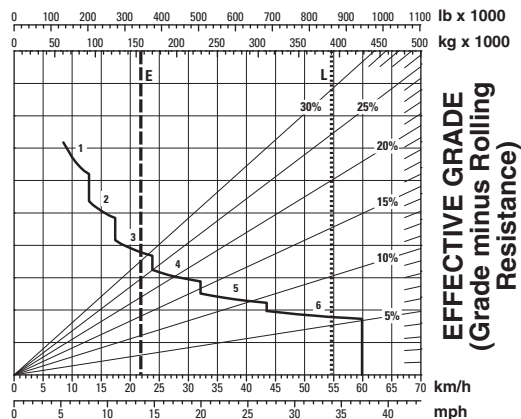
GROSS WEIGHT



SPEED

GRADE DISTANCE — 900 m (3000 ft)*

GROSS WEIGHT



GRADE DISTANCE — 1500 m (5000 ft)*

KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear

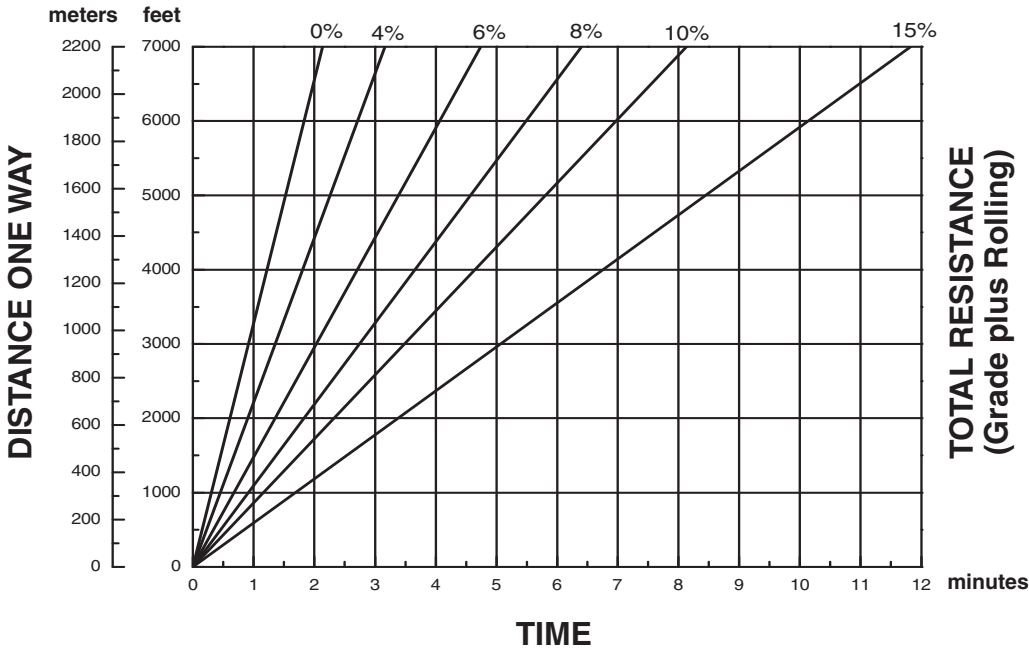
- Typical Field Empty Weight
- Gross Machine Operating Weight
390 089 kg (860,000 lb)

KEY

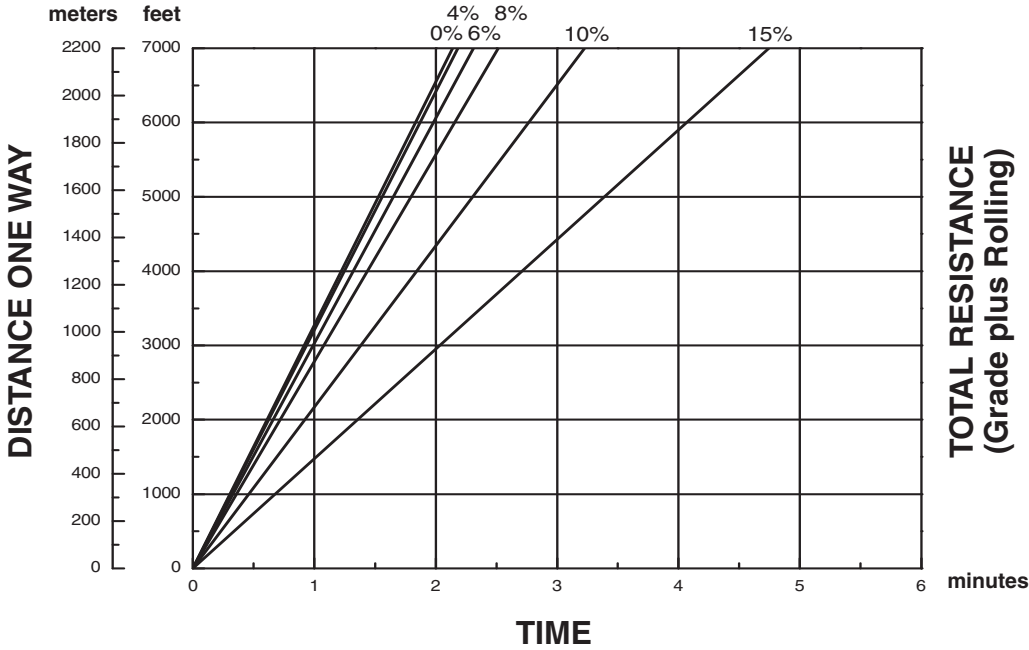
- E — Empty
- L — Loaded

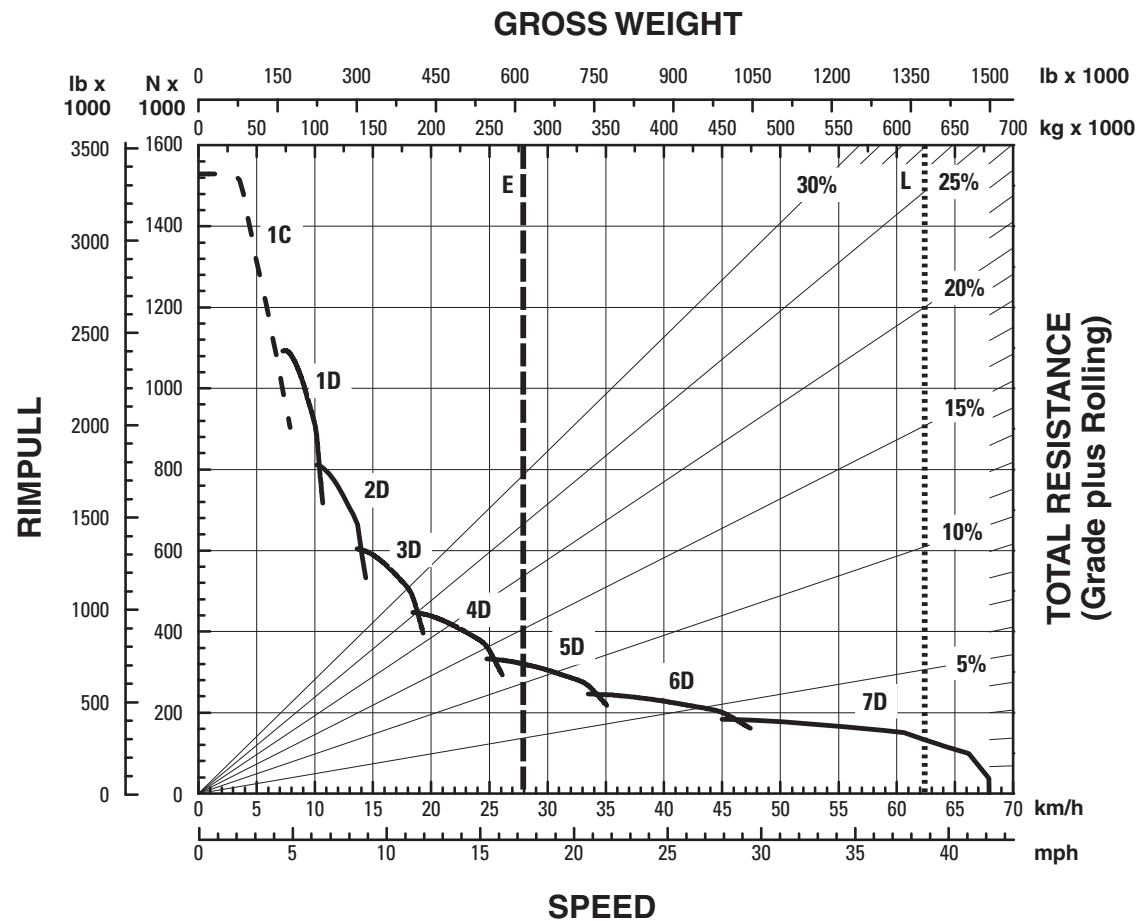
*At Sea Level.

LOADED



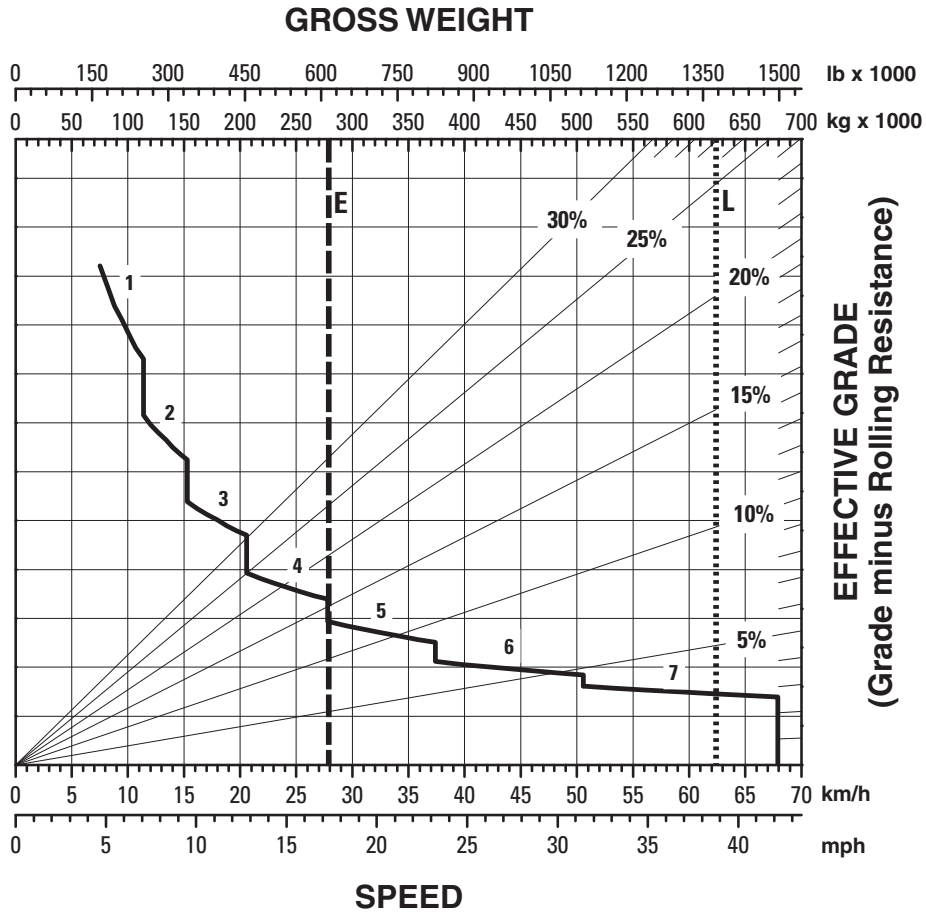
EMPTY





----- Typical Field Empty Weight
..... Gross Machine Operating Weight
623 690 kg (1,375,000 lb)

--- Torque Converter Drive
— Direct Drive



CONTINUOUS GRADE LENGTH

KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear
- 7 — 7th Gear

KEY

- E — Empty
- L — Loaded

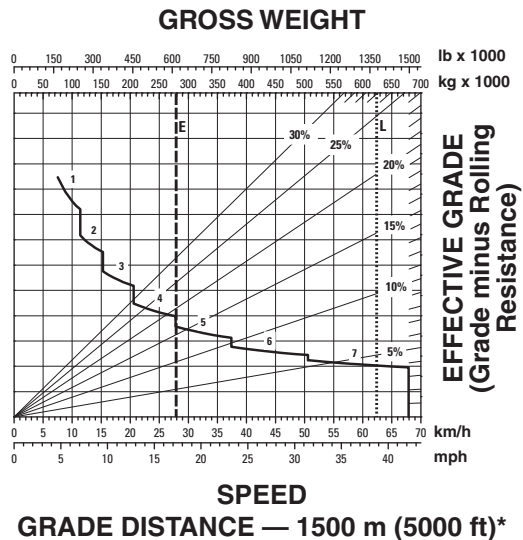
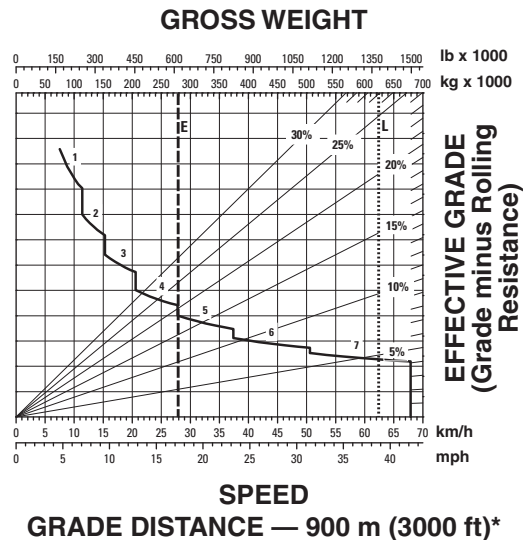
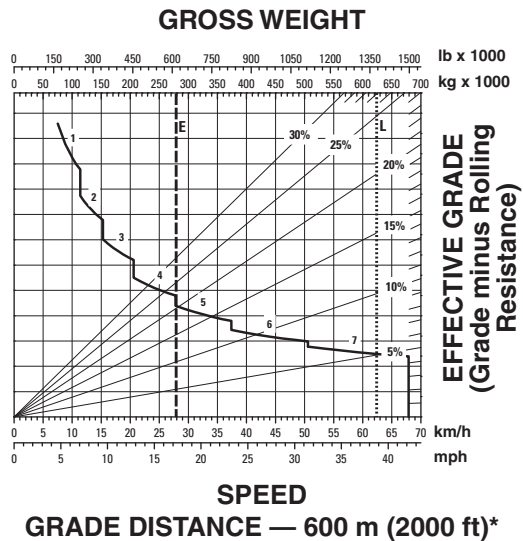
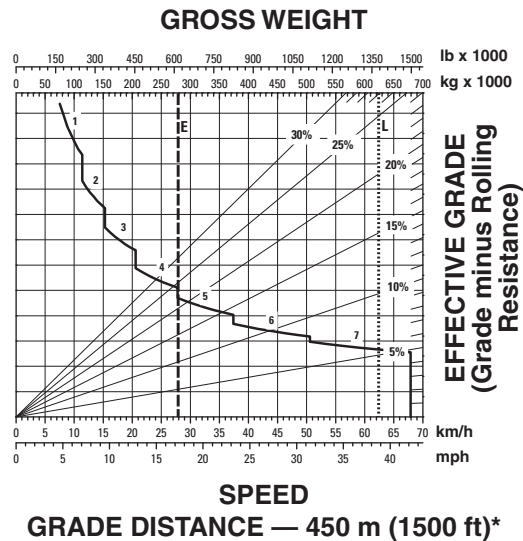
*At Sea Level.

- Typical Field Empty Weight
- Gross Machine Operating Weight
623 690 kg (1,375,000 lb)

Construction & Mining Trucks

797F Brake Performance

- Steep Retarding
- 450 m (1500 ft) ● 600 m (2000 ft)
- 900 m (3000 ft) ● 1500 m (5000 ft)



KEY

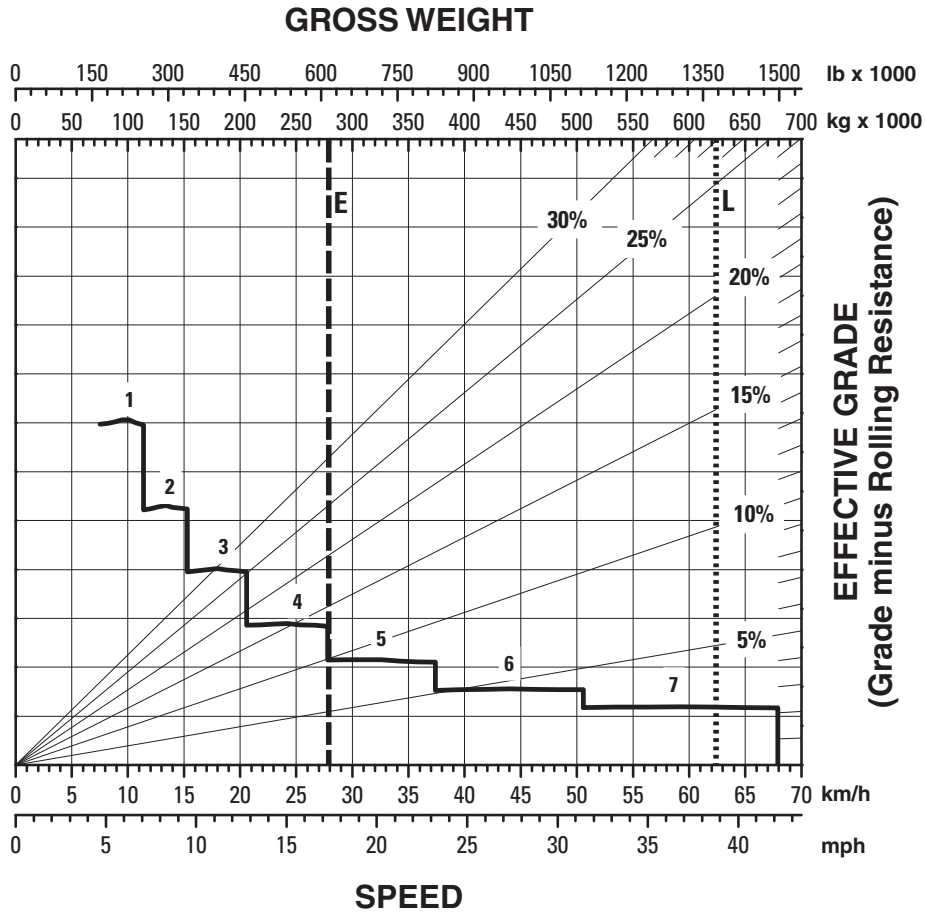
- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear
- 7 — 7th Gear

- Typical Field Empty Weight
- Gross Machine Operating Weight 623 690 kg (1,375,000 lb)

KEY

- E — Empty
- L — Loaded

*At Sea Level.



CONTINUOUS GRADE LENGTH

KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear
- 7 — 7th Gear

KEY

- E — Empty
- L — Loaded

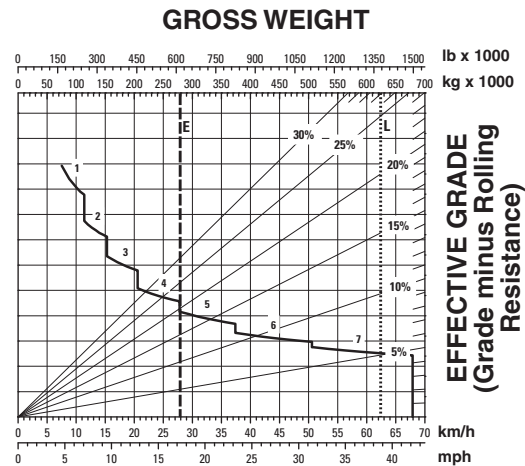
*At Sea Level.

- Typical Field Empty Weight
- Gross Machine Operating Weight
623 690 kg (1,375,000 lb)

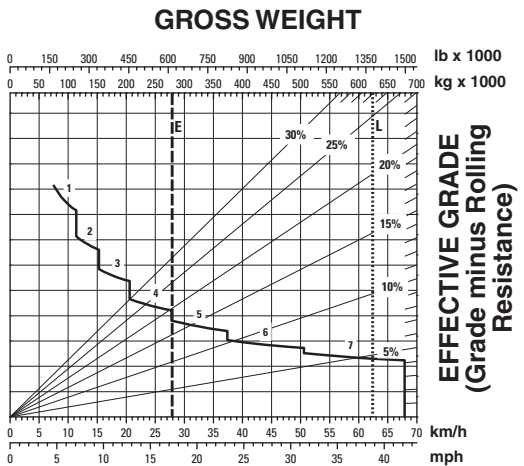
Construction & Mining Trucks

797F Brake Performance

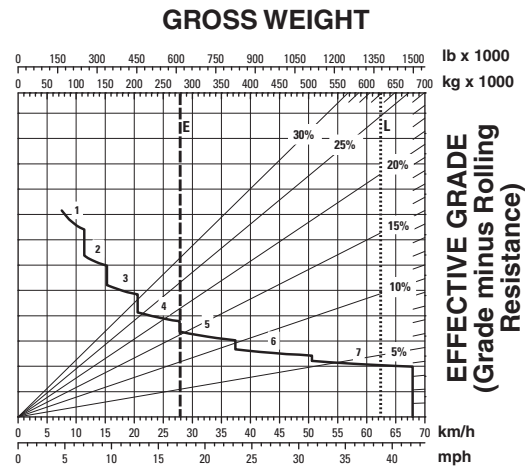
- Shallow Retarding
- 450 m (1500 ft) ● 600 m (2000 ft)
- 900 m (3000 ft) ● 1500 m (5000 ft)



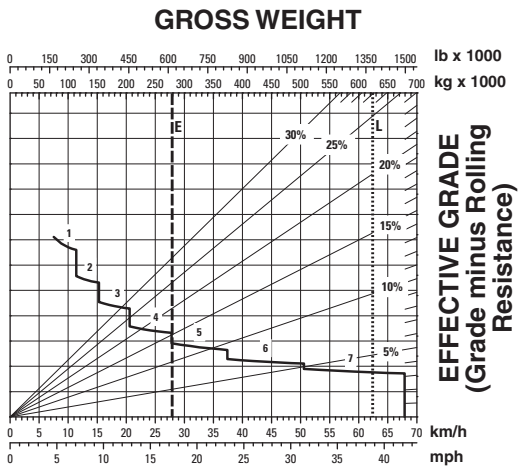
SPEED
GRADE DISTANCE — 450 m (1500 ft)*



SPEED
GRADE DISTANCE — 600 m (2000 ft)*



SPEED
GRADE DISTANCE — 900 m (3000 ft)*



SPEED
GRADE DISTANCE — 1500 m (5000 ft)*

KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear
- 7 — 7th Gear

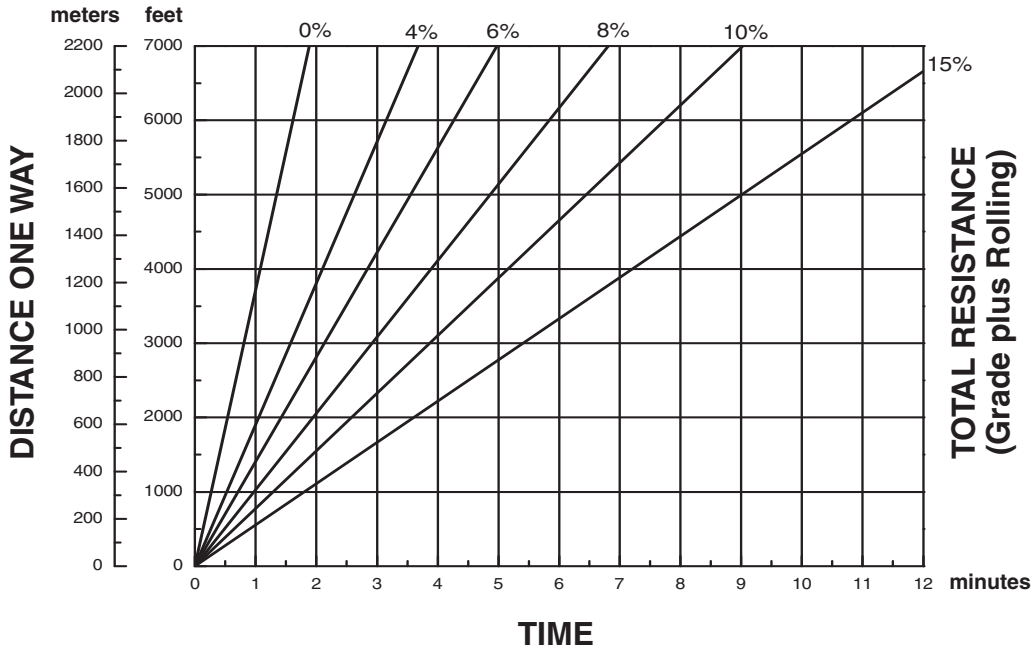
- Typical Field Empty Weight
- Gross Machine Operating Weight
623 690 kg (1,375,000 lb)

KEY

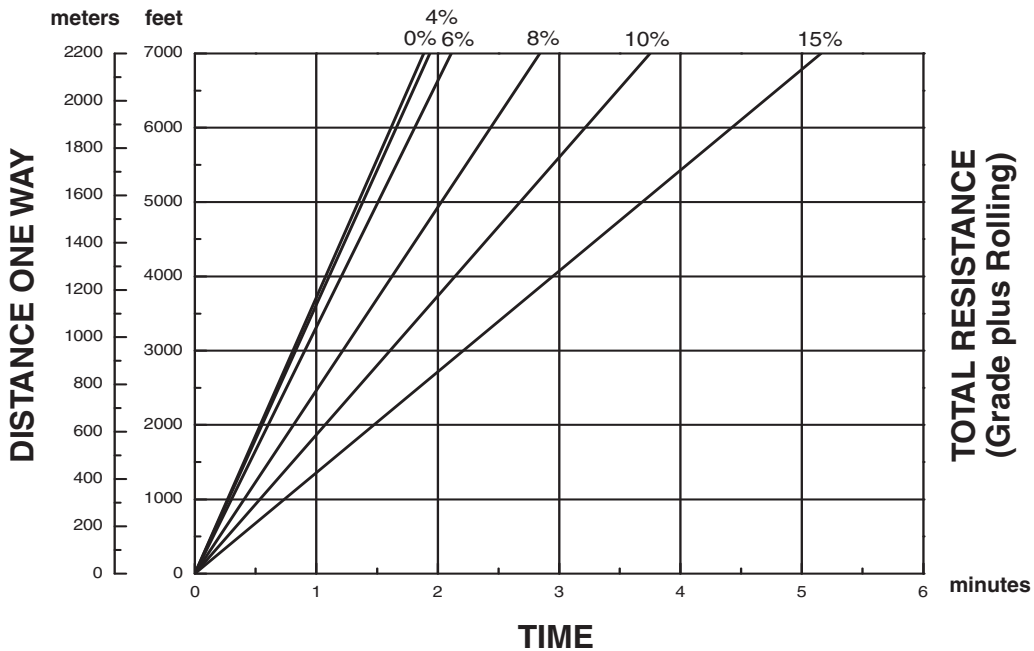
- E — Empty
- L — Loaded

*At Sea Level.

LOADED



EMPTY



ARTICULATED TRUCKS

CONTENTS

Features	10-1
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725 Rimpull-Speed-Gradeability, Brake/Retarder Performance Curve, Travel Time (Loaded/Empty)	10-7
730 Rimpull-Speed-Gradeability, Brake/Retarder Performance Curve, Travel Time (Loaded/Empty)	10-10
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Features:

- **Cat engines with ACERT™ Technology** meet Tier 3/Stage III engine emission requirements through 2010. The three core elements of meeting these regulations are:
 - I) Electronics, ADEM A4;
 - II) Fuel delivery, Mechanical-activated Electronic Unit Injection (MEUI);
 - III) Air Management, Wastegate Turbocharging, Air to Air Aftercooling (ATAAC) with the proven technology of a crossflow cylinder head.
- **Cat electronically controlled transmissions** ... Transmissions purpose built and designed for articulated trucks and their applications. Electronic controls provide complete integration with the engines for smooth shifting and efficient power delivery as well as offering advanced diagnostics and trouble shooting capabilities.

- **Articulating and fully oscillating hitch** ... Links front and rear frames for exceptional maneuverability and traction on uneven terrain while eliminating damaging twisting of the frames. Bolted hitch design allows optimum material choices for the cast hitch head and the hard-wearing tube. Bolted design allows easier rebuild and repair.

- **Three-point front suspension** ... Three-point front suspension with long-stroke, low-pressure suspension cylinders provide unparalleled ride quality for operator comfort and higher average haul speeds. Front and rear suspension together with the hitch provide for excellent traction in all conditions.

- **Wide, long and low dump body design** ... For excellent loadability and high fill factors, excellent machine stability and load retention as well as a good match for other Cat loading systems. Diverging flow design also gives excellent material ejection.

- **Standard ROPS/FOPS, low sound level cab** ... Two man cab common across the range. Large cab with excellent all around visibility, ergonomic control layout and plentiful storage.

- **High capacity low pressure tires in single formation** ... For superior traction and flotation in poor underfoot conditions.

						
MODEL	725		730		730 Ejector	
Gross Power — SAE J1995	230 kW	309 hp	242 kW	325 hp	242 kW	325 hp
Net Power — SAE J1349	225 kW	301 hp	237 kW	317 hp	237 kW	317 hp
Net Power — ISO 9249	227 kW	304 hp	239 kW	321 hp	239 kW	321 hp
Net Power — EEC 80/1269	227 kW	304 hp	239 kW	321 hp	239 kW	321 hp
Operating Weight (Empty)*	22 260 kg	49,075 lb	22 850 kg	50,376 lb	25 550 kg	56,328 lb
Top Speed (Loaded)	56.8 km/h	35.3 mph	55.3 km/h	34.4 mph	55.3 km/h	34.4 mph
GMW — Gross Machine Weight	45 850 kg	101,082 lb	50 970 kg	112,370 lb	53 670 kg	118,322 lb
Distribution Empty:						
Front		58.5%		57.5%		54.7%
Center		21.7%		21.9%		23.3%
Rear		19.8%		20.6%		22.0%
Distribution Loaded:						
Front		32.8%		31.1%		27.7%
Center		34.1%		34.7%		36.5%
Rear		33.1%		34.2%		35.8%
Max. Capacity**	23.6 t	26 T	28.1 t	31 T	28.1 t	31 T
Struck (SAE)	11.1 m ³	14.5 yd ³	13.1 m ³	17.1 yd ³	13.5 m ³	17.7 yd ³
Heaped (2:1) (SAE)	14.3 m ³	18.7 yd ³	16.9 m ³	22.1 yd ³	16.9 m ³	22.1 yd ³
Engine Model	ACERT C11		ACERT C11		ACERT C11	
No. Cylinders	6		6		6	
Bore	130 mm	5.1"	130 mm	5.1"	130 mm	5.1"
Stroke	140 mm	5.5"	140 mm	5.5"	140 mm	5.5"
Displacement	11.2 L	680 in ³	11.2 L	680 in ³	11.2 L	680 in ³
Tires, Front, Center, Rear	23.5R25 Radials		23.5R25 Radials		750/65 Radials	
Circular Clearance Diameter	15.2 m	49'9"	15.2 m	49'9"	15.4 m	50'5"
Fuel Tank Refill Capacity	355 L	94 U.S. gal	355 L	94 U.S. gal	355 L	94 U.S. gal
General Dimensions (Empty):						
Height to Cab Top	3.44 m	11'3"	3.44 m	11'3"	3.45 m	11'3"
Wheel Base (Front-Center of Bogie)	4.67 m	15'4"	4.67 m	15'4"	4.67 m	15'4"
Overall Length	9.92 m	32'5"	9.92 m	32'5"	9.73 m	31'9"
Loading Height (Empty)	2.76 m	9'1"	2.89 m	9'5"	3.05 m	10'0"
Height at Full Dump	6.41 m	21'1"	6.50 m	21'3"	—	
Body Length	5.78 m	19'0"	5.84 m	19'2"	5.35 m	17'6"
Width (Operating — Over Mirrors)	3.54 m	11'7"	3.54 m	11'7"	3.54 m	11'7"
Front Tire Tread	2.28 m	7'5"	2.28 m	7'5"	2.28 m	7'5"

*Includes coolant, lubricant and full fuel tank.

**Rating dependent on optional equipment. Maximum gross weight (empty weight plus payload) should not be exceeded.

**MODEL****735****740****740 Ejector**

Gross Power — SAE J1995	324 kW	435 hp	350 kW	469 hp	350 kW	469 hp
Net Power — SAE J1349	313 kW	419 hp	338 kW	453 hp	338 kW	453 hp
Net Power — ISO 9249	319 kW	424 hp	342 kW	458 hp	342 kW	458 hp
Net Power — EEC 80/1269	319 kW	424 hp	342 kW	458 hp	342 kW	458 hp
Operating Weight (Empty)*	31 391 kg	69,206 lb	33 100 kg	72,973 lb	35 610 kg	78,507 lb
Top Speed (Loaded)	51.3 km/h	31.9 mph	54.7 km/h	34 mph	54.7 km/h	34 mph
GMW — Gross Machine Weight	64 091 kg	141,297 lb	72 600 kg	160,055 lb	73 610 kg	162,282 lb
Distribution Empty:						
Front		60.5%		58.6%		55.6%
Center		20.8%		21.8%		23.1%
Rear		18.7%		19.6%		21.3%
Distribution Loaded:						
Front		34.9%		33.9%		29.1%
Center		33.1%		33.5%		35.9%
Rear		32.0%		32.6%		35.0%
Max. Capacity**	32.7 t	36 T	39.5 t	43.5 T	38 t	42 T
Struck (SAE)	14.5 m ³	19.0 yd³	18.5 m ³	24.2 yd³	17.8 m ³	23.3 yd³
Heaped (2:1) (SAE)	19.7 m ³	25.8 yd³	24 m ³	31.4 yd³	23.1 m ³	30.2 yd³
Engine Model	ACERT C15		ACERT C15		ACERT C15	
No. Cylinders	6		6		6	
Bore	137 mm	5.4"	137 mm	5.4"	137 mm	5.4"
Stroke	171.5 mm	6.75"	171.5 mm	6.75"	171.5 mm	6.75"
Displacement	15.2 L	926 in³	15.2 L	926 in³	15.2 L	926 in³
Tires, Front, Center, Rear	26.5R25 Radials		29.5R25 Radials		29.5R25 Radials	
Circular Clearance Diameter	17.2 m	56'5"	17.2 m	56'5"	18.2 m	59'6"
Fuel Tank Refill Capacity	532 L	140.5 U.S. gal	532 L	140.5 U.S. gal	532 L	140.5 U.S. gal
General Dimensions (Empty):						
Height to Cab Top	3.7 m	12'1"	3.75 m	12'3"	3.75 m	12'3"
Wheel Base (Front-Center of Bogie)	5.23 m	17'2"	5.23 m	17'2"	5.58 m	18'3"
Overall Length	10.89 m	35'7"	10.89 m	35'7"	11.59 m	38'0"
Loading Height (Empty)	2.98 m	9'8"	3.2 m	10'6"	3.07 m	10'1"
Height at Full Dump	6.81 m	22'4"	7.1 m	23'4"	—	
Body Length	6.09 m	20'0"	6.3 m	20'6"	6.73 m	22'1"
Width (Operating — Over Mirrors)	3.82 m	12'6"	3.82 m	12'6"	3.82 m	12'6"
Front Tire Tread	2.69 m	8'8"	2.69 m	8'8"	2.69 m	8'8"

*Includes coolant, lubricant and full fuel tank.

**Rating dependent on optional equipment. Maximum gross weight (empty weight plus payload) should not be exceeded.

Use of Ground Pressure Charts

Articulated trucks are normally equipped with wide base radial tires, for improved flotation in poor underfoot conditions. Ground pressure is a function of tire deflection and is also affected by tire penetration. The charts in this section provide a means to estimate ground pressure for 0 and 76 mm (3") tire penetration, when gross vehicle weight, axle load distribution and tire inflation pressure are known. The ground pressure charts on the following pages are based on Michelin XADN tire characteristics. Results may differ for other tread patterns.

Tire load can be calculated by the following formula:

$$\text{Tire load} = \frac{\text{Heaviest Axle Load}}{2}$$

Example

Find the ground pressure generated by a 725 fully loaded with zero and 76 mm (3") tire penetration. The machine is equipped with standard Michelin 23.5R25 tires, inflated to the recommended pressure.

$$725 \text{ Tire Load} = \frac{43\,680 \text{ kg} \times 0.34}{2} = 7426 \text{ kg}$$

$$725 \text{ Tire Load} = \frac{96,300 \text{ lb} \times 0.34}{2} = 16,371 \text{ lb}$$

From the tire section in this book, inflation pressure for the 725 is 325 kPa = 3.25 bar (47 psi).

From the ground pressure chart for 23.5R25 tires, Ground pressure = 3.1 kg/cm² (44 psi) with zero tire penetration.

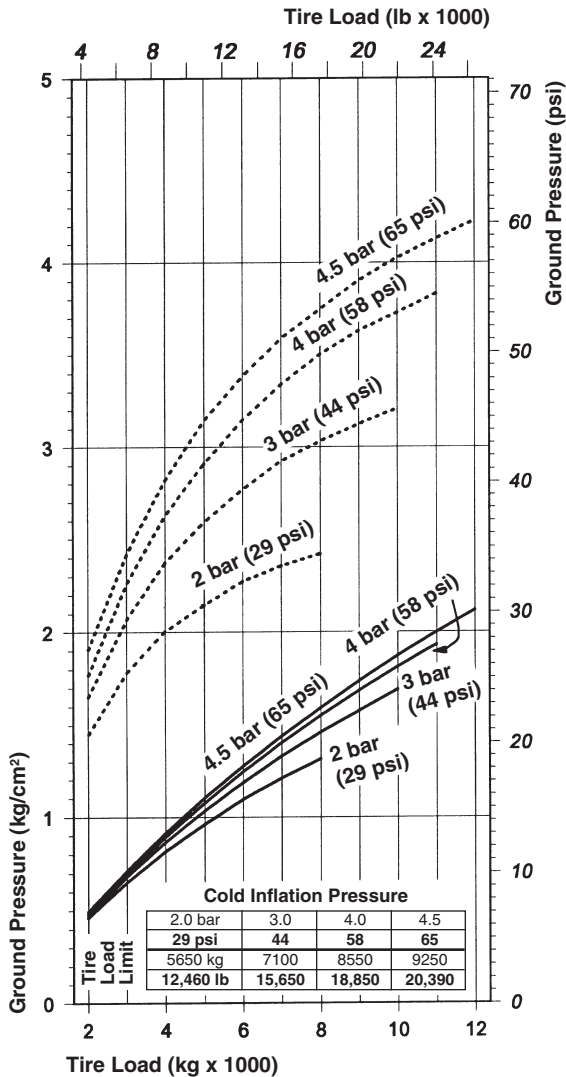
Ground pressure = 1.4 kg/cm² (21 psi) with 76 mm (3") tire penetration.

See the Wheel Tractor Scraper section for explanation on using:

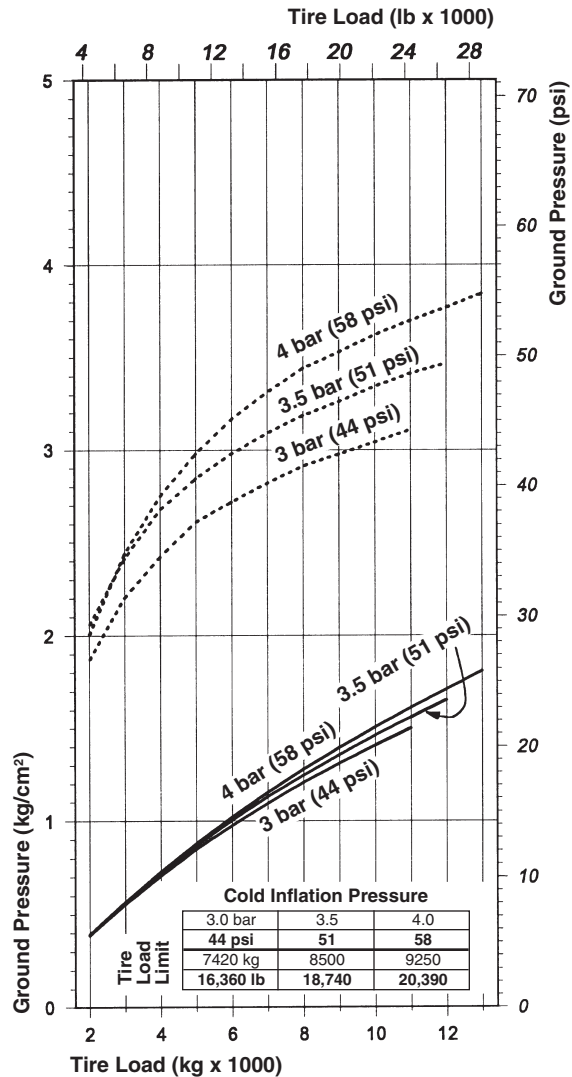
- Rimpull-Speed-Gradeability Curves
- Retarder Curves
- Travel Time Charts

See the Construction and Mining Trucks section for Hauling Unit Fixed Times.

23.5R25 Tires*



30/65R25 Tires*



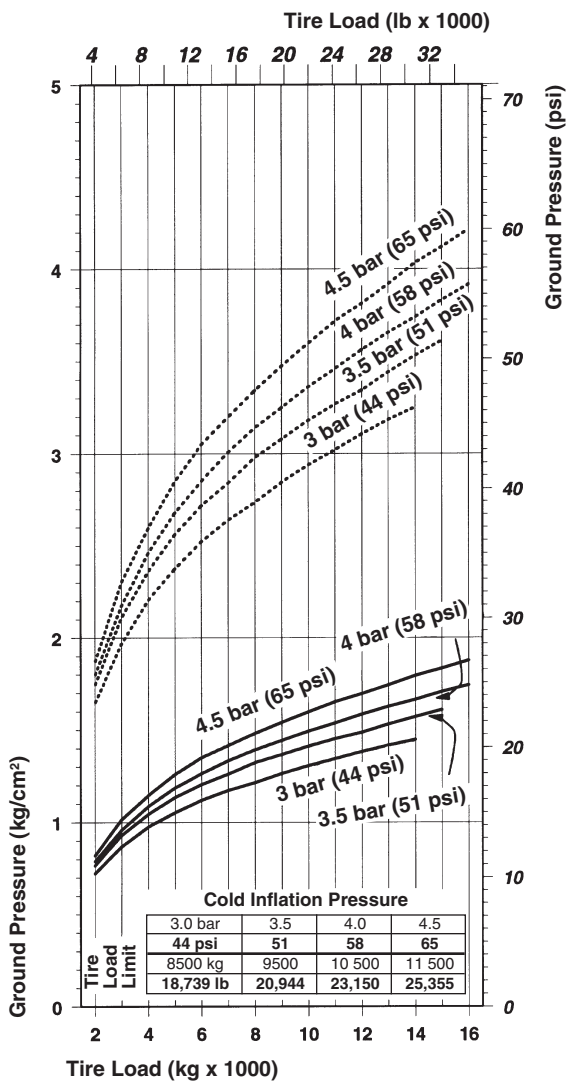
KEY

----- Zero Penetration (Flat Plate)

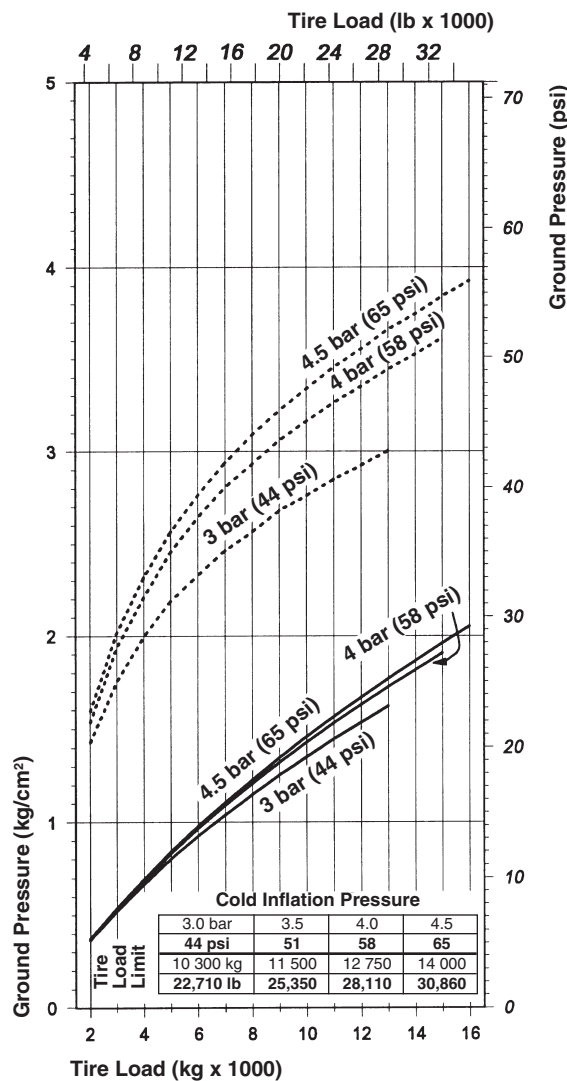
———— 76 mm (3") Penetration

*Charts based on Michelin XADN tire characteristics. Results may differ for other tread patterns and/or brands. Charts are to be used to calculate ground pressure. To determine the inflation as a function of load and conditions or when loads exceed tire load limit, contact your tire manufacturer representative.

26.5R25 Tires*

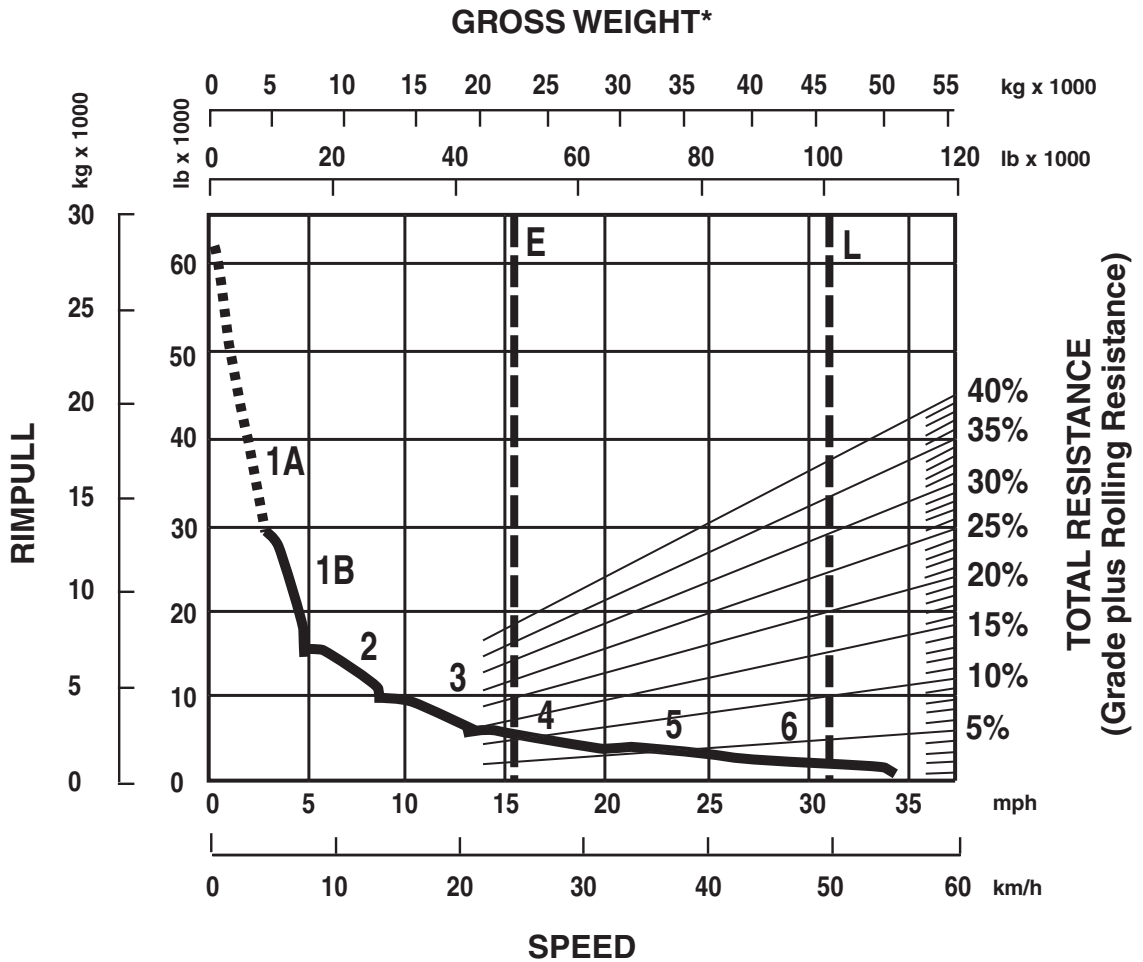


29.5R25 Tires*



- KEY
- Zero Penetration (Flat Plate)
 - 76 mm (3") Penetration

*Charts based on Michelin XADN tire characteristics. Results may differ for other tread patterns and/or brands. Charts are to be used to calculate ground pressure. To determine the inflation as a function of load and conditions or when loads exceed tire load limit, contact your tire manufacturer representative.



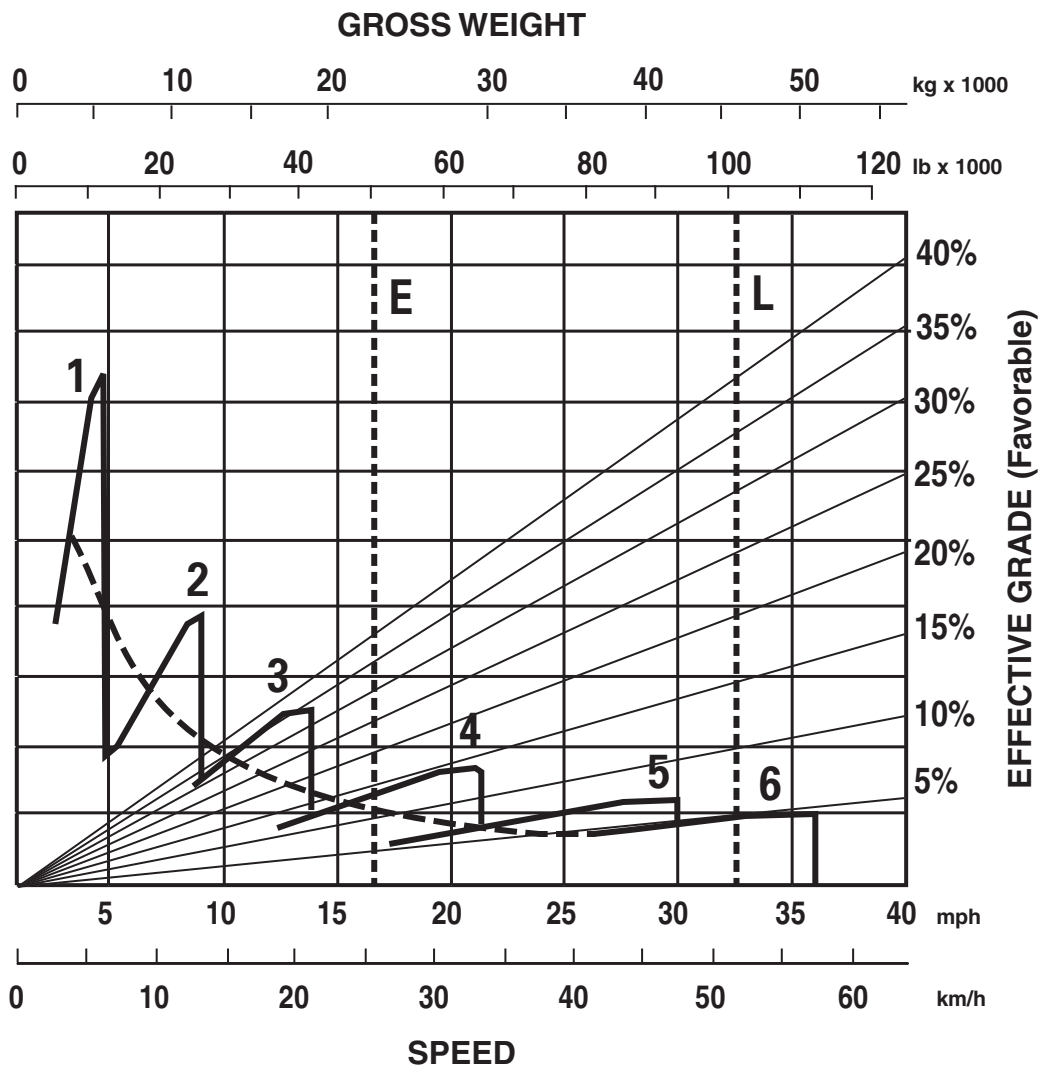
KEY

- 1A — 1st Gear (Converter Drive)
- 1B — 1st Gear (Direct Drive)
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear

KEY

- E — Empty 22 260 kg (49,075 lb)
- L — Loaded 45 850 kg (101,082 lb)

*At sea level.



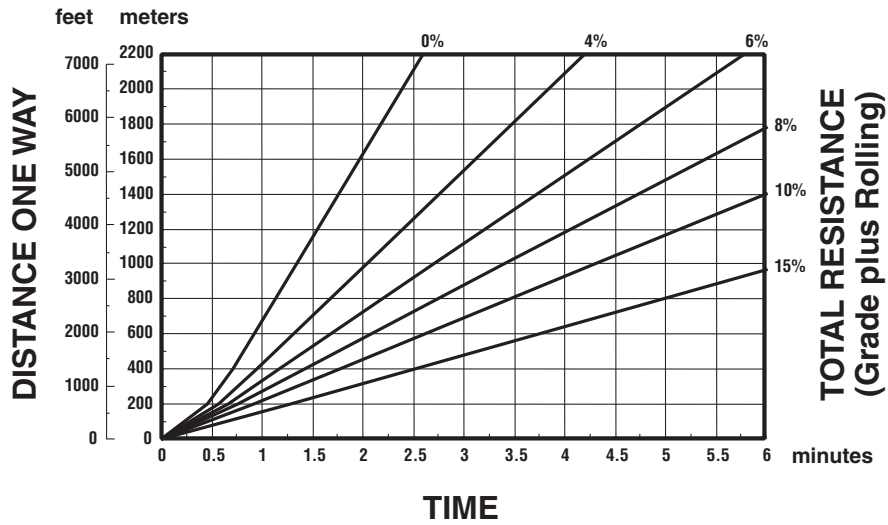
KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear

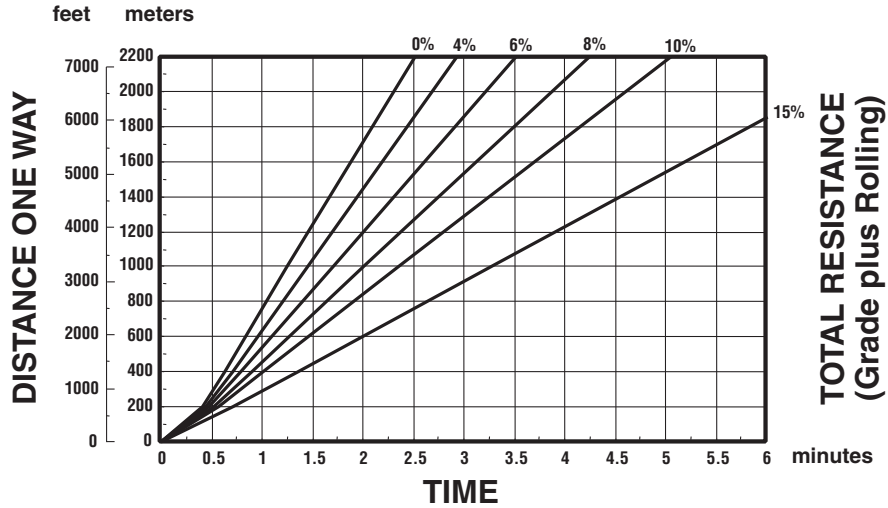
KEY

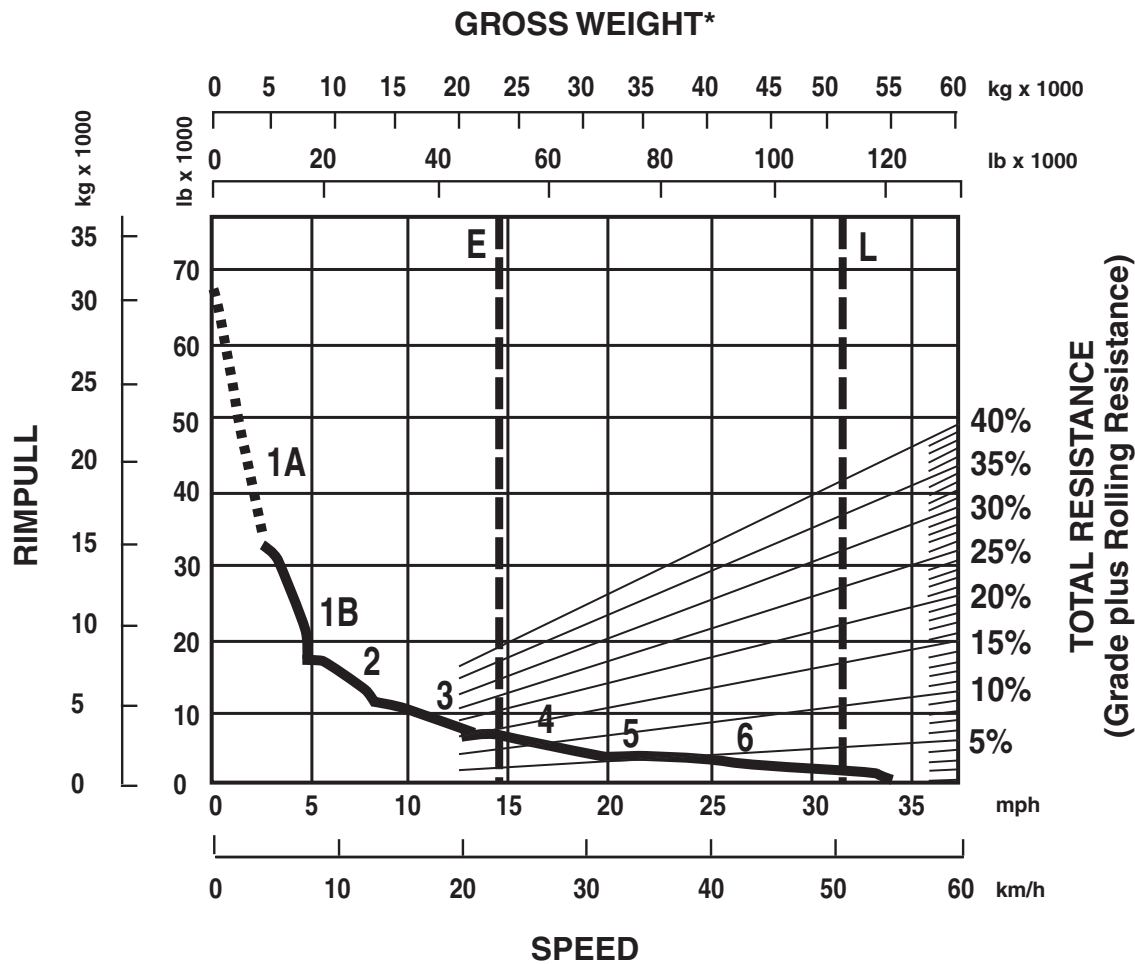
- E — Empty 22 260 kg (49,075 lb)
- L — Loaded 45 850 kg (101,082 lb)

LOADED



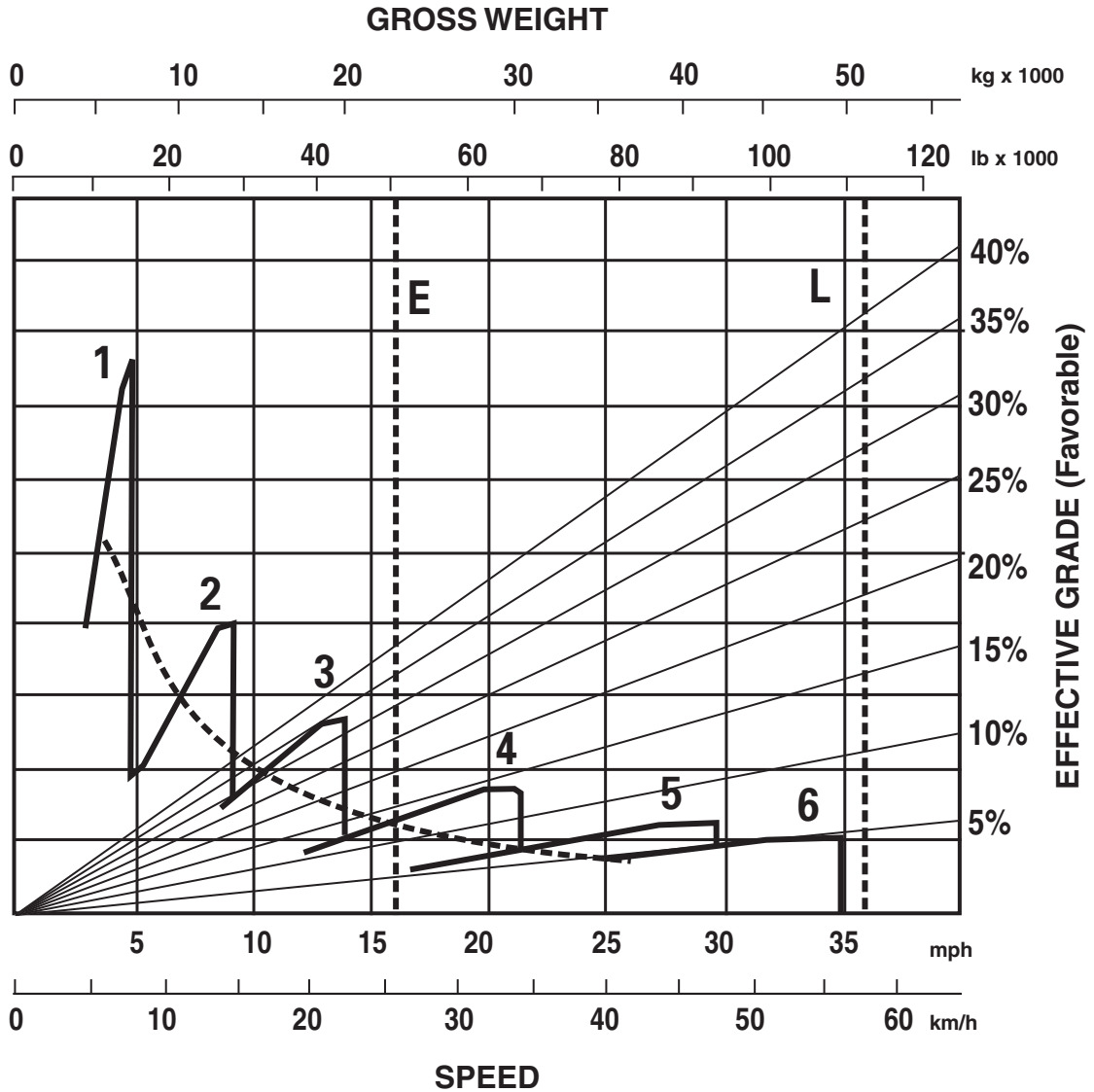
EMPTY





- KEY**
- 1A — 1st Gear (Converter Drive)
 - 1B — 1st Gear (Direct Drive)
 - 2 — 2nd Gear
 - 3 — 3rd Gear
 - 4 — 4th Gear
 - 5 — 5th Gear
 - 6 — 6th Gear

- KEY**
- E — Empty 22 850 kg (50,376 lb)
 - L — Loaded 50 970 kg (112,370 lb)
- *At sea level.

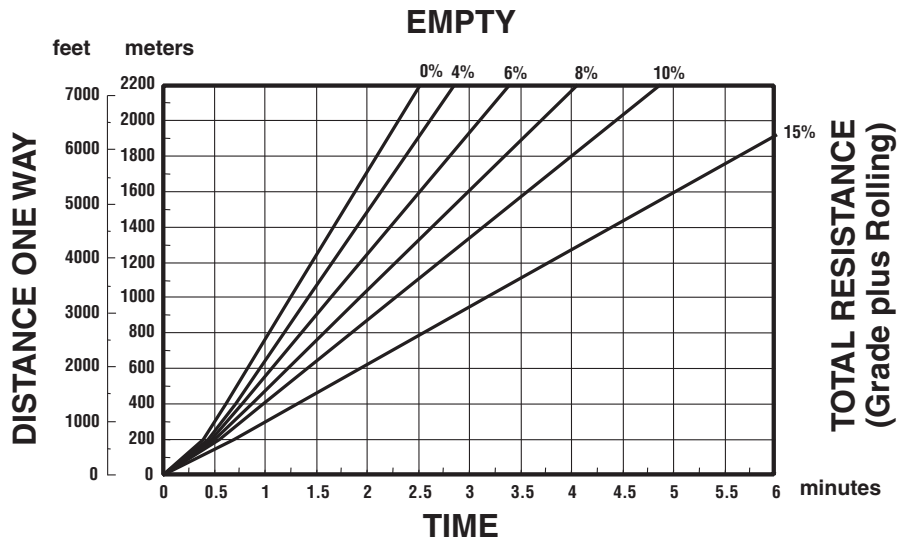
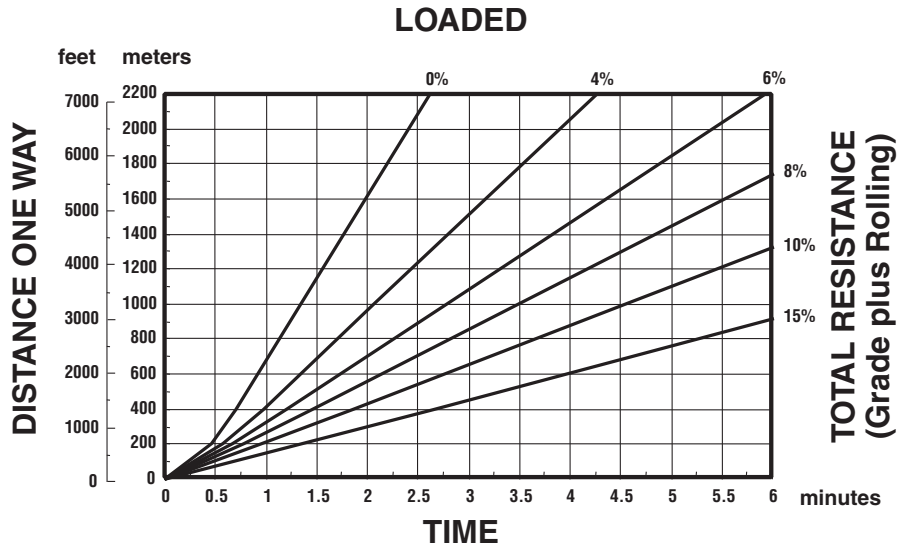


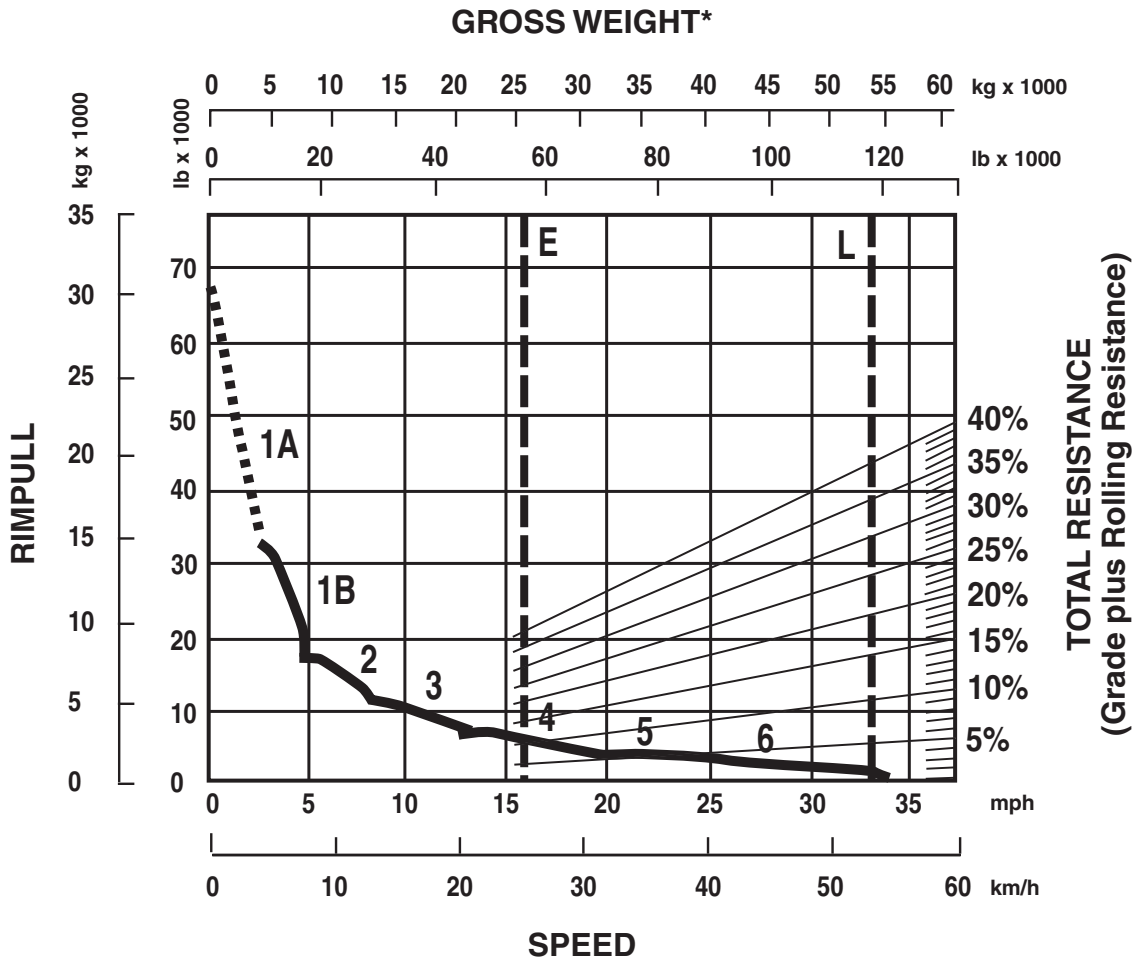
KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear

KEY

- E — Empty 22 850 kg (50,376 lb)
- L — Loaded 50 970 kg (112,370 lb)





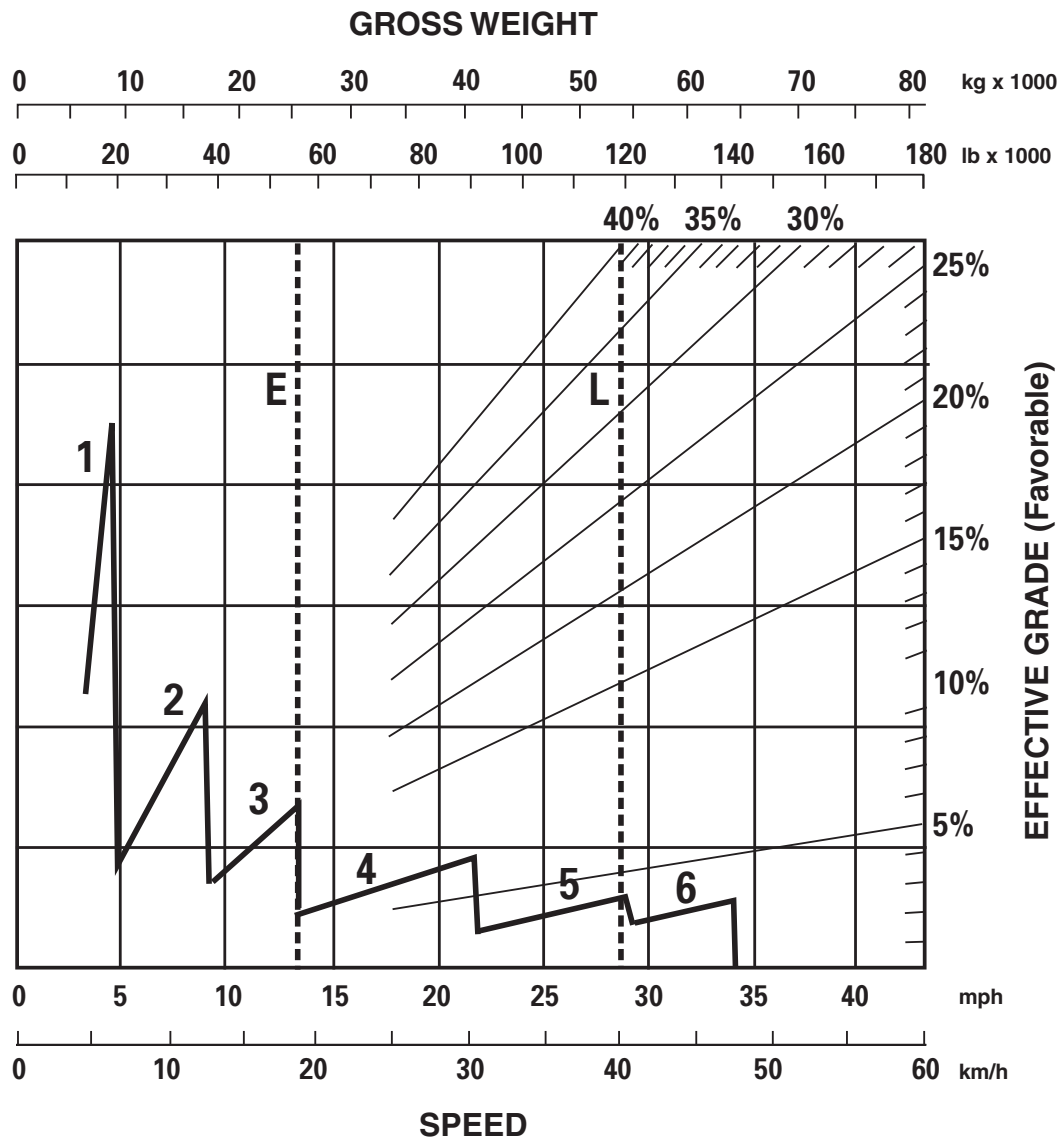
KEY

- 1A — 1st Gear (Converter Drive)
- 1B — 1st Gear (Direct Drive)
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear

KEY

- E — Empty 25 550 kg (56,328 lb)
- L — Loaded 53 670 kg (118,322 lb)

*At sea level.

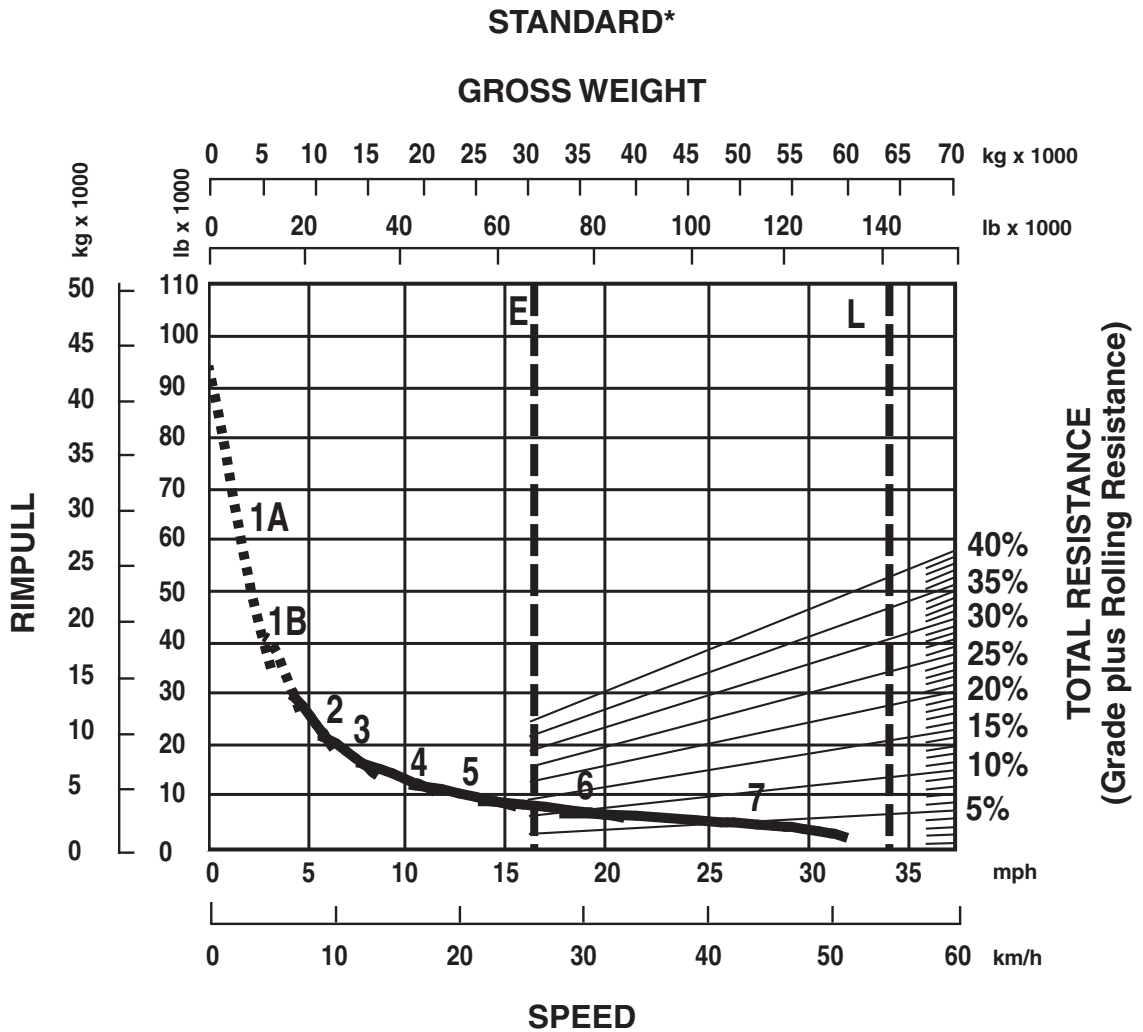


KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear

KEY

- E — Empty 25 550 kg (56,328 lb)
- L — Loaded 53 670 kg (118,322 lb)



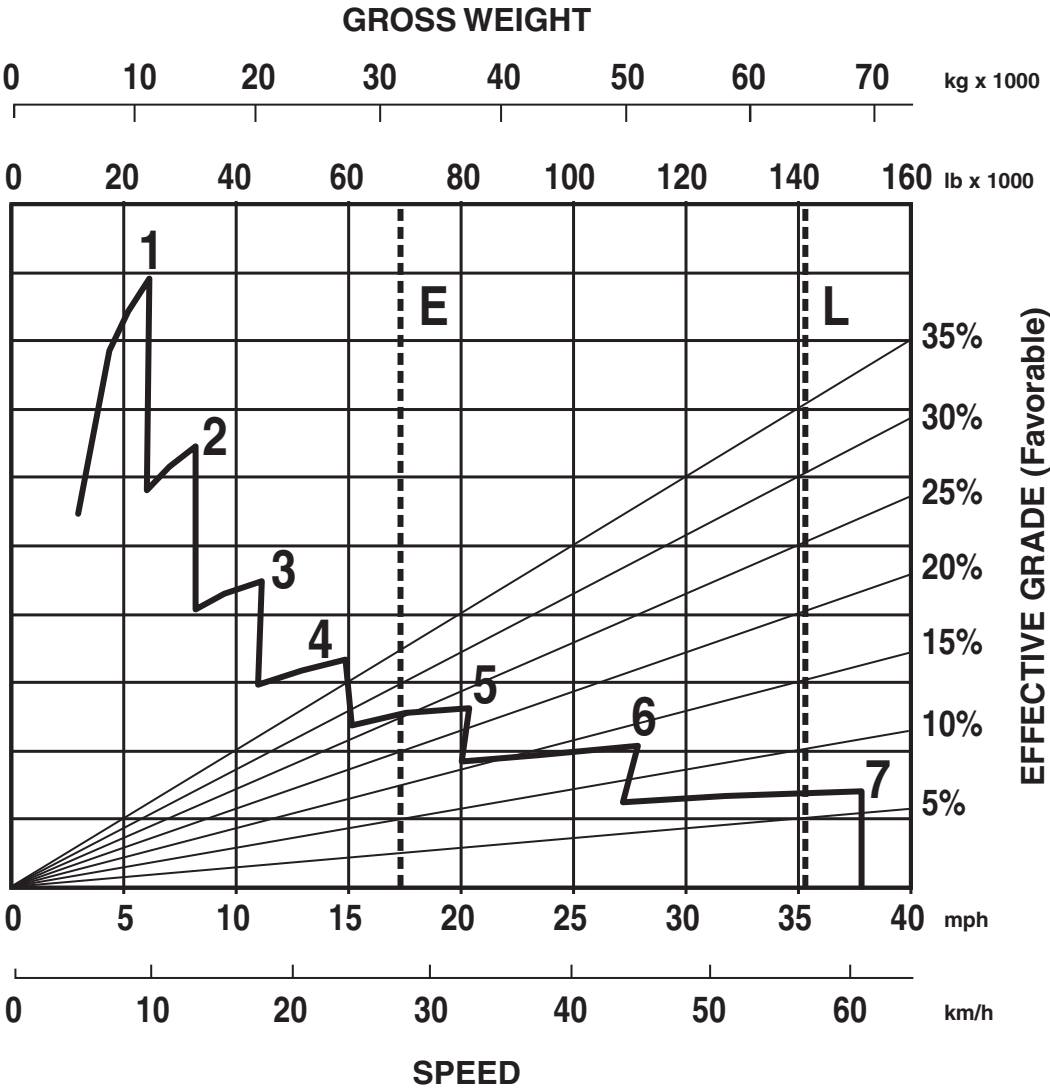
KEY

- 1A — 1st Gear (Converter Drive)
- 1B — 1st Gear (Direct Drive)
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear
- 7 — 7th Gear

KEY

- E — Empty 31 391 kg (69,206 lb)
- L — Loaded 64 090 kg (141,297 lb)

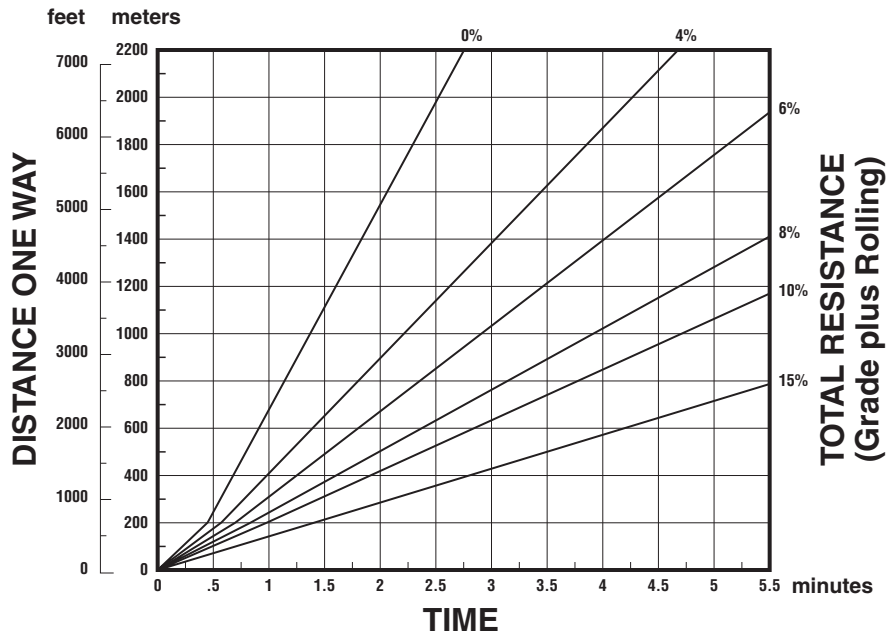
*At sea level.



- KEY
- 1 — 1st Gear
 - 2 — 2nd Gear
 - 3 — 3rd Gear
 - 4 — 4th Gear
 - 5 — 5th Gear
 - 6 — 6th Gear
 - 7 — 7th Gear

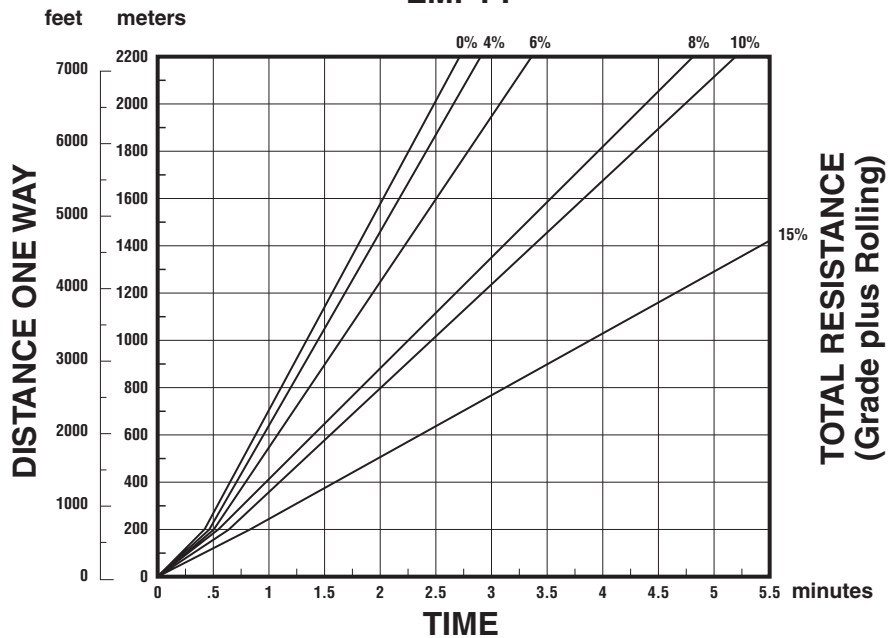
- KEY
- E — Empty 31 391 kg (69,206 lb)
 - L — Loaded 64 090 kg (141,297 lb)

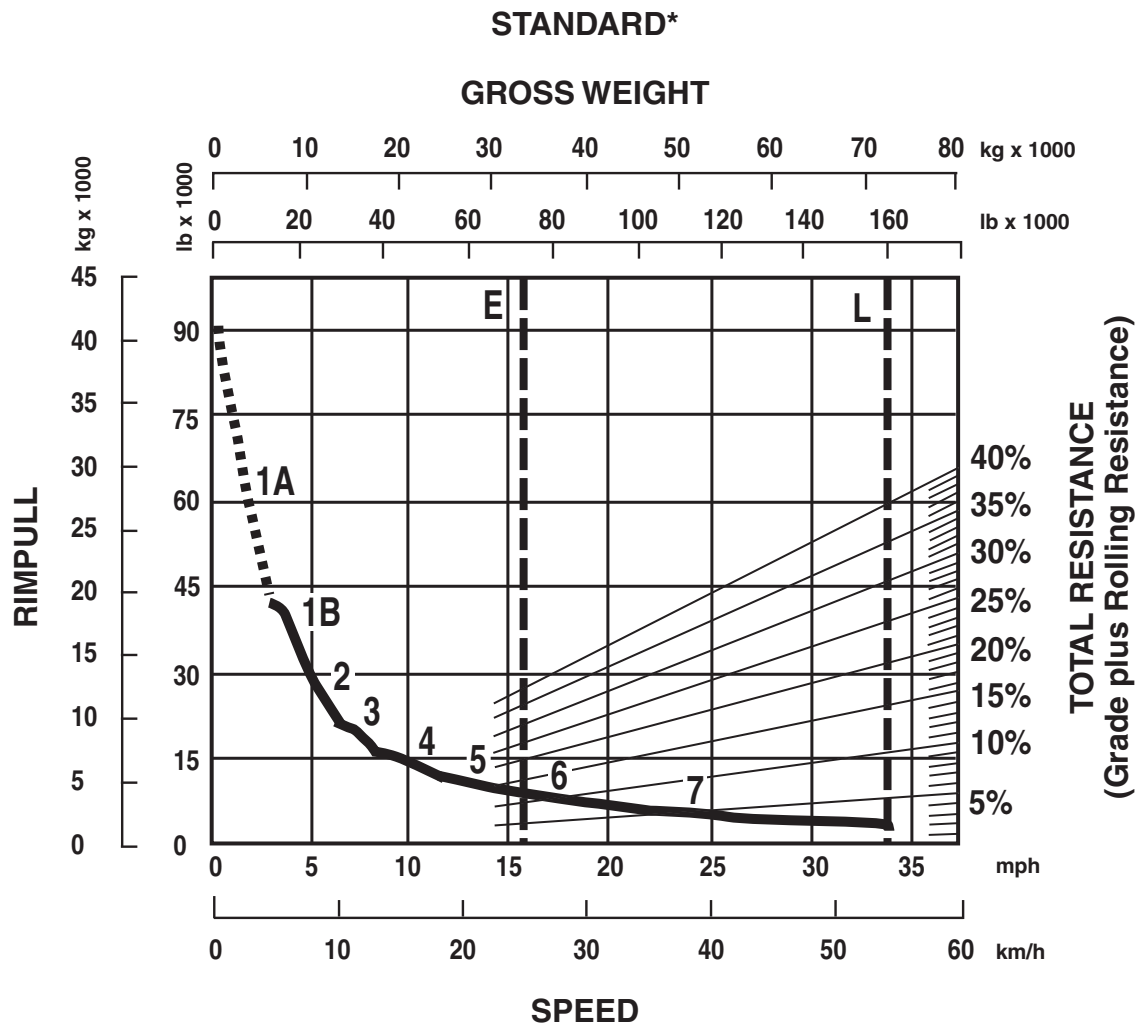
LOADED

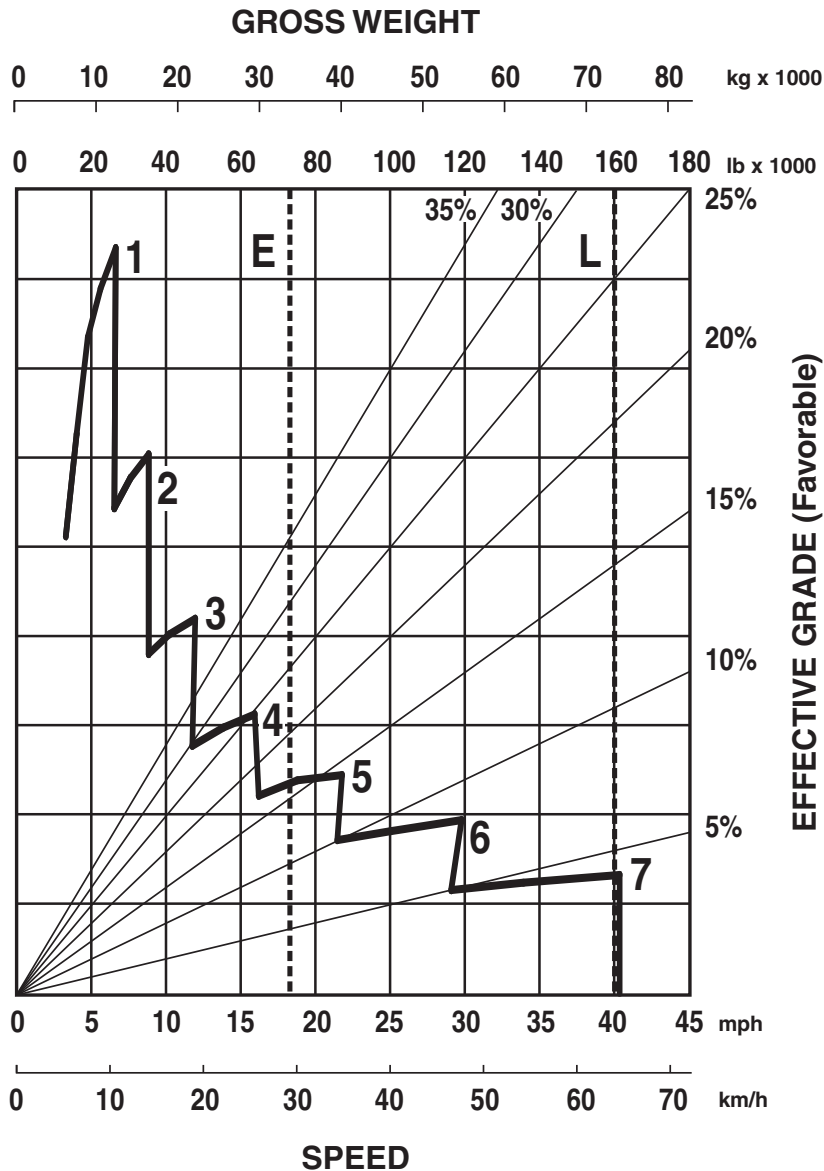


10

EMPTY





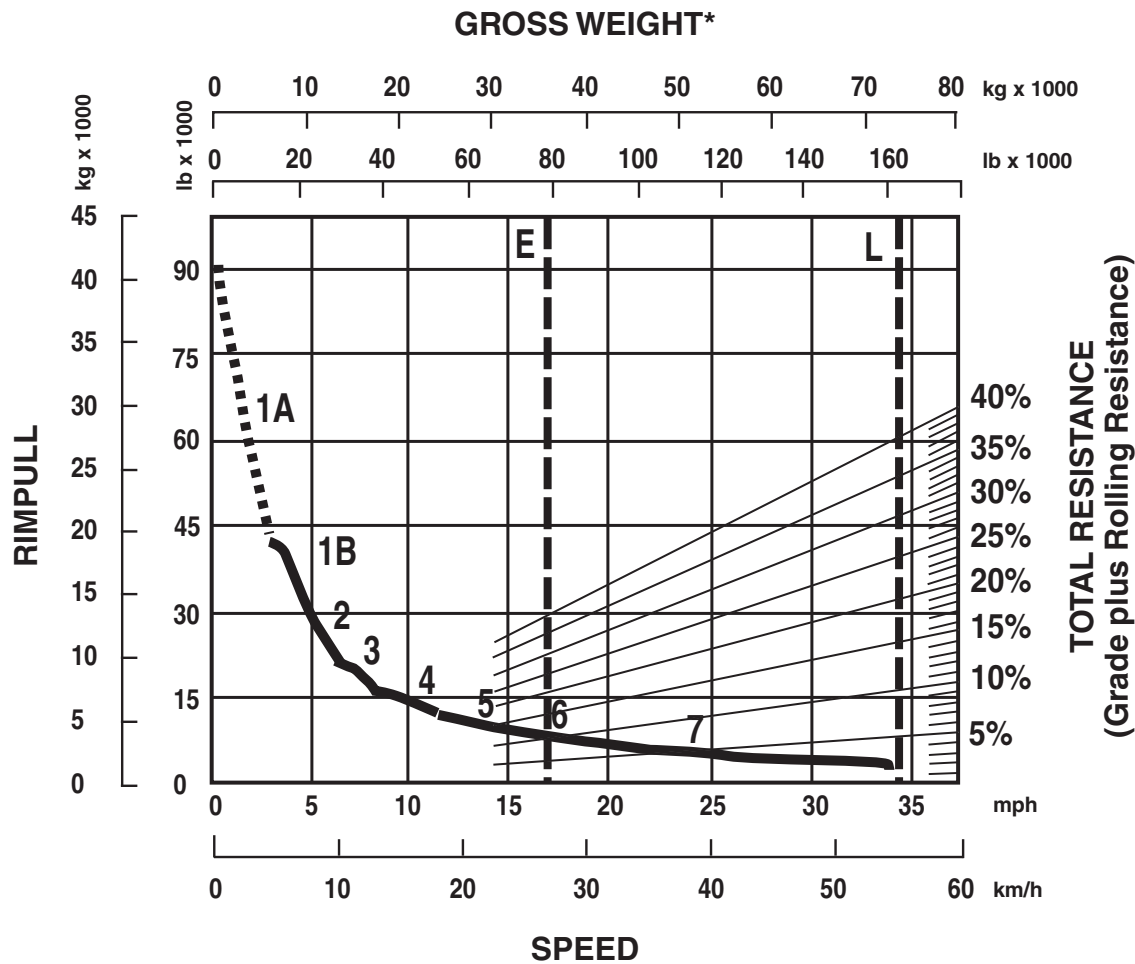


KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear
- 7 — 7th Gear

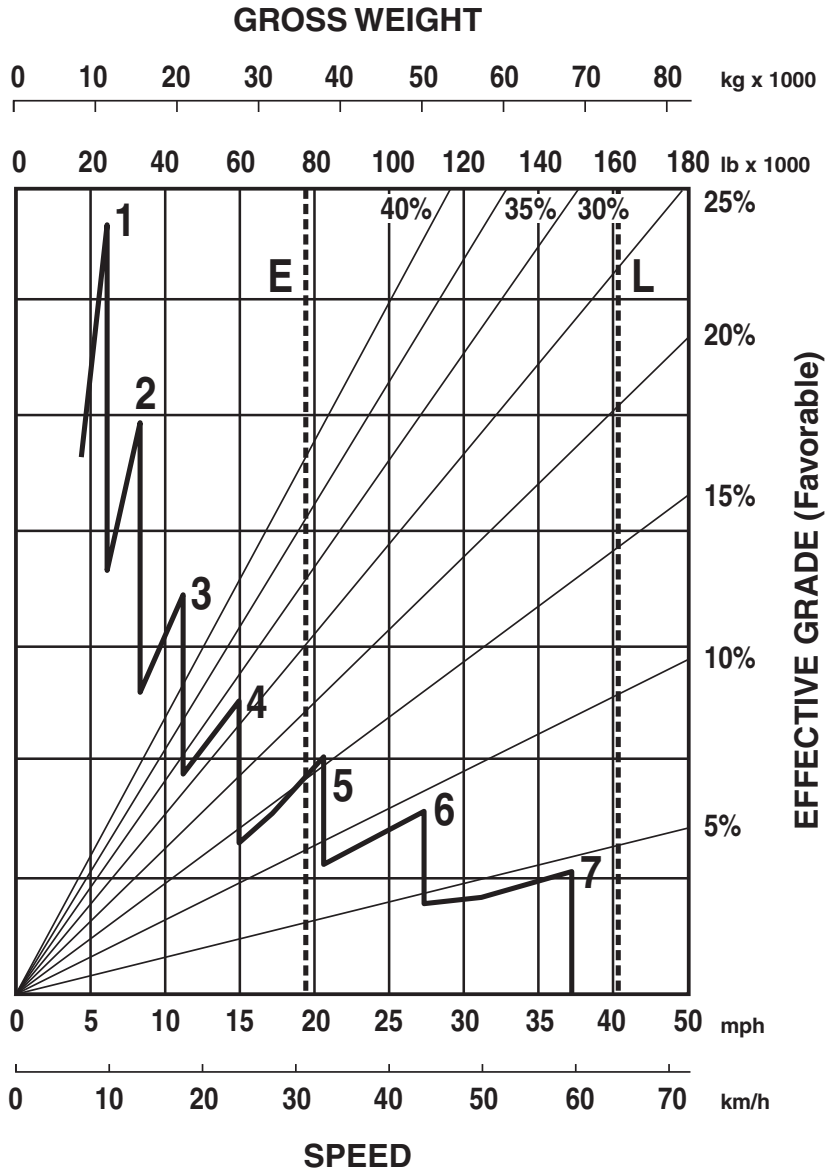
KEY

- E — Empty 33 100 kg (72,973 lb)
- L — Loaded 72 600 kg (160,055 lb)



- KEY**
- 1A — 1st Gear (Converter Drive)
 - 1B — 1st Gear (Direct Drive)
 - 2 — 2nd Gear
 - 3 — 3rd Gear
 - 4 — 4th Gear
 - 5 — 5th Gear
 - 6 — 6th Gear
 - 7 — 7th Gear

- KEY**
- E — Empty 35 610 kg (78,507 lb)
 - L — Loaded 73 610 kg (162,282 lb)
- *At sea level.



KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear
- 7 — 7th Gear

KEY

- E — Empty 35 610 kg (78,507 lb)
- L — Loaded 73 610 kg (162,282 lb)

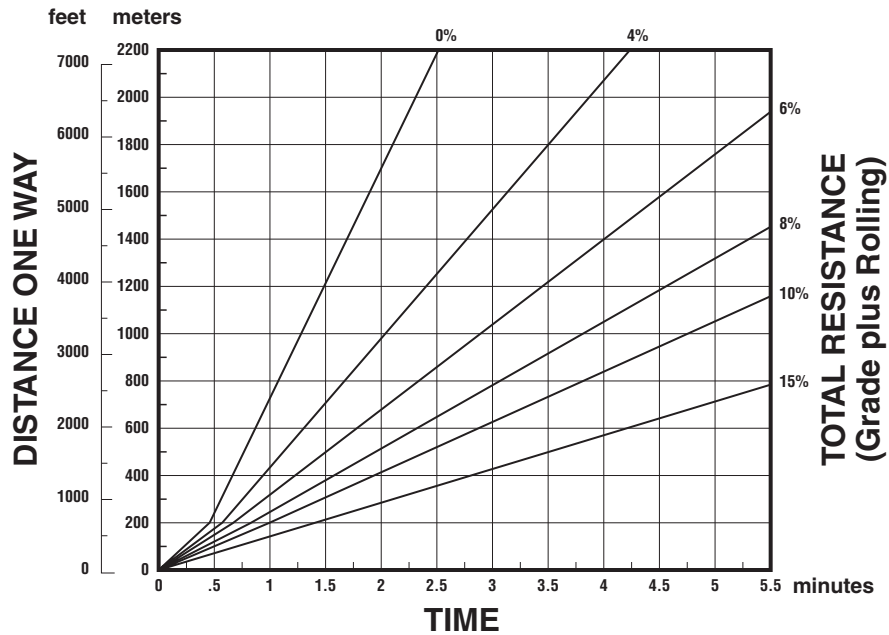
Articulated Trucks

740 Travel Time — Loaded/Empty

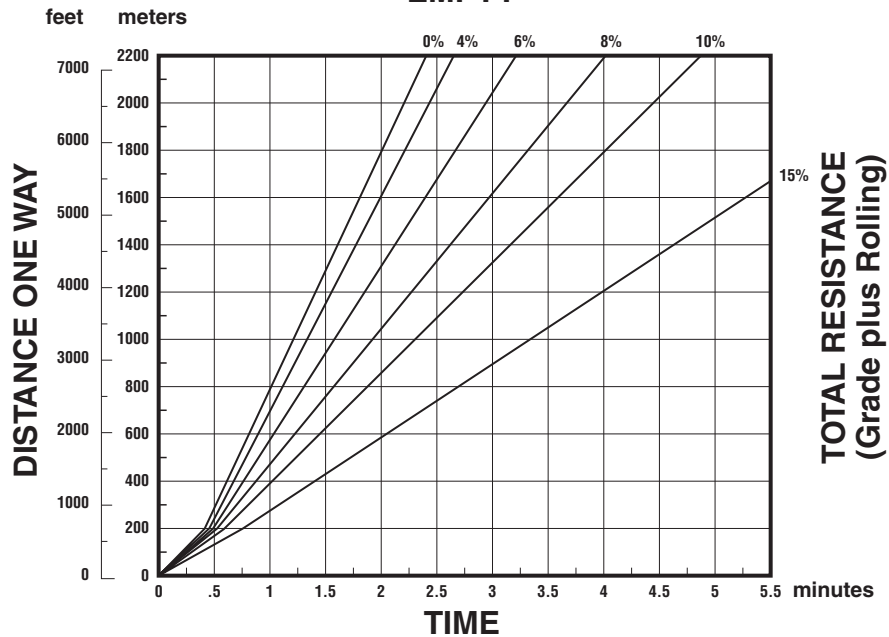
● 29.5R25 Tires

● Preliminary Information

LOADED



EMPTY



WHEEL DOZERS SOIL COMPACTORS

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WHEEL DOZERS

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SOIL COMPACTORS

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LANDFILL COMPACTORS (See Section 25)

WHEEL DOZERS

Features:

- **Reliable Cat power train:** four-stroke-cycle diesel with adjustment-free fuel system ... full power shift with single lever on-the-go shifting.
- **Articulated frame steering** with hinge point midway between front and rear axles ... short turning radius, long wheelbase ... rear and front wheels track at all times.
- **Machine balance** ... equal weight distribution on axles when blading.
- **All dozer functions**, including tip and tilt, hydraulically controlled from operator's seat.



MODEL	814F2		824H		834H	
Flywheel Power	173 kW	232 hp	264 kW	354 hp	372 kW	498 hp
Operating Weight*	21 713 kg	47,877 lb	28 724 kg	63,325 lb	47 106 kg	103,849 lb
Engine Model	C9 ACERT		C15 ACERT		C18 ACERT	
Rated Engine RPM	2100		1800		1800	
No. Cylinders	6		6		6	
Displacement	8.8 L	537 in³	15.2 L	928 in³	18.1 L	1104 in³
Speeds:						
Forward	4		4		4	
Reverse	4		4		3	
Top Speed Forward	30.9 km/h	19.2 mph	32.1 km/h	20 mph	38.5 km/h	23.9 mph
Turning Circle with Blade	7.17 m	23'6"	14.6 m	48'0"	17.6 m	57'9"
Standard Tire Size	23.5-25, 12 PR (L-2)		29.5R25 (L-3)		35/65-R33, 24 PR (L-4)	
Fuel Tank Refill Capacity	446 L	118 U.S. gal	672 L	178 U.S. gal	793 L	209 U.S. gal
GENERAL DIMENSIONS:						
Height (to top of ROPS)	3.3 m	10'8"	3.7 m	12'1"	4.09 m	13'5"
Height (stripped top)**	2.4 m	7'9"	2.6 m	8'5"	3.15 m	10'4"
Wheel Base	3.35 m	11'0"	3.7 m	12'1"	4.55 m	14'11"
Overall Length with Dozer	6.9 m	22'8"	8.2 m	27'0"	10.42 m	34'2"
Width (over standard tires)	2.8 m	9'2"	3.28 m	10'9"	3.47 m	11'5"
Ground Clearance	366 mm	14.4"	400 mm	15.7"	540 mm	21"
STRAIGHT BULLDOZER:						
Width	3.6 m	11'8"	4.51 m	14'8"	5.07 m	16'8"
Height	1.1 m	3'6"	1.23 m	4'0"	1.46 m	4'9"
Capacity	2.73 LCM	3.6 LCY	4.67 LCM	6.11 LCY	7.87 LCM***	10.3 LCY***
Ground Clearance Below						
Skid Shoe	718 mm	2'4"	955 mm	3'1.6"	1390 mm	4'7"
Depth of Cut	528 mm	20.8"	430 mm	16.9"	455 mm	17.9"
Tilt Adjustment	795 mm	2'6"	1.18 m	3'9"	1.48 m	4'10"
Tip Adjustment	15°		22.4°		21°	
Lift Speed	0.4 m/sec	1.3 ft/sec	0.46 m/sec	1.46 ft/sec	0.81 m/sec	2.66 ft/sec

*Operating Weight includes straight dozer, (U-blade on 834H) lubricants, coolant, ROPS cab, full fuel tank and operator. 75% CaCl₂ in all tires adds the following weight to each model: 814F2 — 2342 kg (**5164 lb**), 824H — 4296 kg (**9472 lb**), 834H — 5719 kg (**12,608 lb**).

**Height (stripped top) — without ROPS, exhaust, seat back or easily removed encumbrances.

***Capacity of 834H U-Blade is 11.16 LCM (**14.6 LCY**).



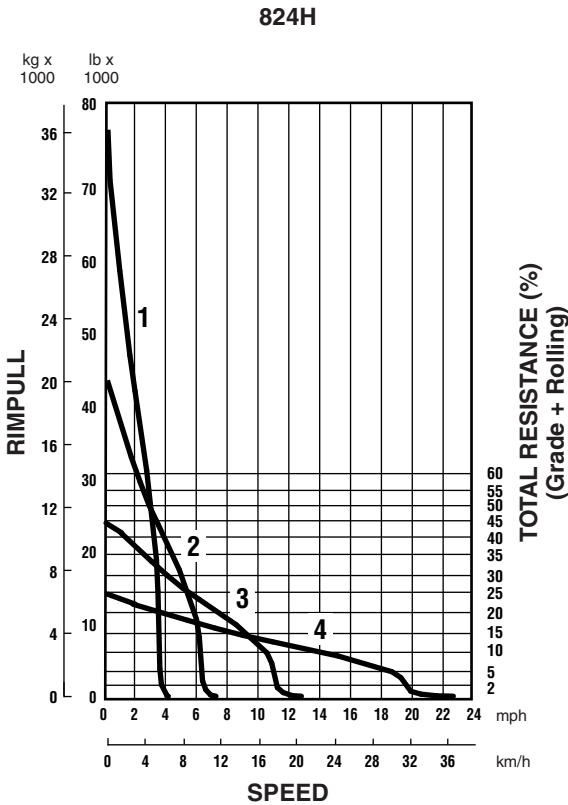
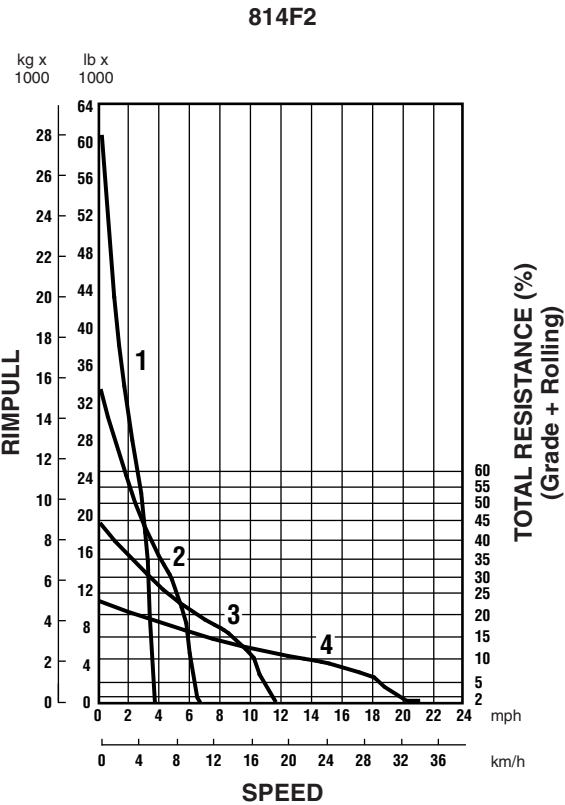
MODEL	844H		854K	
Flywheel Power	468 kW	627 hp	597 kW	801 hp
Operating Weight*	70 815 kg	156,120 lb	98 100 kg	216,273 lb
Engine Model	C27		C32 ACERT	
Rated Engine RPM	2000		1750	
No. Cylinders	12		12	
Displacement	27.1 L	1666 in ³	32.1 L	1959 in ³
Speeds:				
Forward	3		3	
Reverse	3		3	
Top Speed Forward	21 km/h	13 mph	21.2 km/h	13.2 mph
Turning Circle with Blade	21.73 m	71'4"	23.4 m	76'9"
Standard Tire Size	45/65-R39, PR (L-4)		45/65-R45 (L-4)	
Fuel Tank Refill Capacity	1016 L	268 U.S. gal	1562 L	413 U.S. gal
GENERAL DIMENSIONS:				
Height (to top of ROPS)	5.023 m	16'6"	5590 mm	18'3"
Height (stripped top)**	3.8 m	12'6"	5234 mm	17'2"
Wheel Base	4.6 m	15'1"	5890 mm	19'3"
Overall Length with Dozer	10.94 m	35'9"	13 405 mm	44'0"
Width (over standard tires)	4.37 m	14'4"	3556 mm	11'8"
Ground Clearance	431 mm	1'5"	691 mm	27"
SEMI-U DOZER:				
Width	5.278 m	17'4"	6321 mm	20'8"
Height	1.877 m	6'2"	5590 mm	18'3"
Capacity	16.1 m ³	21.1 yd ³	25.4 m ³	33.1 yd ³
Ground Clearance Below Skid Shoe	1372 mm	4'6"	691 mm	27"
Depth of Cut	466 mm	18"	398 mm	1'3"
Tilt Adjustment	830 mm	2'9"	1165 mm	3'8"
Tip Adjustment		13°		15°
Lift Speed	0.353 m/sec	1.2 ft/sec	0.310 m/sec	1.05 ft/sec

*Operating Weight includes Semi-U, coolant, ROPS cab, full fuel tank and operator. If 75% CaCl₂ is added to all four tires, the weight increases by 11 112 kg (24,500 lb) on the 844H and 12 144 kg (26,770 lb) on the 854K.

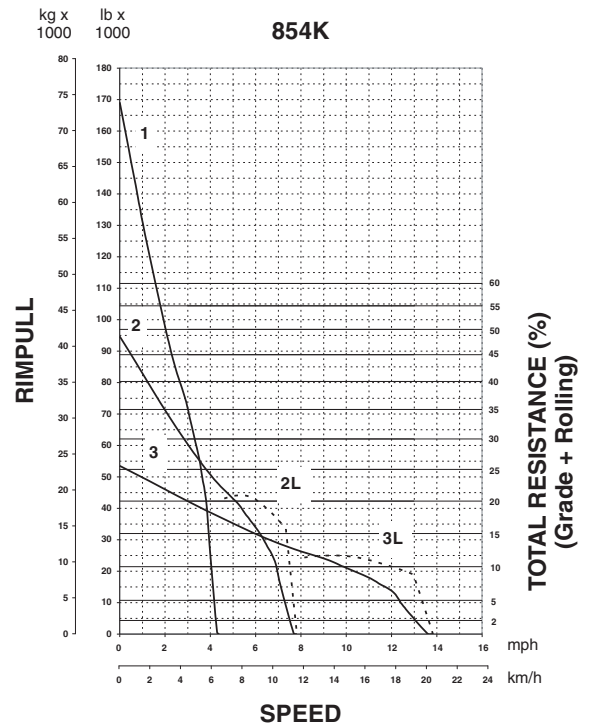
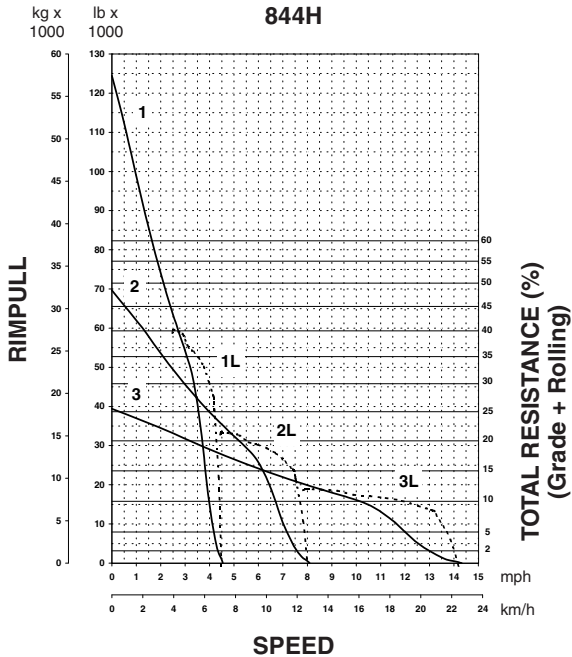
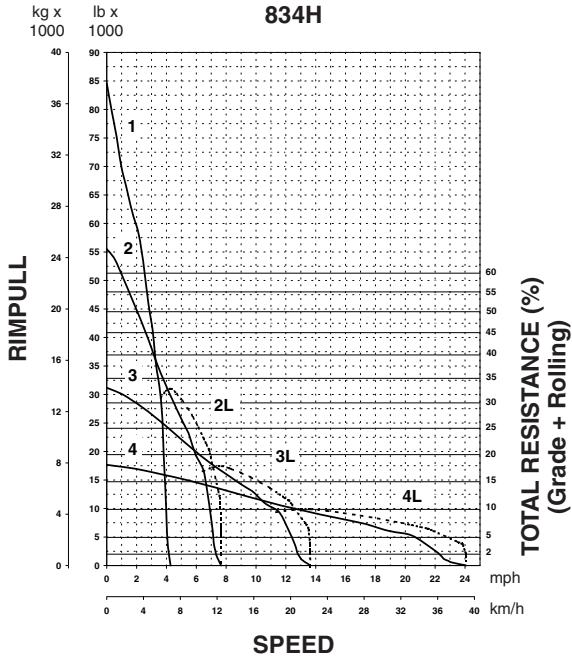
**Height (stripped top) — without ROPS, exhaust, seat back or easily removed encumbrances.

MODEL	814F2		824H		834H*		844H*		854K*	
FORWARD										
GEAR	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph
1	5.7	3.6	6.1	3.8	6.8	4.2	7.0	4.4	7.1	4.4
2	10.2	6.4	10.5	6.5	11.6	7.2	12.2	7.6	12.4	7.7
3	17.9	11.2	18.3	11.4	20.3	12.6	21.0	13.0	21.1	13.1
4	31.0	19.3	32.1	20.0	35.4	22.0	—	—	—	—
REVERSE										
GEAR										
1	6.5	4.1	6.9	4.3	6.8	4.2	7.7	4.6	7.7	4.8
2	11.6	7.3	12.0	7.5	12.2	7.6	13.4	8.4	13.5	8.4
3	20.4	12.7	20.8	13.0	21.4	13.3	23.0	14.3	23.5	14.6
4	34.9	21.8	36.6	22.7	—	—	—	—	—	—

*2% rolling resistance.



KEY
1 – 1st Gear
2 – 2nd Gear
3 – 3rd Gear
4 – 4th Gear



CONSIDERATIONS IN MACHINE SELECTION

The following factors should be considered when comparing wheels vs. tracks:

Traction

You can figure coefficient of traction, depending on underfoot conditions, from the Table Section in this book.

Wheels — up to 0.65 (in quarry pit with good floor)

Track — up to 0.90 (in soils permitting grouser penetration)

Usable Rimpull = Machine Weight $\times$ Coefficient of Traction

Speed

Wheels — travel speeds up to three times higher than track.

Maneuverability

Articulated steering and good visibility give wheel tractors high maneuverability.

Cost

See Owning and Operating Costs section. Tire vs. undercarriage costs can often be the deciding factor in selecting wheels or tracks.

Compaction

Ground Pressure:

Wheels — from 241 kPa (35 psi) to 310 kPa (45 psi)

Tracks — from 82 kPa (12 psi) to 97 kPa (14 psi)

Application

Utility ... mobility, maneuverability and good speed suit wheel tractors for yard and stockpile work and for clean-up around shovels. Lower maintenance costs may be realized in certain soils that can be highly abrasive to track-type undercarriages.

Coal pile ... recommend wheel tractors in this application when following conditions are present:

- Long push distances
- Need for good material spread
- High degree of compaction desired

Production Dozing ... a wheel tractor should be considered in the following conditions:

- Long push distances
- Loose soils, little or no rock
- Level or downhill work
- Good underfoot conditions

Pushloading Scrapers ... a wheel tractor should be considered in the following conditions:

- Thin scraper cut
- Good underfoot conditions — no rock
- Higher push speeds

Chip and Coal Scoops ... may adversely affect performance and/or reliability, particularly when adverse grades are encountered.

COUNTERWEIGHTS AND BALLAST

For each specific application, there is a correct machine weight for proper balancing of traction, flotation, mobility and response.

- Low machine weight may increase tire slipping and wear, but improves flotation, mobility and machine response.
- High machine weight increases traction, but decreases mobility and response.

The machine weight is optimum for the operating conditions when wheel slipping barely occurs in the gear being used. Weight distribution under operating conditions should then be approximately equal between the wheels to balance power to each axle.

Application

Lower machine weight is usually required for typical second gear applications, such as fill spreading, stockpiling, road maintenance, towing compactors and shovel cleanup.

Higher machine weight is usually required for such typical first gear applications as heavy dozing and pushloading.

Tire Ballast

A solution of calcium chloride and water is recommended for tire ballast. It has the advantage of low cost with simple quick adjustment to suit working conditions.

TIRE SELECTION & MAINTENANCE

Requirements of traction, flotation and tire life are met by a choice of tire size, tread design and inflation pressure.

Tire Width

For good conditions with little rolling resistance on surfaces where flotation is no problem, a narrower tire may be most economical. It may also be considered in muddy conditions in which the mud can be penetrated to reach firm earth underneath.

Where flotation problems and increased rolling resistance are encountered, wider tires are recommended. The greater contact area and shallower penetration increases flotation.

Tire Size

Larger optional tires will also improve flotation in soft conditions. With larger diameter, rimpull will be reduced which may be desirable to help control wheel spin.

Traction Tread (L-2) tire's penetration ability provides improved traction under some soil conditions.

Rock Tread (L-3) offers improved traction and a more cut resistant rubber compound than the L-2. It provides more rubber at the ground with the same footprint and reduces tire penetration under abrasive conditions. Recommended on any hard smooth surface such as rock, concrete or compacted earth.

Rock — Deep Tread (L-4) provides 50% more tread depth, thicker undertread and sidewall with increased tire life when compared to the L-3 tire. Recommended in rock conditions where sharp fragments cause high tire wear or sudden failures.

Rock — Extra Deep Tread (L-5) provides 150% more tread depth when compared to the L-3 tire. Intended for severe rock conditions with extreme penetration hazards.

Chains should be considered in severe applications where extra tread tires still give unsatisfactory life. Operating costs vary greatly depending on application, underfoot conditions, wheel spin and chain maintenance. Under normal rock operating conditions (short cycle, low average speed and minimum wheel spin) the maximum estimated chain life is about 2000 hours. Before installing chains, carefully weigh their overall economics against known tire costs. Chains are not recommended with new rock extra tread tires but can extend the life of a used tire. Always check clearance around tires before using chains.

Major applications where chains can be considered include:

- stripping rock or rocky soils
- clean-up work around rock loading shovels
- any application where underfoot conditions cause excessive tire wear.

Inflation Pressure

In average operating conditions the recommended inflation pressure prevents excessive deflection and minimizes tire rollover on side slopes.

Over-inflation

Reduces amount of tread contact with ground and provides less flotation. Over-inflation causes center of tread to wear faster and increases the chance of cuts and impact breaks.

Under-inflation

Can cause permanent tire damage in the form of flex breaks, radial cracks, and tread or ply separation. On jobs where wrinkling and bead rollover *are not* apparent, inflation pressure may be reduced to a minimum of:

Bias Ply — 170 kPa (25 psi) on 35/65-33
 170 kPa (25 psi) on 29.5-25
 170 kPa (25 psi) on 26.5-25
 170 kPa (25 psi) on 23.5-25

Radial — 310 kPa (45 psi) on 35/65-R33
 310 kPa (45 psi) on 29.5-R25
 205 kPa (30 psi) on 26.5-R25
 240 kPa (35 psi) on 23.5-R25

Reduced pressure will:

- Increase flotation and traction in sand.
- Improve envelopment characteristics to reduce sudden death failure on rock jobs.
- Provide better tread wear by reducing contact pressure between tire and ground.

Consult your tire manufacturer before changing tire pressures.

MODEL	814F2		824H		824H	
Type	Straight		Straight		SU-Blade	
Capacity**	2.66 m³	3.5 yd³	4.67 m³	6.11 yd³	6.88 m³	9.0 yd³
Weight, Dozer*	3740 kg	8245 lb	5136 kg	11,323 lb	—	
General Dimensions (Tractor & Dozer)						
Length	6.9 m	22'6"	8.2 m	26'9"	—	
Width	3.6 m	11'8"	4.51 m	14'8"	4.44 m	14'7"
Blade:						
Width (including std. end bits)	3.6 m	11'8"	4.51 m	14'8"	4.44 m	14'7"
Height	1100 mm	3'6"	1229 mm	4'0"	1584 mm	5'2"
Max. Digging Depth	528 mm	20.8"	430 mm	16.9"	542 mm	21"
Ground Clearance @ Full Lift Under Skid Plate	718 mm	2'4"	955 mm	3'1.6"	996 mm	3'3"
Tilt Adjust. from Horizontal	795 mm	2'6"	1180 mm	3'9"	1166 mm	3'10"
Total Tip Adjustment	15°		22.4°		—	

MODEL	824H		824H		834H	
Type	U-Blade		Extreme Service U-Blade		Straight	
Capacity**	6.88 m³	9.0 yd³	6.88 m³	9.0 yd³	7.9 m³	10.33 yd³
Weight, Dozer*	—		—		6880 kg	15,170 lb
General Dimensions (Tractor & Dozer)						
Length	—		—		10.42 m	34'2"
Width	4.34 m	14'3"	4.34 m	14'3"	5.07 m	16'7"
Blade:						
Width (including std. end bits)	4.34 m	14'3"	4.34 m	14'3"	5.07 m	16'7"
Height	1365 mm	4'6"	1365 mm	4'6"	1466 mm	4'9"
Max. Digging Depth	518 mm	20"	518 mm	20"	455 mm	17.9"
Ground Clearance @ Full Lift Under Skid Plate	956 mm	3'2"	956 mm	3'2"	1324 mm	4'7"
Tilt Adjust. from Horizontal	1139 mm	3'9"	1139 mm	3'9"	1270 mm	4'2"
Total Tip Adjustment	—		—		20.5°	

MODEL	834H		834H		844H		854K	
Type	U-Blade		SU-Blade		Semi-U		Semi-U	
Capacity**	11.13 m³	14.56 yd³	10.13 m³	13.25 yd³	15.9 m³	20.7 yd³	25.4 m³	33.1 yd³
Weight, Dozer*	8470 kg	18,670 lb	—		15 670 kg	34,520 lb	21 910 kg	48,270 lb
General Dimensions (Tractor & Dozer)								
Length	10.42 m	34'2"	—		10.94 m	35'9"	13.405 m	44'0"
Width	5.15 m	16'11"	4.69 m	15'5"	5.42 m	17'8"	6.321 m	20'7"
Blade:								
Width (including std. end bits)	5.15 m	16'11"	4.69 m	15'5"	5.42 m	17'8"	6.321 m	20'7"
Height	1437 mm	4'9"	1779 mm	5'10"	1834 mm	5'9"	2179 mm	7'1"
Max. Digging Depth	442 mm	17.4"	507 mm	20.0"	466 mm	18.3"	398 mm	15.7"
Ground Clearance @ Full Lift Under Skid Plate	1338 mm	4'4"	1352 mm	4'5"	1372 mm	4'6"	1540 mm	5'.04"
Tilt Adjust. from Horizontal	1270 mm	4'2"	1270 mm	2'2"	830 mm	2'8.7"	1165 mm	3'8"
Total Tip Adjustment	22°		22°		13°		15°	

*Total Bulldozer Arrangement.

**Blade capacities determined by SAE J1265.

COAL U-BLADE

	814F2		824H		834H	
Model:	Coal U-Blade		Coal U-Blade		Coal U-Blade	
Replaces "S" Blade						
Blade:						
Capacity	11 m ³	14 yd ³	16.1 m ³	21 yd ³	22.3 m ³	29 yd ³
Length (Cutting Width)	4318 mm	14'2"	4801 mm	15'9"	5680 mm	18'7"
Height, wing section (tapered down)	1473 mm	4'10"	1803 mm	5'11"	1960 mm	6'5"
Wing Angle	25°		30°		30°	
Weight, Installed (Without Hydraulics)	1950 kg	4300 lb	3193 kg	7040 lb	5020 kg	11,300 lb

	844H		854K	
Model:	Coal U-Blade		Coal U-Blade	
Replaces "S" Blade				
Blade:				
Capacity	30.7 m ³	40.2 yd ³	44.7 m ³	58.2 yd ³
Length (Cutting Width)	5846 mm	19'2"	7200 mm	23'7"
Height, wing section (tapered down)	2024 mm	6'8"	2500 mm	8'2"
Wing Angle	30°		30°	
Weight, Installed (Without Hydraulics)	6237 kg	13,830 lb	10 333 kg	22,780 lb

WOODCHIP U-BLADE

	824H		834H	
Model:	Woodchip U-Blade		Woodchip U-Blade	
Replaces "S" Blade				
Blade:				
Capacity	24 m ³	31 yd ³	30.1 m ³	40 yd ³
Length (Cutting Width)	4775 mm	15'8"	5700 mm	18'8"
Height, wing section	2261 mm	7'5"	2350 mm	7'8"
Wing Angle	30°		30°	
Weight	3515 kg	7750 lb	5155 kg	11,600 lb

COAL SCOOP WITH TILT

	814F2		824H		834H	
Model:	Coal Scoop with Tilt		Coal Scoop with Tilt		Coal Scoop with Tilt	
Scoop:						
Lift and Carrying Capacity	11.5 m ³	15 yd ³	13.4 m ³	17.5 yd ³	22.9 m ³	30 yd ³
Dozing Capacity	19.1 m ³	25 yd ³	26.8 m ³	35 yd ³	45.8 m ³	60 yd ³
Width	3734 mm	12'3"	4058 mm	13'4"	4880 mm	15'11"
Height	1626 mm	5'4"	1839 mm	6'1"	2382 mm	7'10"
Overall Length	7.3 m	24'0"	5.3 m	17'6"	—	—
Weight	5216 kg	11,500 lb	6763 kg	14,913 lb	9501 kg	20,949 lb
Dump Clearance	1041 mm	3'5"	1398 mm	4'7"	1524 mm	5'0"

CHIP SCOOP WITH TILT

	814F2		824H		834H	
Model:	Chip Scoop with Tilt		Chip Scoop with Tilt		Chip Scoop with Tilt	
Scoop:						
Lift and Carrying Capacity	15.3 m ³	20 yd ³	20.6 m ³	27 yd ³	26.7 m ³	35 yd ³
Dozing Capacity	30.6 m ³	40 yd ³	41.3 m ³	54 yd ³	53.5 m ³	70 yd ³
Width	3734 mm	12'3"	4039 mm	13'3"	4876 mm	16'0"
Height	2286 mm	7'6"	2489 mm	8'2"	2692 mm	8'10"
Weight	5390 kg	11,880 lb	11 420 kg	19,125 lb	9711 kg	21,410 lb

SOIL COMPACTORS

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Features:

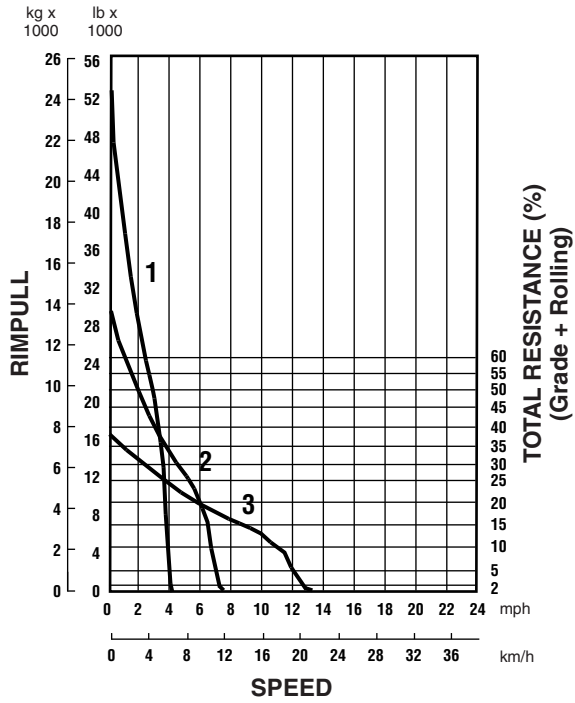
- **Dozing, filling and compacting versatility.**
- **High speed operation** with responsive Cat diesel engine, single-lever planetary power shift transmission, and all-wheel drive.
- **Articulated frame** makes maneuvering quick and easy. Long wheel base for stability.
- **Wheels with tamping foot design and chevron pattern** give traction, penetration and compaction needed for high production. Foot pattern reversed on trailing drums to prevent overprinting lead drums.
- **Rear drums track front** for double compactive effort. Drum spacing covers mid-axle strip on return pass.
- **Rear axle oscillation** keeps all drums on ground for traction and stability.
- **Cleaner bars** keep drums free of carry over earth regardless of rolling direction. Adjustable, replaceable.
- **Optional fill spreading dozer** has single lever control for raise, lower, hold and float. (Blade tilt optional.)



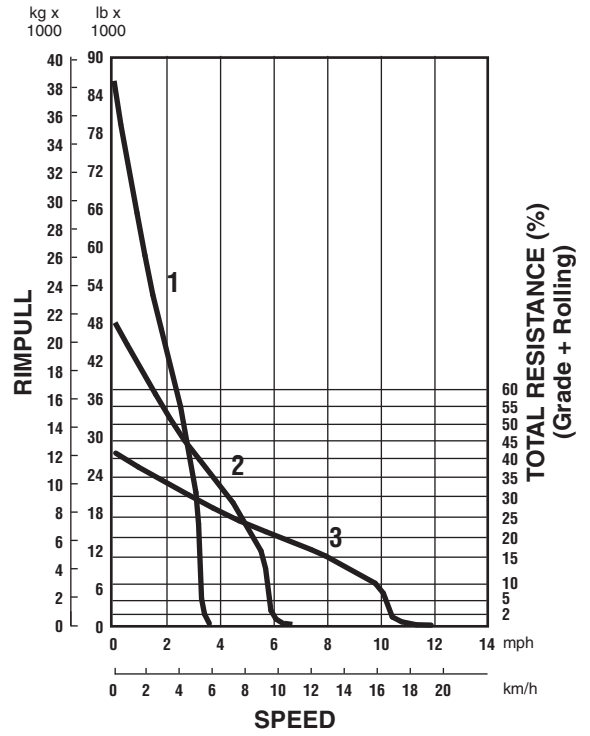
MODEL	815F2		825H	
Flywheel Power	173 kW	232 hp	264 kW	354 hp
Operating Weight*	20 755 kg	45,765 lb	32 734 kg	72,164 lb
Engine Model	C9 ACERT		C15 ACERT	
Rated Engine RPM	2100		1800	
No. Cylinders	6		6	
Displacement	8.8 L	537 in³	15.1 L	928 in³
Speeds:				
Forward	3		3	
Reverse	3		3	
Turning Radius — outside Corner of Blade	6.45 m	21'3"	7.4 m	24'0"
Fuel Tank Refill Capacity	446 L	118 U.S. gal	603 L	159 U.S. gal
TAMPING FOOT WHEELS:				
Each Drum Width	991 mm	3'3"	1125 mm	3'8"
Diameters, over feet	1.42 m	4'8"	1.68 m	5'5"
over drum	1.03 m	3'5"	1.29 m	4'3"
Feet per Wheel	60		65	
Feet per Row	12		13	
Rows of Feet	5		5	
Foot Length	191 mm	7.5"	188 mm	7.4"
End Area Per Foot	134 cm²	20.8 in²	192 cm²	29.75 in²
Width of Two Pass Coverage	4.2 m	13'9"	5.3 m	17'4"
GENERAL DIMENSIONS:				
Height (top of ROPS)	3.34 m	11'0"	3.75 m	12'3"
Height (stripped top)**	2.39 m	7'10"	2.69 m	8'10"
Wheel Base	3.35 m	11'0"	3.7 m	12'1"
Overall Length with Dozer	6.80 m	23'6"	8.43 m	27'8"
Width over Drums	3.24 m	10'8"	3.65 m	12'0"
Ground Clearance	390 mm	15.4"	414 mm	16"
STRAIGHT BULLDOZER:				
Width over End Bits	3.76 m	12'4"	4.62 m	15'1"
Height with Cutting Edge	860 mm	2'10"	1030 mm	3'4"

*Operating Weight includes coolant, lubricants, bulldozer, hydraulics, ROPS canopy, full fuel tank and operator.
**Height (stripped top) — without ROPS, exhaust, seat back or other easily removed encumbrances.

815F2



825H



KEY
1 - 1st Gear
2 - 2nd Gear
3 - 3rd Gear

COMPACTION FUNDAMENTALS

The following discussion applies to soil compaction only. For information on refuse compaction, see Waste Disposal section of this book.

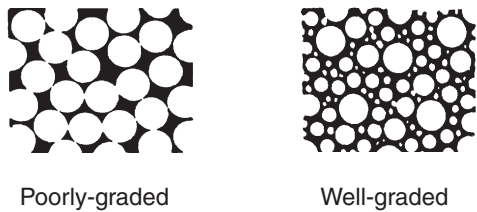
Definition

Compaction is the process of physically densifying or packing the soil ... resulting in increased weight per unit volume. It is generally accepted that the strength of a soil can be increased by densification. Three important factors affect compaction.

- Material gradation
- Moisture content
- Compactive effort

Material Gradation — refers to the distribution (% by weight) of the different particle sizes within a given soil sample. A sample is *well-graded* if it contains a good, even distribution of particle sizes. A sample composed of predominantly one size particle, is said to be *poorly-graded*. In terms of compaction, a well-graded soil will compact more easily than one that is poorly-graded. In well-graded material the smaller particles tend to fill the empty spaces between the larger particles, leaving fewer voids after compaction.

MATERIAL GRADATION

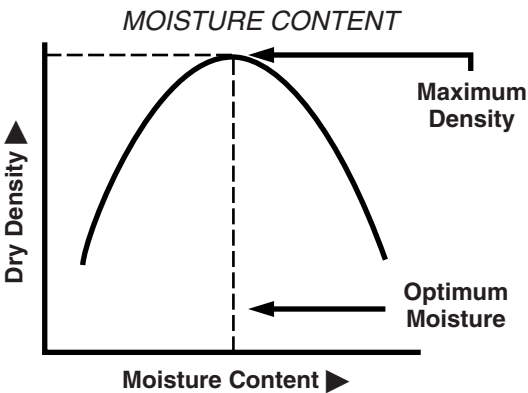


Moisture Content — or the amount of water present in a soil, is very important to compaction. Water lubricates soil particles thus helping them slide into the most dense position. Water also creates clay particle bonding, giving cohesive materials their sticky qualities.

OPTIMUM MOISTURE

Heavy clay	17.5%
Silty clay	15.0%
Sandy clay	13.0%
Sand	10.0%
Gravel, sand, clay mix (pit run)	7.0%

Experience has shown that it is very difficult, if not impossible, to achieve proper compaction in materials that are too dry or too wet. Soil experts have determined that in practically every soil there is an amount of water, called optimum moisture content, at which it is possible to obtain maximum density with a given amount of compactive effort. The curve below shows this relationship between dry density and moisture content. It is called a compaction curve, moisture-density curve or Proctor curve.



Compactive Effort — refers to the method employed by a compactor to impart energy into the soil to achieve compaction. Compactors are designed to use one or a combination of the following types of compactive effort.

- Static weight (or pressure)
- Kneading action (or manipulation)
- Impact (or sharp blow)
- Vibration (or shaking)

COMPACTOR TYPES

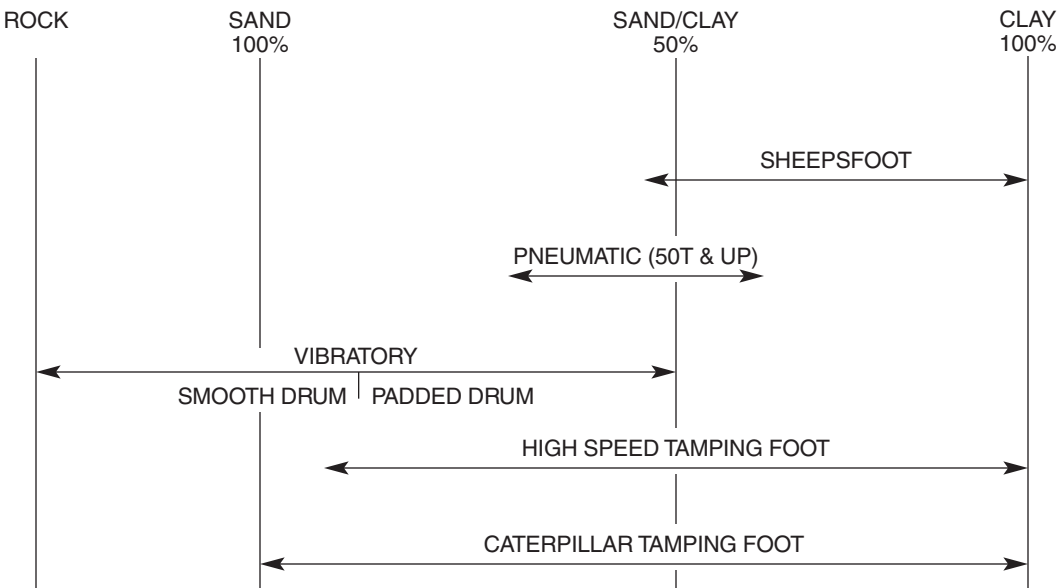
Compaction equipment can be grouped generally into the following classifications:

- sheepsfoot
- vibratory
- pneumatic
- high speed tamping foot
- chopper wheels (see Landfill Compactor section)

Combinations of these types are also available, such as a vibrating smooth steel drum.

For ease of comparison, the compactors have been placed on the Zones of Application Chart shown below. This chart contains a range of material moistures from 100% clay to 100% sand, plus a rock zone. Each type has been positioned in what is considered to be its most effective and economical zone of application. However, it is not uncommon to find them working out of their zones. Exact positioning of the zones can vary with differing material conditions.

RANGES OF SOIL TYPES FOR
SOIL COMPACTION EQUIPMENT



COMPACTOR PRODUCTION

Compactor production is expressed in compacted cubic meters (Cm³) or compacted cubic yards (CCY) per hour. Material in its natural or bank state is measured in bank cubic meters or yards (Bm³ or BCY). When it is removed or placed in a fill, it is measured in loose cubic meters or yards (Lm³ or LCY).

When the loose material is worked into a compacted state, the relationship of *compacted material to bank material* is shown as the shrinkage factor (SF).

$$SF = \frac{\text{Compacted cubic meters (Cm}^3\text{)}}{\text{Bank cubic meters (Bm}^3\text{)}}$$

$$SF = \frac{\text{Compacted cubic yards (CCY)}}{\text{Bank cubic yards (BCY)}}$$

The construction industry has developed the following formula for use in estimating compactor production. This formula gives the material volume a given machine can compact in a 60-minute hour.

Metric Method

$$\text{Cm}^3 = \frac{W \times S \times L}{P}$$

W = Compacted width per pass, in meters. (For Cat Compactors it is recommended that W = Twice the width of one wheel.)

S = Average speed, in kilometers per hour.

L = Compacted thickness of lift, in millimeters.

P = Number of machine passes to achieve compaction (**can only be determined by testing the compacted material density on-the-job**).

English Method

$$\text{CCY/hr} = \frac{W \times S \times L \times 16.3}{P}$$

W = Compacted width per pass, in feet. (For Cat Compactors it is recommended that W = Twice the width of one wheel.)

S = Average speed, in miles per hour.

L = Compacted thickness of lift, in inches.

16.3 = Conversion constant, equals 5280 feet ÷ 12 inches ÷ 27 cubic feet

P = Number of machine passes to achieve compaction (**can only be determined by testing the compacted material density on-the-job**).

Example problem (Metric)

Determine production for an 815F2 operating under the following conditions:

$$P = 5, S = 10 \text{ km/h}, L = 100 \text{ mm}$$

Refer to 815F2 in the production table on the next page. Read down the first column until reaching section for 5 passes. Within this section in the second column, find the speed closest to 10 km/h. Read across this line to the 100 mm compacted lift. Read the production figure given.

Answer: 377 Cm³/h. (Since the machine's speed of 10 km/h is slightly faster than the 9.5 of the table, production may be interpolated slightly higher — say 395 Cm³/h.)

Example problem (English)

Determine production for an 825H operating under the following conditions:

$$P = 4, S = 8 \text{ mph}, L = 6 \text{ inches}$$

Refer to the production estimating table on the next page. This table contains estimates for the 815F2 and 825H Compactors using various speeds, lift thicknesses and number of passes. These figures were calculated using the formula discussed on this page. The figures represent 100% efficiency. W = Twice the width of one wheel.

In the 825H portion of this table, read down the first column until reaching the section for four passes. Within this section in the second column, find the line for 8 mph. Read across this line to the lift thickness column for 6 inches. Read the production figure given.

Answer: 1444 CCY/hr.



PRODUCTION TABLE

MODEL AND MACHINE PASSES*		AVERAGE SPEED		COMPACTED LIFT THICKNESS							
				100 mm	4 in	150 mm	6 in	200 mm	8 in	250 mm	10 in
		km/h	mph	m³/h	yd³/hr	m³/h	yd³/hr	m³/h	yd³/hr	m³/h	yd³/hr
815F2	3	6.5	4	419	548	628	822	837	1095	—	—
		9.5	6	628	822	942	1232	1256	1643	—	—
		13.0	8	837	1095	1256	1643	1675	2191	—	—
	4	6.5	4	314	411	471	616	628	822	—	—
		9.5	6	471	616	706	924	942	1232	—	—
		13.0	8	628	822	942	1232	1256	1643	—	—
	5	6.5	4	251	329	377	493	502	657	—	—
		9.5	6	377	493	565	739	754	986	—	—
		13.0	8	502	657	754	986	1005	1314	—	—
	6	6.5	4	286	274	314	411	419	548	—	—
		9.5	6	314	411	471	616	628	822	—	—
		13.0	8	419	548	628	822	837	1095	—	—
825H	3	6.5	4	488	642	731	962	975	1283	1219	1604
		9.5	6	713	962	1069	1444	1425	1925	1781	2406
		13.0	8	975	1283	1463	1925	1950	2566	2438	3208
	4	6.5	4	366	481	534	722	731	962	914	1203
		9.5	6	534	722	802	1083	1069	1444	1336	1804
		13.0	8	731	962	1097	1444	1463	1925	1828	2406
	5	6.5	4	293	385	439	577	585	770	731	962
		9.5	6	428	577	641	866	855	1155	1069	1444
		13.0	8	585	770	878	1155	1170	1540	1463	1925
	6	6.5	4	244	321	366	481	488	642	609	802
		9.5	6	356	481	534	722	713	962	891	1203
		13.0	8	488	642	731	962	975	1283	1219	1604

*The number of machine passes required is dependent on soil type, moisture content, desired compaction and machine weight.

MODEL	815F2	825H
Type	Fill Spreading	
Capacity**	Fill Spreading	
Earth	2.16 m³	2.82 yd³
Refuse	—	—
Weight, Dozer*	1460 kg	3220 lb
General Dimensions: (Tractor & Dozer)		
Length	6.82 m	22'5"
Width	3.76 m	12'4"
Blade Dimensions:		
Width, End Bits	3.76 m	12'4"
Height, Moldboard	860 mm	2'10"
Height, Trash Rack	—	—
Max. Digging Depth	215 mm	8.5"
Ground Clearance @ Full Lift	814 mm	2'8"
Tilt Adjust. from Horizontal	328 mm	12.9"

*Total Bulldozer Arrangement.

**Blade capacities determined by SAE recommended practice J1265.

815F2 and 825H**Ground Contact Pressure/Soil Compactors**

815F2 Tip	Weight Front Axle 9376 kg (20,674 lb) Ground Contact Pressure		Weight Rear Axle 11 460 kg (25,269 lb) Ground Contact Pressure		Contact Area Four Wheels	
	kPa	psi	kPa	psi	cm²	in²
Tip Penetration						
12.5 mm (0.5 in)	4727.05	685.6	6989.35	706.7	425.81	66
25 mm (1.0 in)	1347.92	195.5	1827.94	215.7	1445.16	224
38 mm (1.5 in)	902.52	130.9	1094.20	156.8	2077.42	322
50 mm (2.0 in)	658.45	95.5	872.95	97.7	3064.51	475

825H Standard Tip	Weight Front Axle 14 919.98 kg (32,892.93 lb) Ground Contact Pressure		Weight Rear Axle 16 819.98 kg (37,081.71 lb) Ground Contact Pressure		Contact Area Four Wheels	
	kPa	psi	kPa	psi	cm²	in²
Tip Penetration						
12.7 mm (0.5 in)	7178.41	1041.14	8092.55	1173.73	407.65	63.19
25 mm (1.0 in)	2609.39	378.46	2941.72	426.66	1121.55	173.84
38 mm (1.5 in)	1411.35	204.70	1591.10	230.77	2073.54	321.40
50 mm (2.0 in)	704.99	102.25	794.76	115.27	4150.96	643.40
75 mm (3.0 in)	610.19	88.50	687.89	99.77	4795.60	743.32
100 mm (4.0 in)	421.68	61.16	475.39	68.95	6939.86	1075.68
125 mm (5.0 in)	382.52	55.48	431.27	62.55	7650.04	1185.76
150 mm (6.0 in)	324.33	47.04	365.63	53.03	9022.18	1398.44
175 mm (7.0 in)	311.09	45.12	350.74	50.87	9405.66	1457.88
200 mm (8.0 in)	139.55	20.24	157.34	22.82	20 965.89	3249.72

825H Heavy Duty Tip	Weight Front Axle 14 919.98 kg (32,892.93 lb) Ground Contact Pressure		Weight Rear Axle 16 819.98 kg (37,081.71 lb) Ground Contact Pressure		Contact Area Four Wheels	
	kPa	psi	kPa	psi	cm²	in²
Tip Penetration						
12.7 mm (0.5 in)	7615.41	1104.52	8585.20	1245.18	96.07	14.89
25 mm (1.0 in)	6199.83	899.21	6989.35	1013.72	472.00	73.16
38 mm (1.5 in)	3614.20	524.19	1915.27	277.79	430.61	66.74
50 mm (2.0 in)	1621.44	235.17	1827.94	265.12	1804.64	279.72
75 mm (3.0 in)	970.64	140.78	1094.20	158.70	3014.96	467.32
100 mm (4.0 in)	774.28	112.30	872.95	126.61	3779.35	585.80
125 mm (5.0 in)	570.89	82.80	643.56	93.34	5126.18	794.56
150 mm (6.0 in)	443.13	64.27	499.59	72.46	6603.60	1023.56
175 mm (7.0 in)	417.06	60.49	470.22	68.20	7016.24	1087.52
200 mm (8.0 in)	389.07	56.43	438.64	63.62	7520.76	1165.72
225 mm (9.0 in)	381.07	55.27	429.61	62.31	7678.95	1190.24
250 mm (10.0 in)	128.59	18.65	145.00	21.03	22 753.76	3526.84

WHEEL LOADERS INTEGRATED TOOLCARRIERS

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WHEEL LOADERS

Features:

- Cat heavy duty diesel engine.
- Productive operator environment. Excellent visibility.
- Automatic lift and bucket controls.
- Adjustable suspension seat and steering column.
- Four wheel enclosed wet disc brakes.
- Automatic power shift transmissions. Allows operator to select automatic or manual mode.
- Hydrostatic drive on 906H, 908H and 914G.
- Transmission neutralizer switch (924H, 924Hz, 928Hz, 930H, 938H-980H).
- Computerized machine function monitoring.
- Command control steering with integrated transmission controls and electro-hydraulic controls ... 950H-980H.
- Lock up clutch on 990H and 994F (optional on 988H).
- Impeller clutch on 988H, 990H, 992K, 993K and 994F.
- Tilting hood ... 938H-980H.
- Brake wear indicator.
- Limited slip differentials.
- Differential locks ... 938H.
- Automatic Ride Control suspension system. Operator select "on", "off" or "automatic".
- Payload control system.
- Optional Fusion™ coupler system for work tool interchangeability with pin-on performance. Work tools can interchange across the entire SWL/MWL/IT line.

INTEGRATED TOOLCARRIERS

Features:

- **Integral quick coupler** for fast tool changes.
- **Wide range of tools** available to meet many jobs.
- **Increased lift height and reach** over conventional loaders.
- **Parallel lift** from ground level to maximum height.
- **High tilt force** throughout lift cycle provides exceptional load control.
- **Transmission neutralizer lockout switch** for low speed maneuverability is standard. (IT14G-IT62H)
- **Positive carry position** for load stability and retention.
- **Third and fourth valves available** for multiple tool functions.
- **Work tool interchangeability.** Optional Fusion coupler system for work tool interchangeability with pin-on performance. Work tools can interchange across the entire SWL/MWL/IT line.
- **Excellent center visibility** to quick coupler and work tool.
- **Two position return** to work kickouts.
- **Several quick-coupler work tools** for IT38H and IT62H are available from the factory and ship with the machine. Contact your Cat dealer for details.

								
MODEL	904H		906H		907H		908H	
Flywheel Power: Net	39 kW	52 hp	51 kW	68.4 hp	51 kW	68.4 hp	58 kW	77.8 hp
Gross	41 kW	55 hp	55 kW	73.8 hp	55 kW	73.8 hp	62 kW	83 hp
Engine Model	MHI S4Q2-T		C3.4		C3.4		C3.4	
Rated Engine RPM	2400		2500		2500		2500	
Bore	88 mm	3.46"	94 mm	3.7"	94 mm	3.7"	94 mm	3.7"
Stroke	103 mm	4.06"	120 mm	4.72"	120 mm	4.72"	120 mm	4.72"
No. Cylinders	4		4		4		4	
Displacement	2.505 L	153 in ³	3.331 L	203.3 in ³	3.331 L	203.3 in ³	3.331 L	203.3 in ³
Speeds Forward	km/h	mph	km/h	mph	km/h	mph	km/h	mph
1st	7	Lo 4	7	Lo 4	7	Lo 4	7	Lo 4
2nd	20	Hi 12	20	Hi 12	20	Hi 12	20	Hi 12
Speeds Reverse								
1st	7	Lo 4	7	Lo 4	7	Lo 4	7	Lo 4
2nd	20	Hi 12	20	Hi 12	20	Hi 12	20	Hi 12
Hydraulic Cycle Time,	Seconds		Seconds		Seconds		Seconds	
Rated Load in Bucket:								
Raise	4.5		5		5		5	
Dump	0.8		2		2		2	
Lower								
(Empty, Float Down)	3.2		4		4		4	
Total	8.5		11		11		11	
Tread Width	1327 mm	4'4"	1420 mm	4'8"	1420 mm	4'8"	1590 mm	5'2"
Width Over Tires	1642 mm	5'5"	1820 mm	5'11"	1820 mm	5'11"	1993 mm	78.6"
Ground Clearance	287 mm	11"	301 mm	12"	301 mm	12"	340 mm	14"
Fuel Tank Capacity	83 L	22 U.S. gal	52 L	13.7 U.S. gal	78 L	20.6 U.S. gal	78 L	20.6 U.S. gal
Hydraulic Tank Capacity	30 L	7.9 U.S. gal	84 L	22.2 U.S. gal	84 L	22.2 U.S. gal	84 L	22.2 U.S. gal
Hydraulic System Capacity (includes tank)	43 L	11 U.S. gal	95 L	25.1 U.S. gal	95 L	25.1 U.S. gal	95 L	25.1 U.S. gal



MODEL	914G/IT14G		924Hz		924H Standard VersaLink Pin On/Hook On		924H High Lift VersaLink Pin On/Hook On	
Flywheel Power: Net	72 kW	96 hp	97 kW	130 hp	97 kW	130 hp	97 kW	130 hp
Gross	75 kW	101 hp	98 kW	132 hp	98 kW	132 hp	98 kW	132 hp
Engine Model	Cat 3054C DIT		C6.6		C6.6		C6.6	
Rated Engine RPM	2200		2300		2300		2300	
Bore	100 mm	3.94"	105 mm	4.13"	105 mm	4.13"	105 mm	4.13"
Stroke	127 mm	5"	127 mm	5"	127 mm	5"	127 mm	5"
No. Cylinders	4		6		6		6	
Displacement	4 L	243 in ³	6.6 L	403 in ³	6.6 L	403 in ³	6.6 L	403 in ³
Speeds Forward	km/h mph		km/h mph		km/h mph		km/h mph	
1st	9	Lo 5.6	6.9	4.3	6.9	4.3	6.9	4.3
2nd	35	Hi 22	12.9	8.0	12.9	8.0	12.9	8.0
3rd	—	—	22.9	14.2	22.9	14.2	22.9	14.2
4th	—	—	39.7	24.7	39.7	24.7	39.7	24.7
Speeds Reverse								
1st	9	Lo 5.6	6.9	4.3	6.9	4.3	6.9	4.3
2nd	35	Hi 22	12.9	8.0	12.9	8.0	12.9	8.0
3rd	—	—	22.9	14.2	22.9	14.2	22.9	14.2
Hydraulic Cycle Time,	Seconds		Seconds		Seconds		Seconds	
Rated Load in Bucket:	914G	IT14G						
Raise	5.6	6.9	5.2		5.2		5.2	
Dump	2.1	2.5	1.2		1.6		1.9	
Lower								
(Empty, Float Down)	3.2	3.1	3.0		2.7		2.4	
Total	10.9	12.5	9.4		9.5		9.5	
Tread Width	1.80 m	5'11"	1.83 m	6'0"	1.83 m	6'0"	1.83 m	6'0"
Width Over Tires	2.26 m	7'5"	2.44 m	8'0"	2.44 m	8'0"	2.44 m	8'0"
Ground Clearance	456 mm	18"	436 mm	17"	436 mm	17"	436 mm	17"
Fuel Tank Capacity	150 L	39.6 U.S. gal	225 L	59.4 U.S. gal	225 L	59.4 U.S. gal	225 L	59.4 U.S. gal
Hydraulic Tank Capacity	70 L	18.5 U.S. gal	70 L	18.5 U.S. gal	70 L	18.5 U.S. gal	70 L	18.5 U.S. gal
Hydraulic System Capacity (includes tank)	100 L	26.4 U.S. gal	148 L	39 U.S. gal	148 L	39 U.S. gal	148 L	39 U.S. gal


**930H
Standard
VersaLink**
**930H
High Lift
VersaLink**

MODEL	928Hz		Pin On/Hook On		Pin On/Hook On		938H/IT38H	
Flywheel Power: Net	112 kW	150 hp	112 kW	150 hp	112 kW	150 hp	134 kW	180 hp
Gross	113 kW	152 hp	113 kW	152 hp	113 kW	152 hp	147 kW	197 hp
Engine Model	C6.6		C6.6		C6.6		C6.6	
Rated Engine RPM	2300		2300		2300		2100	
Bore	105 mm	4.13"	105 mm	4.13"	105 mm	4.13"	105 mm	4.13"
Stroke	127 mm	5"	127 mm	5"	127 mm	5"	127 mm	5"
No. Cylinders	6		6		6		6	
Displacement	6.6 L	403 in ³	6.6 L	403 in ³	6.6 L	403 in ³	6.6 L	403 in ³
Speeds Forward	km/h	mph	km/h	mph	km/h	mph	km/h	mph
1st	8.1	5.0	6.9	4.3	6.9	4.3	7.9	4.9
2nd	12.9	8.0	12.9	8.0	12.9	8.0	14.2	8.8
3rd	26.7	16.6	22.9	14.2	22.9	14.2	25.0	15.5
4th	37.6	23.4	39.7	24.7	39.7	24.7	41.1	25.5
Speeds Reverse								
1st	8.1	5.0	6.9	4.3	6.9	4.3	7.9	4.9
2nd	12.8	8.0	12.9	8.0	12.9	8.0	14.2	8.8
3rd	26.7	16.6	22.9	14.2	22.9	14.2	25.0	15.5
Hydraulic Cycle Time,							Seconds	
Rated Load in Bucket:	Seconds		Seconds		Seconds		938H	IT38H
Raise	6.0		5.0		5.4		5.4	5.0
Dump	1.2		1.7		2.2		1.4	2.0
Lower								
(Empty, Float Down)	3.0		2.9		2.7		2.7	2.7
Total	10.2		9.6		10.3		9.5	9.7
Tread Width	1.95 m	6'5"	1.96 m	6'5"	1.96 m	6'5"	2.02 m	6'8"
Width Over Tires	2.57 m	8'5"	2.57 m	8'5"	2.57 m	8'5"	2.65 m	8'8"
Ground Clearance	408 mm	16"	411 mm	16"	411 mm	16"	397 mm	16"
Fuel Tank Capacity	225 L	59.4 U.S. gal	225 L	59.4 U.S. gal	225 L	59.4 U.S. gal	247 L	65.3 U.S. gal
Hydraulic Tank Capacity	70 L	18.5 U.S. gal	70 L	18.5 U.S. gal	70 L	18.5 U.S. gal	89 L	23.5 U.S. gal
Hydraulic System Capacity (includes tank)	120 L	32 U.S. gal	148 L	39 U.S. gal	148 L	39 U.S. gal	162 L	42.8 U.S. gal



MODEL	950H		962H/IT62H		966H	
Flywheel Power: Net	146 kW	196 hp	158 kW	211 hp	195 kW	262 hp
Gross	161 kW	216 hp	172 kW	230 hp	211 kW	283 hp
Engine Model	C7 ATAAC		C7 ATAAC		C11 ATAAC	
Rated Engine RPM	1800		1800		1800	
Bore	110 mm	4.3"	110 mm	4.3"	130 mm	5.1"
Stroke	127 mm	5"	127 mm	5"	140 mm	5.5"
No. Cylinders	6		6		6	
Displacement	7.2 L	439 in ³	7.2 L	439 in ³	11.1 L	677 in ³
Speeds Forward	km/h	mph	km/h	mph	km/h	mph
1st	6.9	4.3	7.0	4.4	6.7	4.2
2nd	12.7	7.9	13.0	8.1	12.6	7.8
3rd	22.3	13.9	22.6	14.0	22.1	13.7
4th	37.0	23.0	38.0	23.6	37.4	23.2
Speeds Reverse						
1st	7.6	4.7	7.6	4.7	7.4	4.6
2nd	13.9	8.6	13.9	8.6	13.9	8.6
3rd	24.5	15.2	24.5	15.2	24.3	15.1
4th	40.0	24.9	40.0	24.9	37.4	23.2
Hydraulic Cycle Time, Rated Load in Bucket:	Seconds		Seconds		Seconds	
Raise	6.2		962H 6.2	IT62H 6.0	5.9	
Dump	1.3		1.3	2.1	1.6	
Lower (Empty, Float Down)	2.5		2.5	2.6	2.4	
Total	10.0		10.0	10.7	9.9	
Tread Width	2.14 m	7'0"	2.14 m	7'0"	2.23 m	7'4"
Width Over Tires	2.79 m	9'2"	2.79 m	9'2"	3.06 m	9'10"
Ground Clearance	412 mm	16"	412 mm	16"	496 mm	20"
Fuel Tank Capacity	314 L	83 U.S. gal	314 L	83 U.S. gal	380 L	100 U.S. gal
Hydraulic Tank Capacity	110 L	29 U.S. gal	110 L	29 U.S. gal	110 L	29 U.S. gal
Hydraulic System Capacity (includes tank)	186 L	48.4 U.S. gal	186 L	48.4 U.S. gal	200 L	52 U.S. gal



MODEL	972H		980H		988H		990H	
Flywheel Power: Net	214 kW	287 hp	260 kW	349 hp	373 kW	501 hp	468 kW	627 hp
Gross	229 kW	307 hp	293 kW	392 hp	388 kW	520 hp	512 kW	687 hp
Rated Payload*	—		—		11.4 t	12.5 T	15 t	16.5 T
Gross Rated Bucket Payload*	—		—		16 300 kg	36,000 lb	22 700 kg	50,000 lb
Engine Model	C13 ATAAC		C15 ATAAC		C18 ACERT		C27 ACERT	
Rated Engine RPM	1800		1800		1800		2000	
Bore	130 mm	5.1"	137 mm	5.4"	145 mm	5.7"	137 mm	5.4"
Stroke	157 mm	6.2"	171 mm	6.75"	183 mm	7.2"	152 mm	6"
No. Cylinders	6		6		6		12	
Displacement	12.5 L	763 in ³	15.2 L	928 in ³	18.1 L	1104.5 in ³	27.1 L	1666 in ³
Speeds Forward	km/h	mph	km/h	mph	km/h	mph	km/h	mph
1st	7.2	4.5	6.6	4.1	6.7	4.2	7.0	4.3
2nd	12.6	7.8	11.8	7.3	11.8	7.3	12.1	7.5
3rd	21.4	13.3	20.7	12.9	20.8	12.9	20.8	13.0
4th	36.9	22.9	36.3	22.6	36.0	22.3	—	
Speeds Reverse								
1st	8.2	5.1	7.6	4.7	7.6	4.7	7.7	4.8
2nd	14.2	8.8	13.5	8.4	13.5	8.4	13.4	8.3
3rd	24.3	15.1	23.6	14.7	23.7	14.7	22.9	14.2
4th	38.8	24.0	41.5	25.8	—		—	
Hydraulic Cycle Time,								
Rated Load in Bucket:	Seconds		Seconds		Seconds		Seconds	
Raise	5.9		6.0		9.4		9.2	
Dump	2.1		2.1		2.4		2.9	
Lower								
(Empty, Float Down)	2.4		3.4		3.8		3.8	
Total	10.4		11.5		15.6		15.9	
Tread Width	2.23 m	7'4"	2.44 m	8'0"	2.59 m	8'6"	3.1 m	10'2"
Width Over Tires	3.00 m	9'10"	3.23 m	10'7"	3.54 m	11'7"	4.1 m	13'5"
Ground Clearance	494 mm	20"	442 mm	17.4"	549 mm	22"	478 mm	18.8"
Fuel Tank Capacity	380 L	100 U.S. gal	479 L	127 U.S. gal	712 L	188 U.S. gal	1074 L	284 U.S. gal
Hydraulic Tank Capacity	110 L	29 U.S. gal	125 L	33 U.S. gal	267 L	70 U.S. gal	174 L†	46 U.S. gal
Hydraulic System Capacity (includes tank)	200 L	52 U.S. gal	250 L	66 U.S. gal	470 L	124 U.S. gal	435 L†	115 U.S. gal

*Changes in bucket weight, including field installed wear iron, can impact rated payload. Consult your Cat dealer for assistance in selecting and configuring the proper bucket for the application. The Cat Large Wheel Loader Payload Policy is a guideline intended to maximize wheel loader structural and component life. The Cat Payload Policy is that the "Gross Bucket plus Payload Capacity" is the MAXIMUM weight that should be carried on the end of the Lift Arm/Boom.

†990H has a separate hydraulic system for steering and engine cooling fan. System (including tank) 194 L (51 U.S. gal), tank only 132 L (35 U.S. gal).

Wheel Loaders Integrated Toolcarriers

Specifications



MODEL	992K		993K		994F	
Flywheel Power: Net	597 kW	801 hp	705 kW	945 hp	1092 kW	1463 hp
Max.	674 kW	904 hp	783 kW	1050 hp	1176 kW	1577 hp
Rated Payload*	—		22.7 t	25 T	35 t	STD 38 T
					32 t	H.L. 35 T
					32 t	SHL 35 T
Gross Rated Bucket Payload*	29 600 kg	65,300 lb	37 600 kg	82,900 lb	55 800 kg	STD 123,000 lb
					53 100 kg	H.L. 117,000 lb
					53 100 kg	SHL 117,000 lb
Engine Model	C32 ACERT		C32 ACERT		3516B HHD EUI	
Rated Engine RPM	1750		1900		1600	
Bore	145 mm	5.7"	145 mm	5.7"	170 mm	6.7"
Stroke	162 mm	6.4"	162 mm	6.4"	215 mm	8.5"
No. Cylinders	12		12		16	
Displacement	32.1 L	1959 in ³	32.1 L	1959 in ³	78 L	4875 in ³
Speeds Forward	km/h	mph	km/h	mph	km/h	mph
1st	7.1	4.4	7.0	4.3	7.7	4.8
2nd	12.2	7.6	11.5	7.1	13.4	8.3
3rd	20.6	12.8	19.6	12.2	22.5	14.0
Speeds Reverse						
1st	7.4	4.6	7.6	4.7	8.5	5.3
2nd	13.0	8.1	12.9	8.0	13.2	8.2
3rd	22.4	13.9	21.8	13.5	24.8	15.4
Hydraulic Cycle Time,						
Rated Load in Bucket:	Seconds		Seconds		Seconds	
Raise	9.4		9.4		11.3	
Dump	1.8		2.1		3.1	
Lower (Empty, Float Down)	3.7		3.7		3.5	
Total	14.9		15.2		17.9	
Tread Width	3.3 m	10'10"	3.54 m	11'6"	4.1 m	13'5"
Width Over Tires	4.5 m	14'9"	4.93 m	16'2"	5.45 m	17'11"
Ground Clearance	682 mm	26.8"	783 mm	30.8"	825 mm	32"
Fuel Tank Capacity	1610 L	425 U.S. gal	2170 L	573 U.S. gal	3833 L	1013 U.S. gal
Hydraulic Systems:						
Lift, Tilt	646 L	171 U.S. gal	755 L	199 U.S. gal	690 L	170 U.S. gal
Tank Only	326 L	86 U.S. gal	475 L	125.5 U.S. gal	390 L	103 U.S. gal
Steering and Brakes	231 L	61 U.S. gal	227 L	60 U.S. gal	267 L	71 U.S. gal
Tank Only	159 L	42 U.S. gal	185 L	48.9 U.S. gal	208 L	55 U.S. gal
Brake Cooling	—	—	—	—	42 L	11 U.S. gal
Tank Only	—	—	—	—	36 L	9.5 U.S. gal

*Changes in bucket weight, including field installed wear iron, can impact rated payload. Consult your Cat dealer for assistance in selecting and configuring the proper bucket for the application. The Cat Large Wheel Loader Payload Policy is a guideline intended to maximize wheel loader structural and component life. The Cat Payload Policy is that the "Gross Bucket plus Payload Capacity" is the MAXIMUM weight that should be carried on the end of the Lift Arm/Boom.

Bucket Type		General Purpose			Multi-Purpose			Light Material
Ground Engaging Type		Bare	Bolt-on Edges	Bolt-on Teeth	Bare	Bolt-on Edges	Bolt-on Teeth	Bolt-on Edges
Rated bucket capacity (\$)	m³ yd³	0.6 0.78	0.6 0.78	0.6 0.78	0.6 0.78	0.6 0.78	0.6 0.78	1.0 1.31
Struck capacity (\$)	m³ yd³	0.48 0.63	0.48 0.63	0.48 0.63	0.48 0.63	0.48 0.63	0.48 0.63	0.74 0.97
Bucket width	mm ft/in	1780 5'10"	1790 5'11"	1780 5'10"	1780 5'10"	1790 5'11"	1780 5'10"	1890 6'3"
Dump clearance at full lift and 45° discharge (\$)	mm ft/in	2377 7'10"	2343 7'9"	2377 7'10"	2382 7'10"	2348 7'9"	2382 7'10"	2191 7'3"
Reach at full lift and 45° discharge (\$)	mm ft/in	664 2'2"	677 2'3"	664 2'2"	669 2'2"	681 2'3"	669 2'2"	801 2'8"
Reach at 45° discharge and 2130 mm (7'0") clearance (\$)	mm ft/in	917 3'0"	895 2'11"	917 3'0"	952 3'2"	—	952 3'2"	—
Reach with lift arms horizontal and bucket level	mm ft/in	1869 6'2"	1902 6'3"	1869 6'2"	1874 6'2"	1907 6'3"	1874 6'2"	2103 6'11"
Digging depth (\$)	mm in	91 3.6	107 4.2	91 3.6	58 2.3	74 2.9	58 2.3	100 3.9
Overall length	mm ft/in	4693 15'5"	4739 15'7"	4693 15'5"	4678 15'5"	4726 15'7"	4678 15'5"	4940 16'3"
Overall height with bucket at full raise (\$)	mm ft/in	3996 13'2"	3996 13'2"	3996 13'2"	3949 13'0"	3949 13'0"	3949 13'0"	4285 14'1"
Loader clearance circle with bucket in carry position	mm ft/in	3838 12'8"	3859 12'8"	3838 12'8"	3840 12'8"	3860 12'8"	3840 12'8"	3969 13'1"
Static tipping load, straight* (\$)	kg lb	3085 6801	3043 6709	3068 6764	2932 6464	2890 6371	2914 6424	2962 6530
Static tipping load, full turn* (\$)	kg lb	2608 5750	2566 5657	2590 5710	2455 5412	2412 5318	2437 5373	2485 5478
Breakout force (\$)	kN lb	32.7 7356	33.0 7424	32.8 7379	33.9 7626	34.2 7694	34.0 7648	33.8 7604
Operating weight*	kg lb	4468 9850	4502 9925	4482 9881	4639 10,227	4673 10,302	4653 10,258	4578 10,093

*Static tipping load and operating weights shown are with implements, cab, air conditioning, 12-16.5 tires, full fuel tank, operator and 75 kg (165 lb) counterweight.

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers (SAE). SAE Standards J732 JUN92 and J742 FEB85 govern loader rating, denoted in the text by (\$).

	Change in Operating Weight		Change in Articulated Static Tipping Load	
	kg	lb	kg	lb
OROPS/No HVAC	-150	-330	-130	-287
Remote oil cooler	+ 30	+ 66	- 32	- 71
Ride control	+ 12	+ 26	+ 1	+ 2

Wheel Loaders Integrated Toolcarriers

Performance Data

- 906H
- Vertical Coupler

Bucket Type		General Purpose			Multi-Purpose			Light Material
Ground Engaging Type		Bare	Bolt-on Edges	Bolt-on Teeth	Bare	Bolt-on Edges	Bolt-on Teeth	Bolt-on Edges
Rated bucket capacity (\$)	m³ yd³	0.9 1.18	0.9 1.18	0.9 1.18	0.75 1.0	0.75 1.0	0.75 1.0	1.2 1.56
Struck capacity (\$)	m³ yd³	0.75 1.0	0.75 1.0	0.75 1.0	0.6 0.8	0.6 0.8	0.6 0.8	1.0 1.31
Bucket width	mm ft/in	1880 6'2"	1890 6'2"	1880 6'2"	1880 6'2"	1890 6'2"	1880 6'2"	2080 6'10"
Dump clearance at full lift and 45° discharge (\$)	mm ft/in	2393 7'8"	2359 7'8"	2393 7'8"	2468 8'1"	2434 8'0"	2468 8'1"	2395 7'10"
Reach at full lift and 45° discharge (\$)	mm ft/in	809 2'8"	820 2'8"	809 2'8"	758 2'6"	770 2'6"	758 2'6"	803 2'8"
Reach at 45° discharge and 2130 mm (7'0") clearance (\$)	mm ft/in	1035 2'8"	1050 2'8"	1035 2'8"	970 2'8"	986 2'8"	970 2'8"	1030 3'5"
Reach with lift arms horizontal and bucket level	mm ft/in	2000 6'7"	2033 6'8"	2000 6'7"	1919 6'4"	1952 6'5"	1919 6'4"	2144 7'0"
Digging depth (\$)	mm in	91 3.6	107 4.2	91 3.6	85 3.3	101 4.0	85 3.3	104 4.0
Overall length	mm ft/in	5586 18'4"	5620 18'4"	5586 18'4"	5497 18'0"	5530 18'2"	5497 18'0"	5730 18'10"
Overall height with bucket at full raise (\$)	mm ft/in	4192 13'9"	4192 13'9"	4192 13'9"	4176 13'8"	4176 13'8"	4176 13'8"	4257 14'0"
Loader clearance circle with bucket in carry position	mm ft/in	8890 29'2"	8928 29'3"	8890 29'2"	8832 29'0"	8868 29'1"	8832 29'0"	9132 30'0"
Static tipping load, straight* (\$)	kg lb	3985 8787	3841 8469	3925 8655	4065 8963	3937 8681	4010 8842	3688 8132
Static tipping load, full turn* (\$)	kg lb	3159 6966	3036 6694	3107 6851	3197 7049	3087 6807	3149 6944	2898 6390
Breakout force (\$)	kN lb	42 9440	41 9216	38 8541	47 10,564	45 10,115	42 9440	38 8541
Operating weight*	kg lb	5629 12,412	5663 12,487	5642 12,441	5755 12,690	5789 12,765	5768 12,718	5733 12,641

*Static tipping load and operating weights shown are with implements, ROPS cab, 12.5-20 tires, full fuel tank, operator and 80 kg (176 lb) counterweight.

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers (SAE). SAE Standards J732 JUN92 and J742 FEB85 govern loader rating, denoted in the text by (\$).

	Change in Operating Weight		Change in Articulated Static Tipping Load	
	kg	lb	kg	lb
35 km/h (22 mph) transmission	+ 101	+ 223	+ 30	+ 66
Cab — Standard	0	0	0	0
Cab — Comfort	0	0	0	0
Cab — Deluxe	0	0	0	0
OOPS/No HVAC	- 125	- 276	- 117	- 258
Ride control	+ 12	+ 27	+ 3	+ 7
Cylinder check valves	+ 9	+ 20	+ 1	+ 2
Air conditioning	+ 32	+ 71	+ 44	+ 97

Performance Data
 • 906H
 • Horizontal Coupler

Wheel Loaders
 Integrated Toolcarriers

Bucket Type		General Purpose			Multi-Purpose			Light Material
Ground Engaging Type		Bare	Bolt-on Edges	Bolt-on Teeth	Bare	Bolt-on Edges	Bolt-on Teeth	Bolt-on Edges
Rated bucket capacity (\$)	m³ yd³	0.9 1.18	0.9 1.18	0.9 1.18	0.75 0.98	0.75 0.98	0.75 0.98	1.2 1.56
Struck capacity (\$)	m³ yd³	0.75 0.98	0.75 0.98	0.75 0.98	0.6 0.78	0.6 0.78	0.6 0.78	1.0 1.31
Bucket width	mm ft/in	1880 6'2"	1890 6'2"	1880 6'2"	1880 6'2"	1890 6'2"	1880 6'2"	2080 6'10"
Dump clearance at full lift and 45° discharge (\$)	mm ft/in	2513 8'3"	2478 8'2"	2437 8'0"	2500 8'2"	2465 8'1"	2428 8'0"	2429 8'0"
Reach at full lift and 45° discharge (\$)	mm ft/in	714 2'4"	725 2'5"	785 2'7"	704 2'4"	715 2'4"	775 2'7"	792 2'7"
Reach at 45° discharge and 2130 mm (7'0") clearance (\$)	mm ft/in	914 3'0"	928 3'1"	1005 3'4"	901 2'11"	915 3'0"	992 3'3"	1014 3'4"
Reach with lift arms horizontal and bucket level	mm ft/in	1851 6'1"	1883 6'2"	1953 6'5"	1858 6'1"	1891 6'2"	1960 6'5"	1994 6'7"
Digging depth (\$)	mm in	79 3.0	95 4.0	79 3.0	90 4.0	106 4.0	90 4.0	83 3.3
Overall length	mm ft/in	5436 17'10"	5469 17'11"	5538 18'2"	5436 17'10"	5436 17'10"	5538 18'2"	5580 18'4"
Overall height with bucket at full raise (\$)	mm ft/in	4077 13'5"	4077 13'5"	4077 13'5"	4134 13'7"	4134 13'7"	4134 13'7"	4141 13'7"
Loader clearance circle with bucket in carry position	mm ft/in	8802 28'11"	8840 29'0"	8784 28'10"	8812 28'11"	8848 29'0"	8792 28'10"	9042 29'8"
Static tipping load, straight* (\$)	kg lb	4283 9442	4123 9090	4215 9292	4167 9187	4069 8971	4088 9012	3892 8580
Static tipping load, full turn* (\$)	kg lb	3400 7496	3264 7196	3342 7368	3276 7222	3196 7046	3204 7064	3051 6726
Breakout force (\$)	kN lb	51 11,463	49 11,014	45 10,115	52 11,688	49 11,014	45 10,115	43 9665
Operating weight*	kg lb	5636 12,425	5670 12,500	5649 12,454	5796 12,778	5830 12,853	5809 12,807	5741 12,657

*Static tipping load and operating weights shown are with implements, ROPS cab, 12.5-20 tires, full fuel tank, operator and 80 kg (176 lb) counterweight.

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers (SAE). SAE Standards J732 JUN92 and J742 FEB85 govern loader rating, denoted in the text by (\$).

	Change in Operating Weight		Change in Articulated Static Tipping Load	
	kg	lb	kg	lb
35 km/h (22 mph) transmission	+ 101	+ 223	+ 30	+ 66
Cab — Standard	0	0	0	0
Cab — Comfort	0	0	0	0
Cab — Deluxe	0	0	0	0
OOPS/No HVAC	- 125	- 276	- 117	- 258
Ride control	+ 12	+ 27	+ 3	+ 7
Cylinder check valves	+ 9	+ 20	+ 1	+ 2
Air conditioning	+ 32	+ 71	+ 44	+ 97

Wheel Loaders
Integrated Toolcarriers

- Performance Data
- 907H
 - Vertical Coupler

Bucket Type		General Purpose			Multi-Purpose			Light Material
Ground Engaging Type		Bare	Bolt-on Edges	Bolt-on Teeth	Bare	Bolt-on Edges	Bolt-on Teeth	Bolt-on Edges
Rated bucket capacity (\$)	m³ yd³	1.0 1.31	1.0 1.31	1.0 1.31	0.75 1.0	0.75 1.0	0.75 1.0	1.2 1.56
Struck capacity (\$)	m³ yd³	0.8 1.05	0.8 1.05	0.8 1.05	0.6 0.8	0.6 0.8	0.6 0.8	1.0 1.31
Bucket width	mm ft/in	2035 6'8"	2045 6'9"	2035 6'8"	1880 6'2"	1890 6'2"	1880 6'2"	2080 6'10"
Dump clearance at full lift and 45° discharge (\$)	mm ft/in	2393 7'10"	2359 7'9"	2321 7'7"	2468 8'1"	2434 8'0"	2397 7'10"	2395 7'10"
Reach at full lift and 45° discharge (\$)	mm ft/in	809 2'8"	820 2'8"	880 2'11"	758 2'6"	770 2'6"	830 2'9"	803 2'8"
Reach at 45° discharge and 2130 mm (7'0") clearance (\$)	mm ft/in	1035 3'5"	1050 3'5"	1100 3'7"	970 3'2"	986 3'3"	1036 3'5"	1027 3'4"
Reach with lift arms horizontal and bucket level	mm ft/in	2000 6'7"	2033 6'8"	2102 6'11"	1919 6'4"	1952 6'5"	2021 6'8"	2144 7'0"
Digging depth (\$)	mm in	91 3.6	107 4.2	91 3.6	85 3.4	101 4.0	85 3.4	104 4.1
Overall length	mm ft/in	5586 18'4"	5620 18'5"	5690 18'8"	5497 18'0"	5530 18'2"	5599 18'4"	5730 18'10"
Overall height with bucket at full raise (\$)	mm ft/in	4192 13'9"	4192 13'9"	4192 13'9"	4176 13'8"	4176 13'8"	4176 13'8"	4257 14'0"
Loader clearance circle with bucket in carry position	mm ft/in	9030 29'8"	9068 29'9"	9016 29'7"	8832 29'0"	8868 29'1"	8812 28'11"	9132 30'0"
Static tipping load, straight* (\$)	kg lb	4319 9523	4160 9173	4251 9373	4433 9775	4298 9477	4375 9647	4023 8871
Static tipping load, full turn* (\$)	kg lb	3168 6985	3038 6699	3112 6862	3223 7107	3113 6864	3176 7003	2922 6443
Breakout force (\$)	kN lb	42 9440	41 9216	38 8541	47 10,564	45 10,115	42 9440	38 8541
Operating weight*	kg lb	5821 12,835	5859 12,919	5838 12,873	5926 13,067	5960 13,142	5939 13,095	5904 13,018

*Static tipping load and operating weights shown are with implements, ROPS cab, 12.5-20 tires, full fuel tank, operator and 80 kg (176 lb) counterweight.

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers (SAE). SAE Standards J732 JUN92 and J742 FEB85 govern loader rating, denoted in the text by (\$).

	Change in Operating Weight		Change in Articulated Static Tipping Load	
	kg	lb	kg	lb
35 km/h (22 mph) transmission	+ 101	+ 223	+ 30	+ 66
Cab — Standard	0	0	0	0
Cab — Comfort	0	0	0	0
Cab — Deluxe	0	0	0	0
OOPS/No HVAC	- 125	- 276	- 117	- 258
Ride control	+ 12	+ 27	+ 3	+ 7
Cylinder check valves	+ 9	+ 20	+ 1	+ 2
Air conditioning	+ 32	+ 71	+ 44	+ 97

Performance Data
● 907H
● Horizontal Coupler

Wheel Loaders
Integrated Toolcarriers

Bucket Type		General Purpose			Multi-Purpose			Light Material
Ground Engaging Type		Bare	Bolt-on Edges	Bolt-on Teeth	Bare	Bolt-on Edges	Bolt-on Teeth	Bolt-on Edges
Rated bucket capacity (\$)	m³ yd³	1.0 1.31	1.0 1.31	1.0 1.31	0.75 0.98	0.75 0.98	0.75 0.98	1.2 1.56
Struck capacity (\$)	m³ yd³	0.75 0.98	0.75 0.98	0.75 0.98	0.6 0.78	0.6 0.78	0.6 0.78	1.0 1.31
Bucket width	mm ft/in	2035 6'8"	2045 6'9"	2035 6'8"	1880 6'2"	1890 6'2"	1880 6'2"	2080 6'10"
Dump clearance at full lift and 45° discharge (\$)	mm ft/in	2513 8'3"	2478 8'2"	2437 8'0"	2500 8'2"	2465 8'1"	2428 8'0"	2429 8'0"
Reach at full lift and 45° discharge (\$)	mm ft/in	714 2'4"	725 2'5"	785 2'7"	704 2'4"	715 2'4"	775 2'7"	792 2'7"
Reach at 45° discharge and 2130 mm (7'0") clearance (\$)	mm ft/in	914 3'0"	928 3'1"	1005 3'4"	900 2'11"	915 3'0"	992 3'3"	1014 3'4"
Reach with lift arms horizontal and bucket level	mm ft/in	1851 6'1"	1883 6'2"	1953 6'5"	1858 6'1"	1891 6'2"	1960 6'5"	1994 6'7"
Digging depth (\$)	mm in	79 3.1	95 3.7	79 3.1	90 3.5	106 4.2	90 3.5	83 3.0
Overall length	mm ft/in	5436 17'10"	5469 17'11"	5538 18'2"	5436 17'10"	5469 17'11"	5538 18'2"	5580 18'4"
Overall height with bucket at full raise (\$)	mm ft/in	4077 13'5"	4077 13'5"	4077 13'5"	4134 13'7"	4134 13'7"	4134 13'7"	4141 13'7"
Loader clearance circle with bucket in carry position	mm ft/in	8946 29'4"	8978 29'5"	8784 28'10"	8812 28'11"	8848 29'0"	8792 28'10"	9042 29'8"
Static tipping load, straight* (\$)	kg lb	4641 10,232	4465 9844	4565 10,064	4545 10,020	4400 9700	4487 9892	4317 9517
Static tipping load, full turn* (\$)	kg lb	3411 7520	3268 7205	3350 7385	3303 7282	3185 7022	3256 7178	3144 6931
Breakout force (\$)	kN lb	51 11,463	49 11,014	45 10,115	52 11,688	49 11,014	45 10,115	43 9665
Operating weight*	kg lb	5821 12,833	5859 12,917	5838 12,871	5966 13,153	6000 13,228	5979 13,181	5911 13,032

*Static tipping load and operating weights shown are with implements, ROPS cab, 12.5-20 tires, full fuel tank, operator and 80 kg (176 lb) counterweight.

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers (SAE). SAE Standards J732 JUN92 and J742 FEB85 govern loader rating, denoted in the text by (\$).

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	Change in Operating Weight		Change in Articulated Static Tipping Load	
	kg	lb	kg	lb
35 km/h (22 mph) transmission	+ 101	+ 223	+ 30	+ 66
Cab — Standard	0	0	0	0
Cab — Comfort	0	0	0	0
Cab — Deluxe	0	0	0	0
OOPS/No HVAC	- 125	- 276	- 117	- 258
Ride control	+ 12	+ 27	+ 3	+ 7
Cylinder check valves	+ 9	+ 20	+ 1	+ 2
Air conditioning	+ 32	+ 71	+ 44	+ 97

Wheel Loaders Integrated Toolcarriers

Performance Data

- 908H
- Vertical Coupler

Bucket Type		General Purpose			Multi-Purpose			Light Material
Ground Engaging Type		Bare	Bolt-on Edges	Bolt-on Teeth	Bare	Bolt-on Edges	Bolt-on Teeth	Bolt-on Edges
Rated bucket capacity (\$)	m³ yd³	1.1 1.44	1.1 1.44	1.1 1.44	0.9 1.18	0.9 1.18	0.9 1.18	1.5 1.96
Struck capacity (\$)	m³ yd³	0.9 1.18	0.9 1.18	0.9 1.18	0.75 1.0	0.75 1.0	0.75 1.0	1.25 1.64
Bucket width	mm ft/in	2060 6'9"	2080 6'10"	2060 6'9"	2060 6'9"	2080 6'10"	2060 6'9"	2080 6'10"
Dump clearance at full lift and 45° discharge (\$)	mm ft/in	2539 8'4"	2505 8'3"	2467 8'1"	2627 8'7"	2593 8'6"	2556 8'5"	2346 7'8"
Reach at full lift and 45° discharge (\$)	mm ft/in	854 2'10"	866 2'10"	926 3'0"	788 2'7"	800 2'7"	861 2'10"	1025 3'4"
Reach at 45° discharge and 2130 mm (7'0") clearance (\$)	mm ft/in	1093 3'7"	1109 3'8"	1169 3'10"	1010 3'4"	1024 3'4"	1085 3'7"	1312 4'4"
Reach with lift arms horizontal and bucket level	mm ft/in	2149 7'1"	2181 7'2"	2251 7'5"	2039 6'8"	2072 6'10"	2141 7'0"	2405 7'11"
Digging depth (\$)	mm in	93 3.7	109 4.3	93 3.7	101 4.0	117 4.6	101 4.0	109 4.3
Overall length	mm ft/in	5747 18'10"	5780 19'0"	5849 19'2"	5643 18'6"	5670 18'7"	5740 18'10"	6004 19'8"
Overall height with bucket at full raise (\$)	mm ft/in	4415 14'6"	4415 14'6"	4415 14'6"	4392 14'5"	4392 14'5"	4392 14'5"	4547 14'11"
Loader clearance circle with bucket in carry position	mm ft/in	9118 29'11"	9158 30'1"	9110 29'11"	9042 29'8"	9080 29'9"	9030 29'8"	9298 30'6"
Static tipping load, straight* (\$)	kg lb	4774 10,527	4613 10,172	4711 10,388	4908 10,822	4763 10,502	4854 10,703	4400 9702
Static tipping load, full turn* (\$)	kg lb	3408 7515	3280 7232	3358 7404	3472 7656	3355 7398	3428 7559	3103 6842
Breakout force (\$)	kN lb	47 10,564	46 10,339	43 9665	54 12,138	52 11,688	48 10,789	38 8541
Operating weight*	kg lb	6459 14,242	6497 14,326	6472 14,271	6589 14,529	6627 14,613	6602 14,557	6572 14,491

*Static tipping load and operating weights shown are with implements, ROPS cab, 12.5-20 tires, full fuel tank, operator and 80 kg (176 lb) counterweight.

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers (SAE). SAE Standards J732 JUN92 and J742 FEB85 govern loader rating, denoted in the text by (\$).

	Change in Operating Weight		Change in Articulated Static Tipping Load	
	kg	lb	kg	lb
35 km/h (22 mph) transmission	+ 101	+ 223	+ 27	+ 60
Cab — Standard	0	0	0	0
Cab — Comfort	0	0	0	0
Cab — Deluxe	0	0	0	0
OOPS/No HVAC	- 125	- 276	- 108	- 238
Ride control	+ 12	+ 27	+ 3	+ 7
Cylinder check valves	+ 9	+ 20	+ 1	+ 2
Air conditioning	+ 32	+ 71	+ 41	+ 90

Performance Data
● 908H
● Horizontal Coupler

Wheel Loaders
Integrated Toolcarriers

Bucket Type		General Purpose			Multi-Purpose			Light Material
Ground Engaging Type		Bare	Bolt-on Edges	Bolt-on Teeth	Bare	Bolt-on Edges	Bolt-on Teeth	Bolt-on Edges
Rated bucket capacity (\$)	m³ yd³	1.1 1.44	1.1 1.44	1.1 1.44	0.9 1.18	0.95 1.24	0.9 1.18	1.5 1.96
Struck capacity (\$)	m³ yd³	0.9 1.18	0.9 1.18	0.9 1.18	0.75 0.98	0.75 0.98	0.75 0.98	1.25 1.64
Bucket width	mm ft/in	2060 6'9"	2080 6'10"	2060 6'9"	2060 6'9"	2080 6'10"	2060 6'9"	2080 6'10"
Dump clearance at full lift and 45° discharge (\$)	mm ft/in	2653 8'8"	2620 8'7"	2583 8'6"	2665 8'9"	2624 8'7"	2586 8'6"	2463 8'1"
Reach at full lift and 45° discharge (\$)	mm ft/in	757 2'6"	770 2'6"	830 2'9"	737 2'5"	748 2'5"	811 2'8"	931 3'1"
Reach at 45° discharge and 2130 mm (7'0") clearance (\$)	mm ft/in	969 3'2"	986 3'3"	1062 3'6"	944 3'1"	957 3'2"	1038 3'5"	1191 3'11"
Reach with lift arms horizontal and bucket level	mm ft/in	1999 6'7"	2031 6'8"	2101 6'11"	1978 6'6"	2010 6'7"	2080 6'10"	2256 7'5"
Digging depth (\$)	mm in	85 3.3	101 4.0	85 3.3	94 3.7	110 4.3	94 3.7	101 4.0
Overall length	mm ft/in	5598 18'4"	5630 18'6"	5699 18'8"	5576 18'4"	5609 18'5"	5678 18'8"	5854 19'2"
Overall height with bucket at full raise (\$)	mm ft/in	4304 14'1"	4304 14'1"	4304 14'1"	4345 14'3"	4345 14'3"	4345 14'3"	4437 14'7"
Loader clearance circle with bucket in carry position	mm ft/in	9022 29'7"	9060 29'9"	9008 29'7"	9018 29'7"	9056 29'9"	9004 29'6"	9192 30'2"
Static tipping load, straight* (\$)	kg lb	5099 11,241	4923 10,853	5029 11,087	5012 11,050	4865 10,725	4959 10,933	4693 10,346
Static tipping load, full turn* (\$)	kg lb	3648 8042	3509 7736	3593 7921	3541 7807	3423 7546	3499 7714	3319 7317
Breakout force (\$)	kN lb	57 12,812	55 12,362	50 11,239	58 13,037	56 12,587	52 11,688	43 9665
Operating weight*	kg lb	6461 14,244	6499 14,328	6474 14,273	6616 14,586	6654 14,670	6629 14,614	6580 14,506

*Static tipping load and operating weights shown are with implements, ROPS cab, 12.5-20 tires, full fuel tank, operator and 80 kg (176 lb) counterweight.

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers (SAE). SAE Standards J732 JUN92 and J742 FEB85 govern loader rating, denoted in the text by (\$).

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	Change in Operating Weight		Change in Articulated Static Tipping Load	
	kg	lb	kg	lb
35 km/h (22 mph) transmission	+ 101	+ 223	+ 27	+ 60
Cab — Standard	0	0	0	0
Cab — Comfort	0	0	0	0
Cab — Deluxe	0	0	0	0
OOPS/No HVAC	- 125	- 276	- 108	- 238
Ride control	+ 12	+ 27	+ 3	+ 7
Cylinder check valves	+ 9	+ 20	+ 1	+ 2
Air conditioning	+ 32	+ 71	+ 41	+ 90

Bucket Type		General Purpose						Penetration	
Ground Engaging Type		Bolt-on Cutting Edges		Bolt-on Teeth & Segments		Bolt-on Teeth		Flush Mounted Teeth	
Rated bucket capacity (\$)	m³ yd³	1.3 1.7	1.4 1.8	1.3 1.7	1.4 1.8	1.2 1.6	1.3 1.7	1.3 1.7	1.4 1.8
Struck capacity (\$)	m³ yd³	1.1 1.4	1.2 1.5	1.1 1.4	1.2 1.5	1.0 1.3	1.1 1.5	1.1 1.5	1.2 1.5
Bucket width	mm ft/in	2401 7'10.5"	2401 7'10.5"	2424 7'11.4"	2424 7'11.4"	2424 7'11.4"	2424 7'11.4"	2434 7'11.8"	2434 7'11.8"
Dump clearance at full lift and 45° discharge (\$)	mm ft/in	2658 8'9"	2623 8'7"	2658 8'9"	2630 8'7"	2714 8'11"	2679 8'10"	2679 8'10"	2679 8'10"
Reach at full lift and 45° discharge (\$)	mm ft/in	973 3'2"	1008 3'4"	966 3'2"	1001 3'3"	943 3'1"	979 3'3"	979 3'3"	979 3'3"
Reach at 45° discharge and 2130 mm (7'0") clearance (\$)	mm ft/in	1330 4'4"	1348 4'5"	1282 4'2"	1297 4'3"	1259 4'2"	1275 4'2"	1287 4'3"	1249 4'1"
Reach with lift arms horizontal and bucket level	mm ft/in	1980 6'6"	2030 6'8"	1970 6'6"	2020 6'8"	1920 6'4"	1970 6'6"	1970 6'6"	1970 6'6"
Digging depth (\$)	mm in	89 3.5	89 3.5	89 3.5	89 3.5	70 2.8	70 2.8	70 2.8	70 2.8
Overall length	mm ft/in	6229 20'5"	6279 20'7"	6328 20'9"	6378 20'11"	6310 20'8"	6360 20'10"	6358 20'10"	6438 21'1"
Overall height with bucket at full raise (\$)	mm ft/in	4390 14'5"	4442 14'7"	4390 14'5"	4442 14'7"	4390 14'5"	4442 14'7"	4442 14'7"	4442 14'7"
Loader clearance circle with bucket in carry position	m ft/in	10.34 33'11"	10.37 34'0"	10.42 34'2"	10.45 34'4"	10.42 34'2"	10.45 34'4"	10.44 34'3"	10.49 34'5"
Static tipping load, straight* (\$)	kg lb	6098 13,446	6069 13,382	6059 13,360	6029 13,294	6169 13,603	6166 13,602	6183 13,634	6011 13,254
Static tipping load, full 40° turn* (\$)	kg lb	5323 11,737	5295 11,675	5284 11,651	5256 11,589	5415 11,940	5387 11,878	5404 11,916	5232 11,537
Breakout force (\$)	kg lb	6367 14,007	5971 13,136	6415 14,113	6010 13,222	6930 15,246	6469 14,232	6484 14,265	6374 14,055
Operating weight*	kg lb	7378 16,262	7391 16,297	7409 16,337	7422 16,366	7336 16,176	7349 16,205	7336 16,176	7500 16,538

*Static tipping load and operating weights shown include lubricants, full fuel tank, ROPS cab, 80 kg (176 lb) operator and 17.5-R25 (L2 equivalent) tires.

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers (SAE). SAE Standards J732 JUN92 and J742 FEB85 govern loader rating, denoted in the text by (\$).

	Change in Operating Weight		Change in Articulated Static Tipping Load	
	kg	lb	kg	lb
Air conditioner	+ 55	+ 121	+ 71	+ 156
Canopy, ROPS (less cab)	- 199	- 438	- 174	- 383
Counterweight, 150 kg (330 lb)	+ 152	+ 334	+ 287	+ 631
Ride control	+ 32	+ 70	+ 6	+ 13
Supplemental steering	+ 30	+ 66	+ 44	+ 97
Tires & rims, 15.5-25, 12 PR (L-2)	- 159	- 351	- 99	- 218
Tires & rims, 15.5-25, 12 PR (L-3)	- 78	- 172	- 48	- 106
Tires & rims, 15.5-R25, Radial (L-2 equivalent)	- 84	- 185	- 52	- 114
Tires & rims, 15.5-R25, Radial (L-3 equivalent)	- 36	- 79	- 23	- 51
Tires & rims, 17.5-25, 12 PR (L-2)	- 126	- 277	- 78	- 172
Tires & rims, 17.5-25, 12 PR (L-3)	+ 12	+ 26	+ 7	+ 15
Tires & rims, 17.5-R25, Radial (L-3 equivalent)	+ 156	+ 343	+ 96	+ 211
Tires & rims, 17.5-R25, Radial (L-2/L-3 equivalent)	+ 95	+ 209	+ 58	+ 128

Performance Data
 ● IT14G
 ● General Purpose Buckets

Wheel Loaders
 Integrated Toolcarriers

Bucket Type		General Purpose	
Cutting Edge		Bolt-on Teeth	Corner Guard or Bolt-on Edge
Heaped capacity	m³	1.2	1.3
	yd³	1.6	1.7
Struck capacity	m³	1.0	1.1
	yd³	1.3	1.4
Bucket width	mm	2424	2401
	ft/in	7'11.4"	7'10.5"
Dump clearance at full lift and 45° discharge	mm	2975	2920
	ft/in	9'9"	9'7"
Reach at 45° discharge and 2130 mm (7'0") clearance	mm	1351	1425
	ft/in	4'5"	4'8"
Reach at full lift and 45° discharge	mm	757	787
	ft/in	2'6"	2'7"
Reach with lift arms horizontal and bucket level	mm	2090	2150
	ft/in	6'10"	7'1"
Digging depth	mm	156	175
	in	6.1	6.9
Overall length	mm	6506	6424
	ft/in	21'4"	21'1"
Overall height with bucket at full raise	mm	4801	4801
	ft/in	15'9"	15'9"
Loader clearance circle with bucket in carry position	m	10.47	10.4
	ft/in	34'4"	34'1"
Static tipping load, straight**	kg	5637	5541
	lb	12,400	12,210
Static tipping load, full turn**	kg	4882	4792
	lb	10,760	10,560
Breakout force*	kN	82.9	77
	lb	18,640	17,340
Operating weight**	kg	7990	8032
	lb	17,620	17,770

*Breakout force is measured 102 mm (4") behind tip of cutting edge with bucket hinge pin as pivot in accordance with SAE J732 JUN92.

**Operating weight and static tipping load include lubricants, full fuel tank, ROPS cab and 80 kg (176 lb) operator.

— IT14G includes high speed version, standard counterweight and 17.5-R25 tires.
 Machine stability is affected by the tire size, tire ballast and attachments.

		Pallet Forks		
Fork tine length	mm ft/in	1050 3'5"	1200 3'11"	1350 4'5"
Ground to top of tine clearance	mm ft/in	3708 12'2"	3708 12'2"	3708 12'2"
Reach with lift arms horizontal and forks level	mm ft/in	1490 4'11"	1490 4'11"	1490 4'11"
Overall length	mm ft/in	6723 22'1"	6873 22'7"	7023 23'1"
Static tipping load, straight*	kg lb	4447 9800	4309 9500	4179 9200
Static tipping load, full turn*	kg lb	3853 8490	3734 8230	3620 7980
Operating weight* 4 forward, 3 reverse	kg lb	7898 17,400	7915 17,450	7928 17,480

*Static tipping load and operating weight include lubricants, full fuel tank, ROPS cab and 80 kg (176 lb) operator.
— IT14G includes high speed version, standard counterweight and 17.5R25 tires.
Machine stability and operating weight are affected by tire size, tire ballast and other attachments.

NOTE: The rated operating load for a machine with pallet fork is: SAE J1197 FEB91; 50% of full turn static tipping load, or hydraulic/structural limit. CEN 474-3: 60% of full turn static tipping load on rough terrain: 80% of full turn static tipping load on firm and level ground, or the hydraulic/structural limit.

		Material Handling Arm		
Handling Arm Position		Retracted	Mid-position	Extended
Operating load — full articulation	kg lb	1370 3021	1076 2373	888 1958
Static tipping load, straight*	kg lb	3158 6963	2484 5477	2051 4522
Static tipping load, full turn*	kg lb	2740 6042	2153 4747	1777 3918
Operating weight* 4 forward, 3 reverse	kg lb	7770 17,130	7770 17,130	7770 17,130

*Static tipping load and operating weight include lubricants, full fuel tank, ROPS cab and 80 kg (176 lb) operator.
— IT14G includes high speed version, standard counterweight and 17.5-R25 tires.
Machine stability and operating weight are affected by tire size, tire ballast and other attachments.

NOTE: The rated operating load for a machine with material handling arm is 50% of full turn static tipping load, or the hydraulic/structural limit.

Bucket Type		General Purpose					
Ground Engaging Type		Bolt-on Cutting Edges		Bolt-on Teeth & Segments		Bolt-on Teeth	
Rated bucket capacity	m ³ yd ³	1.8 2.3	2.1 2.7	1.8 2.3	2.1 2.7	1.7 2.2	2.0 2.6
Struck capacity	m ³ yd ³	1.5 2.0	1.7 2.2	1.5 2.0	1.7 2.2	1.4 1.8	1.6 2.1
Bucket width	mm ft/in	2550 8'4"	2550 8'4"	2620 8'7"	2620 8'7"	2620 8'7"	2620 8'7"
Dump clearance at full lift and 45° discharge (\$)	mm ft/in	2826 9'3"	2757 9'1"	2722 8'11"	2653 8'8"	2722 8'11"	2653 8'8"
Reach at full tilt and 45° discharge (\$)	mm ft/in	791 2'7"	859 2'10"	894 2'11"	962 3'2"	894 2'11"	962 3'2"
Reach at 45° discharge and 2130 mm (7'0") clearance (\$)	mm ft/in	1318 4'4"	1350 4'5"	1365 4'6"	1392 4'7"	1365 4'6"	1392 4'7"
Reach with lift arms horizontal and bucket level	mm ft/in	2059 6'9"	2156 7'1"	2205 7'3"	2302 7'7"	2205 7'3"	2302 7'7"
Digging depth (\$)	mm in	43 1.7	51 2.0	56 2.2	64 2.5	56 2.2	64 2.5
Overall length	mm ft/in	6898 22'8"	7001 23'0"	7044 23'1"	7147 23'5"	7023 23'1"	7127 23'5"
Overall height with bucket at full raise (\$)	mm ft/in	4809 15'9"	4936 16'2"	4809 15'9"	4936 16'2"	4809 15'9"	4936 16'2"
Loader clearance radius with bucket in carry position (\$)	mm ft/in	5616 18'5"	5646 18'6"	5692 18'8"	5722 18'9"	5689 18'8"	5719 18'9"
Static tipping load straight (\$)	kg lb	8816 19,437	8732 19,251	8653 19,077	8565 18,884	8757 19,306	8671 19,117
Static tipping load with 40° turn (\$)	kg lb	7640 16,844	7560 16,667	7477 16,484	7393 16,299	7581 16,713	7499 16,533
Breakout force (\$)	kg lb	9954 21,945	8975 19,787	9833 21,678	8854 19,520	10,734 23,665	9604 21,173
Operating weight	kg lb	10,968 24,180	11,021 24,297	11,104 24,480	11,156 24,595	11,018 24,291	11,071 24,408

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers (SAE). SAE Standards J732 JUN92 and J742 FEB85 govern loader rating, denoted in the text by (\$).

	Change in Operating Weight		Change in Articulated Static Tipping Load	
	kg	lb	kg	lb
Without Air conditioner	- 32	- 70	- 29	- 64
Canopy, ROPS (less cab)	- 199	- 439	- 182	- 402
Without Optional Counterweights 340 kg (750 lb)	- 320	- 704	- 609	- 1340
Without Guard, crankcase	- 15	- 33	- 21	- 47
Without Guard, driveshaft	- 43	- 95	- 5	- 12
Without Guard, power train	- 52	- 114	- 51	- 113
Without Ride Control System	- 40	- 88	- 29	- 64
Without Secondary steering	- 37	- 81	- 33	- 73
Tires, 1-piece rims				
17.5-25, 12PR (L-2)	- 652	- 1437	- 408	- 900
17.5-25, 12PR (L-3)	- 580	- 1279	- 363	- 801
17.5-25, Radial (L-2)	- 612	- 1349	- 383	- 845
17.5-25, Radial (L-3)	- 512	- 1129	- 320	- 706
Tires, 3-piece rims				
17.5-25, 12PR (L-2)	- 528	- 1164	- 330	- 728
17.5-25, 12PR (L-3)	- 456	- 1005	- 285	- 629
17.5-25, Radial (L-2)	- 488	- 1076	- 305	- 673
17.5-25, Radial (L-3)	- 388	- 855	- 243	- 536
550/65 R25, Radial (L-2)	- 196	- 432	- 123	- 272
550/65 R25, Radial (L-3)	- 136	- 300	- 85	- 188
20.5-25, 12PR (L-2)	- 240	- 529	- 150	- 331
20.5-25, 12PR (L-3)	- 36	- 79	- 22	- 49
20.5 R25, Radial (L-2)	- 172	- 379	- 108	- 239
20.5 R25, Radial (L-3)	0	0	0	0

Bucket Type		General Purpose						Waste/Ag
Ground Engaging Type		Bolt-on Cutting Edges		Bolt-on Teeth & Segments		Bolt-on Teeth		Bolt-on Cutting Edge
Rated bucket capacity	m³ yd³	1.8 2.3	2.1 2.7	1.8 2.3	2.1 2.7	1.7 2.2	2.0 2.6	2.8 3.6
Struck capacity	m³ yd³	1.5 2.0	1.7 2.2	1.5 2.0	1.7 2.2	1.4 1.8	1.6 2.1	2.3 3.0
Bucket width	mm ft/in	2550 8'4"	2550 8'4"	2620 8'7"	2620 8'7"	2620 8'7"	2620 8'7"	2550 8'4"
Dump clearance at full lift and 45° discharge (°)	mm ft/in	2918 9'7"	2849 9'4"	2814 9'3"	2745 9'0"	2814 9'3"	2745 9'0"	2712 8'11"
Reach at full tilt and 45° discharge (°)	mm ft/in	885 2'11"	957 3'2"	988 3'3"	1060 3'6"	988 3'3"	1060 3'6"	1091 3'7"
Reach at 45° discharge and 2130 mm (7'0") clearance (°)	mm ft/in	1453 4'9"	1491 4'11"	1505 4'11"	1539 5'1"	1505 4'11"	1539 5'1"	1551 5'1"
Reach with lift arms horizontal and bucket level	mm ft/in	2156 7'1"	2255 7'5"	2302 7'7"	2401 7'11"	2302 7'7"	2401 7'11"	2446 8'0"
Digging depth (°)	mm in	64 2.5	70 2.8	77 3.0	83 3.3	77 3.0	83 3.3	89 3.5
Overall length	mm ft/in	7007 23'0"	7112 23'4"	7153 23'6"	7258 23'10"	7130 23'5"	7235 23'9"	7320 24'0"
Overall height with bucket at full raise (°)	mm ft/in	4966 16'4"	5095 16'9"	4966 16'4"	5095 16'9"	4966 16'4"	5095 16'9"	5216 17'1"
Loader clearance radius with bucket in carry position (°)	mm ft/in	5530 18'3"	5558 18'3"	5605 18'3"	5634 18'3"	5605 18'3"	5634 18'3"	5693 18'3"
Static tipping load straight (°)	kg lb	8738 19,265	8557 18,866	8577 18,909	8393 18,503	8679 19,135	8497 18,733	7459 16,444
Static tipping load with 40° turn (°)	kg lb	7666 16,900	7490 16,512	7504 16,544	7325 16,149	7607 16,770	7430 16,379	6520 14,374
Breakout force (°)	kg lb	11 336 24,992	10 250 22,597	11 215 24,725	10 129 22,331	12 118 26,716	10 878 23,982	7389 16,290
Operating weight	kg lb	11 379 25,087	11 515 25,386	11 514 25,384	11 650 25,684	11 429 25,197	11 565 25,497	11 472 25,292

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers (SAE). SAE Standards J732 JUN92 and J742 FEB85 govern loader rating, denoted in the text by (°).

	Change in Operating Weight		Change in Articulated Static Tipping Load	
	kg	lb	kg	lb
Without Air conditioner	- 32	- 70	- 27	- 60
Canopy, ROPS (less cab)	- 199	- 439	- 166	- 366
Counterweight, 175 kg (385 lb) (removal)	- 175	- 386	- 273	- 602
Without Guard, crankcase	- 15	- 33	- 19	- 42
Without Guard, driveshaft	- 17	- 37	- 5	- 12
Without Guard, power train	- 52	- 114	- 47	- 104
Without Ride Control System	- 40	- 88	- 27	- 60
Without Secondary steering	- 37	- 81	- 31	- 69
Tires, 1-piece rims				
17.5-25, 12PR (L-2)	-652	-1437	-371	-818
17.5-25, 12PR (L-3)	-580	-1279	-330	-728
17.5-25, Radial (L-2)	-612	-1349	-348	-768
17.5-25, Radial (L-3)	-512	-1129	-292	-644
Tires, 3-piece rims				
17.5-25, 12PR (L-2)	-528	-1164	-301	-664
17.5-25, 12PR (L-3)	-456	-1005	-260	-574
17.5-25, Radial (L-2)	-488	-1076	-278	-613
17.5-25, Radial (L-3)	-388	-855	-221	-488
550/65 R25, Radial (L-2)	-196	-432	-112	-247
550/65 R25, Radial (L-3)	-136	-300	- 78	-172
20.5-25, 12PR (L-2)	-240	-529	-137	-303
20.5-25, 12PR (L-3)	- 36	- 79	- 21	- 47
20.5 R25, Radial (L-2)	-172	- 379	- 98	-217
20.5 R25, Radial (L-3)	0	0	0	0

Bucket Type		General Purpose						Waste/Ag
Ground Engaging Type		Bolt-on Cutting Edges		Bolt-on Teeth & Segments		Bolt-on Teeth		Bolt-on Cutting Edge
Rated bucket capacity	m³ yd³	1.8 2.3	2.1 2.7	1.8 2.3	2.1 2.7	1.7 2.2	2.0 2.6	2.8 3.6
Struck capacity	m³ yd³	1.5 2.0	1.7 2.2	1.5 2.0	1.7 2.2	1.4 1.8	1.6 2.1	2.3 3.0
Bucket width	mm ft/in	2550 8'4"	2550 8'4"	2620 8'7"	2620 8'7"	2620 8'7"	2620 8'7"	2550 8'4"
Dump clearance at full lift and 45° discharge (\$)	mm ft/in	3426 11'3"	3357 11'0"	3322 10'11"	3253 10'8"	3322 10'11"	3253 10'8"	3219 10'7"
Reach at full tilt and 45° discharge (\$)	mm ft/in	885 2'11"	957 3'2"	988 3'3"	1060 3'6"	988 3'3"	1060 3'6"	1091 3'7"
Reach at 45° discharge and 2130 mm (7'0") clearance (\$)	mm ft/in	1877 6'2"	1920 6'4"	1937 6'4"	1977 6'6"	1937 6'4"	1977 6'6"	1993 6'6"
Reach with lift arms horizontal and bucket level	mm ft/in	2546 8'4"	2645 8'8"	2692 8'10"	2791 9'2"	2692 8'10"	2791 9'2"	2836 9'4"
Digging depth (\$)	mm in	74 2.9	80 3.1	87 3.4	93 3.7	87 3.4	93 3.7	99 3.9
Overall length	mm ft/in	7509 24'8"	7613 25'0"	7655 25'1"	7759 25'5"	7637 25'1"	7741 25'5"	7817 25'8"
Overall height with bucket at full raise (\$)	mm ft/in	5473 17'11"	5603 18'5"	5473 17'11"	5603 18'5"	5473 17'11"	5603 18'5"	5723 18'9"
Loader clearance radius with bucket in carry position (\$)	mm ft/in	5785 18'3"	5818 18'3"	5866 18'3"	5899 18'3"	5866 18'3"	5899 18'3"	5986 18'3"
Static tipping load straight (\$)	kg lb	7120 15,698	6954 15,330	6964 15,353	6795 14,980	7063 15,572	6896 15,202	6184 13,633
Static tipping load with 40° turn (\$)	kg lb	6219 13,711	6056 13,352	6063 13,366	5897 13,001	6162 13,585	5998 13,223	5379 11,858
Breakout force (\$)	kg lb	11 336 24,992	10 250 22,597	11 215 24,725	10 129 22,331	12 118 26,716	10 878 23,982	7389 16,290
Operating weight	kg lb	11 498 25,349	11 633 25,647	11 633 25,647	11 769 25,946	11 547 25,457	11 683 25,757	11 591 25,554

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers (SAE). SAE Standards J732 JUN92 and J742 FEB85 govern loader rating, denoted in the text by (\$).

	Change in Operating Weight		Change in Articulated Static Tipping Load	
	kg	lb	kg	lb
Without Air conditioner	- 32	- 70	- 27	- 60
Canopy, ROPS (less cab)	- 199	- 439	- 166	- 366
Counterweight, 175 kg (385 lb) (removal)	- 175	- 386	- 273	- 602
Without Guard, crankcase	- 15	- 33	- 19	- 42
Without Guard, driveshaft	- 17	- 37	- 5	- 12
Without Guard, power train	- 52	- 114	- 47	- 104
Without Ride Control System	- 40	- 88	- 27	- 60
Without Secondary steering	- 37	- 81	- 31	- 69
Tires, 1-piece rims				
17.5-25, 12PR (L-2)	-652	-1437	-371	-818
17.5-25, 12PR (L-3)	-580	-1279	-330	-728
17.5-25, Radial (L-2)	-612	-1349	-348	-768
17.5-25, Radial (L-3)	-512	-1129	-292	-644
Tires, 3-piece rims				
17.5-25, 12PR (L-2)	-528	-1164	-301	-664
17.5-25, 12PR (L-3)	-456	-1005	-260	-574
17.5-25, Radial (L-2)	-488	-1076	-278	-613
17.5-25, Radial (L-3)	-388	-855	-221	-488
550/65 R25, Radial (L-2)	-196	-432	-112	-247
550/65 R25, Radial (L-3)	-136	-300	- 78	-172
20.5-25, 12PR (L-2)	-240	-529	-137	-303
20.5-25, 12PR (L-3)	- 36	- 79	- 21	- 47
20.5 R25, Radial (L-2)	-172	-379	- 98	-217
20.5 R25, Radial (L-3)	0	0	0	0

Bucket Type		General Purpose						Waste/Ag
Ground Engaging Type		Bolt-on Cutting Edges		Bolt-on Teeth & Segments		Bolt-on Teeth		Bolt-on Cutting Edge
Rated bucket capacity	m³ yd³	1.8 2.3	2.1 2.7	1.8 2.3	2.1 2.7	1.7 2.2	2.0 2.6	2.8 3.6
Struck capacity	m³ yd³	1.5 2.0	1.7 2.2	1.5 2.0	1.7 2.2	1.4 1.8	1.6 2.1	2.3 3.0
Bucket width	mm ft/in	2550 8'4"	2550 8'4"	2620 8'7"	2620 8'7"	2620 8'7"	2620 8'7"	2550 8'4"
Dump clearance at full lift and 45° discharge (\$)	mm ft/in	2828 9'3"	2759 9'1"	2724 8'11"	2654 8'8"	2724 8'11"	2654 8'8"	2622 8'7"
Reach at full tilt and 45° discharge (\$)	mm ft/in	992 3'3"	1060 3'6"	1095 3'7"	1164 3'10"	1095 3'7"	1164 3'10"	1199 3'11"
Reach at 45° discharge and 2130 mm (7'0") clearance (\$)	mm ft/in	1516 5'0"	1548 5'1"	1563 5'2"	1591 5'3"	1563 5'2"	1591 5'3"	1605 5'3"
Reach with lift arms horizontal and bucket level	mm ft/in	2296 7'6"	2392 7'10"	2442 8'0"	2539 8'4"	2442 8'0"	2539 8'4"	2586 8'6"
Digging depth (\$)	mm in	64 2.5	72 2.8	77 3.0	85 3.3	77 3.0	85 3.3	89 3.5
Overall length	mm ft/in	7147 23'5"	7251 23'9"	7293 23'11"	7398 24'3"	7270 23'10"	7375 24'2"	7460 24'6"
Overall height with bucket at full raise (\$)	mm ft/in	5067 16'7"	5194 17'0"	5067 16'7"	5194 17'0"	5067 16'7"	5194 17'0"	5326 17'6"
Loader clearance radius with bucket in carry position (\$)	mm ft/in	5568 18'3"	5597 18'3"	5644 18'3"	5675 18'3"	5644 18'3"	5675 18'3"	5657 18'3"
Static tipping load straight (\$)	kg lb	8310 18,320	8126 17,916	8149 17,966	7963 17,556	8251 18,191	8067 17,784	7965 17,559
Static tipping load with 40° turn (\$)	kg lb	7276 16,041	7098 15,647	7115 15,687	6934 15,287	7217 15,911	7038 15,516	6953 15,328
Breakout force (\$)	kg lb	9857 21,731	9003 19,848	9736 21,464	8882 19,582	10 432 22,999	9475 20,889	7733 17,048
Operating weight	kg lb	11 501 25,355	11 635 25,651	11 636 25,653	11 770 25,949	11 551 25,466	11 685 25,761	11 663 25,713

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers (SAE). SAE Standards J732 JUN92 and J742 FEB85 govern loader rating, denoted in the text by (\$).

	Change in Operating Weight		Change in Articulated Static Tipping Load	
	kg	lb	kg	lb
Without Air conditioner	- 32	- 70	- 27	- 60
Canopy, ROPS (less cab)	- 199	- 439	- 166	- 366
Counterweight, 175 kg (385 lb) (removal)	- 175	- 386	- 273	- 602
Without Guard, crankcase	- 15	- 33	- 19	- 42
Without Guard, driveshaft	- 17	- 37	- 5	- 12
Without Guard, power train	- 52	- 114	- 47	- 104
Without Ride Control System	- 40	- 88	- 27	- 60
Without Secondary steering	- 37	- 81	- 31	- 69
Tires, 1-piece rims				
17.5-25, 12PR (L-2)	- 652	- 1437	- 371	- 818
17.5-25, 12PR (L-3)	- 580	- 1279	- 330	- 728
17.5-25, Radial (L-2)	- 612	- 1349	- 348	- 768
17.5-25, Radial (L-3)	- 512	- 1129	- 292	- 644
Tires, 3-piece rims				
17.5-25, 12PR (L-2)	- 528	- 1164	- 301	- 664
17.5-25, 12PR (L-3)	- 456	- 1005	- 260	- 574
17.5-25, Radial (L-2)	- 488	- 1076	- 278	- 613
17.5-25, Radial (L-3)	- 388	- 855	- 221	- 488
550/65 R25, Radial (L-2)	- 196	- 432	- 112	- 247
550/65 R25, Radial (L-3)	- 136	- 300	- 78	- 172
20.5-25, 12PR (L-2)	- 240	- 529	- 137	- 303
20.5-25, 12PR (L-3)	- 36	- 79	- 21	- 47
20.5 R25, Radial (L-2)	- 172	- 379	- 98	- 217
20.5 R25, Radial (L-3)	0	0	0	0

Bucket Type		General Purpose						Waste/Ag
Ground Engaging Type		Bolt-on Cutting Edges		Bolt-on Teeth & Segments		Bolt-on Teeth		Bolt-on Cutting Edge
Rated bucket capacity	m³ yd³	1.8 2.3	2.1 2.7	1.8 2.3	2.1 2.7	1.7 2.2	2.0 2.6	2.8 3.6
Struck capacity	m³ yd³	1.5 2.0	1.7 2.2	1.5 2.0	1.7 2.2	1.4 1.8	1.6 2.1	2.3 3.0
Bucket width	mm ft/in	2550 8'4"	2550 8'4"	2620 8'7"	2620 8'7"	2620 8'7"	2620 8'7"	2550 8'4"
Dump clearance at full lift and 45° discharge (\$)	mm ft/in	3335 10'11"	3267 10'9"	3231 10'7"	3162 10'4"	3231 10'7"	3162 10'4"	3130 10'3"
Reach at full tilt and 45° discharge (\$)	mm ft/in	992 3'3"	1060 3'6"	1095 3'7"	1164 3'10"	1095 3'7"	1164 3'10"	1199 3'11"
Reach at 45° discharge and 2130 mm (7'0") clearance (\$)	mm ft/in	1947 6'5"	1985 6'6"	2003 6'7"	2038 6'8"	2003 6'7"	2038 6'8"	2056 6'9"
Reach with lift arms horizontal and bucket level	mm ft/in	2686 8'10"	2783 9'2"	2832 9'3"	2930 9'7"	2832 9'3"	2930 9'7"	2976 9'9"
Digging depth (\$)	mm in	74 2.9	82 3.2	87 3.4	95 3.7	87 3.4	95 3.7	99 3.9
Overall length	mm ft/in	7649 25'1"	7752 25'5"	7795 25'7"	7899 25'11"	7777 25'6"	7881 25'10"	7957 26'1"
Overall height with bucket at full raise (\$)	mm ft/in	5574 18'3"	5702 18'8"	5574 18'3"	5702 18'8"	5574 18'3"	5702 18'8"	5833 19'2"
Loader clearance radius with bucket in carry position (\$)	mm ft/in	5828 18'3"	5861 18'3"	5910 18'3"	5944 18'3"	5910 18'3"	5944 18'3"	5931 18'3"
Static tipping load straight (\$)	kg lb	6789 14,968	6621 14,596	6634 14,625	6463 14,248	6732 14,843	6563 14,469	6500 14,331
Static tipping load with 40° turn (\$)	kg lb	5916 13,042	5751 12,679	5760 12,699	5593 12,330	5859 12,917	5693 12,551	5642 12,439
Breakout force (\$)	kg lb	9857 21,731	9003 19,848	9736 21,464	8882 19,582	10 432 22,999	9475 20,889	7733 17,048
Operating weight	kg lb	11 620 25,618	11 754 25,913	11 755 25,915	11 889 26,211	11 669 25,726	11 803 26,021	11 782 25,975

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers (SAE). SAE Standards J732 JUN92 and J742 FEB85 govern loader rating, denoted in the text by (\$).

	Change in Operating Weight		Change in Articulated Static Tipping Load	
	kg	lb	kg	lb
Without Air conditioner	- 32	- 70	- 27	- 60
Canopy, ROPS (less cab)	- 199	- 439	- 166	- 366
Counterweight, 175 kg (385 lb) (removal)	- 175	- 386	- 273	- 602
Without Guard, crankcase	- 15	- 33	- 19	- 42
Without Guard, driveshaft	- 17	- 37	- 5	- 12
Without Guard, power train	- 52	- 114	- 47	- 104
Without Ride Control System	- 40	- 88	- 27	- 60
Without Secondary steering	- 37	- 81	- 31	- 69
Tires, 1-piece rims				
17.5-25, 12PR (L-2)	-652	-1437	-371	-818
17.5-25, 12PR (L-3)	-580	-1279	-330	-728
17.5-25, Radial (L-2)	-612	-1349	-348	-768
17.5-25, Radial (L-3)	-512	-1129	-292	-644
Tires, 3-piece rims				
17.5-25, 12PR (L-2)	-528	-1164	-301	-664
17.5-25, 12PR (L-3)	-456	-1005	-260	-574
17.5-25, Radial (L-2)	-488	-1076	-278	-613
17.5-25, Radial (L-3)	-388	-855	-221	-488
550/65 R25, Radial (L-2)	-196	-432	-112	-247
550/65 R25, Radial (L-3)	-136	-300	- 78	-172
20.5-25, 12PR (L-2)	-240	-529	-137	-303
20.5-25, 12PR (L-3)	- 36	- 79	- 21	- 47
20.5 R25, Radial (L-2)	-172	-379	- 98	-217
20.5 R25, Radial (L-3)	0	0	0	0

		Pallet Forks	
Fork tine length	mm ft/in	1220 4'0"	1370 4'6"
Ground to top of tine clearance	mm ft/in	3637 11'11"	3652 13'0"
Reach with lift arms horizontal and forks level	mm ft/in	1562 5'1"	1577 5'2"
Overall length	mm ft/in	7604 24'11"	7772 25'6"
Static tipping load with level arms and forks, straight*	kg lb	6200 13,640	5962 13,116
Static tipping load with level arms and forks, full 40° turn*	kg lb	5447 11,983	5231 11,508
Operating weight	kg lb	11 209 24,660	11 268 24,790

*Static tipping load includes lubricants, full fuel tank, ROPS cab and 80 kg (176 lb) operator.
Machine stability and operating weight are affected by tire size, tire ballast and other attachments.

NOTE: The rated operating load for a machine with pallet fork is: SAE J1197 FEB91; 50% of full turn static tipping load, or hydraulic/structural limit. CEN 474-3: 60% of full turn static tipping load on rough terrain: 80% of full turn static tipping load on firm and level ground, or the hydraulic/structural limit.

		Material Handling Arm		
Handling Arm Position		Retracted	Mid-position	Extended
Operating load	kg lb	1974 4343	1569 3452	1304 2869
Static tipping load, straight*	kg lb	4499 9898	3579 7874	2975 6545
Static tipping load, full 40° turn*	kg lb	3949 8688	3139 6906	2607 5735
Operating weight*	kg lb	11 166 24,565	11 166 24,565	11 166 24,565

*Static tipping load and operating weight include lubricants, full fuel tank, ROPS cab and 80 kg (176 lb) operator.
Machine stability and operating weight are affected by tire size, tire ballast and other attachments.

NOTE: The rated operating load for a machine with material handling arm is 50% of full turn static tipping load, or the hydraulic/structural limit.

Performance Data

- 924H High Lift VersaLink Hook On
- Pallet Forks ● Material Handling Arm

Wheel Loaders
Integrated Toolcarriers

		Pallet Forks	
Fork tine length	mm ft/in	1220 4'0"	1370 4'6"
Ground to top of tine clearance	mm ft/in	4144 13'7"	4155 13'8"
Reach with lift arms horizontal and forks level	mm ft/in	1952 6'5"	1967 6'6"
Overall length	mm ft/in	8113 26'7"	8278 27'2"
Static tipping load with level arms and forks, straight*	kg lb	5322 11,708	5128 11,282
Static tipping load with level arms and forks, full 40° turn*	kg lb	4658 10,248	4481 9858
Operating weight	kg lb	11 327 24,919	11 386 25,049

*Static tipping load includes lubricants, full fuel tank, ROPS cab and 80 kg (176 lb) operator.
Machine stability and operating weight are affected by tire size, tire ballast and other attachments.

NOTE: The rated operating load for a machine with pallet fork is: SAE J1197 FEB91; 50% of full turn static tipping load, or hydraulic/structural limit. CEN 474-3: 60% of full turn static tipping load on rough terrain: 80% of full turn static tipping load on firm and level ground, or the hydraulic/structural limit.

		Material Handling Arm		
Handling Arm Position		Retracted	Mid-position	Extended
Operating load	kg lb	1745 3839	1412 3106	1187 2611
Static tipping load, straight*	kg lb	3991 8780	3232 7110	2716 5975
Static tipping load, full 40° turn*	kg lb	2489 5476	2823 6211	2373 5221
Operating weight*	kg lb	11 285 24,827	11 285 24,827	11 285 24,827

*Static tipping load and operating weight include lubricants, full fuel tank, ROPS cab and 80 kg (176 lb) operator.
Machine stability and operating weight are affected by tire size, tire ballast and other attachments.

NOTE: The rated operating load for a machine with material handling arm is 50% of full turn static tipping load, or the hydraulic/structural limit.

Bucket Type		General Purpose						Penetration
Ground Engaging Type		Bolt-on Cutting Edges		Bolt-on Teeth & Segments*		Bolt-on Teeth*		Flush Mounted Teeth*
Rated bucket capacity (\$)	m ³ yd ³	2.0 2.6	2.3 3.0	2.0 2.6	2.3 3.0	1.9 2.5	2.2 2.9	2.2 2.9
Struck capacity (\$)	m ³ yd ³	1.7 2.2	1.9 2.5	1.7 2.2	1.9 2.5	1.6 2.1	1.8 2.4	1.9 2.5
Bucket width	mm ft/in	2549 8'4"	2549 8'4"	2549 8'4"	2549 8'4"	2549 8'4"	2549 8'4"	2532 8'4"
Dump clearance at full lift and 45° discharge*** (\$)	mm ft/in	2879 9'5"	2842 9'4"	2766 9'1"	2729 8'11"	2766 9'1"	2729 8'11"	2719 8'11"
Reach at full lift and 45° discharge (\$)	mm ft/in	927 3'0"	963 3'2"	1021 3'4"	1057 3'6"	1021 3'4"	1057 3'6"	1040 3'5"
Reach at 45° discharge and 2130 mm (7'0") clearance (\$)	mm ft/in	1455 4'9"	1474 4'10"	1492 4'11"	1509 4'11"	1492 4'11"	1509 4'11"	1486 4'11"
Reach with arms horizontal and bucket level	mm ft/in	2253 7'5"	2305 7'7"	2399 7'10"	2451 8'0"	2399 7'10"	2451 8'0"	2451 8'0"
Digging depth (\$)	mm in	86 3.4	86 3.4	99 3.9	99 3.9	99 3.9	99 3.9	97 3.8
Overall length	mm ft/in	7125 23'5"	7177 23'7"	7271 23'10"	7323 24'0"	7251 23'9"	7303 24'0"	7303 24'0"
Overall height with bucket at full raise (\$)	mm ft/in	4984 16'4"	5075 16'8"	4984 16'4"	5075 16'8"	4984 16'4"	5075 16'8"	5075 16'8"
Loader clearance circle with bucket in carry position	mm ft/in	5798 19'0"	5795 19'0"	5841 19'2"	5840 19'2"	5838 19'2"	5837 19'2"	5831 19'2"
Static tipping load, straight* (\$)	kg lb	9983 22,008	9911 21,850	9819 21,647	9746 21,486	9923 21,876	9851 21,717	9951 21,938
Static tipping load, full 40° turn* (\$)	kg lb	8654 19,079	8585 18,928	8490 18,718	8420 18,564	8594 18,948	8525 18,795	8615 18,992
Breakout force** (\$)	kg lb	9519 20,986	9002 19,846	9398 20,719	8881 19,579	10 229 22,551	9635 21,242	9704 21,394
Operating weight*	kg lb	12 564 27,699	12 618 27,818	12 699 27,997	12 753 28,116	12 614 27,809	12 668 27,928	12 667 27,926

*Static tipping load and operating weight are based on standard machine configuration with 20.5-25, 12 PR (L-2) tires, full fuel tank, coolant, lubricants, operator and optional counterweight.

**Measured 102 mm (4") behind tip of cutting edge with bucket hinge pin as pivot point in accordance with SAE J732 JUN92.

***Dump clearance, reach and overall length dimensions for bucket equipped with teeth reflect actual dimensions. SAE J732 JUN92 allows dimensions for buckets with teeth to reflect the dimension using the cutting edge. Caterpillar Inc. uses actual equipped bucket dimensions.

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers (SAE). SAE Standards J732 JUN92 and J742 FEB85 govern loader ratings, denoted in the text by (\$).

	Change in Operating Weight		Change in Articulated Static Tipping Load	
	kg	lb	kg	lb
Air conditioner	+ 48	+ 106	+ 56	+ 123
Canopy, ROPS (less cab)	-198	- 437	-182	- 401
Counterweight, 296 kg (653 lb) (removal)	-174	- 383	-278	- 612
Optional Counterweight, 470 kg (1036 lb) (removal)	-470	-1034	-751	-1652
Crankcase guard	+ 17	+ 37	+ 24	+ 53
Power train guard	+ 58	+ 128	+ 56	+ 123
Ride Control System	+ 41	+ 90	+ 20	+ 44
Secondary steering	+ 42	+ 93	+ 57	+ 126
Tires & 1-piece rims, 17.5-25, 12PR (L-2)	-661	-1454	-410	- 902
Tires & 1-piece rims, 17.5-25, 12PR (L-3)	-582	-1280	-361	- 794
Tires & 1-piece rims, 17.5-25, 12PR (L-2/L-3)	-519	-1142	-322	- 708
Tires & 1-piece rims, 17.5-R25, Radial (L-2)	-614	-1351	-381	- 838
Tires & 1-piece rims, 17.5-R25, Radial (L-3)	-458	-1008	-284	- 625
Tires & 3-piece rims, 17.5-25, 12PR (L-2)	-529	-1164	-328	- 722
Tires & 3-piece rims, 17.5-25, 12PR (L-3)	-457	-1005	-283	- 623
Tires & 3-piece rims, 17.5-25, 12PR (L-2/L-3)	-413	- 909	-256	- 563
Tires & 3-piece rims, 17.5-R25, Radial (L-2)	-489	-1076	-303	- 667
Tires & 3-piece rims, 17.5-R25, Radial (L-3)	-389	- 856	-241	- 530
Tires & 3-piece rims, 20.5-R25, 12PR (L-2)	-240	- 528	-149	- 328
Tires & 3-piece rims, 20.5-25, 12PR (L-3)	- 96	- 211	- 60	- 132
Tires & 3-piece rims, 20.5-25, 12 Radial (L-2/L-3)	- 52	- 114	- 33	- 73
Tires & 3-piece rims, 20.5-R25, Radial (L-2)	-172	- 378	-107	- 235
Tires & 3-piece rims, 20.5-R25, Radial (L-3)	0	0	0	0
Tires & 3-piece rims, 600/65 R25, Radial (L-3) Michelin	+ 4	+ 9	+ 2	+ 4

Bucket Type		General Purpose					
		Bolt-on Cutting Edges		Bolt-on Teeth & Segments		Bolt-on Teeth	
Ground Engaging Type							
Rated bucket capacity	m³ yd³	2.3 3.0	2.5 3.2	2.3 3.0	2.5 3.2	2.1 2.7	2.3 3.0
Struck capacity	m³ yd³	1.9 2.5	2.1 2.7	1.9 2.5	2.1 2.7	1.8 2.4	2.0 2.6
Bucket width	mm ft/in	2550 8'4"	2550 8'4"	2620 8'7"	2620 8'7"	2620 8'7"	2620 8'7"
Dump clearance at full lift and 45° discharge (\$)	mm ft/in	2907 9'6"	2861 9'5"	2794 9'2"	2748 9'0"	2794 9'2"	2748 9'0"
Reach at full tilt and 45° discharge (\$)	mm ft/in	923 3'0"	969 3'2"	1017 3'4"	1063 3'6"	1017 3'4"	1063 3'6"
Reach at 45° discharge and 2130 mm (7'0") clearance (\$)	mm ft/in	1535 5'0"	1556 5'1"	1567 5'2"	1585 5'2"	1567 5'2"	1585 5'2"
Reach with lift arms horizontal and bucket level	mm ft/in	2456 8'1"	2521 8'3"	2602 8'6"	2667 8'9"	2602 8'6"	2667 8'9"
Digging depth (\$)	mm in	157 6.2	157 6.2	170 6.7	170 6.7	170 6.7	170 6.7
Overall length	mm ft/in	7507 24'8"	7572 24'10"	7653 25'1"	7718 25'4"	7633 25'1"	7698 25'3"
Overall height with bucket at full raise (\$)	mm ft/in	5288 17'4"	5354 17'7"	5288 17'4"	5354 17'7"	5288 17'4"	5354 17'7"
Loader clearance radius with bucket in carry position (\$)	mm ft/in	5781 19'0"	5798 19'0"	5856 19'3"	5873 19'3"	5856 19'3"	5873 19'3"
Static tipping load straight (\$)	kg lb	9716 21,421	9623 21,214	9554 21,062	9459 20,853	9657 21,290	9563 21,082
Static tipping load with 40° turn (\$)	kg lb	8485 18,707	8398 18,514	8323 18,348	8234 18,153	8426 18,576	8338 18,383
Breakout force (\$)	kg lb	14 548 32,073	13 741 30,294	14 414 31,778	13 606 29,996	15 410 33,973	14 502 31,972
Operating weight	kg lb	12 970 28,594	13 011 28,684	13 105 28,892	13 146 28,982	13 019 28,702	13 060 28,793

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers (SAE). SAE Standards J732 JUN92 and J742 FEB85 govern loader rating, denoted in the text by (\$).

	Change in Operating Weight		Change in Articulated Static Tipping Load	
	kg	lb	kg	lb
Without air conditioner	- 71	- 156	- 76	- 167
Canopy, ROPS (less cab)	-218	- 481	- 149	- 328
Without Optional Counterweight 470 kg (1036 lb)	-470	-1034	-658	-1448
Without Guard, crankcase	- 16	- 35	- 20	- 44
Without Guard, driveshaft	- 17	- 37	- 12	- 26
Without Guard, power train	- 58	- 128	- 49	- 108
Without Ride Control System	- 45	- 99	- 24	- 53
Without Secondary steering	- 17	- 37	- 20	- 44
Tires, 1-piece rims				
17.5-25, 12PR (L-2)	-652	-1434	-365	- 803
17.5-25, 12PR (L-3)	-580	-1276	-325	- 715
17.5-25, Radial (L-2)	-612	-1346	-343	- 755
17.5-25, Radial (L-3)	-512	-1126	-287	- 631
Tires, 3-piece rims				
17.5-25, 12PR (L-2)	-528	-1162	-296	- 651
17.5-25, 12PR (L-3)	-456	-1003	-255	- 561
17.5-25, Radial (L-2)	-488	-1074	-273	- 601
17.5-25, Radial (L-3)	-388	- 854	-217	- 477
20.5-25, 12PR (L-2)	-240	- 528	-134	- 295
20.5-25, 12PR (L-3)	- 36	- 79	- 20	- 44
20.5-25, Radial (L-2)	-172	- 378	- 96	- 211
20.5-25, Radial (L-3)	0	0	0	0
600/65 R25, Radial (L-3) Michelin	+ 4	+ 9	+ 2	+ 4

Bucket Type		High Density General Purpose						Light Material
Ground Engaging Type		Bolt-on Cutting Edges		Bolt-on Teeth & Segments		Bolt-on Teeth		Bolt-on Cutting Edge
Rated bucket capacity	m ³ yd ³	2.1 2.7	2.3 3.0	2.1 2.7	2.3 3.0	2.0 2.6	2.1 2.7	2.8 3.6
Struck capacity	m ³ yd ³	1.7 2.2	2.0 2.6	1.7 2.2	1.8 2.4	1.6 2.1	1.9 2.5	2.3 3.0
Bucket width	mm ft/in	2550 8'4"	2550 8'4"	2620 8'7"	2620 8'7"	2620 8'7"	2620 8'7"	2550 8'4"
Dump clearance at full lift and 45° discharge (°)	mm ft/in	3017 9'11"	2982 9'9"	2913 9'7"	2878 9'5"	2913 9'7"	2878 9'5"	2880 9'5"
Reach at full tilt and 45° discharge (°)	mm ft/in	966 3'2"	1005 3'4"	1070 3'6"	1108 3'8"	1070 3'6"	1108 3'8"	1103 3'7"
Reach at 45° discharge and 2130 mm (7'0") clearance (°)	mm ft/in	1633 5'4"	1654 5'5"	1685 5'6"	1705 5'7"	1685 5'6"	1705 5'7"	1701 5'7"
Reach with lift arms horizontal and bucket level	mm ft/in	2385 7'10"	2436 8'0"	2531 8'4"	2582 8'6"	2531 8'4"	2582 8'6"	2578 8'5"
Digging depth (°)	mm in	150 5.9	157 6.2	163 6.4	170 6.7	163 6.4	170 6.7	167 6.6
Overall length	mm ft/in	7430 24'5"	7487 24'7"	7576 24'10"	7633 25'1"	7556 24'9"	7613 25'0"	7637 25'1"
Overall height with bucket at full raise (°)	mm ft/in	5263 17'3"	5271 17'4"	5263 17'3"	5271 17'4"	5263 17'3"	5271 17'4"	5320 17'5"
Loader clearance radius with bucket in carry position (°)	mm ft/in	5760 18'11"	5776 18'11"	5835 19'2"	5850 19'2"	5835 19'2"	5850 19'2"	5817 19'1"
Static tipping load straight (°)	kg lb	10 007 22,061	9937 21,907	9844 21,702	9773 21,547	9947 21,930	9877 21,776	9723 21,435
Static tipping load with 40° turn (°)	kg lb	8755 19,302	8693 19,166	8593 18,944	8530 18,805	8696 19,171	8634 19,034	8490 18,718
Breakout force (°)	kg lb	15 580 34,348	14 865 32,772	15 445 34,051	14 731 32,476	16 575 36,542	15 764 34,754	13 154 29,000
Operating weight	kg lb	12 848 28,325	12 851 28,332	12 983 28,623	12 986 28,629	12 898 28,435	12 900 28,440	12 969 28,592

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers (SAE). SAE Standards J732 JUN92 and J742 FEB85 govern loader rating, denoted in the text by (°).

	Change in Operating Weight		Change in Articulated Static Tipping Load	
	kg	lb	kg	lb
Without air conditioner	- 71	- 156	- 76	- 167
Canopy, ROPS (less cab)	-218	- 481	-149	- 328
Without Optional Counterweight 470 kg (1036 lb)	-470	-1034	-658	-1448
Without Guard, crankcase	- 16	- 35	- 20	- 44
Without Guard, driveshaft	- 17	- 37	- 12	- 26
Without Guard, power train	- 58	- 128	- 49	- 108
Without Ride Control System	- 45	- 99	- 24	- 53
Without Secondary steering	- 17	- 37	- 20	- 44
Tires, 1-piece rims				
17.5-25, 12PR (L-2)	-652	-1434	-365	- 803
17.5-25, 12PR (L-3)	-580	-1276	-325	- 715
17.5-25, Radial (L-2)	-612	-1346	-343	- 755
17.5-25, Radial (L-3)	-512	-1126	-287	- 631
Tires, 3-piece rims				
17.5-25, 12PR (L-2)	-528	-1162	-296	- 651
17.5-25, 12PR (L-3)	-456	-1003	-255	- 561
17.5-25, Radial (L-2)	-488	-1074	-273	- 601
17.5-25, Radial (L-3)	-388	- 854	-217	- 477
20.5-25, 12PR (L-2)	-240	- 528	-134	- 295
20.5-25, 12PR (L-3)	- 36	- 79	- 20	- 44
20.5-25, Radial (L-2)	-172	- 378	- 96	- 211
20.5-25, Radial (L-3)	0	0	0	0
600/65 R25, Radial (L-3) Michelin	+ 4	+ 9	+ 2	+ 4

Bucket Type		General Purpose					
		Bolt-on Cutting Edges		Bolt-on Teeth & Segments		Bolt-on Teeth	
Ground Engaging Type							
Rated bucket capacity	m ³ yd ³	2.3 3.0	2.5 3.2	2.3 3.0	2.5 3.2	2.1 2.7	2.3 3.0
Struck capacity	m ³ yd ³	1.9 2.5	2.1 2.7	1.9 2.5	2.1 2.7	1.8 2.4	2.0 2.6
Bucket width	mm ft/in	2550 8'4"	2550 8'4"	2620 8'7"	2620 8'7"	2620 8'7"	2620 8'7"
Dump clearance at full lift and 45° discharge (\$)	mm ft/in	3407 11'2"	3361 11'0"	3294 10'10"	3248 10'8"	3294 10'10"	3248 10'8"
Reach at full tilt and 45° discharge (\$)	mm ft/in	923 3'0"	969 3'2"	1017 3'4"	1063 3'6"	1017 3'4"	1063 3'6"
Reach at 45° discharge and 2130 mm (7'0") clearance (\$)	mm ft/in	1972 6'6"	1997 6'7"	2013 6'7"	2036 6'8"	2013 6'7"	2036 6'8"
Reach with lift arms horizontal and bucket level	mm ft/in	2850 9'4"	2915 9'7"	2996 9'10"	3061 10'1"	2996 9'10"	3061 10'1"
Digging depth (\$)	mm in	172 6.8	172 6.8	185 7.3	185 7.3	185 7.3	185 7.3
Overall length	mm ft/in	7992 26'3"	8057 26'5"	8138 26'8"	8203 26'11"	8121 26'8"	8186 26'10"
Overall height with bucket at full raise (\$)	mm ft/in	5788 19'0"	5854 19'2"	5788 19'0"	5854 19'2"	5788 19'0"	5854 19'2"
Loader clearance radius with bucket in carry position (\$)	mm ft/in	6034 19'10"	6054 19'10"	6114 20'1"	6134 20'1"	6114 20'1"	6134 20'1"
Static tipping load straight (\$)	kg lb	7728 17,038	7644 16,852	7572 16,692	7486 16,504	7671 16,911	7586 16,724
Static tipping load with 40° turn (\$)	kg lb	6714 14,803	6635 14,628	6558 14,457	6477 14,280	6657 14,676	6577 14,501
Breakout force (\$)	kg lb	14 548 32,073	13 741 30,294	14 414 31,778	13 606 29,996	15 410 33,973	14 502 31,972
Operating weight	kg lb	13 117 28,918	13 158 29,009	13 253 29,218	13 294 29,308	13 167 29,028	13 208 29,119

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers (SAE). SAE Standards J732 JUN92 and J742 FEB85 govern loader rating, denoted in the text by (\$).

	Change in Operating Weight		Change in Articulated Static Tipping Load	
	kg	lb	kg	lb
Without air conditioner	- 71	- 156	- 76	- 167
Canopy, ROPS (less cab)	-218	- 481	-149	- 328
Without Optional Counterweight 470 kg (1036 lb)	-470	-1034	-658	-1448
Without Guard, crankcase	- 16	- 35	- 20	- 44
Without Guard, driveshaft	- 17	- 37	- 12	- 26
Without Guard, power train	- 58	- 128	- 49	- 108
Without Ride Control System	- 45	- 99	- 24	- 53
Without Secondary steering	- 17	- 37	- 20	- 44
Tires, 1-piece rims				
17.5-25, 12PR (L-2)	-652	-1434	-365	- 803
17.5-25, 12PR (L-3)	-580	-1276	-325	- 715
17.5-25, Radial (L-2)	-612	-1346	-343	- 755
17.5-25, Radial (L-3)	-512	-1126	-287	- 631
Tires, 3-piece rims				
17.5-25, 12PR (L-2)	-528	-1162	-296	- 651
17.5-25, 12PR (L-3)	-456	-1003	-255	- 561
17.5-25, Radial (L-2)	-488	-1074	-273	- 601
17.5-25, Radial (L-3)	-388	- 854	-217	- 477
20.5-25, 12PR (L-2)	-240	- 528	-134	- 295
20.5-25, 12PR (L-3)	- 36	- 79	- 20	- 44
20.5-25, Radial (L-2)	-172	- 378	- 96	- 211
20.5-25, Radial (L-3)	0	0	0	0
600/65 R25, Radial (L-3) Michelin	+ 4	+ 9	+ 2	+ 4

Bucket Type		High Density General Purpose						Light Material
Ground Engaging Type		Bolt-on Cutting Edges		Bolt-on Teeth & Segments		Bolt-on Teeth		Bolt-on Cutting Edge
Rated bucket capacity	m ³ yd ³	2.1 2.7	2.3 3.0	2.1 2.7	2.3 3.0	2.0 2.6	2.1 2.7	2.8 3.6
Struck capacity	m ³ yd ³	1.7 2.2	2.0 2.6	1.7 2.2	1.8 2.4	1.6 2.1	1.9 2.5	2.3 3.0
Bucket width	mm ft/in	2550 8'4"	2550 8'4"	2620 8'7"	2620 8'7"	2620 8'7"	2620 8'7"	2550 8'4"
Dump clearance at full lift and 45° discharge (°)	mm ft/in	3517 11'6"	3482 11'5"	3413 11'2"	3378 11'1"	3413 11'2"	3378 11'1"	3380 11'1"
Reach at full tilt and 45° discharge (°)	mm ft/in	966 3'2"	1004 3'4"	1069 3'6"	1108 3'8"	1069 3'6"	1108 3'8"	1103 3'7"
Reach at 45° discharge and 2130 mm (7'0") clearance (°)	mm ft/in	2062 6'9"	2086 6'10"	2121 7'0"	2144 7'0"	2121 7'0"	2144 7'0"	2140 7'0"
Reach with lift arms horizontal and bucket level	mm ft/in	2779 9'1"	2830 9'3"	2925 9'7"	2976 9'9"	2925 9'7"	2976 9'9"	2972 9'9"
Digging depth (°)	mm in	165 6.5	172 6.8	178 7.0	185 7.3	178 7.0	185 7.3	182 7.2
Overall length	mm ft/in	7916 26'0"	7972 26'2"	8062 26'5"	8118 26'8"	8046 26'5"	8101 26'7"	8120 26'8"
Overall height with bucket at full raise (°)	mm ft/in	5763 18'11"	5771 18'11"	5763 18'11"	5771 18'11"	5763 18'11"	5771 18'11"	5820 19'1"
Loader clearance radius with bucket in carry position (°)	mm ft/in	6011 19'9"	6028 19'9"	6090 20'0"	6108 20'0"	6090 20'0"	6108 20'0"	6075 19'11"
Static tipping load straight (°)	kg lb	7973 17,578	7917 17,454	7817 17,233	7760 17,107	7916 17,452	7859 17,327	7712 17,003
Static tipping load with 40° turn (°)	kg lb	6944 15,309	6894 15,199	6787 14,964	6736 14,851	6887 15,183	6836 15,071	6700 14,771
Breakout force (°)	kg lb	15 580 34,348	14 865 32,772	15 445 34,051	14 731 32,476	16 575 36,542	15 764 34,754	13 154 29,000
Operating weight	kg lb	12 996 28,651	12 998 28,656	13 131 28,949	13 134 28,956	13 045 28,759	13 048 28,766	13 116 28,916

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers (SAE). SAE Standards J732 JUN92 and J742 FEB85 govern loader rating, denoted in the text by (°).

	Change in Operating Weight		Change in Articulated Static Tipping Load	
	kg	lb	kg	lb
Without air conditioner	- 71	- 156	- 76	- 167
Canopy, ROPS (less cab)	-218	- 481	-149	- 328
Without Optional Counterweight 470 kg (1036 lb)	-470	-1034	-658	-1448
Without Guard, crankcase	- 16	- 35	- 20	- 44
Without Guard, driveshaft	- 17	- 37	- 12	- 26
Without Guard, power train	- 58	- 128	- 49	- 108
Without Ride Control System	- 45	- 99	- 24	- 53
Without Secondary steering	- 17	- 37	- 20	- 44
Tires, 1-piece rims				
17.5-25, 12PR (L-2)	-652	-1434	-365	- 803
17.5-25, 12PR (L-3)	-580	-1276	-325	- 715
17.5-25, Radial (L-2)	-612	-1346	-343	- 755
17.5-25, Radial (L-3)	-512	-1126	-287	- 631
Tires, 3-piece rims				
17.5-25, 12PR (L-2)	-528	-1162	-296	- 651
17.5-25, 12PR (L-3)	-456	-1003	-255	- 561
17.5-25, Radial (L-2)	-488	-1074	-273	- 601
17.5-25, Radial (L-3)	-388	- 854	-217	- 477
20.5-25, 12PR (L-2)	-240	- 528	-134	- 295
20.5-25, 12PR (L-3)	- 36	- 79	- 20	- 44
20.5-25, Radial (L-2)	-172	- 378	- 96	- 211
20.5-25, Radial (L-3)	0	0	0	0
600/65 R25, Radial (L-3) Michelin	+ 4	+ 9	+ 2	+ 4

Performance Data
 ● 930H Standard VersaLink Hook On
 Using Quick Coupler

Wheel Loaders
 Integrated Toolcarriers

Bucket Type		General Purpose								
Ground Engaging Type		Bolt-on Cutting Edges			Bolt-on Teeth & Segments			Bolt-on Teeth		
Rated bucket capacity	m³ yd³	2.1 2.7	2.3 3.0	2.5 3.2	2.1 2.7	2.3 3.0	2.5 3.2	1.9 2.4	2.1 2.7	2.3 3.0
Struck capacity	m³ yd³	1.7 2.2	1.9 2.5	2.1 2.7	1.7 2.2	1.9 2.5	2.1 2.7	1.6 2.1	1.8 2.4	2.0 2.6
Bucket width	mm ft/in	2550 8'4"	2550 8'4"	2550 8'4"	2620 8'7"	2620 8'7"	2620 8'7"	2620 8'7"	2620 8'7"	2620 8'7"
Dump clearance at full lift and 45° discharge (°)	mm ft/in	2833 9'4"	2773 9'1"	2727 8'11"	2721 8'11"	2660 8'9"	2614 8'7"	2721 8'11"	2660 8'9"	2614 8'7"
Reach at full tilt and 45° discharge (°)	mm ft/in	934 3'1"	995 3'3"	1040 3'5"	1028 3'4"	1089 3'7"	1135 3'9"	1028 3'4"	1089 3'7"	1135 3'9"
Reach at 45° discharge and 2130 mm (7'0") clearance (°)	mm ft/in	1506 4'11"	1531 5'0"	1549 5'1"	1533 5'0"	1554 5'1"	1569 5'2"	1533 5'0"	1554 5'1"	1569 5'2"
Reach with lift arms horizontal and bucket level	mm ft/in	2516 8'3"	2601 8'6"	2666 8'9"	2662 8'9"	2747 9'0"	2812 9'3"	2662 8'9"	2747 9'0"	2812 9'3"
Digging depth (°)	mm in	201 7.9	201 7.9	201 7.9	214 8.4	214 8.4	214 8.4	214 8.4	214 8.4	214 8.4
Overall length	mm ft/in	7601 24'11"	7686 25'3"	7751 25'5"	7747 25'5"	7832 25'8"	7897 25'11"	7728 25'4"	7813 25'8"	7878 25'10"
Overall height with bucket at full raise (°)	mm ft/in	5303 17'5"	5383 17'8"	5470 17'11"	5303 17'5"	5383 17'8"	5470 17'11"	5303 17'5"	5383 17'8"	5470 17'11"
Loader clearance radius with bucket in carry position (°)	mm ft/in	5826 19'1"	5848 19'2"	5865 19'3"	5900 19'4"	5923 19'5"	5940 19'6"	5900 19'4"	5923 19'5"	5940 19'6"
Static tipping load straight (°)	kg lb	9158 20,190	9042 19,933	8951 19,733	8999 19,839	8881 19,579	8789 19,376	9100 20,062	8983 19,804	8891 19,602
Static tipping load with 40° turn (°)	kg lb	7980 17,593	7871 17,352	7785 17,164	7821 17,242	7710 16,998	7623 16,807	7922 17,465	7812 17,223	7726 17,033
Breakout force (°)	kg lb	13 804 30,433	12 852 28,334	12 199 26,894	13 670 30,137	12 717 28,036	12 064 26,597	14 576 32,135	13 512 29,789	12 789 28,195
Operating weight	kg lb	13 114 28,912	13 174 29,044	13 221 29,147	13 250 29,211	13 310 29,344	13 356 29,445	13 164 29,022	13 224 29,154	13 271 29,258

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers (SAE). SAE Standards J732 JUN92 and J742 FEB85 govern loader rating, denoted in the text by (°).

	Change in Operating Weight		Change in Articulated Static Tipping Load	
	kg	lb	kg	lb
Without air conditioner	- 71	- 156	- 76	- 167
Canopy, ROPS (less cab)	-218	- 481	-149	- 328
Without Optional Counterweight 470 kg (1036 lb)	-470	-1034	-658	-1448
Without Guard, crankcase	- 16	- 35	- 20	- 44
Without Guard, driveshaft	- 17	- 37	- 12	- 26
Without Guard, power train	- 58	- 128	- 49	- 108
Without Ride Control System	- 45	- 99	- 24	- 53
Without Secondary steering	- 17	- 37	- 20	- 44
Tires, 1-piece rims				
17.5-25, 12PR (L-2)	-652	-1434	-365	- 803
17.5-25, 12PR (L-3)	-580	-1276	-325	- 715
17.5-25, Radial (L-2)	-612	-1346	-343	- 755
17.5-25, Radial (L-3)	-512	-1126	-287	- 631
Tires, 3-piece rims				
17.5-25, 12PR (L-2)	-528	-1162	-296	- 651
17.5-25, 12PR (L-3)	-456	-1003	-255	- 561
17.5-25, Radial (L-2)	-488	-1074	-273	- 601
17.5-25, Radial (L-3)	-388	- 854	-217	- 477
20.5-25, 12PR (L-2)	-240	- 528	-134	- 295
20.5-25, 12PR (L-3)	- 36	- 79	- 20	- 44
20.5-25, Radial (L-2)	-172	- 378	- 96	- 211
20.5-25, Radial (L-3)	0	0	0	0
600/65 R25, Radial (L-3) Michelin	+ 4	+ 9	+ 2	+ 4

Wheel Loaders Integrated Toolcarriers

Performance Data ● 930H Standard VersaLink Hook On Using Quick Coupler

Bucket Type		High Density General Purpose						Light Material	
Ground Engaging Type		Bolt-on Cutting Edges		Bolt-on Teeth & Segments		Bolt-on Teeth		Bolt-on Cutting Edge	
Rated bucket capacity	m ³ yd ³	2.1 2.7	2.3 3.0	2.1 2.7	2.3 3.0	2.0 2.6	2.1 2.7	2.8 3.6	3.1 4.1
Struck capacity	m ³ yd ³	1.7 2.2	1.9 2.5	1.7 2.2	1.9 2.5	1.6 2.1	1.8 2.4	2.3 3.0	2.6 3.4
Bucket width	mm ft/in	2550 8'4"	2550 8'4"	2620 8'7"	2620 8'7"	2620 8'7"	2620 8'7"	2550 8'4"	2550 8'4"
Dump clearance at full lift and 45° discharge (°)	mm ft/in	2927 9'7"	2892 9'6"	2822 9'3"	2788 9'2"	2822 9'3"	2788 9'2"	2790 9'2"	2746 9'0"
Reach at full tilt and 45° discharge (°)	mm ft/in	1070 3'6"	1112 3'8"	1174 3'10"	1216 4'0"	1174 3'10"	1216 4'0"	1208 4'0"	1250 4'1"
Reach at 45° discharge and 2130 mm (7'0") clearance (°)	mm ft/in	1693 5'7"	1716 5'8"	1740 5'9"	1761 5'9"	1740 5'9"	1761 5'9"	1755 5'9"	1770 5'10"
Reach with lift arms horizontal and bucket level	mm ft/in	2523 8'3"	2576 8'5"	2670 8'9"	2722 8'11"	2670 8'9"	2722 8'11"	2716 8'11"	2776 9'1"
Digging depth (°)	mm in	152 6.0	157 6.2	165 6.5	170 6.7	165 6.5	170 6.7	169 6.7	176 6.9
Overall length	mm ft/in	7570 24'10"	7627 25'0"	7717 25'4"	7773 25'6"	7696 25'3"	7753 25'5"	7777 25'6"	7842 25'9"
Overall height with bucket at full raise (°)	mm ft/in	5362 17'7"	5375 17'8"	5362 17'7"	5375 17'8"	5362 17'7"	5375 17'8"	5495 18'0"	5552 18'3"
Loader clearance radius with bucket in carry position (°)	mm ft/in	5811 19'1"	5826 19'1"	5885 19'4"	5900 19'4"	5885 19'4"	5900 19'4"	5867 19'3"	5886 19'4"
Static tipping load straight (°)	kg lb	9520 20,988	9415 20,757	9358 20,632	9253 20,398	9461 20,858	9356 20,626	9274 20,446	9209 20,302
Static tipping load with 40° turn (°)	kg lb	8310 18,321	8212 18,104	8149 17,965	8049 17,746	8251 18,191	8152 17,973	8081 17,817	8018 17,676
Breakout force (°)	kg lb	13 727 30,263	13 128 28,942	13 593 29,968	12 994 28,647	14 485 31,934	13 817 30,461	11 792 25,997	11 270 24,846
Operating weight	kg lb	13 016 28,696	13 073 28,821	13 151 28,993	13 208 29,119	13 066 28,806	13 123 28,931	13 120 28,925	13 171 29,037

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers (SAE). SAE Standards J732 JUN92 and J742 FEB85 govern loader rating, denoted in the text by (°).

	Change in Operating Weight		Change in Articulated Static Tipping Load	
	kg	lb	kg	lb
Without air conditioner	- 71	- 156	- 76	- 167
Canopy, ROPS (less cab)	-218	- 481	-149	- 328
Without Optional Counterweight 470 kg (1036 lb)	-470	-1034	-658	-1448
Without Guard, crankcase	- 16	- 35	- 20	- 44
Without Guard, driveshaft	- 17	- 37	- 12	- 26
Without Guard, power train	- 58	- 128	- 49	- 108
Without Ride Control System	- 45	- 99	- 24	- 53
Without Secondary steering	- 17	- 37	- 20	- 44
Tires, 1-piece rims				
17.5-25, 12PR (L-2)	-652	-1434	-365	- 803
17.5-25, 12PR (L-3)	-580	-1276	-325	- 715
17.5-25, Radial (L-2)	-612	-1346	-343	- 755
17.5-25, Radial (L-3)	-512	-1126	-287	- 631
Tires, 3-piece rims				
17.5-25, 12PR (L-2)	-528	-1162	-296	- 651
17.5-25, 12PR (L-3)	-456	-1003	-255	- 561
17.5-25, Radial (L-2)	-488	-1074	-273	- 601
17.5-25, Radial (L-3)	-388	- 854	-217	- 477
20.5-25, 12PR (L-2)	-240	- 528	-134	- 295
20.5-25, 12PR (L-3)	- 36	- 79	- 20	- 44
20.5-25, Radial (L-2)	-172	- 378	- 96	- 211
20.5-25, Radial (L-3)	0	0	0	0
600/65 R25, Radial (L-3) Michelin	+ 4	+ 9	+ 2	+ 4

Performance Data
 ● 930H High Lift VersaLink Hook On
 Using Quick Coupler

Wheel Loaders
 Integrated Toolcarriers

Bucket Type		General Purpose								
Ground Engaging Type		Bolt-on Cutting Edges			Bolt-on Teeth & Segments			Bolt-on Teeth		
Rated bucket capacity	m ³ yd ³	2.1 2.7	2.3 3.0	2.5 3.2	2.1 2.7	2.3 3.0	2.5 3.2	1.9 2.4	2.1 2.7	2.3 3.0
Struck capacity	m ³ yd ³	1.7 2.2	1.9 2.5	2.1 2.7	1.7 2.2	1.9 2.5	2.1 2.7	1.6 2.1	1.8 2.4	2.0 2.6
Bucket width	mm ft/in	2550 8'4"	2550 8'4"	2550 8'4"	2620 8'7"	2620 8'7"	2620 8'7"	2620 8'7"	2620 8'7"	2620 8'7"
Dump clearance at full lift and 45° discharge (\$)	mm ft/in	3333 10'11"	3273 10'9"	3227 10'7"	3221 10'7"	3160 10'4"	3115 10'3"	3221 10'7"	3160 10'4"	3115 10'3"
Reach at full tilt and 45° discharge (\$)	mm ft/in	934 3'1"	994 3'3"	1040 3'5"	1028 3'4"	1088 3'7"	1134 3'9"	1028 3'4"	1088 3'7"	1134 3'9"
Reach at 45° discharge and 2130 mm (7'0") clearance (\$)	mm ft/in	1949 6'5"	1980 6'6"	2003 6'7"	1987 6'6"	2015 6'7"	2035 6'8"	1987 6'6"	2015 6'7"	2035 6'8"
Reach with lift arms horizontal and bucket level	mm ft/in	2910 9'7"	2995 9'10"	3060 10'0"	3056 10'0"	3141 10'4"	3206 10'6"	3056 10'0"	3141 10'4"	3206 10'6"
Digging depth (\$)	mm in	216 8.5	216 8.5	216 8.5	229 9.0	229 9.0	229 9.0	229 9.0	229 9.0	229 9.0
Overall length	mm ft/in	8080 26'6"	8165 26'9"	8230 27'0"	8226 27'0"	8311 27'3"	8376 27'6"	8210 26'11"	8295 27'3"	8360 27'5"
Overall height with bucket at full raise (\$)	mm ft/in	5803 19'0"	5883 19'4"	5970 19'7"	5803 19'0"	5883 19'4"	5970 19'7"	5803 19'0"	5883 19'4"	5970 19'7"
Loader clearance radius with bucket in carry position (\$)	mm ft/in	6080 19'11"	6105 20'0"	6124 20'1"	6159 20'2"	6184 20'3"	6204 20'4"	6159 20'2"	6184 20'3"	6204 20'4"
Static tipping load straight (\$)	kg lb	7300 16,094	7190 15,852	7107 15,668	7146 15,754	7035 15,509	6950 15,323	7244 15,970	7133 15,727	7050 15,542
Static tipping load with 40° turn (\$)	kg lb	6324 13,943	6221 13,715	6142 13,542	6170 13,603	6066 13,373	5986 13,197	6268 13,818	6164 13,590	6085 13,415
Breakout force (\$)	kg lb	13,804 30,433	12,852 28,334	12,199 26,894	13,670 30,137	12,717 28,036	12,064 26,597	14,576 32,135	13,512 29,789	12,789 28,195
Operating weight	kg lb	13,262 29,238	13,322 29,370	13,369 29,474	13,398 29,538	13,458 29,670	13,504 29,771	13,312 29,348	13,372 29,480	13,418 29,582

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers (SAE). SAE Standards J732 JUN92 and J742 FEB85 govern loader rating, denoted in the text by (\$).

	Change in Operating Weight		Change in Articulated Static Tipping Load	
	kg	lb	kg	lb
Without air conditioner	- 71	- 156	- 76	- 167
Canopy, ROPS (less cab)	-218	- 481	-149	- 328
Without Optional Counterweight 470 kg (1036 lb)	-470	-1034	-658	-1448
Without Guard, crankcase	- 16	- 35	- 20	- 44
Without Guard, driveshaft	- 17	- 37	- 12	- 26
Without Guard, power train	- 58	- 128	- 49	- 108
Without Ride Control System	- 45	- 99	- 24	- 53
Without Secondary steering	- 17	- 37	- 20	- 44
Tires, 1-piece rims				
17.5-25, 12PR (L-2)	-652	-1434	-365	- 803
17.5-25, 12PR (L-3)	-580	-1276	-325	- 715
17.5-25, Radial (L-2)	-612	-1346	-343	- 755
17.5-25, Radial (L-3)	-512	-1126	-287	- 631
Tires, 3-piece rims				
17.5-25, 12PR (L-2)	-528	-1162	-296	- 651
17.5-25, 12PR (L-3)	-456	-1003	-255	- 561
17.5-25, Radial (L-2)	-488	-1074	-273	- 601
17.5-25, Radial (L-3)	-388	- 854	-217	- 477
20.5-25, 12PR (L-2)	-240	- 528	-134	- 295
20.5-25, 12PR (L-3)	- 36	- 79	- 20	- 44
20.5-25, Radial (L-2)	-172	- 378	- 96	- 211
20.5-25, Radial (L-3)	0	0	0	0
600/65 R25, Radial (L-3) Michelin	+ 4	+ 9	+ 2	+ 4

Wheel Loaders Integrated Toolcarriers

Performance Data ● 930H High Lift VersaLink Hook On Using Quick Coupler

Bucket Type		High Density General Purpose						Light Material	
Ground Engaging Type		Bolt-on Cutting Edges		Bolt-on Teeth & Segments		Bolt-on Teeth		Bolt-on Cutting Edge	
Rated bucket capacity	m ³ yd ³	2.1 2.7	2.3 3.0	2.1 2.7	2.3 3.0	2.0 2.6	2.1 2.7	2.80 3.66	3.10 4.05
Struck capacity	m ³ yd ³	1.7 2.2	1.9 2.5	1.7 2.2	1.9 2.5	1.6 2.1	1.8 2.4	2.30 3.01	2.60 3.40
Bucket width	mm ft/in	2550 8'4"	2550 8'4"	2620 8'7"	2620 8'7"	2620 8'7"	2620 8'7"	2550 8'4"	2550 8'4"
Dump clearance at full lift and 45° discharge (°)	mm ft/in	3427 11'3"	3392 11'2"	3322 10'11"	3288 10'9"	3322 10'11"	3288 10'9"	3290 10'10"	3246 10'8"
Reach at full tilt and 45° discharge (°)	mm ft/in	1070 3'6"	1112 3'8"	1174 3'10"	1215 4'0"	1174 3'10"	1215 4'0"	1208 4'0"	1250 4'1"
Reach at 45° discharge and 2130 mm (7'0") clearance (°)	mm ft/in	2128 7'0"	2154 7'1"	2184 7'2"	2209 7'3"	2184 7'2"	2209 7'3"	2203 7'3"	2222 7'3"
Reach with lift arms horizontal and bucket level	mm ft/in	2916 9'7"	2970 9'9"	3063 10'1"	3116 10'3"	3063 10'1"	3116 10'3"	3110 10'2"	3170 10'5"
Digging depth (°)	mm in	167 6.6	172 6.8	180 7.1	185 7.3	180 7.1	185 7.3	184 7.2	191 7.5
Overall length	mm ft/in	8055 26'5"	8112 26'7"	8202 26'11"	8258 27'1"	8185 26'10"	8241 27'0"	8259 27'1"	8324 27'4"
Overall height with bucket at full raise (°)	mm ft/in	5862 19'3"	5875 19'3"	5862 19'3"	5875 19'3"	5862 19'3"	5875 19'3"	5995 19'8"	6052 19'10"
Loader clearance radius with bucket in carry position (°)	mm ft/in	6062 19'11"	6080 19'11"	6141 20'2"	6158 20'2"	6141 20'2"	6158 20'2"	6126 20'1"	6147 20'2"
Static tipping load straight (°)	kg lb	7566 16,679	7470 16,470	7410 16,336	7314 16,124	7508 16,553	7413 16,343	7338 16,177	7261 16,009
Static tipping load with 40° turn (°)	kg lb	6569 14,482	6479 14,284	6413 14,138	6322 13,939	6512 14,356	6422 14,158	6356 14,014	6283 13,852
Breakout force (°)	kg lb	13 727 30,263	13 128 28,942	13 593 29,968	12 994 28,647	14 485 31,934	13 817 30,461	11 792 25,997	11 270 24,846
Operating weight	kg lb	13 164 29,022	13 221 29,147	13 299 29,319	13 356 29,445	13 214 29,132	13 270 29,255	13 268 29,251	13 319 29,364

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers (SAE). SAE Standards J732 JUN92 and J742 FEB85 govern loader rating, denoted in the text by (°).

	Change in Operating Weight		Change in Articulated Static Tipping Load	
	kg	lb	kg	lb
Without air conditioner	- 71	- 156	- 76	- 167
Canopy, ROPS (less cab)	-218	- 481	- 149	- 328
Without Optional Counterweight 470 kg (1036 lb)	-470	- 1034	-658	- 1448
Without Guard, crankcase	- 16	- 35	- 20	- 44
Without Guard, driveshaft	- 17	- 37	- 12	- 26
Without Guard, power train	- 58	- 128	- 49	- 108
Without Ride Control System	- 45	- 99	- 24	- 53
Without Secondary steering	- 17	- 37	- 20	- 44
Tires, 1-piece rims				
17.5-25, 12PR (L-2)	-652	- 1434	-365	- 803
17.5-25, 12PR (L-3)	-580	- 1276	-325	- 715
17.5-25, Radial (L-2)	-612	- 1346	-343	- 755
17.5-25, Radial (L-3)	-512	- 1126	-287	- 631
Tires, 3-piece rims				
17.5-25, 12PR (L-2)	-528	- 1162	-296	- 651
17.5-25, 12PR (L-3)	-456	- 1003	-255	- 561
17.5-25, Radial (L-2)	-488	- 1074	-273	- 601
17.5-25, Radial (L-3)	-388	- 854	-217	- 477
20.5-25, 12PR (L-2)	-240	- 528	-134	- 295
20.5-25, 12PR (L-3)	- 36	- 79	- 20	- 44
20.5-25, Radial (L-2)	-172	- 378	- 96	- 211
20.5-25, Radial (L-3)	0	0	0	0
600/65 R25, Radial (L-3) Michelin	+ 4	+ 9	+ 2	+ 4

		Pallet Forks		
Fork tine length	mm ft/in	1220 4'0"	1370 4'6"	1524 5'0"
Ground to top of the tine clearance	mm ft/in	3889 12'9"	3903 12'10"	3889 12'9"
Reach with lift arms horizontal and forks level	mm ft/in	1693 5'7"	1708 5'7"	1693 5'7"
Overall length	mm ft/in	7854 25'9"	8019 26'4"	8158 26'9"
Static tipping load with level arms and forks, straight*	kg lb	7247 15,943	6980 15,356	6817 14,997
Static tipping load with level arms and forks, full 40° turn*	kg lb	6357 13,985	6116 13,455	5970 13,134
Operating weight*	kg lb	12 580 27,676	12 648 27,826	12 670 27,874

*Static tipping and operating weights shown are for 930H with cab with air conditioning, optional counterweight, limited slip axles, heavy-duty rear brakes, additional guarding, sound suppression, work tool, 80 kg (176 lb) operator and 600/65 R25 GP-3D tires. Tipping load is defined by SAE J732 JUN92.

NOTE: The rated operating load for a machine with pallet fork is: SAE J1197 FEB91; 50% of full turn static tipping load, or hydraulic/structural limit. CEN 474-3: 60% of full turn static tipping load on rough terrain: 80% of full turn static tipping load on firm and level ground, or the hydraulic/structural limit.

Standard VersaLink				
		Material Handling Arm		
Handling Arm Position		Retracted	Mid-position	Extended
Operating load	kg lb	2333 5133	1868 4110	1559 3430
Static tipping load, straight*	kg lb	5322 11,708	4266 9385	3562 7836
Static tipping load, full 40° turn*	kg lb	4665 10,263	3737 8221	3119 6862
Operating weight*	kg lb	12 547 27,603	12 547 27,603	12 547 27,603

High Lift VersaLink				
		Material Handling Arm		
Handling Arm Position		Retracted	Mid-position	Extended
Operating load	kg lb	2072 4558	1687 3711	1425 3135
Static tipping load, straight*	kg lb	4743 10,435	3867 8507	3266 7185
Static tipping load, full 40° turn*	kg lb	4143 9115	3375 7425	2850 6270
Operating weight*	kg lb	12 695 27,929	12 695 27,929	12 695 27,929

*Static Tipping Load and Operating Weight include lubricants, full fuel tank, ROPS cab, and 80 kg (176 lb) operator. Machine stability and operating weight are affected by tire size, tire ballast, and other attachments.

NOTE: The rated operating load for a machine with material handling arm is 50% of full turn static tipping load or the hydraulic/structural limit.

Bucket Type		General Purpose — Pin On								High Lift Delta
		Bolt-on Edges	Teeth & Seg-ments	Teeth	Bolt-on Edges	Teeth & Seg-ments	Teeth	Bolt-on Edges	Teeth & Seg-ments	Teeth
Edge Type										
Capacity — rated	m ³ yd ³	2.3 3.0	2.3 3.0	2.1 2.8	2.5 3.3	2.5 3.3	2.3 3.0	2.8 3.7	2.8 3.7	2.7 3.5
Capacity — struck	m ³ yd ³	2.0 2.6	2.0 2.6	1.9 2.4	2.1 2.8	2.1 2.8	2.0 2.6	2.4 3.2	2.4 3.2	2.3 3.0
Width	mm ft/in	2700 8'10"	2777 9'1"	2777 9'1"	2700 8'10"	2777 9'1"	2777 9'1"	2700 8'10"	2777 9'1"	2777 9'1"
Dump clearance at maximum lift and 45° discharge	mm ft/in	2890 9'5"	2786 9'1"	2786 9'1"	2849 9'4"	2744 9'0"	2744 9'0"	2771 9'1"	2664 8'8"	2664 8'8"
Reach at maximum lift and 45° discharge	mm ft/in	993 3'3"	1098 3'7"	1098 3'7"	1019 3'4"	1123 3'8"	1123 3'8"	1077 3'6"	1179 3'10"	1179 3'10"
Reach at level lift arm and bucket level	mm ft/in	2189 7'2"	2336 7'7"	2336 7'7"	2239 7'4"	2386 7'9"	2386 7'9"	2339 7'8"	2486 8'1"	2486 8'1"
Digging depth	mm in	50 1.9	50 1.9	25 0.9	50 1.9	50 1.9	25 0.9	50 1.9	50 1.9	25 0.9
Overall length	mm ft/in	7173 23'6"	7331 24'0"	7331 24'0"	7223 23'8"	7381 24'2"	7381 24'2"	7323 24'0"	7481 24'6"	7481 24'6"
Overall height with bucket at maximum lift	mm ft/in	5140 16'10"	5140 16'10"	5140 16'10"	5188 17'0"	5188 17'0"	5188 17'0"	5284 17'4"	5284 17'4"	5284 17'4"
Loader clearance circle with bucket at carry position	mm ft/in	11 946 39'2"	12 105 39'8"	12 105 39'8"	11 971 39'3"	12 131 39'9"	12 131 39'9"	12 024 39'5"	12 185 39'11"	12 185 39'11"
Static tipping load — straight*	kg lb	11 784 25,971	11 687 25,757	11 908 26,246	11 706 25,800	11 608 25,584	11 828 26,068	11 544 25,442	11 445 25,224	11 661 25,701
Static tipping load — articulated* maximum 40° turn	kg lb	10 260 22,613	10 163 22,399	10 372 22,860	10 187 22,452	10 089 22,236	10 297 22,694	10 034 22,115	9935 21,897	10 140 22,348
Breakout force**	kN lb	142 31,876	141 31,701	153 34,295	135 30,316	134 30,141	145 32,506	123 27,574	122 27,401	131 29,393
Operating weight*	kg lb	14 885 32,808	14 960 32,973	14 865 32,763	14 919 32,881	14 994 33,046	14 899 32,837	14 992 33,043	15 067 33,208	14 972 32,998

*Static tipping loads and operating weight are based on the following loader configuration: L3 Michelin XHA tires, air conditioning, ride control, power train guard, full fluids, fuel tank, coolant, lubricants and operator.

Static tipping loads conform to the international standard as defined in ISO 14397-1 (SEPT2007).

**Measured 100 mm (4") behind tip of cutting edge with bucket hinge pin as pivot point in accordance with SAE J732 (APR2007).

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers, including SAE Standard J732 (APR2007) which governs loader ratings.

	Width over tires maximum (loaded)		Change in vertical dimensions		Change in operating weight without ballast		Change in static tipping load — straight		Change in static tipping load — articulated	
	mm	in	mm	in	kg	lb	kg	lb	kg	lb
20.5-R25 XTLA L2, Radial	2603	102	-16	-1	-170	-376	-120	-264	-104	-230
20.5-R25 XHA L3, Radial	2674	105	+ 0	+0	+ 0	+ 0	+ 0	+ 0	+ 0	+ 0
20.5 R25 GP2B L3, Radial	2619	103	+ 6	+0	- 53	- 116	- 37	- 81	- 32	- 71
20.5 R25 HRL L3, Radial	2618	103	+23	+1	- 48	- 107	- 34	- 75	- 30	- 65
20.5 R25 RL-2+ L3, Radial	2609	103	+12	+0	+ 13	+ 28	+ 9	+ 20	+ 8	+ 17
650/65R-25 XLD L3, Radial (Low Profile)	2733	108	+ 0	+0	+519	+1145	+364	+803	+318	+701
20.5-25 SRG LD L3, Bias (16 ply) . . .	2558	101	+ 8	+0	-242	- 533	-170	-374	-148	-326
20.5-25 SRG LD L3, Bias (20 ply) . . .	2556	101	+11	+0	-174	- 384	-122	-270	-107	-235
20.5-25 RM 99 L3, Bias	2540	100	+ 8	+0	- 58	- 129	- 41	- 90	- 36	- 79

***Without bulge.

Bucket Type		General Purpose — Pin On			Material Handling — Pin On			High Lift Delta
		Bolt-on Edges	Teeth & Segments	Teeth	Bolt-on Edges	Teeth & Segments	Teeth	
Edge Type								
Capacity — rated	m³ yd³	3.0 3.9	3.0 3.9	2.9 3.7	2.8 3.7	2.8 3.7	2.7 3.5	— —
Capacity — struck	m³ yd³	2.7 3.5	2.7 3.5	2.6 3.3	2.4 3.2	2.4 3.2	2.3 3.0	— —
Width	mm ft/in	2700 8'10"	2777 9'1"	2777 9'1"	2700 8'10"	2777 9'1"	2777 9'1"	— —
Dump clearance at maximum lift and 45° discharge	mm ft/in	2702 8'10"	2597 8'6"	2597 8'6"	2720 8'11"	2607 8'6"	2607 8'6"	+423 +1'5"
Reach at maximum lift and 45° discharge	mm ft/in	1102 3'7"	1206 3'11"	1206 3'11"	1001 3'3"	1096 3'7"	1096 3'7"	+112 +4.4"
Reach at level lift arm and bucket level	mm ft/in	2397 7'10"	2544 8'4"	2544 8'4"	2339 7'8"	2486 8'1"	2486 8'1"	+381 +1'3"
Digging depth	mm in	110 4.3	110 4.3	85 3.3	50 1.9	50 1.9	25 0.9	+58 +2.3
Overall length	mm ft/in	7430 24'4"	7588 24'10"	7588 24'10"	7323 24'0"	7482 24'6"	7482 24'6"	+490 +1'7"
Overall height with bucket at maximum lift	mm ft/in	5195 17'0"	5195 17'0"	5195 17'0"	5272 17'3"	5272 17'3"	5272 17'3"	+423 +1'5"
Loader clearance circle with bucket at carry position	mm ft/in	12 106 39'8"	12 267 40'2"	12 267 40'2"	12 024 39'5"	12 185 39'11"	12 185 39'11"	+499 +1'8"
Static tipping load — straight*	kg lb	11 440 25,213	11 340 24,993	11 553 25,463	11 465 25,268	11 367 25,052	11 577 25,516	−1999 −4406
Static tipping load — articulated* maximum 40° turn	kg lb	9960 21,951	9860 21,731	10 062 22,177	9966 21,966	9868 21,750	10 068 22,190	−1792 −3949
Breakout force**	kN lb	117 26,319	116 26,132	124 27,958	123 27,575	122 27,401	131 29,393	−5 −1232
Operating weight*	kg lb	14 831 32,688	14 906 32,853	14 811 32,644	14 981 33,018	15 056 33,183	14 961 32,974	+324 +714

*Static tipping loads and operating weight are based on the following loader configuration: L3 Michelin XHA tires, air conditioning, ride control, power train guard, full fluids, fuel tank, coolant, lubricants and operator.

Static tipping loads conform to the international standard as defined in ISO 14397-1 (SEPT2007).

**Measured 100 mm (4") behind tip of cutting edge with bucket hinge pin as pivot point in accordance with SAE J732 (APR2007).

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers, including SAE Standard J732 (APR2007) which governs loader ratings.

	Width over tires maximum (loaded)		Change in vertical dimensions		Change in operating weight without ballast		Change in static tipping load — straight		Change in static tipping load — articulated	
	mm	in	mm	in	kg	lb	kg	lb	kg	lb
20.5-R25 XTLA L2, Radial	2603	102	−16	−1	−170	−376	−120	−264	−104	−230
20.5-R25 XHA L3, Radial	2674	105	+ 0	+0	+ 0	+ 0	+ 0	+ 0	+ 0	+ 0
20.5 R25 GP2B L3, Radial	2619	103	+ 6	+0	− 53	− 116	− 37	− 81	− 32	− 71
20.5 R25 HRL L3, Radial	2618	103	+23	+1	− 48	− 107	− 34	− 75	− 30	− 65
20.5 R25 RL-2+ L3, Radial	2609	103	+12	+0	+ 13	+ 28	+ 9	+ 20	+ 8	+ 17
650/65R-25 XLD L3, Radial (Low Profile)	2733	108	+ 0	+0	+519	+1145	+364	+803	+318	+701
20.5-25 SRG LD L3, Bias (16 ply)	2558 ***	101	+ 8	+0	−242	− 533	−170	−374	−148	−326
20.5-25 SRG LD L3, Bias (20 ply)	2556 ***	101	+11	+0	−174	− 384	−122	−270	−107	−235
20.5-25 RM 99 L3, Bias	2540 ***	100	+ 8	+0	− 58	− 129	− 41	− 90	− 36	− 79

***Without bulge.

Bucket Type		General Purpose — Fusion QC									High Lift Delta
Edge Type		Bolt-on Edges	Teeth & Seg-ments	Teeth	Bolt-on Edges	Teeth & Seg-ments	Teeth	Bolt-on Edges	Teeth & Seg-ments	Teeth	
Capacity — rated	m³ yd³	2.3 3.0	2.3 3.0	2.1 2.8	2.5 3.3	2.5 3.3	2.3 3.0	2.9 3.8	2.9 3.8	2.7 3.5	— —
Capacity — struck	m³ yd³	1.7 2.2	1.7 2.2	1.6 2.1	1.8 2.4	1.8 2.4	1.8 2.3	2.2 2.9	2.2 2.9	2.1 2.7	— —
Width	mm ft/in	2700 8'10"	2777 9'1"	2777 9'1"	2700 8'10"	2777 9'1"	2777 9'1"	2700 8'10"	2777 9'1"	2777 9'1"	— —
Dump clearance at maximum lift and 45° discharge	mm ft/in	2816 9'2"	2713 8'10"	2713 8'10"	2765 9'0"	2661 8'8"	2661 8'8"	2669 8'9"	2562 8'4"	2562 8'4"	+423 +1'5"
Reach at maximum lift and 45° discharge	mm ft/in	1038 3'4"	1145 3'9"	1145 3'9"	1068 3'6"	1173 3'10"	1173 3'10"	1135 3'8"	1237 4'0"	1237 4'0"	+112 +4.4"
Reach at level lift arm and bucket level	mm ft/in	2265 7'5"	2412 7'10"	2412 7'10"	2326 7'7"	2473 8'1"	2473 8'1"	2447 8'0"	2594 8'6"	2594 8'6"	+381 +1'3"
Digging depth	mm in	100 3.9	100 3.9	75 2.9	100 3.9	100 3.9	75 2.9	100 3.9	100 3.9	75 2.9	+58 +2.3
Overall length	mm ft/in	7290 23'11"	7448 24'5"	7448 24'5"	7351 24'1"	7509 24'7"	7509 24'7"	7472 24'6"	7630 25'0"	7630 25'0"	+490 +1'7"
Overall height with bucket at maximum lift	mm ft/in	5042 16'6"	5042 16'6"	5042 16'6"	5100 16'8"	5100 16'8"	5100 16'8"	5217 17'1"	5217 17'1"	5217 17'1"	+423 +1'5"
Loader clearance circle with bucket at carry position	mm ft/in	11 977 39'3"	12 132 39'9"	12 132 39'9"	12 007 39'4"	12 162 39'10"	12 162 39'10"	12 067 39'7"	12 224 40'1"	12 224 40'1"	+499 +1'8"
Static tipping load — straight*	kg lb	11 392 25,107	11 295 24,894	11 512 25,372	11 381 25,085	11 284 24,870	11 493 25,331	11 190 24,663	11 091 24,445	11 299 24,903	−1999 −4406
Static tipping load — articulated* maximum 40° turn	kg lb	9851 21,712	9754 21,499	9959 21,949	9846 21,700	9748 21,485	9946 21,920	9665 21,302	9567 21,085	9763 21,518	−1792 −3949
Breakout force**	kN lb	131 29,384	130 29,199	140 31,440	124 27,863	123 27,679	132 29,706	111 25,042	111 24,860	118 26,539	−5 −1232
Operating weight*	kg lb	15 451 34,053	15 526 34,218	15 433 34,013	15 433 34,015	15 508 34,180	15 415 33,975	15 522 34,210	15 597 34,376	15 504 34,171	+324 +714

*Static tipping loads and operating weight are based on the following loader configuration: L3 Michelin XHA tires, air conditioning, ride control, power train guard, full fluids, fuel tank, coolant, lubricants and operator.

Static tipping loads conform to the international standard as defined in ISO 14397-1 (SEPT2007).

**Measured 100 mm (4") behind tip of cutting edge with bucket hinge pin as pivot point in accordance with SAE J732 (APR2007).

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers, including SAE Standard J732 (APR2007) which governs loader ratings.

	Width over tires maximum (loaded)		Change in vertical dimensions		Change in operating weight without ballast		Change in static tipping load — straight		Change in static tipping load — articulated	
	mm	in	mm	in	kg	lb	kg	lb	kg	lb
20.5-R25 XTLA L2, Radial	2603	102	−16	−1	−170	−376	−120	−264	−104	−230
20.5-R25 XHA L3, Radial	2674	105	+ 0	+0	+ 0	+ 0	+ 0	+ 0	+ 0	+ 0
20.5 R25 GP2B L3, Radial	2619	103	+ 6	+0	− 53	− 116	− 37	− 81	− 32	− 71
20.5 R25 HRL L3, Radial	2618	103	+23	+1	− 48	− 107	− 34	− 75	− 30	− 65
20.5 R25 RL-2+ L3, Radial	2609	103	+12	+0	+ 13	+ 28	+ 9	+ 20	+ 8	+ 17
650/65R-25 XLD L3, Radial (Low Profile)	2733	108	+ 0	+0	+519	+1145	+364	+803	+318	+701
20.5-25 SRG LD L3, Bias (16 ply)	2558	*** 101	+ 8	+0	−242	− 533	−170	−374	−148	−326
20.5-25 SRG LD L3, Bias (20 ply)	2556	*** 101	+11	+0	−174	− 384	−122	−270	−107	−235
20.5-25 RM 99 L3, Bias	2540	*** 100	+ 8	+0	− 58	− 129	− 41	− 90	− 36	− 79

***Without bulge.

Bucket Type		General Purpose — Fusion QC			Material Handling — Fusion QC			High Lift Delta
		Bolt-on Edges	Teeth & Segments	Teeth	Bolt-on Edges	Teeth & Segments	Teeth	
Edge Type								
Capacity — rated	m³ yd³	3.1 4.1	3.1 4.1	2.9 3.8	3.1 4.1	3.1 4.1	2.9 3.8	— —
Capacity — struck	m³ yd³	2.4 3.1	2.4 3.1	2.3 3.0	2.4 3.2	2.4 3.2	2.3 3.1	— —
Width	mm ft/in	2700 8'10"	2777 9'1"	2777 9'1"	2700 8'10"	2777 9'1"	2777 9'1"	— —
Dump clearance at maximum lift and 45° discharge	mm ft/in	2625 8'7"	2518 8'3"	2518 8'3"	2593 8'6"	2480 8'1"	2480 8'1"	+423 +1'5"
Reach at maximum lift and 45° discharge	mm ft/in	1169 3'10"	1270 4'2"	1270 4'2"	1114 3'7"	1208 3'11"	1208 3'11"	+112 +4.4"
Reach at level lift arm and bucket level	mm ft/in	2504 8'2"	2651 8'8"	2651 8'8"	2509 8'2"	2656 8'8"	2656 8'8"	+381 +1'3"
Digging depth	mm in	100 3.9	100 3.9	75 2.9	60 2.3	60 2.3	35 1.3	+58 +2.3
Overall length	mm ft/in	7529 24'8"	7687 25'2"	7687 25'2"	7501 24'7"	7660 25'1"	7660 25'1"	+490 +1'7"
Overall height with bucket at maximum lift	mm ft/in	5273 17'3"	5273 17'3"	5273 17'3"	5290 17'4"	5290 17'4"	5290 17'4"	+423 +1'5"
Loader clearance circle with bucket at carry position	mm ft/in	12 096 39'8"	12 253 40'2"	12 253 40'2"	12 065 39'7"	12 223 40'1"	12 223 40'1"	+499 +1'8"
Static tipping load — straight*	kg lb	11 094 24,450	10 994 24,231	11 200 24,685	11 197 24,678	11 098 24,460	11 304 24,914	-1999 -4406
Static tipping load — articulated* maximum 40° turn	kg lb	9574 21,101	9475 20,882	9670 21,312	9668 21,309	9570 21,091	9765 21,522	-1792 -3949
Breakout force**	kN lb	106 23,878	105 23,696	112 25,244	106 23,829	105 23,656	112 25,197	-5 -1232
Operating weight*	kg lb	15 569 34,313	15 644 34,478	15 551 34,273	15 541 34,253	15 616 34,418	15 523 34,213	+324 +714

*Static tipping loads and operating weight are based on the following loader configuration: L3 Michelin XHA tires, air conditioning, ride control, power train guard, full fluids, fuel tank, coolant, lubricants and operator.

Static tipping loads conform to the international standard as defined in ISO 14397-1 (SEPT2007).

**Measured 100 mm (4") behind tip of cutting edge with bucket hinge pin as pivot point in accordance with SAE J732 (APR2007).

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers, including SAE Standard J732 (APR2007) which governs loader ratings.

	Width over tires maximum (loaded)		Change in vertical dimensions		Change in operating weight without ballast		Change in static tipping load — straight		Change in static tipping load — articulated	
	mm	in	mm	in	kg	lb	kg	lb	kg	lb
20.5-R25 XTLA L2, Radial	2603	102	-16	-1	-170	-376	-120	-264	-104	-230
20.5-R25 XHA L3, Radial	2674	105	+ 0	+0	+ 0	+ 0	+ 0	+ 0	+ 0	+ 0
20.5 R25 GP2B L3, Radial	2619	103	+ 6	+0	- 53	- 116	- 37	- 81	- 32	- 71
20.5 R25 HRL L3, Radial	2618	103	+23	+1	- 48	- 107	- 34	- 75	- 30	- 65
20.5 R25 RL-2+ L3, Radial	2609	103	+12	+0	+ 13	+ 28	+ 9	+ 20	+ 8	+ 17
650/65R-25 XLD L3, Radial (Low Profile)	2733	108	+ 0	+0	+519	+1145	+364	+803	+318	+701
20.5-25 SRG LD L3, Bias (16 ply)	2558	*** 101	+ 8	+0	-242	- 533	-170	-374	-148	-326
20.5-25 SRG LD L3, Bias (20 ply)	2556	*** 101	+11	+0	-174	- 384	-122	-270	-107	-235
20.5-25 RM 99 L3, Bias	2540	*** 100	+ 8	+0	- 58	- 129	- 41	- 90	- 36	- 79

***Without bulge.

Bucket Type		General Purpose — Fusion QC						Material Handling — Fusion QC		
Edge Type		Bolt-on Edges	Teeth & Segments	Teeth	Bolt-on Edges	Teeth & Segments	Teeth	Bolt-on Edges	Teeth & Segments	Teeth
Capacity — rated	m³ yd³	2.5 3.3	2.5 3.3	2.3 3.0	3.1 4.1	3.1 4.1	2.9 3.8	2.5 3.3	2.5 3.3	2.3 3.0
Capacity — struck	m³ yd³	2.1 2.7	2.1 2.7	1.9 2.5	2.5 3.3	2.5 3.3	2.4 3.2	2.1 2.7	2.1 2.7	1.9 2.5
Width	mm ft/in	2700 8'10"	2777 9'1"	2777 9'1"	2700 8'10"	2777 9'1"	2777 9'1"	2700 8'10"	2777 9'1"	2777 9'1"
Dump clearance at maximum lift and 45° discharge	mm ft/in	2818 9'2"	2713 8'10"	2713 8'10"	2712 8'10"	2605 8'6"	2605 8'6"	2761 9'0"	2647 8'8"	2647 8'8"
Reach at maximum lift and 45° discharge	mm ft/in	1231 4'0"	1334 4'4"	1334 4'4"	1313 4'3"	1414 4'7"	1414 4'7"	1135 3'8"	1229 4'0"	1229 4'0"
Reach at level lift arm and bucket level	mm ft/in	2497 8'2"	2644 8'8"	2644 8'8"	2635 8'7"	2782 9'1"	2782 9'1"	2494 8'2"	2641 8'7"	2641 8'7"
Digging depth	mm in	110 4.31	110 4.31	85 3.33	110 4.31	110 4.31	85 3.33	110 4.31	110 4.31	85 3.33
Overall length	mm ft/in	7601 24'11"	7760 25'5"	7760 25'5"	7739 25'4"	7898 25'10"	7898 25'10"	7598 24'11"	7757 25'5"	7757 25'5"
Overall height with bucket at maximum lift	mm ft/in	5200 17'0"	5200 17'0"	5200 17'0"	5358 17'6"	5358 17'6"	5358 17'6"	5185 17'0"	5185 17'0"	5185 17'0"
Loader clearance circle with bucket at carry position	mm ft/in	12 195 40'0"	12 373 40'7"	12 373 40'7"	12 279 40'3"	12 459 40'10"	12 459 40'10"	12 193 40'0"	12 371 40'7"	12 371 40'7"
Static tipping load — straight*	kg lb	10 436 23,001	10 342 22,794	10 549 23,250	10 195 22,471	10 099 22,259	10 304 22,709	10 499 23,140	10 405 22,933	10 609 23,383
Static tipping load — articulated* maximum 40° turn	kg lb	8981 19,795	8887 19,588	9082 20,016	8756 19,297	8660 19,086	8852 19,509	9049 19,944	8955 19,738	9147 20,161
Breakout force**	kN lb	122 27,514	122 27,376	130 29,314	109 24,460	108 24,320	115 25,899	123 27,709	123 27,572	131 29,527
Operating weight*	kg lb	16 266 35,850	16 341 36,015	16 248 35,810	16 377 36,095	16 452 36,260	16 359 36,055	16 165 35,628	16 240 35,794	16 147 35,589

*Static tipping loads and operating weight are based on the following loader configuration: L3 Michelin XHA tires, air conditioning, ride control, power train guard, full fluids, fuel tank, coolant, lubricants and operator.

Static tipping loads conform to the international standard as defined in ISO 14397-1 (SEPT2007).

**Measured 100 mm (4") behind tip of cutting edge with bucket hinge pin as pivot point in accordance with SAE J732 (APR2007).

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers, including SAE Standard J732 (APR2007) which governs loader ratings.

	Width over tires maximum (loaded)		Change in vertical dimensions		Change in operating weight without ballast		Change in static tipping load — straight		Change in static tipping load — articulated	
	mm	in	mm	in	kg	lb	kg	lb	kg	lb
20.5-R25 XTLA L2, Radial	2603	102	-16	-1	-170	-376	-100	-219	-86	-191
20.5-R25 XHA L3, Radial	2674	105	+ 0	+0	+ 0	+ 0	+ 0	+ 0	+ 0	+ 0
20.5 R25 GP2B L3, Radial	2619	103	+ 6	+0	- 53	- 116	- 31	- 67	- 27	- 59
20.5 R25 HRL L3, Radial	2618	103	+23	+1	- 48	- 107	- 28	- 62	- 25	- 54
20.5 R25 RL-2+ L3, Radial	2609	103	+12	+0	+ 13	+ 28	+ 7	+ 17	+ 7	+ 14
650/65R-25 XLD L3, Radial (Low Profile)	2733	108	+ 0	+0	+519	+1145	+302	+666	+264	+582
20.5-25 SRG LD L3, Bias (16 ply)	2558	*** 101	+ 8	+0	-242	- 533	-141	-310	-123	-271
20.5-25 SRG LD L3, Bias (20 ply)	2556	*** 101	+11	+0	-174	- 384	-101	-224	- 89	-195
20.5-25 RM 99 L3, Bias	2540	*** 100	+ 8	+0	- 58	- 129	- 34	- 75	- 30	- 66

***Without bulge.

Bucket Type		Material Handling — Fusion QC								
		Bolt-on Edges	Teeth & Segments	Teeth	Bolt-on Edges	Teeth & Segments	Teeth	Bolt-on Edges	Teeth & Segments	Teeth
Edge Type										
Capacity — rated	m³ yd³	2.7 3.5	2.7 3.5	2.5 3.3	2.9 3.8	2.9 3.8	2.7 3.5	3.1 4.1	3.1 4.1	2.9 3.8
Capacity — struck	m³ yd³	2.2 2.9	2.2 2.9	2.1 2.8	2.4 3.1	2.4 3.1	2.3 3.0	2.6 3.4	2.6 3.4	2.4 3.2
Width	mm ft/in	2700 8'10"	2777 9'1"	2777 9'1"	2700 8'10"	2777 9'1"	2777 9'1"	2700 8'10"	2777 9'1"	2777 9'1"
Dump clearance at maximum lift and 45° discharge	mm ft/in	2726 8'11"	2612 8'6"	2612 8'6"	2694 8'10"	2580 8'5"	2580 8'5"	2661 8'8"	2547 8'4"	2547 8'4"
Reach at maximum lift and 45° discharge	mm ft/in	1169 3'10"	1263 4'1"	1263 4'1"	1201 3'11"	1295 4'2"	1295 4'2"	1235 4'0"	1329 4'4"	1329 4'4"
Reach at level lift arm and bucket level	mm ft/in	2543 8'4"	2690 8'9"	2690 8'9"	2588 8'5"	2735 8'11"	2735 8'11"	2635 8'7"	2782 9'1"	2782 9'1"
Digging depth	mm in	110 4.31	110 4.31	85 3.33	110 4.31	110 4.31	85 3.33	110 4.31	110 4.31	85 3.33
Overall length	mm ft/in	7647 25'1"	7806 25'7"	7806 25'7"	7692 25'2"	7851 25'9"	7851 25'9"	7739 25'4"	7898 25'10"	7898 25'10"
Overall height with bucket at maximum lift	mm ft/in	5242 17'2"	5242 17'2"	5242 17'2"	5294 17'4"	5294 17'4"	5294 17'4"	5346 17'6"	5346 17'6"	5346 17'6"
Loader clearance circle with bucket at carry position	mm ft/in	12 223 40'1"	12 401 40'8"	12 401 40'8"	12 250 40'2"	12 430 40'9"	12 430 40'9"	12 279 40'3"	12 459 40'10"	12 459 40'10"
Static tipping load — straight*	kg lb	10 420 22,965	10 325 22,757	10 529 23,206	10 348 22,808	10 253 22,598	10 456 23,045	10 275 22,645	10 179 22,434	10 381 22,880
Static tipping load — articulated* maximum 40° turn	kg lb	8975 19,782	8881 19,574	9073 19,996	8909 19,635	8814 19,426	9005 19,846	8840 19,484	8744 19,273	8935 19,693
Breakout force**	kN lb	118 26,553	118 26,414	126 28,227	114 25,566	113 25,427	121 27,123	110 24,605	109 24,464	116 26,051
Operating weight*	kg lb	16 198 35,700	16 273 35,865	16 180 35,660	16 227 35,765	16 302 35,931	16 209 35,726	16 258 35,832	16 333 35,997	16 240 35,792

*Static tipping loads and operating weight are based on the following loader configuration: L3 Michelin XHA tires, air conditioning, ride control, power train guard, full fluids, fuel tank, coolant, lubricants and operator.

Static tipping loads conform to the international standard as defined in ISO 14397-1 (SEPT2007).

**Measured 100 mm (4") behind tip of cutting edge with bucket hinge pin as pivot point in accordance with SAE J732 (APR2007).

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers, including SAE Standard J732 (APR2007) which governs loader ratings.

	Width over tires maximum (loaded)		Change in vertical dimensions		Change in operating weight without ballast		Change in static tipping load — straight		Change in static tipping load — articulated	
	mm	in	mm	in	kg	lb	kg	lb	kg	lb
20.5-R25 XTLA L2, Radial	2603	102	-16	-1	-170	-376	-100	-219	-86	-191
20.5-R25 XHA L3, Radial	2674	105	+ 0	+0	+ 0	+ 0	+ 0	+ 0	+ 0	+ 0
20.5 R25 GP2B L3, Radial	2619	103	+ 6	+0	- 53	- 116	- 31	- 67	- 27	- 59
20.5 R25 HRL L3, Radial	2618	103	+23	+1	- 48	- 107	- 28	- 62	- 25	- 54
20.5 R25 RL-2+ L3, Radial	2609	103	+12	+0	+ 13	+ 28	+ 7	+ 17	+ 7	+ 14
650/65R-25 XLD L3, Radial (Low Profile)	2733	108	+ 0	+0	+519	+1145	+302	+666	+264	+582
20.5-25 SRG LD L3, Bias (16 ply)	2558	*** 101	+ 8	+0	-242	- 533	-141	-310	-123	-271
20.5-25 SRG LD L3, Bias (20 ply)	2556	*** 101	+11	+0	-174	- 384	-101	-224	- 89	-195
20.5-25 RM 99 L3, Bias	2540	*** 100	+ 8	+0	- 58	- 129	- 34	- 75	- 30	- 66

***Without bulge.

Bucket Type		General Purpose — Pin On									High Lift Delta
Edge Type		Bolt-on Edges	Teeth & Seg-ments	Teeth	Bolt-on Edges	Teeth & Seg-ments	Teeth	Bolt-on Edges	Teeth & Seg-ments	Teeth	
Capacity — rated	m³ yd³	2.7 3.5	2.7 3.5	2.5 3.3	2.9 3.8	2.9 3.8	2.7 3.5	3.1 4.1	3.1 4.1	2.9 3.8	— —
Capacity — struck	m³ yd³	2.3 3.0	2.3 3.0	2.1 2.8	2.5 3.2	2.5 3.2	2.3 3.0	2.7 3.5	2.7 3.5	2.5 3.3	— —
Width	mm ft/in	2927 9'7"	2994 9'9"	2994 9'9"	2927 9'7"	2994 9'9"	2994 9'9"	2927 9'7"	2994 9'9"	2994 9'9"	— —
Dump clearance at maximum lift and 45° discharge	mm ft/in	2974 9'9"	2871 9'5"	2871 9'5"	2926 9'7"	2822 9'3"	2822 9'3"	2880 9'5"	2762 9'0"	2762 9'0"	+495 +1'7"
Reach at maximum lift and 45° discharge	mm ft/in	1214 3'11"	1313 4'3"	1313 4'3"	1247 4'1"	1345 4'4"	1345 4'4"	1283 4'2"	1394 4'6"	1394 4'6"	+36 +1.4"
Reach at level lift arm and bucket level	mm ft/in	2465 8'1"	2607 8'6"	2607 8'6"	2525 8'3"	2667 8'8"	2667 8'8"	2585 8'5"	2746 9'0"	2746 9'0"	+374 +1'3"
Digging depth	mm in	92 3.6	97 3.8	62 2.4	92 3.6	97 3.8	62 2.4	92 3.6	97 3.8	62 2.4	+21 +0.8
Overall length	mm ft/in	7897 25'10"	8052 26'5"	8052 26'5"	7957 26'1"	8112 26'7"	8112 26'7"	8017 26'3"	8191 26'10"	8191 26'10"	+604 +2'0"
Overall height with bucket at maximum lift	mm ft/in	5329 17'5"	5329 17'5"	5329 17'5"	5386 17'8"	5386 17'8"	5386 17'8"	5443 17'10"	5443 17'10"	5443 17'10"	+495 +1'7"
Loader clearance circle with bucket at carry position	mm ft/in	13 267 43'6"	13 418 44'0"	13 418 44'0"	13 299 43'7"	13 450 44'1"	13 450 44'1"	13 331 43'8"	13 494 44'3"	13 494 44'3"	+387 +1'3"
Static tipping load — straight*	kg lb	12 393 27,315	12 281 27,067	12 570 27,704	12 276 27,057	12 163 26,808	12 449 27,437	12 161 26,804	12 048 26,555	12 330 27,176	−293 −647
Static tipping load — articulated* maximum 40° turn	kg lb	10 691 23,564	10 579 23,316	10 849 23,912	10 581 23,320	10 468 23,072	10 735 23,661	10 473 23,082	10 360 22,833	10 624 23,415	−375 −825
Breakout force**	kN lb	174 39,065	173 38,900	191 42,907	164 36,923	164 36,760	180 40,353	156 34,985	155 34,822	169 38,064	−9 −1964
Operating weight*	kg lb	18 091 39,873	18 198 40,109	18 041 39,763	18 145 39,992	18 252 40,228	18 095 39,882	18 197 40,106	18 304 40,342	18 147 39,996	+1270 +2799

*Static tipping loads and operating weight are based on the following loader configuration: L3 Michelin XHA tires, air conditioning, ride control, power train guard, full fluids, fuel tank, coolant, lubricants and operator.

Static tipping loads conform to the international standard as defined in ISO 14397-1 (SEPT2007).

**Measured 100 mm (4") behind tip of cutting edge with bucket hinge pin as pivot point in accordance with SAE J732 (APR2007).

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers, including SAE Standard J732 (APR2007) which governs loader ratings.

	Width over tires		Change in vertical dimensions		Change in operating weight		Change in static tipping load	
	mm	in	mm	in	kg	lb	kg	lb
23.5R25 VSW BS L2, Radial	2862	113	+ 6	+0	+ 20	+ 44	+ 14	+ 31
23.5R25 VUT D2A BS L2, Radial	2866	113	+10	+0	− 41	− 90	− 29	− 64
23.5R25 XTLA MX L2, Radial	2801	110	+ 7	+0	−112	− 247	− 79	− 174
23.5R25 VMT BS L3, Radial	2851	112	+ 3	+0	+124	+ 273	+ 88	+ 194
23.5R25 XHA MX L3, Radial	2784	110	+ 0	+0	+ 0	+ 0	+ 0	+ 0
23.5R25 XMINE MX L5, Radial	2807	111	+26	+1	+872	+1923	+619	+1365
750/65R25 XLD MX L3, Radial	2879	113	+ 7	+0	+460	+1014	+326	+ 719
23.5-25 SGGL FS L2, Bias	2834	112	+14	+1	−472	−1041	−335	− 739

Bucket Type		General Purpose — Pin On						Material Handling — Pin On			High Lift Delta
		Bolt-on Edges	Teeth & Seg-ments	Teeth	Bolt-on Edges	Teeth & Seg-ments	Teeth	Bolt-on Edges	Teeth & Seg-ments	Teeth	
Edge Type											
Capacity — rated	m³ yd³	3.3 4.3	3.3 4.3	3.1 4.1	3.5 4.6	3.5 4.6	3.3 4.3	3.1 4.1	3.1 4.1	2.9 3.8	— —
Capacity — struck	m³ yd³	2.8 3.7	2.8 3.7	2.7 3.5	3.0 3.9	3.0 3.9	2.8 3.7	2.7 3.5	2.7 3.5	2.5 3.3	— —
Width	mm ft/in	2927 9'7"	2994 9'9"	2994 9'9"	2946 9'8"	2946 9'8"	2896 9'6"	2927 9'7"	2994 9'9"	2994 9'9"	— —
Dump clearance at maximum lift and 45° discharge	mm ft/in	2917 9'6"	2811 9'2"	2811 9'2"	2812 9'2"	2706 8'10"	2706 8'10"	2870 9'5"	2758 9'0"	2758 9'0"	+495 +1'7"
Reach at maximum lift and 45° discharge	mm ft/in	1227 4'0"	1322 4'4"	1322 4'4"	1340 4'4"	1436 4'8"	1436 4'8"	1155 3'9"	1244 4'0"	1244 4'0"	+36 +1.4"
Reach at level lift arm and bucket level	mm ft/in	2520 8'3"	2662 8'8"	2662 8'8"	2675 8'9"	2818 9'2"	2818 9'2"	2520 8'3"	2662 8'8"	2662 8'8"	+374 +1'3"
Digging depth	mm in	92 3.6	97 3.8	62 2.4	92 3.6	97 3.8	62 2.4	92 3.6	97 3.8	62 2.4	+21 +0.8
Overall length	mm ft/in	7952 26'1"	8107 26'7"	8107 26'7"	8107 26'7"	8263 27'1"	8263 27'1"	7952 26'1"	8107 26'7"	8107 26'7"	+604 +2'0"
Overall height with bucket at maximum lift	mm ft/in	5491 18'0"	5491 18'0"	5491 18'0"	5379 17'7"	5379 17'7"	5379 17'7"	5391 17'8"	5391 17'8"	5391 17'8"	+495 +1'7"
Loader clearance circle with bucket at carry position	mm ft/in	13 296 43'7"	13 448 44'1"	13 448 44'1"	13 398 43'11"	13 492 44'3"	13 446 44'1"	13 296 43'7"	13 448 44'1"	13 448 44'1"	+387 +1'3"
Static tipping load — straight*	kg lb	12 052 26,563	11 939 26,313	12 215 26,923	12 266 27,033	12 295 27,099	12 308 27,126	12 485 27,517	12 371 27,265	12 663 27,908	−293 −647
Static tipping load — articulated* maximum 40° turn	kg lb	10 369 22,853	10 256 22,603	10 515 23,175	10 590 23,340	10 600 23,362	10 632 23,433	10 769 23,734	10 654 23,482	10 928 24,085	−375 −825
Breakout force**	kN lb	164 36,734	163 36,555	179 40,163	147 33,016	146 32,860	159 35,735	165 37,048	164 36,879	180 40,512	−9 −1964
Operating weight*	kg lb	18 262 40,250	18 369 40,485	18 212 40,139	18 068 39,822	18 176 40,059	18 019 39,713	18 085 39,860	18 192 40,095	18 035 39,749	+1270 +2799

*Static tipping loads and operating weight are based on the following loader configuration: L3 Michelin XHA tires, air conditioning, ride control, power train guard, full fluids, fuel tank, coolant, lubricants and operator.

Static tipping loads conform to the international standard as defined in ISO 14397-1 (SEPT2007).

**Measured 100 mm (4") behind tip of cutting edge with bucket hinge pin as pivot point in accordance with SAE J732 (APR2007).

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers, including SAE Standard J732 (APR2007) which governs loader ratings.

	Width over tires		Change in vertical dimensions		Change in operating weight		Change in static tipping load	
	mm	in	mm	in	kg	lb	kg	lb
23.5R25 VSW BS L2, Radial	2862	113	+ 6	+0	+ 20	+ 44	+ 14	+ 31
23.5R25 VUT D2A BS L2, Radial	2866	113	+10	+0	− 41	− 90	− 29	− 64
23.5R25 XTLA MX L2, Radial	2801	110	+ 7	+0	−112	− 247	− 79	− 174
23.5R25 VMT BS L3, Radial	2851	112	+ 3	+0	+124	+ 273	+ 88	+ 194
23.5R25 XHA MX L3, Radial	2784	110	+ 0	+0	+ 0	+ 0	+ 0	+ 0
23.5R25 XMINE MX L5, Radial	2807	111	+26	+1	+872	+1923	+619	+1365
750/65R25 XLD MX L3, Radial	2879	113	+ 7	+0	+460	+1014	+326	+ 719
23.5-25 SGGL FS L2, Bias	2834	112	+14	+1	−472	−1041	−335	− 739

Bucket Type		Material Handling — Pin On						General Purpose — Fusion QC			High Lift Delta
Edge Type		Bolt-on Edges	Teeth & Seg-ments	Teeth	Bolt-on Edges	Teeth & Seg-ments	Teeth	Bolt-on Edges	Teeth & Seg-ments	Teeth	
Capacity — rated	m ³ yd ³	3.3 4.3	3.3 4.3	3.1 4.1	3.5 4.6	3.5 4.6	3.3 4.3	3.1 4.1	3.1 4.1	2.9 3.8	— —
Capacity — struck	m ³ yd ³	2.8 3.7	2.8 3.7	2.7 3.5	3.0 3.9	3.0 3.9	2.8 3.7	2.3 3.0	2.3 3.0	2.1 2.8	— —
Width	mm ft/in	2927 9'7"	2994 9'9"	2994 9'9"	2927 9'7"	2994 9'9"	2994 9'9"	2927 9'7"	2994 9'9"	2994 9'9"	— —
Dump clearance at maximum lift and 45° discharge	mm ft/in	2835 9'3"	2723 8'11"	2723 8'11"	2800 9'2"	2688 8'9"	2688 8'9"	2895 9'5"	2794 9'1"	2794 9'1"	+495 +1'7"
Reach at maximum lift and 45° discharge	mm ft/in	1190 3'10"	1279 4'2"	1279 4'2"	1226 4'0"	1314 4'3"	1314 4'3"	1337 4'4"	1437 4'8"	1437 4'8"	+36 +1.4"
Reach at level lift arm and bucket level	mm ft/in	2570 8'5"	2712 8'10"	2712 8'10"	2620 8'7"	2762 9'0"	2762 9'0"	2604 8'6"	2746 9'0"	2746 9'0"	+374 +1'3"
Digging depth	mm in	92 3.6	97 3.8	62 2.4	92 3.6	97 3.8	62 2.4	100 3.9	100 3.9	70 2.7	+21 +0.8
Overall length	mm ft/in	8002 26'3"	8157 26'9"	8157 26'9"	8052 26'5"	8207 26'11"	8207 26'11"	8042 26'4"	8197 26'10"	8197 26'10"	+604 +2'0"
Overall height with bucket at maximum lift	mm ft/in	5436 17'10"	5436 17'10"	5436 17'10"	5482 17'11"	5482 17'11"	5482 17'11"	5367 17'7"	5367 17'7"	5367 17'7"	+495 +1'7"
Loader clearance circle with bucket at carry position	mm ft/in	13 323 43'8"	13 475 44'2"	13 475 44'2"	13 350 43'9"	13 503 44'3"	13 503 44'3"	13 340 43'9"	13 493 44'3"	13 493 44'3"	+387 +1'3"
Static tipping load — straight*	kg lb	12 383 27,293	12 269 27,040	12 557 27,676	12 280 27,066	12 165 26,813	12 451 27,443	11 999 26,447	11 859 26,138	12 193 26,874	−293 −647
Static tipping load — articulated* maximum 40° turn	kg lb	10 673 23,524	10 559 23,271	10 829 23,868	10 577 23,311	10 462 23,058	10 730 23,648	10 295 22,689	10 155 22,381	10 470 23,076	−375 −825
Breakout force**	kN lb	158 35,396	157 35,226	172 38,558	151 33,867	150 33,697	164 36,765	154 34,515	152 34,246	167 37,583	−9 −1964
Operating weight*	kg lb	18 126 39,950	18 233 40,186	18 076 39,840	18 168 40,042	18 275 40,278	18 118 39,932	18 561 40,909	18 669 41,147	18 512 40,801	+1270 +2799

*Static tipping loads and operating weight are based on the following loader configuration: L3 Michelin XHA tires, air conditioning, ride control, power train guard, full fluids, fuel tank, coolant, lubricants and operator.

Static tipping loads conform to the international standard as defined in ISO 14397-1 (SEPT2007).

**Measured 100 mm (4") behind tip of cutting edge with bucket hinge pin as pivot point in accordance with SAE J732 (APR2007).

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers, including SAE Standard J732 (APR2007) which governs loader ratings.

	Width over tires		Change in vertical dimensions		Change in operating weight		Change in static tipping load	
	mm	in	mm	in	kg	lb	kg	lb
23.5R25 VSW BS L2, Radial	2862	113	+ 6	+0	+ 20	+ 44	+ 14	+ 31
23.5R25 VUT D2A BS L2, Radial	2866	113	+10	+0	− 41	− 90	− 29	− 64
23.5R25 XTLA MX L2, Radial	2801	110	+ 7	+0	−112	− 247	− 79	− 174
23.5R25 VMT BS L3, Radial	2851	112	+ 3	+0	+124	+ 273	+ 88	+ 194
23.5R25 XHA MX L3, Radial	2784	110	+ 0	+0	+ 0	+ 0	+ 0	+ 0
23.5R25 XMINE MX L5, Radial	2807	111	+26	+1	+872	+1923	+619	+1365
750/65R25 XLD MX L3, Radial	2879	113	+ 7	+0	+460	+1014	+326	+ 719
23.5-25 SGGL FS L2, Bias	2834	112	+14	+1	−472	−1041	−335	− 739

Bucket Type		General Purpose — Fusion QC			Material Handling — Fusion QC			Rock — Pin On		Waste — Pin On	High Lift Delta
		Bolt-on Edges	Teeth & Seg- ments	Teeth	Bolt-on Edges	Teeth & Seg- ments	Teeth	Bolt-on Edges	Bottom Strap Teeth	Bolt-on Edges	
Edge Type											
Capacity — rated	m³ yd³	3.4 4.5	3.4 4.5	3.3 4.3	3.4 4.5	3.4 4.5	3.3 4.3	2.9 3.8	2.9 3.8	5.2 6.8	— —
Capacity — struck	m³ yd³	2.6 3.4	2.6 3.4	2.4 3.2	2.7 3.5	2.7 3.5	2.5 3.3	2.5 3.2	2.4 3.2	— —	— —
Width	mm ft/in	2927 9'7"	2994 9'9"	2994 9'9"	2927 9'7"	2994 9'9"	2994 9'9"	2984 9'9"	2969 9'8"	3073 10'1"	— —
Dump clearance at maximum lift and 45° discharge	mm ft/in	2812 9'2"	2708 8'10"	2708 8'10"	2794 9'1"	2682 8'9"	2682 8'9"	2871 9'5"	2712 8'10"	2715 8'10"	+495 +1'7"
Reach at maximum lift and 45° discharge	mm ft/in	1392 4'6"	1490 4'10"	1490 4'10"	1220 4'0"	1309 4'3"	1309 4'3"	1329 4'4"	1457 4'9"	1310 4'3"	+36 +1.4"
Reach at level lift arm and bucket level	mm ft/in	2706 8'10"	2848 9'4"	2848 9'4"	2620 8'7"	2762 9'0"	2762 9'0"	2620 8'7"	2821 9'3"	2739 8'11"	+374 +1'3"
Digging depth	mm in	100 3.9	100 3.9	70 2.7	100 3.9	100 3.9	70 2.7	92 3.6	62 2.4	92 3.6	+21 +0.8
Overall length	mm ft/in	8144 26'8"	8299 27'2"	8299 27'2"	8058 26'5"	8213 26'11"	8213 26'11"	8052 26'5"	8284 27'2"	8171 26'9"	+604 +2'0"
Overall height with bucket at maximum lift	mm ft/in	5464 17'11"	5464 17'11"	5464 17'11"	5460 17'10"	5460 17'10"	5460 17'10"	5391 17'8"	5391 17'8"	6005 19'8"	+495 +1'7"
Loader clearance circle with bucket at carry position	mm ft/in	13 397 43'11"	13 552 44'5"	13 552 44'5"	13 348 43'9"	13 502 44'3"	13 502 44'3"	13 402 43'11"	13 533 44'4"	13 549 44'5"	+387 +1'3"
Static tipping load — straight*	kg lb	11 811 26,033	11 670 25,721	11 996 26,440	11 951 26,339	11 810 26,030	12 138 26,752	12 157 26,795	12 293 27,093	12 216 26,923	-293 -647
Static tipping load — articulated* maximum 40° turn	kg lb	10 118 22,300	9976 21,988	10 286 22,670	10 247 22,584	10 107 22,275	10 417 22,959	10 439 23,006	10 570 23,296	10 423 22,973	-375 -825
Breakout force**	kN lb	141 31,708	140 31,442	153 34,312	151 33,991	150 33,723	165 36,974	151 33,833	159 35,648	135 30,294	-9 -1964
Operating weight*	kg lb	18 649 41,103	18 757 41,341	18 600 40,995	18 604 41,003	18 712 41,241	18 555 40,895	18 399 40,552	18 316 40,369	18 861 41,570	+1270 +2799

*Static tipping loads and operating weight are based on the following loader configuration: L3 Michelin XHA tires, air conditioning, ride control, power train guard, full fluids, fuel tank, coolant, lubricants and operator.

Static tipping loads conform to the international standard as defined in ISO 14397-1 (SEPT2007).

**Measured 100 mm (4") behind tip of cutting edge with bucket hinge pin as pivot point in accordance with SAE J732 (APR2007).

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers, including SAE Standard J732 (APR2007) which governs loader ratings.

	Width over tires		Change in vertical dimensions		Change in operating weight		Change in static tipping load	
	mm	in	mm	in	kg	lb	kg	lb
23.5R25 VSW BS L2, Radial	2862	113	+ 6	+0	+ 20	+ 44	+ 14	+ 31
23.5R25 VUT D2A BS L2, Radial	2866	113	+10	+0	- 41	- 90	- 29	- 64
23.5R25 XTLA MX L2, Radial	2801	110	+ 7	+0	-112	- 247	- 79	- 174
23.5R25 VMT BS L3, Radial	2851	112	+ 3	+0	+124	+ 273	+ 88	+ 194
23.5R25 XHA MX L3, Radial	2784	110	+ 0	+0	+ 0	+ 0	+ 0	+ 0
23.5R25 XMINE MX L5, Radial	2807	111	+26	+1	+872	+1923	+619	+1365
750/65R25 XLD MX L3, Radial	2879	113	+ 7	+0	+460	+1014	+326	+ 719
23.5-25 SGGL FS L2, Bias	2834	112	+14	+1	-472	-1041	-335	- 739

Bucket Type		General Purpose — Pin On						Std Lift Delta	High Lift Delta
		Bolt-on Edges	Teeth & Segments	Teeth	Bolt-on Edges	Teeth & Segments	Teeth		
Edge Type									
Capacity — rated	m³ yd³	2.9 3.8	2.9 3.8	2.7 3.5	3.1 4.1	3.1 4.1	2.9 3.8	— —	— —
Capacity — struck	m³ yd³	2.5 3.2	2.5 3.2	2.3 3.0	2.7 3.5	2.7 3.5	2.5 3.3	— —	— —
Width	mm ft/in	2927 9'7"	2994 9'9"	2994 9'9"	2927 9'7"	2994 9'9"	2994 9'9"	— —	— —
Dump clearance at maximum lift and 45° discharge	mm ft/in	3116 10'2"	3012 9'10"	3012 9'10"	3070 10'0"	2952 9'8"	2952 9'8"	−190 −7.5"	+305 +1'0"
Reach at maximum lift and 45° discharge	mm ft/in	1165 3'9"	1263 4'1"	1263 4'1"	1201 3'11"	1312 4'3"	1312 4'3"	+50 +2.0"	+86 +3.4"
Reach at level lift arm and bucket level	mm ft/in	2593 8'6"	2735 8'11"	2735 8'11"	2653 8'8"	2814 9'2"	2814 9'2"	−100 −3.9"	+274 +10.8"
Digging depth	mm in	92 3.6	97 3.8	62 2.4	92 3.6	97 3.8	62 2.4	+0 +0	+21 +0.8
Overall length	mm ft/in	8187 26'10"	8341 27'4"	8341 27'4"	8247 27'0"	8420 27'7"	8420 27'7"	−127 −5.0"	+374 +1'3"
Overall height with bucket at maximum lift	mm ft/in	5576 18'3"	5576 18'3"	5576 18'3"	5633 18'5"	5633 18'5"	5633 18'5"	−190 −7.5"	+305 +1'0"
Loader clearance circle with bucket at carry position	mm ft/in	13 413 44'0"	13 569 44'6"	13 569 44'6"	13 447 44'1"	13 615 44'8"	13 615 44'8"	−123 −4.8"	+264 +10.4"
Static tipping load — straight*	kg lb	13 146 28,973	13 033 28,726	13 324 29,366	13 028 28,713	12 915 28,465	13 202 29,097	+754 +1663	−1015 −2237
Static tipping load — articulated* maximum 40° turn	kg lb	11 318 24,945	11 206 24,697	11 477 25,295	11 207 24,701	11 095 24,453	11 363 25,044	+667 +1469	−926 −2040
Breakout force**	kN lb	165 37,160	165 37,004	181 40,620	157 35,210	156 35,054	171 38,316	−1 −185	−9 −2017
Operating weight*	kg lb	18 890 41,633	18 997 41,869	18 840 41,523	18 942 41,748	19 049 41,984	18 892 41,638	−123 −271	+414 +912

*Static tipping loads and operating weight are based on the following loader configuration: L3 Michelin XHA tires, air conditioning, ride control, power train guard, full fluids, fuel tank, coolant, lubricants and operator.

Static tipping loads conform to the international standard as defined in ISO 14397-1 (SEPT2007).

**Measured 100 mm (4") behind tip of cutting edge with bucket hinge pin as pivot point in accordance with SAE J732 (APR2007).

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers, including SAE Standard J732 (APR2007) which governs loader ratings.

	Width over tires		Change in vertical dimensions		Change in operating weight		Change in static tipping load	
	mm	in	mm	in	kg	lb	kg	lb
23.5R25 VSW BS L2, Radial	2862	113	+ 6	+0	+ 20	+ 44	+ 14	+ 31
23.5R25 VUT D2A BS L2, Radial	2866	113	+10	+0	− 41	− 90	− 29	− 64
23.5R25 XTLA MX L2, Radial	2801	110	+ 7	+0	−112	− 247	− 79	− 174
23.5R25 VMT BS L3, Radial	2851	112	+ 3	+0	+124	+ 273	+ 88	+ 194
23.5R25 XHA MX L3, Radial	2784	110	+ 0	+0	+ 0	+ 0	+ 0	+ 0
23.5R25 XMINE MX L5, Radial	2807	111	+26	+1	+872	+1923	+619	+1365
750/65R25 XLD MX L3, Radial	2879	113	+ 7	+0	+460	+1014	+326	+ 719
23.5-25 SGGL FS L2, Bias	2834	112	+14	+1	−472	−1041	−335	− 739

Bucket Type		General Purpose — Pin On						Std Lift Delta	High Lift Delta
		Bolt-on Edges	Teeth & Segments	Teeth	Bolt-on Edges	Teeth & Segments	Teeth		
Edge Type									
Capacity — rated	m³ yd³	3.3 4.3	3.3 4.3	3.1 4.1	3.5 4.6	3.5 4.6	3.3 4.3	— —	— —
Capacity — struck	m³ yd³	2.8 3.7	2.8 3.7	2.7 3.5	3.0 3.9	3.0 3.9	2.8 3.7	— —	— —
Width	mm ft/in	2927 9'7"	2994 9'9"	2994 9'9"	2946 9'8"	2946 9'8"	2896 9'6"	— —	— —
Dump clearance at maximum lift and 45° discharge	mm ft/in	3032 9'11"	2926 9'7"	2926 9'7"	3002 9'10"	2896 9'5"	2896 9'5"	−190 −7.5"	+305 +1'0"
Reach at maximum lift and 45° discharge	mm ft/in	1231 4'0"	1327 4'4"	1327 4'4"	1257 4'1"	1354 4'5"	1354 4'5"	+50 +2.0"	+86 +3.4"
Reach at level lift arm and bucket level	mm ft/in	2703 8'10"	2845 9'4"	2845 9'4"	2743 8'11"	2886 9'5"	2886 9'5"	−100 −3.9"	+274 +10.8"
Digging depth	mm in	92 3.6	97 3.8	62 2.4	92 3.6	97 3.8	62 2.4	+0 +0	+21 +0.8
Overall length	mm ft/in	8297 27'2"	8451 27'8"	8451 27'8"	8337 27'4"	8492 27'10"	8492 27'10"	−127 −5.0"	+374 +1'3"
Overall height with bucket at maximum lift	mm ft/in	5681 18'7"	5681 18'7"	5681 18'7"	5569 18'3"	5569 18'3"	5569 18'3"	−190 −7.5"	+305 +1'0"
Loader clearance circle with bucket at carry position	mm ft/in	13 476 44'2"	13 633 44'8"	13 633 44'8"	13 517 44'4"	13 615 44'8"	13 570 44'6"	−123 −4.8"	+264 +10.4"
Static tipping load — straight*	kg lb	12 915 28,464	12 802 28,215	13 084 28,837	13 122 28,922	13 158 29,001	13 165 29,015	+754 +1663	−1015 −2237
Static tipping load — articulated* maximum 40° turn	kg lb	11 101 24,466	10 988 24,217	11 251 24,798	11 317 24,942	11 332 24,975	11 359 25,035	+667 +1469	−926 −2040
Breakout force**	kN lb	150 33,679	149 33,522	163 36,524	148 33,226	147 33,076	160 35,969	−1 −185	−9 −2017
Operating weight*	kg lb	19 007 41,891	19 114 42,127	18 957 41,781	18 813 41,464	18 920 41,700	18 763 41,354	−123 −271	+414 +912

*Static tipping loads and operating weight are based on the following loader configuration: L3 Michelin XHA tires, air conditioning, ride control, power train guard, full fluids, fuel tank, coolant, lubricants and operator.

Static tipping loads conform to the international standard as defined in ISO 14397-1 (SEPT2007).

**Measured 100 mm (4") behind tip of cutting edge with bucket hinge pin as pivot point in accordance with SAE J732 (APR2007).

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers, including SAE Standard J732 (APR2007) which governs loader ratings.

	Width over tires		Change in vertical dimensions		Change in operating weight		Change in static tipping load	
	mm	in	mm	in	kg	lb	kg	lb
23.5R25 VSW BS L2, Radial	2862	113	+ 6	+0	+ 20	+ 44	+ 14	+ 31
23.5R25 VUT D2A BS L2, Radial	2866	113	+10	+0	− 41	− 90	− 29	− 64
23.5R25 XTLA MX L2, Radial	2801	110	+ 7	+0	−112	− 247	− 79	− 174
23.5R25 VMT BS L3, Radial	2851	112	+ 3	+0	+124	+ 273	+ 88	+ 194
23.5R25 XHA MX L3, Radial	2784	110	+ 0	+0	+ 0	+ 0	+ 0	+ 0
23.5R25 XMINE MX L5, Radial	2807	111	+26	+1	+872	+1923	+619	+1365
750/65R25 XLD MX L3, Radial	2879	113	+ 7	+0	+460	+1014	+326	+ 719
23.5-25 SGGL FS L2, Bias	2834	112	+14	+1	−472	−1041	−335	− 739

Bucket Type		General Purpose — Pin On			Material Handling — Pin On			Std Lift Delta	High Lift Delta
		Bolt-on Edges	Teeth & Segments	Teeth	Bolt-on Edges	Teeth & Segments	Teeth		
Edge Type									
Capacity — rated	m³ yd³	3.6 4.7	3.6 4.7	3.5 4.6	3.3 4.3	3.3 4.3	3.1 4.1	— —	— —
Capacity — struck	m³ yd³	3.2 4.2	3.2 4.2	3.0 3.9	2.8 3.7	2.8 3.7	2.7 3.5	— —	— —
Width	mm ft/in	2946 9'8"	2946 9'8"	2946 9'8"	2927 9'7"	2994 9'9"	2994 9'9"	— —	— —
Dump clearance at maximum lift and 45° discharge	mm ft/in	2966 9'8"	2859 9'4"	2859 9'4"	3025 9'11"	2913 9'6"	2913 9'6"	−190 −7.5"	+305 +1'0"
Reach at maximum lift and 45° discharge	mm ft/in	1288 4'2"	1383 4'6"	1383 4'6"	1108 3'7"	1197 3'11"	1197 3'11"	+50 +2.0"	+86 +3.4"
Reach at level lift arm and bucket level	mm ft/in	2791 9'1"	2933 9'7"	2933 9'7"	2638 8'7"	2780 9'1"	2780 9'1"	−100 −3.9"	+274 +10.8"
Digging depth	mm in	92 3.6	97 3.8	62 2.4	92 3.6	97 3.8	62 2.4	+0 +0	+21 +0.8
Overall length	mm ft/in	8385 27'6"	8539 28'0"	8539 28'0"	8232 27'0"	8386 27'6"	8386 27'6"	−127 −5.0"	+374 +1'3"
Overall height with bucket at maximum lift	mm ft/in	5613 18'4"	5613 18'4"	5613 18'4"	5626 18'5"	5626 18'5"	5626 18'5"	−190 −7.5"	+305 +1'0"
Loader clearance circle with bucket at carry position	mm ft/in	13 545 44'5"	13 644 44'9"	13 644 44'9"	13 439 44'1"	13 595 44'7"	13 595 44'7"	−123 −4.8"	+264 +10.4"
Static tipping load — straight*	kg lb	13 024 28,704	13 083 28,834	13 065 28,796	13 254 29,212	13 140 28,961	13 434 29,608	+754 +1663	−1015 −2237
Static tipping load — articulated* maximum 40° turn	kg lb	11 227 24,744	11 262 24,821	11 269 24,837	11 412 25,152	11 298 24,900	11 572 25,505	+667 +1469	−926 −2040
Breakout force**	kN lb	142 32,000	142 31,850	154 34,571	159 35,624	158 35,461	173 38,814	−1 −185	−9 −2017
Operating weight*	kg lb	18 837 41,516	18 944 41,752	18 787 41,406	18 871 41,591	18 978 41,827	18 821 41,481	−123 −271	+414 +912

*Static tipping loads and operating weight are based on the following loader configuration: L3 Michelin XHA tires, air conditioning, ride control, power train guard, full fluids, fuel tank, coolant, lubricants and operator.

Static tipping loads conform to the international standard as defined in ISO 14397-1 (SEPT2007).

**Measured 100 mm (4") behind tip of cutting edge with bucket hinge pin as pivot point in accordance with SAE J732 (APR2007).

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers, including SAE Standard J732 (APR2007) which governs loader ratings.

	Width over tires		Change in vertical dimensions		Change in operating weight		Change in static tipping load	
	mm	in	mm	in	kg	lb	kg	lb
23.5R25 VSW BS L2, Radial	2862	113	+ 6	+0	+ 20	+ 44	+ 14	+ 31
23.5R25 VUT D2A BS L2, Radial	2866	113	+10	+0	− 41	− 90	− 29	− 64
23.5R25 XTLA MX L2, Radial	2801	110	+ 7	+0	−112	− 247	− 79	− 174
23.5R25 VMT BS L3, Radial	2851	112	+ 3	+0	+124	+ 273	+ 88	+ 194
23.5R25 XHA MX L3, Radial	2784	110	+ 0	+0	+ 0	+ 0	+ 0	+ 0
23.5R25 XMINE MX L5, Radial	2807	111	+26	+1	+872	+1923	+619	+1365
750/65R25 XLD MX L3, Radial	2879	113	+ 7	+0	+460	+1014	+326	+ 719
23.5-25 SGGL FS L2, Bias	2834	112	+14	+1	−472	−1041	−335	− 739

Bucket Type		Material Handling — Pin On						Std Lift Delta	High Lift Delta
		Bolt-on Edges	Teeth & Segments	Teeth	Bolt-on Edges	Teeth & Segments	Teeth		
Edge Type									
Capacity — rated	m³ yd³	3.5 4.6	3.5 4.6	3.3 4.3	3.8 5.0	3.8 5.0	3.6 4.7	— —	— —
Capacity — struck	m³ yd³	3.0 3.9	3.0 3.9	2.8 3.7	3.3 4.3	3.3 4.3	3.1 4.1	— —	— —
Width	mm ft/in	2927 9'7"	2994 9'9"	2994 9'9"	2927 9'7"	2994 9'9"	2994 9'9"	— —	— —
Dump clearance at maximum lift and 45° discharge	mm ft/in	2990 9'9"	2878 9'5"	2878 9'5"	2937 9'7"	2825 9'3"	2825 9'3"	−190 −7.5"	+305 +1'0"
Reach at maximum lift and 45° discharge	mm ft/in	1144 3'9"	1232 4'0"	1232 4'0"	1197 3'11"	1285 4'2"	1285 4'2"	+50 +2.0"	+86 +3.4"
Reach at level lift arm and bucket level	mm ft/in	2688 8'9"	2830 9'3"	2830 9'3"	2763 9'0"	2905 9'6"	2905 9'6"	−100 −3.9"	+274 +10.8"
Digging depth	mm in	92 3.6	97 3.8	62 2.4	92 3.6	97 3.8	62 2.4	+0 +0	+21 +0.8
Overall length	mm ft/in	8282 27'2"	8436 27'8"	8436 27'8"	8357 27'5"	8511 27'11"	8511 27'11"	−127 −5.0"	+374 +1'3"
Overall height with bucket at maximum lift	mm ft/in	5672 18'7"	5672 18'7"	5672 18'7"	5741 18'10"	5741 18'10"	5741 18'10"	−190 −7.5"	+305 +1'0"
Loader clearance circle with bucket at carry position	mm ft/in	13 467 44'2"	13 624 44'8"	13 624 44'8"	13 511 44'3"	13 669 44'10"	13 669 44'10"	−123 −4.8"	+264 +10.4"
Static tipping load — straight*	kg lb	13 148 28,979	13 034 28,727	13 325 29,368	12 993 28,636	12 878 28,384	13 165 29,015	+754 +1663	−1015 −2237
Static tipping load — articulated* maximum 40° turn	kg lb	11 313 24,934	11 199 24,682	11 471 25,282	11 168 24,615	11 054 24,363	11 322 24,953	+667 +1469	−926 −2040
Breakout force**	kN lb	152 34,086	151 33,923	165 37,010	143 32,028	142 31,867	154 34,611	−1 −185	−9 −2017
Operating weight*	kg lb	18 913 41,684	19 020 41,920	18 863 41,574	18 978 41,827	19 085 42,063	18 928 41,717	−123 −271	+414 +912

*Static tipping loads and operating weight are based on the following loader configuration: L3 Michelin XHA tires, air conditioning, ride control, power train guard, full fluids, fuel tank, coolant, lubricants and operator.
Static tipping loads conform to the international standard as defined in ISO 14397-1 (SEPT2007).

**Measured 100 mm (4") behind tip of cutting edge with bucket hinge pin as pivot point in accordance with SAE J732 (APR2007).

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers, including SAE Standard J732 (APR2007) which governs loader ratings.

	Width over tires		Change in vertical dimensions		Change in operating weight		Change in static tipping load	
	mm	in	mm	in	kg	lb	kg	lb
23.5R25 VSW BS L2, Radial	2862	113	+ 6	+0	+ 20	+ 44	+ 14	+ 31
23.5R25 VUT D2A BS L2, Radial	2866	113	+10	+0	− 41	− 90	− 29	− 64
23.5R25 XTLA MX L2, Radial	2801	110	+ 7	+0	−112	− 247	− 79	− 174
23.5R25 VMT BS L3, Radial	2851	112	+ 3	+0	+124	+ 273	+ 88	+ 194
23.5R25 XHA MX L3, Radial	2784	110	+ 0	+0	+ 0	+ 0	+ 0	+ 0
23.5R25 XMINE MX L5, Radial	2807	111	+26	+1	+872	+1923	+619	+1365
750/65R25 XLD MX L3, Radial	2879	113	+ 7	+0	+460	+1014	+326	+ 719
23.5-25 SGGL FS L2, Bias	2834	112	+14	+1	−472	−1041	−335	− 739

Bucket Type		Rock — Pin On		Waste — Pin On	General Purpose — Fusion QC			Std Lift Delta	High Lift Delta
Edge Type		Bolt-on Edges	Bottom Strap Teeth	Bolt-on Edges	Bolt-on Edges	Teeth & Segments	Teeth		
Capacity — rated	m³ yd³	3.1 4.1	3.1 4.1	5.2 6.8	3.1 4.1	2.9 3.8	3.1 4.1	—	—
Capacity — struck	m³ yd³	2.7 3.6	2.7 3.5	— —	2.3 3.0	2.1 2.8	2.3 3.0	—	—
Width	mm ft/in	2984 9'9"	2969 9'8"	3073 10'1"	2927 9'7"	2994 9'9"	2994 9'9"	—	—
Dump clearance at maximum lift and 45° discharge	mm ft/in	2996 9'9"	2835 9'3"	2905 9'6"	3085 10'1"	2984 9'9"	2984 9'9"	−190 −7.5"	+305 +1'0"
Reach at maximum lift and 45° discharge	mm ft/in	1290 4'2"	1416 4'7"	1228 4'0"	1255 4'1"	1355 4'5"	1355 4'5"	+50 +2.0"	+86 +3.4"
Reach at level lift arm and bucket level	mm ft/in	2768 9'0"	2969 9'8"	2807 9'2"	2672 8'9"	2814 9'2"	2814 9'2"	−100 −3.9"	+274 +10.8"
Digging depth	mm in	92 3.6	62 2.4	92 3.6	100 3.9	70 2.7	100 3.9	+0 +0	+21 +0.8
Overall length	mm ft/in	8362 27'5"	8593 28'2"	8401 27'6"	8272 27'1"	8426 27'7"	8426 27'7"	−127 −5.0"	+374 +1'3"
Overall height with bucket at maximum lift	mm ft/in	5662 18'6"	5662 18'6"	6195 20'3"	5557 18'2"	5557 18'2"	5557 18'2"	−190 −7.5"	+305 +1'0"
Loader clearance circle with bucket at carry position	mm ft/in	13 565 44'6"	13 705 44'11"	13 669 44'10"	13 457 44'1"	13 615 44'8"	13 615 44'8"	−123 −4.8"	+264 +10.4"
Static tipping load — straight*	kg lb	12 581 27,727	12 731 28,059	13 079 28,827	12 865 28,355	13 063 28,792	12 727 28,049	+754 +1663	−1015 −2237
Static tipping load — articulated* maximum 40° turn	kg lb	10 740 23,671	10 886 23,993	11 160 24,597	11 029 24,307	11 208 24,702	10 890 24,002	+667 +1469	−926 −2040
Breakout force**	kN lb	141 31,583	148 33,168	136 30,495	155 34,740	168 37,835	153 34,478	−1 −185	−9 −2017
Operating weight*	kg lb	19 500 42,978	19 417 42,795	19 606 43,211	19 306 42,550	19 257 42,442	19 414 42,788	−123 −271	+414 +912

*Static tipping loads and operating weight are based on the following loader configuration: L3 Michelin XHA tires, air conditioning, ride control, power train guard, full fluids, fuel tank, coolant, lubricants and operator.

Static tipping loads conform to the international standard as defined in ISO 14397-1 (SEPT2007).

**Measured 100 mm (4") behind tip of cutting edge with bucket hinge pin as pivot point in accordance with SAE J732 (APR2007).

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers, including SAE Standard J732 (APR2007) which governs loader ratings.

	Width over tires		Change in vertical dimensions		Change in operating weight		Change in static tipping load	
	mm	in	mm	in	kg	lb	kg	lb
23.5R25 VSW BS L2, Radial	2862	113	+ 6	+0	+ 20	+ 44	+ 14	+ 31
23.5R25 VUT D2A BS L2, Radial	2866	113	+10	+0	− 41	− 90	− 29	− 64
23.5R25 XTLA MX L2, Radial	2801	110	+ 7	+0	−112	− 247	− 79	− 174
23.5R25 VMT BS L3, Radial	2851	112	+ 3	+0	+124	+ 273	+ 88	+ 194
23.5R25 XHA MX L3, Radial	2784	110	+ 0	+0	+ 0	+ 0	+ 0	+ 0
23.5R25 XMINE MX L5, Radial	2807	111	+26	+1	+872	+1923	+619	+1365
750/65R25 XLD MX L3, Radial	2879	113	+ 7	+0	+460	+1014	+326	+ 719
23.5-25 SGGL FS L2, Bias	2834	112	+14	+1	−472	−1041	−335	− 739

Bucket Type		General Purpose — Fusion QC						Std Lift Delta	High Lift Delta
		Bolt-on Edges	Teeth & Segments	Teeth	Bolt-on Edges	Teeth & Segments	Teeth		
Edge Type									
Capacity — rated	m³ yd³	3.4 4.5	3.3 4.3	3.4 4.5	3.8 5.0	3.6 4.7	3.8 5.0	— —	— —
Capacity — struck	m³ yd³	2.6 3.4	2.4 3.2	2.6 3.4	2.9 3.8	2.7 3.6	2.9 3.8	— —	— —
Width	mm ft/in	2927 9'7"	2994 9'9"	2994 9'9"	2927 9'7"	2994 9'9"	2994 9'9"	— —	— —
Dump clearance at maximum lift and 45° discharge	mm ft/in	3002 9'10"	2898 9'6"	2898 9'6"	2923 9'7"	2819 9'2"	2819 9'2"	-190 -7.5"	+305 +1'0"
Reach at maximum lift and 45° discharge	mm ft/in	1310 4'3"	1408 4'7"	1408 4'7"	1368 4'5"	1465 4'9"	1465 4'9"	+50 +2.0"	+86 +3.4"
Reach at level lift arm and bucket level	mm ft/in	2774 9'1"	2916 9'6"	2916 9'6"	2874 9'5"	3016 9'10"	3016 9'10"	-100 -3.9"	+274 +10.8"
Digging depth	mm in	100 3.9	70 2.7	100 3.9	100 3.9	70 2.7	100 3.9	+0 +0	+21 +0.8
Overall length	mm ft/in	8374 27'5"	8528 27'11"	8528 27'11"	8474 27'9"	8628 28'3"	8628 28'3"	-127 -5.0"	+374 +1'3"
Overall height with bucket at maximum lift	mm ft/in	5654 18'6"	5654 18'6"	5654 18'6"	5750 18'10"	5750 18'10"	5750 18'10"	-190 -7.5"	+305 +1'0"
Loader clearance circle with bucket at carry position	mm ft/in	13 517 44'4"	13 677 44'10"	13 677 44'10"	13 578 44'6"	13 738 45'0"	13 738 45'0"	-123 -4.8"	+264 +10.4"
Static tipping load — straight*	kg lb	12 672 27,929	12 861 28,345	12 532 27,620	12 479 27,503	12 662 27,907	12 337 27,191	+754 +1663	-1015 -2237
Static tipping load — articulated* maximum 40° turn	kg lb	10 848 23,909	11 019 24,286	10 708 23,600	10 668 23,512	10 834 23,878	10 526 23,200	+667 +1469	-926 -2040
Breakout force**	kN lb	142 31,916	154 34,544	141 31,656	131 29,521	141 31,785	130 29,263	-1 -185	-9 -2017
Operating weight*	kg lb	19 394 42,744	19 345 42,636	19 502 42,982	19 477 42,928	19 428 42,820	19 585 43,166	-123 -271	+414 +912

*Static tipping loads and operating weight are based on the following loader configuration: L3 Michelin XHA tires, air conditioning, ride control, power train guard, full fluids, fuel tank, coolant, lubricants and operator.

Static tipping loads conform to the international standard as defined in ISO 14397-1 (SEPT2007).

**Measured 100 mm (4") behind tip of cutting edge with bucket hinge pin as pivot point in accordance with SAE J732 (APR2007).

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers, including SAE Standard J732 (APR2007) which governs loader ratings.

	Width over tires		Change in vertical dimensions		Change in operating weight		Change in static tipping load	
	mm	in	mm	in	kg	lb	kg	lb
23.5R25 VSW BS L2, Radial	2862	113	+ 6	+0	+ 20	+ 44	+ 14	+ 31
23.5R25 VUT D2A BS L2, Radial	2866	113	+10	+0	- 41	- 90	- 29	- 64
23.5R25 XTLA MX L2, Radial	2801	110	+ 7	+0	-112	- 247	- 79	- 174
23.5R25 VMT BS L3, Radial	2851	112	+ 3	+0	+124	+ 273	+ 88	+ 194
23.5R25 XHA MX L3, Radial	2784	110	+ 0	+0	+ 0	+ 0	+ 0	+ 0
23.5R25 XMINE MX L5, Radial	2807	111	+26	+1	+872	+1923	+619	+1365
750/65R25 XLD MX L3, Radial	2879	113	+ 7	+0	+460	+1014	+326	+ 719
23.5-25 SGGL FS L2, Bias	2834	112	+14	+1	-472	-1041	-335	- 739

Bucket Type		Material Handling — Fusion QC						Std Lift Delta	High Lift Delta
		Bolt-on Edges	Teeth & Segments	Teeth	Bolt-on Edges	Teeth & Segments	Teeth		
Edge Type									
Capacity — rated	m³ yd³	3.4 4.5	3.3 4.3	3.4 4.5	3.8 5.0	3.6 4.7	3.8 5.0	— —	— —
Capacity — struck	m³ yd³	2.7 3.5	2.5 3.3	2.7 3.5	3.0 3.9	2.8 3.7	3.0 3.9	— —	— —
Width	mm ft/in	2927 9'7"	2994 9'9"	2994 9'9"	2927 9'7"	2994 9'9"	2994 9'9"	— —	— —
Dump clearance at maximum lift and 45° discharge	mm ft/in	2984 9'9"	2872 9'5"	2872 9'5"	2918 9'6"	2806 9'2"	2806 9'2"	−190 −7.5"	+305 +1'0"
Reach at maximum lift and 45° discharge	mm ft/in	1138 3'8"	1227 4'0"	1227 4'0"	1204 3'11"	1293 4'2"	1293 4'2"	+50 +2.0"	+86 +3.4"
Reach at level lift arm and bucket level	mm ft/in	2688 8'9"	2830 9'3"	2830 9'3"	2782 9'1"	2924 9'7"	2924 9'7"	−100 −3.9"	+274 +10.8"
Digging depth	mm in	100 3.9	70 2.7	100 3.9	100 3.9	70 2.7	100 3.9	+0 +0	+21 +0.8
Overall length	mm ft/in	8288 27'2"	8442 27'8"	8442 27'8"	8382 27'5"	8536 28'0"	8536 28'0"	−127 −5.0"	+374 +1'3"
Overall height with bucket at maximum lift	mm ft/in	5650 18'6"	5650 18'6"	5650 18'6"	5741 18'10"	5741 18'10"	5741 18'10"	−190 −7.5"	+305 +1'0"
Loader clearance circle with bucket at carry position	mm ft/in	13 466 44'2"	13 625 44'8"	13 625 44'8"	13 522 44'4"	13 681 44'10"	13 681 44'10"	−123 −4.8"	+264 +10.4"
Static tipping load — straight*	kg lb	12 813 28,240	13 004 28,662	12 674 27,934	12 626 27,827	12 812 28,238	12 485 27,518	+754 +1663	−1015 −2237
Static tipping load — articulated* maximum 40° turn	kg lb	10 979 24,197	11 152 24,579	10 840 23,891	10 804 23,812	10 973 24,185	10 664 23,503	+667 +1469	−926 −2040
Breakout force**	kN lb	152 34,214	166 37,223	151 33,952	141 31,655	152 34,246	140 31,396	−1 −185	−9 −2017
Operating weight*	kg lb	19 349 42,645	19 300 42,537	19 457 42,883	19 431 42,825	19 382 42,717	19 539 43,064	−123 −271	+414 +912

*Static tipping loads and operating weight are based on the following loader configuration: L3 Michelin XHA tires, air conditioning, ride control, power train guard, full fluids, fuel tank, coolant, lubricants and operator.

Static tipping loads conform to the international standard as defined in ISO 14397-1 (SEPT2007).

**Measured 100 mm (4") behind tip of cutting edge with bucket hinge pin as pivot point in accordance with SAE J732 (APR2007).

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers, including SAE Standard J732 (APR2007) which governs loader ratings.

	Width over tires		Change in vertical dimensions		Change in operating weight		Change in static tipping load	
	mm	in	mm	in	kg	lb	kg	lb
23.5R25 VSW BS L2, Radial	2862	113	+ 6	+0	+ 20	+ 44	+ 14	+ 31
23.5R25 VUT D2A BS L2, Radial	2866	113	+10	+0	− 41	− 90	− 29	− 64
23.5R25 XTLA MX L2, Radial	2801	110	+ 7	+0	−112	− 247	− 79	− 174
23.5R25 VMT BS L3, Radial	2851	112	+ 3	+0	+124	+ 273	+ 88	+ 194
23.5R25 XHA MX L3, Radial	2784	110	+ 0	+0	+ 0	+ 0	+ 0	+ 0
23.5R25 XMINE MX L5, Radial	2807	111	+26	+1	+872	+1923	+619	+1365
750/65R25 XLD MX L3, Radial	2879	113	+ 7	+0	+460	+1014	+326	+ 719
23.5-25 SGGL FS L2, Bias	2834	112	+14	+1	−472	−1041	−335	− 739

Bucket Type		General Purpose — Fusion QC								
Edge Type		Bolt-on Edges	Teeth & Segments	Teeth	Bolt-on Edges	Teeth & Segments	Teeth	Bolt-on Edges	Teeth & Segments	Teeth
Capacity — rated	m³ yd³	3.1 4.1	3.1 4.1	2.9 3.8	3.4 4.5	3.4 4.5	3.3 4.3	3.8 5.0	3.8 5.0	3.6 4.7
Capacity — struck	m³ yd³	2.7 3.5	2.7 3.5	2.5 3.3	3.0 4.0	3.0 4.0	2.9 3.7	3.4 4.4	3.4 4.4	3.2 4.2
Width	mm ft/in	2927 9'7"	2994 9'9"	2994 9'9"	2927 9'7"	2994 9'9"	2994 9'9"	2927 9'7"	2994 9'9"	2994 9'9"
Dump clearance at maximum lift and 45° discharge	mm ft/in	2868 9'4"	2750 9'0"	2750 9'0"	2793 9'1"	2675 8'9"	2675 8'9"	2724 8'11"	2604 8'6"	2604 8'6"
Reach at maximum lift and 45° discharge	mm ft/in	1355 4'5"	1467 4'9"	1467 4'9"	1414 4'7"	1524 4'11"	1524 4'11"	1473 4'9"	1582 5'2"	1582 5'2"
Reach at level lift arm and bucket level	mm ft/in	2815 9'2"	2976 9'9"	2976 9'9"	2912 9'6"	3073 10'0"	3073 10'0"	3005 9'10"	3166 10'4"	3166 10'4"
Digging depth	mm in	75 2.97	75 2.97	45 1.79	75 2.97	75 2.97	45 1.79	75 2.97	75 2.97	45 1.79
Overall length	mm ft/in	8453 27'8"	8626 28'3"	8626 28'3"	8550 28'0"	8723 28'7"	8723 28'7"	8643 28'4"	8816 28'11"	8816 28'11"
Overall height with bucket at maximum lift	mm ft/in	5561 18'2"	5561 18'2"	5561 18'2"	5661 18'6"	5661 18'6"	5661 18'6"	5758 18'10"	5758 18'10"	5758 18'10"
Loader clearance circle with bucket at carry position	mm ft/in	13 523 44'4"	13 682 44'10"	13 682 44'10"	13 574 44'6"	13 735 45'0"	13 735 45'0"	13 625 44'8"	13 786 45'2"	13 786 45'2"
Static tipping load — straight*	kg lb	12 581 27,728	12 445 27,429	12 762 28,128	12 400 27,330	12 263 27,028	12 578 27,722	12 225 26,943	12 086 26,638	12 399 27,328
Static tipping load — articulated* maximum 40° turn	kg lb	10 693 23,567	10 557 23,267	10 856 23,927	10 523 23,192	10 385 22,889	10 683 23,546	10 357 22,827	10 218 22,521	10 515 23,175
Breakout force**	kN lb	151 33,825	150 33,619	163 36,591	140 31,415	139 31,207	151 33,821	131 29,365	130 29,156	140 31,489
Operating weight*	kg lb	19 667 43,346	19 775 43,584	19 618 43,238	19 753 43,536	19 861 43,774	19 704 43,428	19 839 43,724	19 947 43,962	19 790 43,616

*Static tipping loads and operating weight are based on the following loader configuration: L3 Michelin XHA tires, air conditioning, ride control, power train guard, full fluids, fuel tank, coolant, lubricants and operator.

Static tipping loads conform to the international standard as defined in ISO 14397-1 (SEPT2007).

**Measured 100 mm (4") behind tip of cutting edge with bucket hinge pin as pivot point in accordance with SAE J732 (APR2007).

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers, including SAE Standard J732 (APR2007) which governs loader ratings.

	Width over tires		Change in vertical dimensions		Change in operating weight		Change in static tipping load	
	mm	in	mm	in	kg	lb	kg	lb
23.5R25 VSW BS L2, Radial	2862	113	+ 6	+0	+ 20	+ 44	+ 14	+ 31
23.5R25 VUT D2A BS L2, Radial	2866	113	+10	+0	- 41	- 90	- 29	- 64
23.5R25 XTLA MX L2, Radial	2801	110	+ 7	+0	-112	- 247	- 79	- 174
23.5R25 VMT BS L3, Radial	2851	112	+ 3	+0	+124	+ 273	+ 88	+ 194
23.5R25 XHA MX L3, Radial	2784	110	+ 0	+0	+ 0	+ 0	+ 0	+ 0
23.5R25 XMINE MX L5, Radial	2807	111	+26	+1	+872	+1923	+619	+1365
750/65R25 XLD MX L3, Radial	2879	113	+ 7	+0	+460	+1014	+326	+ 719
23.5-25 SGGL FS L2, Bias	2834	112	+14	+1	-472	-1041	-335	- 739

Bucket Type		Material Handling — Fusion QC					
Edge Type		Bolt-on Edges	Teeth & Segments	Teeth	Bolt-on Edges	Teeth & Segments	Teeth
Capacity — rated	m³ yd³	3.5 4.6	3.5 4.6	3.3 4.3	3.8 5.0	3.8 5.0	3.6 4.7
Capacity — struck	m³ yd³	2.9 3.9	2.9 3.9	2.7 3.6	3.3 4.3	3.3 4.3	3.1 4.0
Width	mm ft/in	2927 9'7"	2994 9'9"	2994 9'9"	2927 9'7"	2994 9'9"	2994 9'9"
Dump clearance at maximum lift and 45° discharge	mm ft/in	2825 9'3"	2700 8'10"	2700 8'10"	2769 9'1"	2644 8'8"	2644 8'8"
Reach at maximum lift and 45° discharge	mm ft/in	1236 4'0"	1338 4'4"	1338 4'4"	1292 4'2"	1394 4'6"	1394 4'6"
Reach at level lift arm and bucket level	mm ft/in	2784 9'1"	2945 9'7"	2945 9'7"	2863 9'4"	3024 9'11"	3024 9'11"
Digging depth	mm in	75 2.97	75 2.97	45 1.79	75 2.97	75 2.97	45 1.79
Overall length	mm ft/in	8422 27'7"	8595 28'2"	8595 28'2"	8501 27'10"	8674 28'5"	8674 28'5"
Overall height with bucket at maximum lift	mm ft/in	5628 18'5"	5628 18'5"	5628 18'5"	5721 18'9"	5721 18'9"	5721 18'9"
Loader clearance circle with bucket at carry position	mm ft/in	13 506 44'3"	13 666 44'10"	13 666 44'10"	13 548 44'5"	13 708 44'11"	13 708 44'11"
Static tipping load — straight*	kg lb	13 170 29,028	13 032 28,722	13 358 29,441	13 073 28,814	12 933 28,504	13 259 29,223
Static tipping load — articulated* maximum 40° turn	kg lb	11 227 24,745	11 088 24,439	11 397 25,119	11 133 24,538	10 993 24,228	11 301 24,908
Breakout force**	kN lb	155 34,922	155 34,717	168 37,841	146 32,863	145 32,657	158 35,463
Operating weight*	kg lb	19 458 42,885	19 566 43,123	19 409 42,777	19 516 43,014	19 624 43,252	19 467 42,906

*Static tipping loads and operating weight are based on the following loader configuration: L3 Michelin XHA tires, air conditioning, ride control, power train guard, full fluids, fuel tank, coolant, lubricants and operator.

Static tipping loads conform to the international standard as defined in ISO 14397-1 (SEPT2007).

**Measured 100 mm (4") behind tip of cutting edge with bucket hinge pin as pivot point in accordance with SAE J732 (APR2007).

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers, including SAE Standard J732 (APR2007) which governs loader ratings.

	Width over tires		Change in vertical dimensions		Change in operating weight		Change in static tipping load	
	mm	in	mm	in	kg	lb	kg	lb
23.5R25 VSW BS L2, Radial	2862	113	+ 6	+0	+ 20	+ 44	+ 14	+ 31
23.5R25 VUT D2A BS L2, Radial	2866	113	+10	+0	- 41	- 90	- 29	- 64
23.5R25 XTLA MX L2, Radial	2801	110	+ 7	+0	-112	- 247	- 79	- 174
23.5R25 VMT BS L3, Radial	2851	112	+ 3	+0	+124	+ 273	+ 88	+ 194
23.5R25 XHA MX L3, Radial	2784	110	+ 0	+0	+ 0	+ 0	+ 0	+ 0
23.5R25 XMINE MX L5, Radial	2807	111	+26	+1	+872	+1923	+619	+1365
750/65R25 XLD MX L3, Radial	2879	113	+ 7	+0	+460	+1014	+326	+ 719
23.5-25 SGGL FS L2, Bias	2834	112	+14	+1	-472	-1041	-335	- 739

Bucket Type		General Purpose — Pin On									High Lift Delta
Edge Type		Bolt-on Edges	Teeth & Seg-ments	Teeth	Bolt-on Edges	Teeth & Seg-ments	Teeth	Bolt-on Edges	Teeth & Seg-ments	Teeth	
Capacity — rated	m³ yd³	3.6 4.7	3.6 4.7	3.5 4.6	3.8 5.0	3.8 5.0	3.6 4.7	4.0 5.2	4.0 5.2	3.8 5.0	— —
Capacity — struck	m³ yd³	3.1 4.1	3.1 4.1	3.0 3.9	3.3 4.3	3.3 4.3	3.1 4.1	3.4 4.5	3.4 4.5	3.3 4.3	— —
Width	mm ft/in	3059 10'0"	3145 10'3"	3145 10'3"	3059 10'0"	3145 10'3"	3145 10'3"	3059 10'0"	3145 10'3"	3145 10'3"	— —
Dump clearance at maximum lift and 45° discharge	mm ft/in	3134 10'3"	2984 9'9"	2984 9'9"	3099 10'2"	2948 9'8"	2948 9'8"	3066 10'0"	2914 9'6"	2914 9'6"	+558 +1'10"
Reach at maximum lift and 45° discharge	mm ft/in	1282 4'2"	1424 4'8"	1424 4'8"	1305 4'3"	1446 4'8"	1446 4'8"	1329 4'4"	1469 4'9"	1469 4'9"	−25 −1.0"
Reach at level lift arm and bucket level	mm ft/in	2652 8'8"	2857 9'4"	2857 9'4"	2695 8'10"	2900 9'6"	2900 9'6"	2737 8'11"	2942 9'7"	2942 9'7"	+404 +1'4"
Digging depth	mm in	129 5	129 5	99 3.8	129 5	129 5	99 3.8	129 5	129 5	99 3.8	−25 −1.0
Overall length	mm ft/in	8595 28'2"	8820 28'11"	8820 28'11"	8638 28'4"	8863 29'0"	8863 29'0"	8680 28'5"	8905 29'2"	8905 29'2"	+715 +2'4"
Overall height with bucket at maximum lift	mm ft/in	5754 18'10"	5754 18'10"	5754 18'10"	5794 19'0"	5794 19'0"	5794 19'0"	5832 19'1"	5832 19'1"	5832 19'1"	+558 +1'10"
Loader clearance circle with bucket at carry position	mm ft/in	14 536 47'8"	14 739 48'4"	14 739 48'4"	14 558 47'9"	14 761 48'5"	14 761 48'5"	14 579 47'9"	14 783 48'6"	14 783 48'6"	+471 +1'6"
Static tipping load — straight*	kg lb	16 485 36,334	16 303 35,931	16 648 36,692	16 376 36,092	16 192 35,687	16 535 36,444	16 284 35,889	16 099 35,483	16 441 36,235	+403 +888
Static tipping load — articulated* maximum 37° turn	kg lb	14 491 31,937	14 308 31,534	14 635 32,256	14 386 31,707	14 202 31,302	14 528 32,021	14 299 31,515	14 115 31,109	14 439 31,824	+185 +408
Breakout force**	kN lb	201 45,267	200 44,885	215 48,406	194 43,630	193 43,249	207 46,546	188 42,168	186 41,790	200 44,888	−15 −3431
Operating weight*	kg lb	23 360 51,486	23 500 51,794	23 348 51,459	23 416 51,609	23 556 51,918	23 404 51,583	23 450 51,684	23 590 51,993	23 438 51,658	+1799 +3965

*Static tipping loads and operating weight are based on the following loader configuration: L3 Michelin XHA tires, air conditioning, ride control, power train guard, full fluids, fuel tank, coolant, lubricants and operator.

Static tipping loads conform to the international standard as defined in ISO 14397-1 (SEPT2007).

**Measured 100 mm (4") behind tip of cutting edge with bucket hinge pin as pivot point in accordance with SAE J732 (APR2007).

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers, including SAE Standard J732 (APR2007) which governs loader ratings.

	Width over tires		Change in vertical dimensions		Change in operating weight		Change in static tipping load	
	mm	in	mm	in	kg	lb	kg	lb
26.5R25 GP2B GY L2, Radial	3012	119	+ 0	+0	- 48	- 106	- 36	- 80
26.5R25 VMT BS L3, Radial	3015	119	+ 0	+0	+ 82	+ 181	- 14	- 31
26.5R25 RT3B GY L3, Radial	3017	119	+ 0	+0	+ 10	+ 22	+ 7	+ 15
26.5R25 XHA MX L3, Radial	3017	119	+ 0	+0	+ 0	+ 0	+ 0	+ 0
26.5R25 VSDL BS L5, Radial	2956	116	+20	+1	+1248	+2752	+937	+2066
750/65R25 MX L3, Radial Low Profile	3076	121	+ 0	+0	- 228	- 503	- 21	- 47
26.5-25 20 PR SRG FS L3, Bias	2992	118	-24	-1	- 324	- 714	-461	-1017
26.5-25 20 PR SHRL GY L3, Bias	2974	117	+ 0	+0	+ 41	+ 90	-127	- 280
26.5-25 SRG DT FS LDL4, Bias	3002	118	+20	+1	+ 34	+ 75	+ 31	+ 68

Bucket Type		General Purpose — Pin On			Material Handling — Pin On						High Lift Delta
		Bolt-on Edges	Teeth & Seg-ments	Teeth	Bolt-on Edges	Teeth & Seg-ments	Teeth	Bolt-on Edges	Teeth & Seg-ments	Teeth	
Edge Type											
Capacity — rated	m³ yd³	4.3 5.6	4.3 5.6	4.0 5.2	3.8 5.0	3.8 5.0	3.6 4.7	4.0 5.2	4.0 5.2	3.8 5.0	— —
Capacity — struck	m³ yd³	3.6 4.7	3.6 4.7	3.4 4.5	3.2 4.2	3.2 4.2	3.1 4.0	3.5 4.5	3.5 4.5	3.3 4.3	— —
Width	mm ft/in	3220 10'6"	3306 10'10"	3306 10'10"	3220 10'6"	3306 10'10"	3306 10'10"	3220 10'6"	3306 10'10"	3306 10'10"	— —
Dump clearance at maximum lift and 45° discharge	mm ft/in	3066 10'0"	2914 9'6"	2914 9'6"	3063 10'0"	2900 9'6"	2900 9'6"	3020 9'10"	2857 9'4"	2857 9'4"	+558 +1'10"
Reach at maximum lift and 45° discharge	mm ft/in	1329 4'4"	1469 4'9"	1469 4'9"	1162 3'9"	1289 4'2"	1289 4'2"	1205 3'11"	1331 4'4"	1331 4'4"	–25 –1.0"
Reach at level lift arm and bucket level	mm ft/in	2737 8'11"	2942 9'7"	2942 9'7"	2642 8'8"	2847 9'4"	2847 9'4"	2702 8'10"	2907 9'6"	2907 9'6"	+404 +1'4"
Digging depth	mm in	129 5	129 5	99 3.8	129 5	129 5	99 3.8	129 5	129 5	99 3.8	–25 –1.0
Overall length	mm ft/in	8680 28'5"	8905 29'2"	8905 29'2"	8585 28'1"	8810 28'10"	8810 28'10"	8645 28'4"	8870 29'1"	8870 29'1"	+715 +2'4"
Overall height with bucket at maximum lift	mm ft/in	5832 19'1"	5832 19'1"	5832 19'1"	5727 18'9"	5727 18'9"	5727 18'9"	5783 18'11"	5783 18'11"	5783 18'11"	+558 +1'10"
Loader clearance circle with bucket at carry position	mm ft/in	14 727 48'3"	14 929 48'11"	14 929 48'11"	14 679 48'1"	14 880 48'9"	14 880 48'9"	14 709 48'3"	14 911 48'11"	14 911 48'11"	+471 +1'6"
Static tipping load — straight*	kg lb	16 290 35,902	16 077 35,433	16 457 36,271	16 260 35,838	16 052 35,378	16 430 36,211	16 110 35,506	15 900 35,044	16 276 35,872	+403 +888
Static tipping load — articulated* maximum 37° turn	kg lb	14 295 31,507	14 082 31,037	14 446 31,840	14 282 31,477	14 073 31,016	14 434 31,814	14 138 31,161	13 929 30,699	14 288 31,491	+185 +408
Breakout force**	kN lb	187 42,080	185 41,673	199 44,821	203 45,546	201 45,134	217 48,755	193 43,272	191 42,863	206 46,171	–15 –3431
Operating weight*	kg lb	23 526 51,852	23 693 52,220	23 502 51,799	23 451 51,686	23 618 52,054	23 427 51,633	23 522 51,843	23 689 52,211	23 498 51,790	+1799 +3965

*Static tipping loads and operating weight are based on the following loader configuration: L3 Michelin XHA tires, air conditioning, ride control, power train guard, full fluids, fuel tank, coolant, lubricants and operator.

Static tipping loads conform to the international standard as defined in ISO 14397-1 (SEPT2007).

**Measured 100 mm (4") behind tip of cutting edge with bucket hinge pin as pivot point in accordance with SAE J732 (APR2007).

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers, including SAE Standard J732 (APR2007) which governs loader ratings.

	Width over tires		Change in vertical dimensions		Change in operating weight		Change in static tipping load	
	mm	in	mm	in	kg	lb	kg	lb
26.5R25 GP2B GY L2, Radial	3012	119	+ 0	+0	– 48	– 106	– 36	– 80
26.5R25 VMT BS L3, Radial	3015	119	+ 0	+0	+ 82	+ 181	– 14	– 31
26.5R25 RT3B GY L3, Radial	3017	119	+ 0	+0	+ 10	+ 22	+ 7	+ 15
26.5R25 XHA MX L3, Radial	3017	119	+ 0	+0	+ 0	+ 0	+ 0	+ 0
26.5R25 VSDL BS L5, Radial	2956	116	+20	+1	+1248	+2752	+937	+2066
750/65R25 MX L3, Radial Low Profile	3076	121	+ 0	+0	– 228	– 503	– 21	– 47
26.5-25 20 PR SRG FS L3, Bias	2992	118	–24	–1	– 324	– 714	–461	–1017
26.5-25 20 PR SHRL GY L3, Bias	2974	117	+ 0	+0	+ 41	+ 90	–127	– 280
26.5-25 SRG DT FS LDL4, Bias	3002	118	+20	+1	+ 34	+ 75	+ 31	+ 68

Bucket Type		General Purpose — Fusion QC						Material Handling — Fusion QC			High Lift Delta
Edge Type		Bolt-on Edges	Teeth & Seg-ments	Teeth	Bolt-on Edges	Teeth & Seg-ments	Teeth	Bolt-on Edges	Teeth & Seg-ments	Teeth	
Capacity — rated	m³ yd³	3.8 5.0	3.8 5.0	3.6 4.7	4.2 5.5	4.2 5.5	4.0 5.2	4.2 5.5	4.2 5.5	4.0 5.2	— —
Capacity — struck	m³ yd³	3.5 4.6	3.5 4.6	3.3 4.3	3.9 5.1	3.9 5.1	3.7 4.8	3.0 3.9	3.0 3.9	2.8 3.7	— —
Width	mm ft/in	3220 10'6"	3307 10'10"	3307 10'10"	3220 10'6"	3307 10'10"	3307 10'10"	3224 10'6"	3311 10'10"	3311 10'10"	— —
Dump clearance at maximum lift and 45° discharge	mm ft/in	3128 10'3"	2978 9'9"	2978 9'9"	3062 10'0"	2909 9'6"	2909 9'6"	2991 9'9"	2828 9'3"	2828 9'3"	+558 +1'10"
Reach at maximum lift and 45° discharge	mm ft/in	1287 4'2"	1429 4'8"	1429 4'8"	1334 4'4"	1473 4'9"	1473 4'9"	1246 4'1"	1373 4'6"	1373 4'6"	–25 –1.0"
Reach at level lift arm and bucket level	mm ft/in	2662 8'8"	2867 9'4"	2867 9'4"	2745 9'0"	2950 9'8"	2950 9'8"	2752 9'0"	2957 9'8"	2957 9'8"	+404 +1'4"
Digging depth	mm in	121 4.7	121 4.7	91 3.5	121 4.7	121 4.7	91 3.5	121 4.7	121 4.7	91 3.5	–25 –1.0
Overall length	mm ft/in	8599 28'2"	8824 28'11"	8824 28'11"	8682 28'5"	8907 29'2"	8907 29'2"	8689 28'6"	8914 29'2"	8914 29'2"	+715 +2'4"
Overall height with bucket at maximum lift	mm ft/in	5773 18'11"	5773 18'11"	5773 18'11"	5859 19'2"	5859 19'2"	5859 19'2"	5855 19'2"	5855 19'2"	5855 19'2"	+558 +1'10"
Loader clearance circle with bucket at carry position	mm ft/in	14 675 48'1"	14 880 48'9"	14 880 48'9"	14 717 48'3"	14 923 48'11"	14 923 48'11"	14 724 48'3"	14 931 48'11"	14 931 48'11"	+471 +1'6"
Static tipping load — straight*	kg lb	16 278 35,877	16 097 35,478	16 448 36,250	16 115 35,518	15 932 35,115	16 280 35,881	16 016 35,299	15 834 34,898	16 173 35,645	+403 +888
Static tipping load — articulated* maximum 37° turn	kg lb	14 265 31,439	14 083 31,039	14 417 31,776	14 109 31,095	13 925 30,692	14 257 31,422	14 022 30,905	13 840 30,503	14 164 31,217	+185 +408
Breakout force**	kN lb	200 44,862	198 44,490	214 47,975	186 41,871	185 41,503	198 44,587	185 41,633	184 41,266	197 44,319	–15 –3431
Operating weight*	kg lb	23 756 52,358	23 894 52,662	23 730 52,302	23 838 52,539	23 976 52,843	23 813 52,483	23 833 52,528	23 971 52,832	23 808 52,472	+1799 +3965

*Static tipping loads and operating weight are based on the following loader configuration: L3 Michelin XHA tires, air conditioning, ride control, power train guard, full fluids, fuel tank, coolant, lubricants and operator.

Static tipping loads conform to the international standard as defined in ISO 14397-1 (SEPT2007).

**Measured 100 mm (4") behind tip of cutting edge with bucket hinge pin as pivot point in accordance with SAE J732 (APR2007).

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers, including SAE Standard J732 (APR2007) which governs loader ratings.

	Width over tires		Change in vertical dimensions		Change in operating weight		Change in static tipping load	
	mm	in	mm	in	kg	lb	kg	lb
26.5R25 GP2B GY L2, Radial	3012	119	+ 0	+0	– 48	– 106	– 36	– 80
26.5R25 VMT BS L3, Radial	3015	119	+ 0	+0	+ 82	+ 181	– 14	– 31
26.5R25 RT3B GY L3, Radial	3017	119	+ 0	+0	+ 10	+ 22	+ 7	+ 15
26.5R25 XHA MX L3, Radial	3017	119	+ 0	+0	+ 0	+ 0	+ 0	+ 0
26.5R25 VSDL BS L5, Radial	2956	116	+20	+1	+1248	+2752	+937	+2066
750/65R25 MX L3, Radial Low Profile	3076	121	+ 0	+0	– 228	– 503	– 21	– 47
26.5-25 20 PR SRG FS L3, Bias	2992	118	–24	–1	– 324	– 714	–461	–1017
26.5-25 20 PR SHRL GY L3, Bias	2974	117	+ 0	+0	+ 41	+ 90	–127	– 280
26.5-25 SRG DT FS LDL4, Bias	3002	118	+20	+1	+ 34	+ 75	+ 31	+ 68

Bucket Type		Rock — Pin On		Heavy Duty Rock — Pin On	Waste — Pin On	High Lift Delta
		Bolt-on Edges	Teeth & Segments	Teeth & Segments	Bolt-on Edges	
Edge Type						
Capacity — rated	m ³ yd ³	3.5 4.6	3.5 4.6	3.5 4.6	6.4 8.3	— —
Capacity — struck	m ³ yd ³	3.0 3.9	3.0 3.9	3.0 3.9	5.4 7.1	— —
Width	mm ft/in	3283 10'9"	3270 10'8"	3270 10'8"	3355 11'0"	— —
Dump clearance at maximum lift and 45° discharge	mm ft/in	3093 10'1"	2945 9'7"	2945 9'7"	2969 9'8"	+558 +1'10"
Reach at maximum lift and 45° discharge	mm ft/in	1458 4'9"	1649 5'4"	1649 5'4"	1220 4'0"	-25 -1.0"
Reach at level lift arm and bucket level	mm ft/in	2799 9'2"	3041 9'11"	3041 9'11"	2750 9'0"	+404 +1'4"
Digging depth	mm in	134 5.2	139 5.4	139 5.4	154 6	-25 -1.0
Overall length	mm ft/in	8746 28'8"	8994 29'6"	8994 29'6"	8713 28'7"	+715 +2'4"
Overall height with bucket at maximum lift	mm ft/in	5716 18'9"	5716 18'9"	6042 19'9"	6480 21'3"	+558 +1'10"
Loader clearance circle with bucket at carry position	mm ft/in	14 820 48'7"	14 939 49'0"	14 939 49'0"	14 877 48'9"	+471 +1'6"
Static tipping load — straight*	kg lb	16 258 35,832	16 123 35,535	15 999 35,261	16 627 36,646	+403 +888
Static tipping load — articulated* maximum 37° turn	kg lb	14 242 31,390	14 107 31,093	13 983 30,818	14 519 31,999	+185 +408
Breakout force**	kN lb	178 40,024	180 40,362	179 40,120	182 40,898	-15 -3431
Operating weight*	kg lb	23 695 52,224	23 797 52,449	23 957 52,801	24 065 53,039	+1799 +3965

*Static tipping loads and operating weight are based on the following loader configuration: L3 Michelin XHA tires, air conditioning, ride control, power train guard, full fluids, fuel tank, coolant, lubricants and operator.

Static tipping loads conform to the international standard as defined in ISO 14397-1 (SEPT2007).

**Measured 100 mm (4") behind tip of cutting edge with bucket hinge pin as pivot point in accordance with SAE J732 (APR2007).

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers, including SAE Standard J732 (APR2007) which governs loader ratings.

	Width over tires		Change in vertical dimensions		Change in operating weight		Change in static tipping load	
	mm	in	mm	in	kg	lb	kg	lb
26.5R25 GP2B GY L2, Radial	3012	119	+ 0	+0	- 48	- 106	- 36	- 80
26.5R25 VMT BS L3, Radial	3015	119	+ 0	+0	+ 82	+ 181	- 14	- 31
26.5R25 RT3B GY L3, Radial	3017	119	+ 0	+0	+ 10	+ 22	+ 7	+ 15
26.5R25 XHA MX L3, Radial	3017	119	+ 0	+0	+ 0	+ 0	+ 0	+ 0
26.5R25 VSDL BS L5, Radial	2956	116	+20	+1	+1248	+2752	+937	+2066
750/65R25 MX L3, Radial Low Profile	3076	121	+ 0	+0	- 228	- 503	- 21	- 47
26.5-25 20 PR SRG FS L3, Bias	2992	118	-24	-1	- 324	- 714	-461	-1017
26.5-25 20 PR SHRL GY L3, Bias	2974	117	+ 0	+0	+ 41	+ 90	-127	- 280
26.5-25 SRG DT FS LDL4, Bias	3002	118	+20	+1	+ 34	+ 75	+ 31	+ 68

Bucket Type		General Purpose — Pin On								High Lift Delta
		Bolt-on Edges	Teeth & Seg-ments	Teeth	Bolt-on Edges	Teeth & Seg-ments	Teeth	Bolt-on Edges	Teeth & Seg-ments	Teeth
Edge Type										
Capacity — rated	m³ yd³	4.0 5.2	4.0 5.2	3.8 5.0	4.3 5.6	4.3 5.6	4.0 5.2	4.5 5.9	4.5 5.9	4.3 5.6
Capacity — struck	m³ yd³	3.4 4.5	3.4 4.5	3.3 4.3	3.6 4.7	3.6 4.7	3.4 4.5	3.8 5.0	3.8 5.0	3.7 4.8
Width	mm ft/in	3059 10'0"	3145 10'3"	3145 10'3"	3220 10'6"	3306 10'10"	3306 10'10"	3220 10'6"	3306 10'10"	3306 10'10"
Dump clearance at maximum lift and 45° discharge	mm ft/in	3288 10'9"	3136 10'3"	3136 10'3"	3288 10'9"	3136 10'3"	3136 10'3"	3248 10'7"	3095 10'1"	3095 10'1"
Reach at maximum lift and 45° discharge	mm ft/in	1281 4'2"	1421 4'7"	1421 4'7"	1281 4'2"	1421 4'7"	1421 4'7"	1309 4'3"	1448 4'8"	1448 4'8"
Reach at level lift arm and bucket level	mm ft/in	2867 9'4"	3072 10'0"	3072 10'0"	2867 9'4"	3072 10'0"	3072 10'0"	2917 9'6"	3122 10'2"	3122 10'2"
Digging depth	mm in	108 4.2	108 4.2	78 3	108 4.2	108 4.2	78 3	108 4.2	108 4.2	78 3
Overall length	mm ft/in	9060 29'8"	9284 30'5"	9284 30'5"	9060 29'8"	9284 30'5"	9284 30'5"	9110 29'10"	9334 30'7"	9334 30'7"
Overall height with bucket at maximum lift	mm ft/in	6055 19'10"	6055 19'10"	6055 19'10"	6055 19'10"	6055 19'10"	6055 19'10"	6101 20'0"	6101 20'0"	6101 20'0"
Loader clearance circle with bucket at carry position	mm ft/in	14 731 48'3"	14 942 49'0"	14 942 49'0"	14 878 48'9"	15 087 49'5"	15 087 49'5"	14 905 48'10"	15 114 49'7"	15 114 49'7"
Static tipping load — straight*	kg lb	17 870 39,386	17 688 38,984	18 038 39,755	17 886 39,421	17 675 38,957	18 063 39,811	17 661 38,926	17 451 38,462	17 841 39,321
Static tipping load — articulated* maximum 37° turn	kg lb	15 562 34,300	15 380 33,898	15 711 34,626	15 567 34,309	15 356 33,844	15 725 34,658	15 361 33,857	15 151 33,392	15 522 34,210
Breakout force**	kN lb	242 54,367	241 54,050	258 57,957	242 54,279	240 53,933	258 57,891	232 52,186	231 51,840	247 55,528
Operating weight*	kg lb	25 329 55,824	25 469 56,133	25 317 55,798	25 405 55,992	25 572 56,360	25 381 55,939	25 459 56,111	25 626 56,479	25 435 56,058

*Static tipping loads and operating weight are based on the following loader configuration: L3 Michelin XHA tires, air conditioning, ride control, power train guard, full fluids, fuel tank, coolant, lubricants and operator.

Static tipping loads conform to the international standard as defined in ISO 14397-1 (SEPT2007).

**Measured 100 mm (4") behind tip of cutting edge with bucket hinge pin as pivot point in accordance with SAE J732 (APR2007).

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers, including SAE Standard J732 (APR2007) which governs loader ratings.

	Width over tires		Change in vertical dimensions		Change in operating weight		Change in static tipping load	
	mm	in	mm	in	kg	lb	kg	lb
26.5R25 GP2B GY L2, Radial	3012	119	+ 0	+0	- 48	- 106	- 36	- 80
26.5R25 VMT BS L3, Radial	3015	119	+ 0	+0	+ 82	+ 181	- 14	- 31
26.5R25 RT3B GY L3, Radial	3017	119	+ 0	+0	+ 10	+ 22	+ 7	+ 15
26.5R25 XHA MX L3, Radial	3017	119	+ 0	+0	+ 0	+ 0	+ 0	+ 0
26.5R25 VSDL BS L5, Radial	2956	116	+20	+1	+1248	+2752	+937	+2066
750/65R25 MX L3, Radial Low Profile	3076	121	+ 0	+0	- 228	- 503	- 21	- 47
26.5-25 20 PR SRG FS L3, Bias	2992	118	-24	-1	- 324	- 714	-461	-1017
26.5-25 20 PR SHRL GY L3, Bias	2974	117	+ 0	+0	+ 41	+ 90	-127	- 280
26.5-25 SRG DT FS LDL4, Bias	3002	118	+20	+1	+ 34	+ 75	+ 31	+ 68

Bucket Type		General Purpose — Pin On						Material Handling — Pin On			High Lift Delta
Edge Type		Bolt-on Edges	Teeth & Seg-ments	Teeth	Bolt-on Edges	Teeth & Seg-ments	Teeth	Bolt-on Edges	Teeth & Seg-ments	Teeth	
Capacity — rated	m ³ yd ³	4.6 6.0	4.6 6.0	4.4 5.8	5.1 6.7	5.1 6.7	4.9 6.4	4.3 5.6	4.3 5.6	4.0 5.2	— —
Capacity — struck	m ³ yd ³	4.0 5.2	4.0 5.2	3.9 5.0	4.5 5.9	4.5 5.9	4.3 5.6	3.7 4.8	3.7 4.8	3.5 4.6	— —
Width	mm ft/in	3220 10'6"	3306 10'10"	3306 10'10"	3220 10'6"	3306 10'10"	3306 10'10"	3220 10'6"	3306 10'10"	3306 10'10"	— —
Dump clearance at maximum lift and 45° discharge	mm ft/in	3232 10'7"	3080 10'1"	3080 10'1"	3154 10'4"	3000 9'10"	3000 9'10"	3207 10'6"	3044 9'11"	3044 9'11"	+336 +1'1"
Reach at maximum lift and 45° discharge	mm ft/in	1326 4'4"	1466 4'9"	1466 4'9"	1389 4'6"	1526 5'0"	1526 5'0"	1192 3'10"	1319 4'3"	1319 4'3"	+23 +0.9"
Reach at level lift arm and bucket level	mm ft/in	2939 9'7"	3144 10'3"	3144 10'3"	3041 9'11"	3246 10'7"	3246 10'7"	2882 9'5"	3087 10'1"	3087 10'1"	+274 +10.8"
Digging depth	mm in	118 4.6	118 4.6	88 3.4	118 4.6	118 4.6	88 3.4	108 4.2	108 4.2	78 3	−5 −0.2
Overall length	mm ft/in	9139 29'11"	9362 30'8"	9362 30'8"	9241 30'3"	9464 31'0"	9464 31'0"	9075 29'9"	9299 30'6"	9299 30'6"	+335 +1'1"
Overall height with bucket at maximum lift	mm ft/in	5995 19'8"	5995 19'8"	5995 19'8"	6119 20'0"	6119 20'0"	6119 20'0"	6051 19'10"	6051 19'10"	6051 19'10"	+336 +1'1"
Loader clearance circle with bucket at carry position	mm ft/in	14 924 48'11"	15 134 49'7"	15 134 49'7"	14 980 49'1"	15 191 49'10"	15 191 49'10"	14 886 48'10"	15 095 49'6"	15 095 49'6"	+327 +1'1"
Static tipping load — straight*	kg lb	17 949 39,559	17 739 39,096	18 128 39,954	17 875 39,397	17 675 38,955	18 043 39,766	17 581 38,748	17 373 38,289	17 755 39,132	−1522 −3354
Static tipping load — articulated* maximum 37° turn	kg lb	15 659 34,513	15 449 34,050	15 820 34,866	15 589 34,359	15 388 33,916	15 739 34,689	15 294 33,708	15 085 33,248	15 449 34,050	−1370 −3020
Breakout force**	kN lb	230 51,640	229 51,339	244 54,907	216 48,526	215 48,254	229 51,357	239 53,601	237 53,255	254 57,126	−7 −1557
Operating weight*	kg lb	25 041 55,189	25 208 55,557	25 017 55,136	25 182 55,500	25 349 55,868	25 158 55,447	25 452 56,095	25 619 56,463	25 428 56,042	+84 +186

*Static tipping loads and operating weight are based on the following loader configuration: L3 Michelin XHA tires, air conditioning, ride control, power train guard, full fluids, fuel tank, coolant, lubricants and operator.

Static tipping loads conform to the international standard as defined in ISO 14397-1 (SEPT2007).

**Measured 100 mm (4") behind tip of cutting edge with bucket hinge pin as pivot point in accordance with SAE J732 (APR2007).

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers, including SAE Standard J732 (APR2007) which governs loader ratings.

	Width over tires		Change in vertical dimensions		Change in operating weight		Change in static tipping load	
	mm	in	mm	in	kg	lb	kg	lb
26.5R25 GP2B GY L2, Radial	3012	119	+ 0	+0	− 48	− 106	− 36	− 80
26.5R25 VMT BS L3, Radial	3015	119	+ 0	+0	+ 82	+ 181	− 14	− 31
26.5R25 RT3B GY L3, Radial	3017	119	+ 0	+0	+ 10	+ 22	+ 7	+ 15
26.5R25 XHA MX L3, Radial	3017	119	+ 0	+0	+ 0	+ 0	+ 0	+ 0
26.5R25 VSDL BS L5, Radial	2956	116	+20	+1	+1248	+2752	+937	+2066
750/65R25 MX L3, Radial Low Profile	3076	121	+ 0	+0	− 228	− 503	− 21	− 47
26.5-25 20 PR SRG FS L3, Bias	2992	118	−24	−1	− 324	− 714	−461	−1017
26.5-25 20 PR SHRL GY L3, Bias	2974	117	+ 0	+0	+ 41	+ 90	−127	− 280
26.5-25 SRG DT FS LDL4, Bias	3002	118	+20	+1	+ 34	+ 75	+ 31	+ 68

Bucket Type		Material Handling — Pin On			General Purpose — Fusion QC						High Lift Delta
		Bolt-on Edges	Teeth & Seg-ments	Teeth	Bolt-on Edges	Teeth & Seg-ments	Teeth	Bolt-on Edges	Teeth & Seg-ments	Teeth	
Edge Type											
Capacity — rated	m ³ yd ³	4.7 6.2	4.7 6.2	4.5 5.9	4.2 5.5	4.2 5.5	4.0 5.2	4.8 6.3	4.8 6.3	4.6 6.0	— —
Capacity — struck	m ³ yd ³	4.4 5.8	4.4 5.8	4.2 5.6	3.9 5.1	3.9 5.1	3.7 4.8	3.4 4.5	3.4 4.5	3.3 4.3	— —
Width	mm ft/in	3220 10'6"	3307 10'10"	3307 10'10"	3220 10'6"	3307 10'10"	3307 10'10"	3224 10'6"	3311 10'10"	3311 10'10"	— —
Dump clearance at maximum lift and 45° discharge	mm ft/in	3144 10'3"	2981 9'9"	2981 9'9"	3284 10'9"	3132 10'3"	3132 10'3"	3136 10'3"	2973 9'9"	2973 9'9"	+336 +1'1"
Reach at maximum lift and 45° discharge	mm ft/in	1256 4'1"	1383 4'6"	1383 4'6"	1286 4'2"	1425 4'8"	1425 4'8"	1275 4'2"	1402 4'7"	1402 4'7"	+23 +0.9"
Reach at level lift arm and bucket level	mm ft/in	2972 9'9"	3177 10'5"	3177 10'5"	2875 9'5"	3080 10'1"	3080 10'1"	2991 9'9"	3196 10'5"	3196 10'5"	+274 +10.8"
Digging depth	mm in	108 4.2	108 4.2	78 3	100 3.9	100 3.9	70 2.7	100 3.9	100 3.9	70 2.7	-5 -0.2
Overall length	mm ft/in	9165 30'0"	9389 30'9"	9389 30'9"	9062 29'8"	9286 30'5"	9286 30'5"	9178 30'1"	9402 30'10"	9402 30'10"	+335 +1'1"
Overall height with bucket at maximum lift	mm ft/in	6131 20'1"	6131 20'1"	6131 20'1"	6082 19'11"	6082 19'11"	6082 19'11"	6203 20'4"	6203 20'4"	6203 20'4"	+336 +1'1"
Loader clearance circle with bucket at carry position	mm ft/in	14 935 48'11"	15 146 49'8"	15 146 49'8"	14 869 48'9"	15 081 49'5"	15 081 49'5"	14 936 49'0"	15 150 49'8"	15 150 49'8"	+327 +1'1"
Static tipping load — straight*	kg lb	17 527 38,630	17 347 38,232	17 571 38,725	17 696 39,002	17 515 38,604	17 870 39,385	17 427 38,409	17 244 38,005	17 592 38,772	-1522 -3354
Static tipping load — articulated* maximum 37° turn	kg lb	15 237 33,582	15 056 33,183	15 264 33,641	15 365 33,864	15 184 33,466	15 520 34,206	15 108 33,298	14 925 32,894	15 255 33,622	-1370 -3020
Breakout force**	kN lb	222 49,987	221 49,676	236 53,064	240 53,979	239 53,671	256 57,554	220 49,371	218 49,064	233 52,373	-7 -1557
Operating weight*	kg lb	25 574 56,366	25 712 56,670	25 549 56,310	25 716 56,679	25 854 56,983	25 691 56,623	25 852 56,979	25 990 57,282	25 827 56,923	+84 +186

*Static tipping loads and operating weight are based on the following loader configuration: L3 Michelin XHA tires, air conditioning, ride control, power train guard, full fluids, fuel tank, coolant, lubricants and operator.

Static tipping loads conform to the international standard as defined in ISO 14397-1 (SEPT2007).

**Measured 100 mm (4") behind tip of cutting edge with bucket hinge pin as pivot point in accordance with SAE J732 (APR2007).

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers, including SAE Standard J732 (APR2007) which governs loader ratings.

	Width over tires		Change in vertical dimensions		Change in operating weight		Change in static tipping load	
	mm	in	mm	in	kg	lb	kg	lb
26.5R25 GP2B GY L2, Radial	3012	119	+ 0	+0	- 48	- 106	- 36	- 80
26.5R25 VMT BS L3, Radial	3015	119	+ 0	+0	+ 82	+ 181	- 14	- 31
26.5R25 RT3B GY L3, Radial	3017	119	+ 0	+0	+ 10	+ 22	+ 7	+ 15
26.5R25 XHA MX L3, Radial	3017	119	+ 0	+0	+ 0	+ 0	+ 0	+ 0
26.5R25 VSDL BS L5, Radial	2956	116	+20	+1	+1248	+2752	+937	+2066
750/65R25 MX L3, Radial Low Profile	3076	121	+ 0	+0	- 228	- 503	- 21	- 47
26.5-25 20 PR SRG FS L3, Bias	2992	118	-24	-1	- 324	- 714	-461	-1017
26.5-25 20 PR SHRL GY L3, Bias	2974	117	+ 0	+0	+ 41	+ 90	-127	- 280
26.5-25 SRG DT FS LDL4, Bias	3002	118	+20	+1	+ 34	+ 75	+ 31	+ 68

Bucket Type		Material Handling — Fusion QC			Rock — Pin On	Heavy Duty Rock — Pin On	Waste — Pin On	High Lift Delta
Edge Type		Bolt-on Edges	Teeth & Segments	Teeth	Teeth & Segments	Teeth & Segments	Bolt-on Edges	
Capacity — rated	m ³ yd ³	4.6 6.0	4.6 6.0	4.4 5.8	4.0 5.2	4.0 5.2	6.4 8.3	— —
Capacity — struck	m ³ yd ³	3.3 4.3	3.3 4.3	3.1 4.1	3.5 4.5	3.5 4.5	5.4 7.1	— —
Width	mm ft/in	3224 10'6"	3311 10'10"	3311 10'10"	3270 10'8"	3270 10'8"	3355 11'0"	— —
Dump clearance at maximum lift and 45° discharge	mm ft/in	3158 10'4"	2995 9'9"	2995 9'9"	3055 10'0"	3055 10'0"	3191 10'5"	+336 +1'1"
Reach at maximum lift and 45° discharge	mm ft/in	1253 4'1"	1380 4'6"	1380 4'6"	1640 5'4"	1640 5'4"	1173 3'10"	+23 +0.9"
Reach at level lift arm and bucket level	mm ft/in	2960 9'8"	3165 10'4"	3165 10'4"	3281 10'9"	3281 10'9"	2880 9'5"	+274 +10.8"
Digging depth	mm in	100 3.9	100 3.9	70 2.7	118 4.6	118 4.6	133 5.2	-5 -0.2
Overall length	mm ft/in	9147 30'0"	9371 30'8"	9371 30'8"	9483 31'1"	9483 31'1"	9091 29'9"	+335 +1'1"
Overall height with bucket at maximum lift	mm ft/in	6159 20'2"	6159 20'2"	6159 20'2"	6047 19'10"	6374 20'10"	6702 21'11"	+336 +1'1"
Loader clearance circle with bucket at carry position	mm ft/in	14 919 48'11"	15 133 49'7"	15 133 49'7"	15 312 50'2"	15 312 50'2"	15 027 49'3"	+327 +1'1"
Static tipping load — straight*	kg lb	17 426 38,408	17 245 38,008	17 588 38,763	17 473 38,510	17 333 38,203	18 168 40,043	-1522 -3354
Static tipping load — articulated* maximum 37° turn	kg lb	15 118 33,320	14 936 32,919	15 262 33,638	15 143 33,375	15 003 33,066	15 732 34,674	-1370 -3020
Breakout force**	kN lb	225 50,547	224 50,240	239 53,689	214 48,038	213 47,781	236 53,045	-7 -1557
Operating weight*	kg lb	25 790 56,841	25 928 57,145	25 765 56,785	25 794 56,849	25 968 57,232	25 944 57,180	+84 +186

*Static tipping loads and operating weight are based on the following loader configuration: L3 Michelin XHA tires, air conditioning, ride control, power train guard, full fluids, fuel tank, coolant, lubricants and operator.

Static tipping loads conform to the international standard as defined in ISO 14397-1 (SEPT2007).

**Measured 100 mm (4") behind tip of cutting edge with bucket hinge pin as pivot point in accordance with SAE J732 (APR2007).

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers, including SAE Standard J732 (APR2007) which governs loader ratings.

	Width over tires		Change in vertical dimensions		Change in operating weight		Change in static tipping load	
	mm	in	mm	in	kg	lb	kg	lb
26.5R25 GP2B GY L2, Radial	3012	119	+ 0	+0	- 48	- 106	- 36	- 80
26.5R25 VMT BS L3, Radial	3015	119	+ 0	+0	+ 82	+ 181	- 14	- 31
26.5R25 RT3B GY L3, Radial	3017	119	+ 0	+0	+ 10	+ 22	+ 7	+ 15
26.5R25 XHA MX L3, Radial	3017	119	+ 0	+0	+ 0	+ 0	+ 0	+ 0
26.5R25 VSDL BS L5, Radial	2956	116	+20	+1	+1248	+2752	+937	+2066
750/65R25 MX L3, Radial Low Profile	3076	121	+ 0	+0	- 228	- 503	- 21	- 47
26.5-25 20 PR SRG FS L3, Bias	2992	118	-24	-1	- 324	- 714	-461	-1017
26.5-25 20 PR SHRL GY L3, Bias	2974	117	+ 0	+0	+ 41	+ 90	-127	- 280
26.5-25 SRG DT FS LDL4, Bias	3002	118	+20	+1	+ 34	+ 75	+ 31	+ 68

Bucket Type		General Purpose — Pin On									High Lift Delta
Edge Type		Bolt-on Edges	Teeth & Seg-ments	Teeth	Bolt-on Edges	Teeth & Seg-ments	Teeth	Bolt-on Edges	Teeth & Seg-ments	Teeth	
Capacity — rated	m³ yd³	4.6 6.0	4.5 5.9	4.2 5.5	5.0 6.5	4.9 6.4	4.7 6.2	5.4 7.1	5.4 7.1	5.0 6.5	— —
Capacity — struck	m³ yd³	3.9 5.1	3.8 5.0	3.7 4.8	4.2 5.6	4.2 5.5	4.0 5.3	4.6 6.0	4.5 6.0	4.4 5.7	— —
Width	mm ft/in	3447 11'3"	3533 11'7"	3533 11'7"	3447 11'3"	3533 11'7"	3533 11'7"	3447 11'3"	3533 11'7"	3533 11'7"	— —
Dump clearance at maximum lift and 45° discharge	mm ft/in	3445 11'3"	3292 10'9"	3292 10'9"	3372 11'0"	3216 10'6"	3216 10'6"	3309 10'10"	3152 10'4"	3152 10'4"	+221 +8.7"
Reach at maximum lift and 45° discharge	mm ft/in	1407 4'7"	1554 5'1"	1554 5'1"	1457 4'9"	1601 5'3"	1601 5'3"	1505 4'11"	1647 5'4"	1647 5'4"	+3 +0.1"
Reach at level lift arm and bucket level	mm ft/in	2790 9'1"	3000 9'10"	3000 9'10"	2880 9'5"	3090 10'1"	3090 10'1"	2960 9'8"	3170 10'4"	3170 10'4"	+160 +6.3"
Digging depth	mm in	138 5.4	138 5.4	103 4	138 5.4	138 5.4	103 4	138 5.4	138 5.4	103 4	-2 -0.1
Overall length	mm ft/in	9248 30'4"	9480 31'1"	9480 31'1"	9338 30'7"	9570 31'4"	9570 31'4"	9418 30'10"	9650 31'7"	9650 31'7"	+199 +7.8"
Overall height with bucket at maximum lift	mm ft/in	6128 20'1"	6128 20'1"	6128 20'1"	6204 20'4"	6204 20'4"	6204 20'4"	6274 20'7"	6274 20'7"	6274 20'7"	+221 +8.7"
Loader clearance circle with bucket at carry position	mm ft/in	15 716 51'6"	15 925 52'2"	15 925 52'2"	15 762 51'8"	15 972 52'4"	15 972 52'4"	15 803 51'10"	16 015 52'6"	16 015 52'6"	+167 +6.6"
Static tipping load — straight*	kg lb	22 109 48,728	22 077 48,658	22 435 49,446	21 870 48,201	21 836 48,127	22 187 48,900	21 664 47,747	21 629 47,671	21 976 48,435	-1794 -3955
Static tipping load — articulated* maximum 37° turn	kg lb	19 428 42,819	19 391 42,738	19 727 43,479	19 202 42,322	19 165 42,239	19 494 42,966	19 008 41,894	18 969 41,807	19 295 42,526	-1616 -3561
Breakout force**	kN lb	252 56,546	251 56,287	273 61,279	234 52,587	233 52,341	252 56,677	220 49,468	219 49,231	236 53,088	+3 +749
Operating weight*	kg lb	29 792 65,661	29 865 65,822	29 686 65,429	29 889 65,876	29 963 66,037	29 784 65,644	29 979 66,074	30 052 66,235	29 874 65,841	+114 +252

*Static tipping loads and operating weight are based on the following loader configuration: L3 Michelin XHA tires, air conditioning, ride control, power train guard, full fluids, fuel tank, coolant, lubricants and operator.

Static tipping loads conform to the international standard as defined in ISO 14397-1 (SEPT2007).

**Measured 100 mm (4") behind tip of cutting edge with bucket hinge pin as pivot point in accordance with SAE J732 (APR2007).

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers, including SAE Standard J732 (APR2007) which governs loader ratings.

	Width over tires		Change in vertical dimensions		Change in operating weight		Change in static tipping load	
	mm	in	mm	in	kg	lb	kg	lb
29.5R25, (L-2/L-3), Goodyear	3269	129	+21	+1	- 91	- 201	+ 129	+ 284
29.5R25, (L-3), Michelin	3227	127	+ 0	+0	+ 0	+ 0	+ 0	+ 0
29.5R25, (L-3 STL2+), Continental	3264	129	+10	+0	+ 71	+ 157	+ 509	+1122
29.5R25, (L-3 STL3), Continental	3264	129	+ 8	+0	- 16	- 35	+ 441	+ 972
29.5R25, (L-3 VMT), Bridgestone	3211	126	+27	+1	+ 93	+ 205	+ 43	+ 95
29.5R25, (L-3 VSDL), Bridgestone	3202	126	+37	+2	+1311	+2891	+1245	+2745
29.5R25, (L-5), Michelin	3212	127	+16	+0	+ 836	+1843	+ 587	+1294
29.5R25, (L-5), Michelin	3231	127	+25	+1	+1318	+2906	+1058	+2333
29.5-25, (L-3), Goodyear	3253	128	+ 2	+0	- 297	- 655	- 206	- 454
29.5-25, (L-4), Firestone	3194	126	+39	+2	+ 75	+ 165	- 460	-1014
29.5-25, (L-4), Goodyear	3284	129	+41	+2	+ 330	+ 728	+ 411	+ 906
29.5-25, (L-5), Firestone	3197	126	+46	+2	+ 613	+1352	+ 859	+1894
29.5-25, (L-5), Goodyear	3266	129	+46	+2	+ 942	+2077	+ 943	+2079

Bucket Type		General Purpose — Pin On							High Lift Delta
		Flushmounted Adapter with Teeth	Bolt-on Edges	Teeth & Seg-ments	Teeth	Bolt-on Edges	Teeth & Seg-ments	Teeth	
Edge Type									
Capacity — rated	m ³ yd ³	5.4 7.1	5.7 7.5	5.6 7.3	5.4 7.1	6.1 8.0	6.0 7.9	5.7 7.5	— —
Capacity — struck	m ³ yd ³	4.7 6.1	4.9 6.4	4.9 6.3	4.7 6.1	5.2 6.8	5.1 6.7	4.8 6.3	— —
Width	mm ft/in	3513 11'6"	3447 11'3"	3533 11'7"	3533 11'7"	3447 11'3"	3533 11'7"	3533 11'7"	— —
Dump clearance at maximum lift and 45° discharge	mm ft/in	3125 10'3"	3269 10'8"	3111 10'2"	3111 10'2"	3225 10'6"	3062 10'0"	3062 10'0"	+221 +8.7"
Reach at maximum lift and 45° discharge	mm ft/in	1739 5'8"	1534 5'0"	1675 5'5"	1675 5'5"	1594 5'2"	1729 5'8"	1729 5'8"	+3 +0.1"
Reach at level lift arm and bucket level	mm ft/in	3260 10'8"	3010 9'10"	3220 10'6"	3220 10'6"	3083 10'1"	3292 10'9"	3292 10'9"	+160 +6.3"
Digging depth	mm in	104 4	138 5.4	138 5.4	103 4	138 5.4	138 5.4	112 4.3	-2 -0.1
Overall length	mm ft/in	9700 31'9"	9468 31'0"	9700 31'9"	9700 31'9"	9540 31'3"	9778 32'0"	9778 32'0"	+199 +7.8"
Overall height with bucket at maximum lift	mm ft/in	6203 20'4"	6347 20'9"	6347 20'9"	6347 20'9"	6438 21'1"	6438 21'1"	6438 21'1"	+221 +8.7"
Loader clearance circle with bucket at carry position	mm ft/in	16 006 52'6"	15 829 51'11"	16 041 52'7"	16 041 52'7"	15 868 52'0"	16 087 52'9"	16 087 52'9"	+167 +6.6"
Static tipping load — straight*	kg lb	21 786 48,016	21 527 47,446	21 492 47,368	21 836 48,126	21 285 46,913	21 249 46,832	21 617 47,643	-1794 -3955
Static tipping load — articulated* maximum 37° turn	kg lb	19 112 42,122	18 878 41,607	18 838 41,519	19 161 42,232	18 627 41,054	18 583 40,957	18 929 41,718	-1616 -3561
Breakout force**	kN lb	227 51,112	212 47,653	211 47,421	227 51,017	199 44,786	198 44,485	213 47,761	+3 +749
Operating weight*	kg lb	29 882 65,860	30 050 66,231	30 124 66,393	29 945 65,999	30 203 66,567	30 294 66,769	30 119 66,382	+114 +252

*Static tipping loads and operating weight are based on the following loader configuration: L3 Michelin XHA tires, air conditioning, ride control, power train guard, full fluids, fuel tank, coolant, lubricants and operator.

Static tipping loads conform to the international standard as defined in ISO 14397-1 (SEPT2007).

**Measured 100 mm (4") behind tip of cutting edge with bucket hinge pin as pivot point in accordance with SAE J732 (APR2007).

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers, including SAE Standard J732 (APR2007) which governs loader ratings.

	Width over tires		Change in vertical dimensions		Change in operating weight		Change in static tipping load	
	mm	in	mm	in	kg	lb	kg	lb
29.5R25, (L-2/L-3), Goodyear	3269	129	+21	+1	- 91	- 201	+ 129	+ 284
29.5R25, (L-3), Michelin	3227	127	+ 0	+0	+ 0	+ 0	+ 0	+ 0
29.5R25, (L-3 STL2+), Continental	3264	129	+10	+0	+ 71	+ 157	+ 509	+1122
29.5R25, (L-3 STL3), Continental	3264	129	+ 8	+0	- 16	- 35	+ 441	+ 972
29.5R25, (L-3 VMT), Bridgestone	3211	126	+27	+1	+ 93	+ 205	+ 43	+ 95
29.5R25, (L-3 VSDL), Bridgestone	3202	126	+37	+2	+1311	+2891	+1245	+2745
29.5R25, (L-5), Michelin	3212	127	+16	+0	+ 836	+1843	+ 587	+1294
29.5R25, (L-5), Michelin	3231	127	+25	+1	+1318	+2906	+1058	+2333
29.5-25, (L-3), Goodyear	3253	128	+ 2	+0	- 297	- 655	- 206	- 454
29.5-25, (L-4), Firestone	3194	126	+39	+2	+ 75	+ 165	- 460	-1014
29.5-25, (L-4), Goodyear	3284	129	+41	+2	+ 330	+ 728	+ 411	+ 906
29.5-25, (L-5), Firestone	3197	126	+46	+2	+ 613	+1352	+ 859	+1894
29.5-25, (L-5), Goodyear	3266	129	+46	+2	+ 942	+2077	+ 943	+2079

Bucket Type		Heavy Duty General Purpose — Pin On			Material Handling — Pin On			Rock — Pin On			High Lift Delta
		Bolt-on Edges	Teeth & Seg- ments	Teeth	Bolt-on Edges	Teeth & Seg- ments	Teeth	Teeth	Teeth & Seg- ments	Teeth & Seg- ments	
Edge Type											
Capacity — rated	m³ yd³	5.4 7.1	5.4 7.1	5.0 6.5	6.1 8.0	6.0 7.9	5.7 7.5	4.2 5.5	4.5 5.9	4.5 5.9	— —
Capacity — struck	m³ yd³	4.6 6.0	4.5 6.0	4.4 5.7	5.2 6.8	5.1 6.7	4.8 6.3	3.5 4.6	3.7 4.9	3.7 4.9	— —
Width	mm ft/in	3447 11'3"	3533 11'7"	3533 11'7"	3447 11'3"	3533 11'7"	3533 11'7"	3504 11'5"	3504 11'5"	3504 11'5"	— —
Dump clearance at maximum lift and 45° discharge	mm ft/in	3283 10'9"	3129 10'3"	3129 10'3"	3097 10'1"	2930 9'7"	2930 9'7"	3170 10'4"	3170 10'4"	3171 10'4"	+221 +8.7"
Reach at maximum lift and 45° discharge	mm ft/in	1547 5'0"	1693 5'6"	1693 5'6"	1478 4'10"	1610 5'3"	1610 5'3"	1792 5'10"	1792 5'10"	1792 5'10"	+3 +0.1"
Reach at level lift arm and bucket level	mm ft/in	3009 9'10"	3220 10'6"	3220 10'6"	3109 10'2"	3320 10'10"	3320 10'10"	3258 10'8"	3258 10'8"	3258 10'8"	+160 +6.3"
Digging depth	mm in	131 5.1	131 5.1	91 3.5	164 6.4	204 8	124 4.8	103 4	138 5.4	138 5.4	-2 -0.1
Overall length	mm ft/in	9461 31'0"	9691 31'9"	9691 31'9"	9586 31'5"	9816 32'2"	9816 32'2"	9725 31'10"	9725 31'10"	9725 31'10"	+199 +7.8"
Overall height with bucket at maximum lift	mm ft/in	6274 20'7"	6274 20'7"	6274 20'7"	6369 20'10"	6369 20'10"	6369 20'10"	6370 20'10"	6370 20'10"	6369 20'10"	+221 +8.7"
Loader clearance circle with bucket at carry position	mm ft/in	15 823 51'10"	16 033 52'7"	16 033 52'7"	15 901 52'2"	16 111 52'10"	16 111 52'10"	16 023 52'6"	16 023 52'6"	16 023 52'6"	+167 +6.6"
Static tipping load — straight*	kg lb	20 789 45,819	20 732 45,694	21 074 46,448	20 457 45,087	20 418 45,002	20 788 45,816	21 713 47,855	21 173 46,666	21 377 47,115	-1794 -3955
Static tipping load — articulated* maximum 37° turn	kg lb	18 133 39,965	18 072 39,830	18 393 40,539	17 864 39,371	17 818 39,271	18 164 40,034	19 032 41,946	18 513 40,803	18 696 41,206	-1616 -3561
Breakout force**	kN lb	210 47,193	209 46,980	225 50,500	194 43,585	182 40,802	207 46,438	223 50,134	205 46,041	205 46,053	+3 +749
Operating weight*	kg lb	30 769 67,815	30 860 68,016	30 685 67,629	30 483 67,185	30 575 67,386	30 399 66,999	30 025 66,175	30 306 66,795	30 276 66,728	+114 +252

*Static tipping loads and operating weight are based on the following loader configuration: L3 Michelin XHA tires, air conditioning, ride control, power train guard, full fluids, fuel tank, coolant, lubricants and operator.

Static tipping loads conform to the international standard as defined in ISO 14397-1 (SEPT2007).

**Measured 100 mm (4") behind tip of cutting edge with bucket hinge pin as pivot point in accordance with SAE J732 (APR2007).

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers, including SAE Standard J732 (APR2007) which governs loader ratings.

	Width over tires		Change in vertical dimensions		Change in operating weight		Change in static tipping load	
	mm	in	mm	in	kg	lb	kg	lb
29.5R25, (L-2/L-3), Goodyear	3269	129	+21	+1	- 91	- 201	+ 129	+ 284
29.5R25, (L-3), Michelin	3227	127	+ 0	+0	+ 0	+ 0	+ 0	+ 0
29.5R25, (L-3 STL2+), Continental	3264	129	+10	+0	+ 71	+ 157	+ 509	+1122
29.5R25, (L-3 STL3), Continental	3264	129	+ 8	+0	- 16	- 35	+ 441	+ 972
29.5R25, (L-3 VMT), Bridgestone	3211	126	+27	+1	+ 93	+ 205	+ 43	+ 95
29.5R25, (L-3 VSDL), Bridgestone	3202	126	+37	+2	+1311	+2891	+1245	+2745
29.5R25, (L-5), Michelin	3212	127	+16	+0	+ 836	+1843	+ 587	+1294
29.5R25, (L-5), Michelin	3231	127	+25	+1	+1318	+2906	+1058	+2333
29.5-25, (L-3), Goodyear	3253	128	+ 2	+0	- 297	- 655	- 206	- 454
29.5-25, (L-4), Firestone	3194	126	+39	+2	+ 75	+ 165	- 460	-1014
29.5-25, (L-4), Goodyear	3284	129	+41	+2	+ 330	+ 728	+ 411	+ 906
29.5-25, (L-5), Firestone	3197	126	+46	+2	+ 613	+1352	+ 859	+1894
29.5-25, (L-5), Goodyear	3266	129	+46	+2	+ 942	+2077	+ 943	+2079

Bucket Type		Spade Rock — Pin On		Heavy Duty Quarry Spade Rock — Pin On	Waste — Pin On	Coal — Pin On	High Lift Delta
Edge Type		Bolt-on Edges	Bolt-on Edges	Teeth & Segments	Bolt-on Edges	Bolt-on Edges	
Capacity — rated	m ³ yd ³	4.3 5.6	4.7 6.2	4.5 5.9	10.5 13.7	8.2 10.7	— —
Capacity — struck	m ³ yd ³	3.7 4.8	4.0 5.2	3.8 5.0	9.4 12.3	7.4 9.7	— —
Width	mm ft/in	3516 11'6"	3670 12'0"	3500 11'5"	3886 12'8"	3607 11'10"	— —
Dump clearance at maximum lift and 45° discharge	mm ft/in	3338 10'11"	3273 10'8"	3154 10'4"	2890 9'5"	2920 9'6"	+221 +8.7"
Reach at maximum lift and 45° discharge	mm ft/in	1591 5'2"	1668 5'5"	1821 5'11"	1686 5'6"	1662 5'5"	+3 +0.1"
Reach at level lift arm and bucket level	mm ft/in	2997 9'9"	3097 10'1"	3291 10'9"	3402 11'1"	3364 11'0"	+160 +6.3"
Digging depth	mm in	138 5.4	144 5.6	130 5.1	164 6.4	159 6.2	-2 -0.1
Overall length	mm ft/in	9455 31'0"	9559 31'4"	9755 32'0"	9879 32'4"	9837 32'3"	+199 +7.8"
Overall height with bucket at maximum lift	mm ft/in	6364 20'10"	6364 20'10"	6370 20'10"	6981 22'10"	6513 21'4"	+221 +8.7"
Loader clearance circle with bucket at carry position	mm ft/in	15 886 52'1"	16 083 52'9"	16 034 52'7"	16 458 53'11"	16 180 53'1"	+167 +6.6"
Static tipping load — straight*	kg lb	21 597 47,599	21 129 46,569	20 444 45,058	20 620 45,446	20 403 44,969	-1794 -3955
Static tipping load — articulated* maximum 37° turn	kg lb	18 918 41,694	18 466 40,698	17 790 39,209	17 895 39,440	17 819 39,272	-1616 -3561
Breakout force**	kN lb	213 47,788	197 44,299	203 45,594	160 35,896	163 36,693	+3 +749
Operating weight*	kg lb	30 096 66,331	30 361 66,916	30 920 68,148	31 130 68,611	30 506 67,235	+114 +252

*Static tipping loads and operating weight are based on the following loader configuration: L3 Michelin XHA tires, air conditioning, ride control, power train guard, full fluids, fuel tank, coolant, lubricants and operator.

Static tipping loads conform to the international standard as defined in ISO 14397-1 (SEPT2007).

**Measured 100 mm (4") behind tip of cutting edge with bucket hinge pin as pivot point in accordance with SAE J732 (APR2007).

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers, including SAE Standard J732 (APR2007) which governs loader ratings.

	Width over tires		Change in vertical dimensions		Change in operating weight		Change in static tipping load	
	mm	in	mm	in	kg	lb	kg	lb
29.5R25, (L-2/L-3), Goodyear	3269	129	+21	+1	- 91	- 201	+ 129	+ 284
29.5R25, (L-3), Michelin	3227	127	+ 0	+0	+ 0	+ 0	+ 0	+ 0
29.5R25, (L-3 STL2+), Continental	3264	129	+10	+0	+ 71	+ 157	+ 509	+1122
29.5R25, (L-3 STL3), Continental	3264	129	+ 8	+0	- 16	- 35	+ 441	+ 972
29.5R25, (L-3 VMT), Bridgestone	3211	126	+27	+1	+ 93	+ 205	+ 43	+ 95
29.5R25, (L-3 VSDL), Bridgestone	3202	126	+37	+2	+1311	+2891	+1245	+2745
29.5R25, (L-5), Michelin	3212	127	+16	+0	+ 836	+1843	+ 587	+1294
29.5R25, (L-5), Michelin	3231	127	+25	+1	+1318	+2906	+1058	+2333
29.5-25, (L-3), Goodyear	3253	128	+ 2	+0	- 297	- 655	- 206	- 454
29.5-25, (L-4), Firestone	3194	126	+39	+2	+ 75	+ 165	- 460	-1014
29.5-25, (L-4), Goodyear	3284	129	+41	+2	+ 330	+ 728	+ 411	+ 906
29.5-25, (L-5), Firestone	3197	126	+46	+2	+ 613	+1352	+ 859	+1894
29.5-25, (L-5), Goodyear	3266	129	+46	+2	+ 942	+2077	+ 943	+2079

		3.88 Meter Linkage						
Bucket Type		Spade Rock (Standard Bucket) Teeth & Segments	Wide Spade Rock Teeth & Segments	Spade Rock BOCE	Straight Rock Teeth & Segments	Heavy Duty Quarry Teeth & Segments	High Abrasion Teeth & Segments	General Purpose BOCE
Heaped capacity	m³ yd³	6.4 8.33	6.9 9.0	6.9 9.0	6.3 8.2	6.4 8.33	6.4 8.33	7.0 9.2
Struck capacity	m³ yd³	5.3 6.9	5.7 7.5	5.7 7.5	5.2 6.8	5.3 6.9	5.3 6.9	5.9 7.7
Operating load at rated capacity	kg lb	11 340 25,000	11 340 25,000	11 340 25,000	11 340 25,000	11 340 25,000	11 340 25,000	11 340 25,000
Bucket width	mm ft/in	3810 12'3"	3980 13'1"	3964 13'0"	3800 12'6"	3862 12'8"	3926 12'11"	3695 11'2"
Dump clearance at full lift and 45° discharge	With teeth	mm ft/in	3466 11'4"	3410 11'2"	— 11'3"	3735 11'1"	3447 11'4"	— —
	Bare	mm ft/in	3742 12'3"	3682 12'1"	3638 11'11"	4011 13'2"	3728 12'3"	3811 12'6"
Reach at full lift and 45° discharge	With teeth	mm ft/in	2028 6'8"	2084 6'10"	— —	1765 5'9"	2076 6'10"	2047 6'9"
	Bare	mm ft/in	1494 4'11"	1554 5'1"	1881 6'2"	1526 5'0"	1543 5'1"	1577 5'2"
Reach with lift arms horizontal and bucket level	With teeth	mm ft/in	4198 13'9"	4277 14'0"	— —	3822 12'6"	4295 14'1"	4225 13'10"
	Bare	mm ft/in	3435 11'3"	3520 11'7"	3972 13'0"	3480 11'5"	3535 11'7"	3552 11'8"
Digging depth	mm in	195 7.8	195 7.8	185 7.4	195 7.8	225 8.11	195 7.8	191 7.6
Overall length	With teeth	mm ft/in	12 215 40'1"	12 294 40'4"	— —	11 839 38'10"	12 333 40'6"	12 242 40'2"
	Bare	mm ft/in	11 877 39'0"	11 962 39'3"	11 982 39'4"	11 497 37'9"	11 917 39'1"	11 779 38'8"
Overall height with bucket at full raise	mm ft/in	7699 25'3"	7772 25'6"	7772 25'6"	7699 25'3"	7698 25'3"	7699 25'3"	7698 25'3"
Loader clearance circle with bucket in carry position	With teeth	mm ft/in	17 194 56'4"	17 378 57'0"	— —	17 268 56'8"	17 356 57'0"	17 364 57'0"
	Bare	mm ft/in	17 086 56'0"	17 282 56'8"	17 288 56'8"	17 100 56'0"	17 210 56'6"	17 250 56'8"
Static tipping load, straight	kg lb	34 825 76,776	34 355 75,740	34 635 76,357	35 257 77,728	32 650 71,981	33 833 74,589	35 026 77,219
Static tipping load, full 43° turn	kg lb	29 368 64,745	28 923 63,764	29 182 64,335	29 816 65,733	27 239 60,052	28 383 62,574	29 568 65,186
Breakout force	kN lb	378.4 85,068	360.6 81,066	383.9 86,304	467.4 105,076	360.7 81,089	389.2 87,496	433.1 97,365
Operating weight	kg lb	49 546 109,230	49 816 109,825	49 716 109,605	49 261 108,602	51 181 112,835	51 016 112,471	49 401 108,910
Rack angle at maximum lift	degrees	65	65	65	65	65	65	65

	Change in Operating Weight		Change in Articulated Static Tipping Load	
	kg	lb	kg	lb
Remove cab only	−1327	−2926	− 476	−1049
35/65-33, 42 PR (L-5) tires	+ 847	+1867	+ 491	+1082
35/65 R33, (L-5) equivalent tires	+ 824	+1817	+ 478	+1054

		4.25 Meter Linkage						
		Spade Rock (Standard Bucket) Teeth & Segments	Wide Spade Rock Teeth & Segments	Spade Rock BOCE	Straight Rock Teeth & Segments	Heavy Duty Quarry Teeth & Segments	High Abrasion Teeth & Segments	General Purpose BOCE
Bucket Type								
Heaped capacity	m ³ yd ³	6.4 8.33	6.9 9.0	6.9 9.0	6.3 8.2	6.4 8.33	6.4 8.33	7.0 9.2
Struck capacity	m ³ yd ³	5.3 6.9	5.7 7.5	5.7 7.5	5.2 6.8	5.3 6.9	5.3 6.9	5.9 7.7
Operating load at rated capacity	kg lb	11 340 25,000	11 340 25,000	11 340 25,000	11 340 25,000	11 340 25,000	11 340 25,000	11 340 25,000
Bucket width	mm ft/in	3810 12'6"	3980 13'1"	3964 13'0"	3800 12'6"	3862 12'8"	3926 12'11"	3695 11'2"
Dump clearance at full lift and 45° discharge	With teeth	mm ft/in	3879 12'9"	3823 12'7"	— 12'5"	4148 13'7"	3790 12'5"	3860 12'8"
	Bare	mm ft/in	4155 13'6"	4095 13'5"	4051 13'3"	4424 14'6"	4141 13'7"	4225 13'10"
Reach at full lift and 45° discharge	With teeth	mm ft/in	2126 7'0"	2182 7'2"	— 6'1"	1863 6'1"	2173 7'2"	2145 7'0"
	Bare	mm ft/in	1591 5'3"	1652 5'5"	1699 5'7"	1623 5'4"	1641 5'5"	1674 5'6"
Reach with lift arms horizontal and bucket level	With teeth	mm ft/in	4568 15'6"	4647 15'3"	— 13'9"	4192 13'9"	4665 15'4"	4595 15'1"
	Bare	mm ft/in	3805 12'6"	3890 12'9"	3947 12'11"	3850 12'8"	3905 12'10"	3922 12'10"
Digging depth	mm in	226 8.11	226 8.11	216 8.6	226 8.11	256 10.1	226 8.11	222 8.8
Overall length	With teeth	mm ft/in	12 658 41'6"	12 738 41'9"	— —	12 283 40'4"	12 774 41'11"	12 686 41'7"
	Bare	mm ft/in	12 321 40'5"	12 406 40'8"	12 426 40'9"	11 941 39'2"	12 358 40'7"	12 223 40'1"
Overall height with bucket at full raise	mm ft/in	8112 26'7"	8186 26'10"	8186 26'10"	8112 26'7"	8112 26'7"	8112 26'7"	8111 26'7"
Loader clearance circle with bucket in carry position	With teeth	mm ft/in	17 574 57'8"	17 758 58'4"	— —	17 648 56'10"	17 742 58'2"	17 746 58'2"
	Bare	mm ft/in	17 462 57'4"	17 656 58'0"	17 606 57'10"	17 476 57'4"	17 590 57'8"	17 624 57'10"
Static tipping load, straight	kg lb	32 445 71,529	32 014 70,579	32 264 71,130	32 867 72,459	30 346 66,901	31 421 69,271	32 650 71,981
Static tipping load, full 43° turn	kg lb	27 191 59,946	26 780 59,040	27 012 59,551	27 628 60,909	25 130 55,402	26 172 57,699	27 394 60,393
Breakout force	kN lb	409.2 91,992	390.1 87,698	415.3 93,363	505.1 113,551	390.5 87,788	421.6 94,779	468.3 105,278
Operating weight	kg lb	50 574 111,497	50 844 112,092	50 744 111,871	50 289 110,868	52 209 115,101	52 044 114,737	50 429 111,177
Rack angle at maximum lift	degrees	65	65	65	65	65	65	65

	Change in Operating Weight		Change in Articulated Static Tipping Load	
	kg	lb	kg	lb
Remove cab only	–1327	–2926	– 476	–1049
35/65-33, 42 PR (L-5) tires	+ 847	+1867	+ 491	+1082
35/65 R33, (L-5) equivalent tires	+ 824	+1817	+ 478	+1054

			Standard					
Bucket Type			Spade HDLT	Spade BOCE	Spade HDLT & BOS	Spade HDLT & BOS	High Abrasion	HD Quarry
Bucket Part Number			8R5596	8R5599	155-4601	155-4603	202-7399	210-0247
Rated capacity		m³ yd³	8.4 11.0	8.6 11.25	8.6 11.25	9.2 12.0	8.6 11.25	8.6 11.25
Operating load at rated capacity		kg lb	15 000 33,069	15 000 33,069	15 000 33,069	15 000 33,069	15 000 33,069	15 000 33,069
Heaped capacity		m³ yd³	8.4 11.0	8.6 11.25	8.6 11.25	9.2 12.0	8.6 11.25	8.6 11.25
Struck capacity		m³ yd³	6.9 9.0	7.3 9.5	7.3 9.5	7.8 10.2	7.3 9.5	7.3 9.5
Bucket width		mm ft/in	4450 14'7"	4450 14'7"	4450 14'7"	4610 15'2"	4574 15'0"	4450 14'7"
Clearance at full lift, 45° dump	SAE	mm ft/in	4333 14'3"	4192 13'9"	4221 13'10"	4165 13'8"	4168 13'8"	4170 13'8"
	Tooth tip	mm ft/in	4027 13'3"	N/A N/A	4024 13'2"	3968 13'0"	4018 13'2"	4023 13'2"
Reach at full lift, 45° dump	SAE	mm ft/in	1698 5'7"	1740 5'9"	1756 5'9"	1799 5'11"	1790 5'10"	1746 5'9"
	Tooth tip	mm ft/in	2223 7'4"	N/A N/A	2218 7'3"	2274 7'6"	2221 7'3"	2220 7'3"
Reach at 45° dump and 2130 mm (7'0") height	SAE	mm ft/in	2672 8'9"	2750 9'9"	2729 8'11"	2759 9'1"	2762 9'1"	2718 8'11"
	Tooth tip	mm ft/in	3196 10'6"	N/A N/A	3192 10'6"	3234 10'7"	3192 10'6"	3193 10'6"
Reach at level arm and level bucket	SAE	mm ft/in	3416 11'2"	3516 11'6"	3538 11'7"	3599 11'10"	3586 11'9"	3544 11'8"
	Tooth tip	mm ft/in	4202 13'9"	N/A N/A	4202 13'9"	4280 14'1"	4208 13'10"	4204 13'10"
Digging depth — bucket level		mm in	107 4	148 6	148 6	148 6	148 6	168 7
Overall length	Edge	mm ft/in	12 341 40'6"	12 534 41'1"	12 492 41'0"	12 572 41'3"	12 568 41'3"	12 560 41'2"
	Tooth tip	mm ft/in	12 730 41'9"	N/A N/A	12 761 41'10"	12 839 42'1"	12 767 41'11"	12 778 41'11"
Overall height		mm ft/in	8091 26'7"	8091 26'7"	8091 26'7"	8091 26'7"	8091 26'7"	8091 26'7"
Clearance circle at carry	Edge	mm ft/in	20 224 66'4"	20 527 67'4"	20 224 66'4"	20 290 66'7"	20 258 66'6"	20 227 66'4"
	Tooth tip	mm ft/in	20 674 67'10"	N/A N/A	20 674 67'10"	20 740 68'1"	20 708 67'11"	20 677 67'10"
Full dump at maximum lift	degrees		45	45	45	45	45	45
Tipping load (at operating weight)	Straight	kg lb	43 997 96,996	43 242 95,331	42 873 94,518	42 392 93,457	41 347 91,154	43 516 95,935
	35° Articulated	kg lb	39 785 87,710	39 085 86,167	38 709 85,338	38 243 84,311	37 203 82,018	39 364 86,782
Breakout force		kN kg lb	655 66 760 147,179	602 61 430 135,429	610 62 210 137,148	584 59 509 131,194	581 59 271 130,669	598 61 006 134,494
Operating weight		kg lb	76 484 168,617	76 628 168,934	76 965 169,677	77 236 170,274	78 160 172,312	76 144 167,867
Weight distribution	Front	kg lb	42 881 94,535	43 136 95,098	43 764 96,482	44 245 97,543	45 785 100,938	42 466 93,621
	Rear	kg lb	33 603 74,081	33 492 73,836	33 201 73,195	32 991 72,732	32 375 71,374	33 678 74,247
Shipping weight		kg lb	75 462 166,364	75 606 166,681	75 943 167,424	76 214 168,021	77 138 170,058	75 122 165,614

HDLT = Heavy Duty Lug Teeth
BOCE = Bolt-on Cutting Edge
HDLT & BOS = Heavy Duty Lug Teeth and Bolt-on Segments
HD = Heavy Duty

			High Lift				
Bucket Type			Spade HDLT	Spade BOCE	Spade HDLT & BOS	High Abrasion	HD Quarry
Bucket Part Number			8R5596	8R5599	155-4601	202-7399	210-0247
Rated capacity		m³ yd³	8.4 11.0	8.6 11.25	8.6 11.25	8.6 11.25	8.6 11.25
Operating load at rated capacity		kg lb	15 000 33,069	15 000 33,069	15 000 33,069	15 000 33,069	15 000 33,069
Heaped capacity		m³ yd³	8.4 11.0	8.6 11.25	8.6 11.25	8.6 11.25	8.6 11.25
Struck capacity		m³ yd³	6.9 9.0	7.3 9.5	7.3 9.5	7.3 9.5	7.3 9.5
Bucket width		mm ft/in	4450 14'7"	4450 14'7"	4450 14'7"	4574 15'0"	4450 14'7"
Clearance at full lift, 45° dump	SAE	mm ft/in	4899 16'1"	4758 15'7"	4787 15'8"	4734 15'6"	4736 15'6"
	Tooth tip	mm ft/in	4593 15'1"	N/A N/A	4590 15'1"	4584 15'0"	4589 15'1"
Reach at full lift, 45° dump	SAE	mm ft/in	1991 6'6"	2033 6'8"	2049 6'9"	2083 6'10"	2039 6'8"
	Tooth tip	mm ft/in	2516 8'3"	N/A N/A	2511 8'3"	2514 8'3"	2513 8'3"
Reach at 45° dump and 2130 mm (7'0") height	SAE	mm ft/in	3286 10'9"	3359 11'0"	3343 11'0"	3376 11'1"	3333 10'11"
	Tooth tip	mm ft/in	3810 12'6"	N/A N/A	3806 12'6"	3806 12'6"	3807 12'6"
Reach at level arm and level bucket	SAE	mm ft/in	4016 13'2"	4116 13'6"	4138 13'7"	4186 13'9"	4144 13'7"
	Tooth tip	mm ft/in	4802 15'9"	N/A N/A	4802 15'9"	4808 15'9"	4804 15'9"
Digging depth — bucket level		mm in	150 6	191 8	191 8	191 8	211 8
Overall length	Edge	mm ft/in	13 080 42'11"	13 273 43'7"	13 231 43'5"	13 307 43'8"	13 299 43'8"
	Tooth tip	mm ft/in	13 469 41'11"	N/A N/A	13 500 44'3"	13 506 44'4"	13 517 44'4"
Overall height		mm ft/in	8658 28'5"	8658 28'5"	8658 28'5"	8658 28'5"	8658 28'5"
Clearance circle at carry	Edge	mm ft/in	20 893 68'7"	21 171 69'6"	20 893 69'7"	20 929 68'8"	20 897 68'7"
	Tooth tip	mm ft/in	21 343 70'0"	N/A N/A	21 343 70'0"	21 379 70'2"	21 347 70'0"
Full dump at maximum lift		degrees	50	50	50	50	50
Tipping load (at operating weight)	Straight	kg lb	40 533 89,359	39 902 87,968	39 530 87,148	38 076 83,942	40 212 88,651
	35° Articulated	kg lb	36 227 79,866	35 644 78,581	35 267 77,750	33 831 74,584	35 959 79,275
Breakout force		kN kg lb	617 62 947 138,773	569 57 977 127,816	576 58 694 129,397	548 55 891 123,217	565 57 611 127,009
Operating weight		kg lb	80 671 177,847	80 814 178,163	81 152 178,908	82 347 181,542	80 331 177,098
Weight distribution	Front	kg lb	44 177 97,393	44 456 98,008	45 141 99,518	47 366 104,423	43 705 96,352
	Rear	kg lb	36 494 80,455	36 358 80,155	36 011 79,390	34 981 77,119	36 626 80,746
Shipping weight		kg lb	79 649 175,594	79 792 175,909	80 130 176,655	81 325 179,289	79 309 174,845

HDLT = Heavy Duty Lug Teeth
BOCE = Bolt-on Cutting Edge
HDLT & BOS = Heavy Duty Lug Teeth and Bolt-on Segments
HD = Heavy Duty

Bucket Type		Rock			Heavy Duty Rock		High Abrasion Rock	
Ground Engaging Tools		Teeth & Segments	Teeth & Segments	Teeth & Segments	Teeth & Segments	Teeth & Segments	Teeth & Segments	Teeth & Segments
Cutting Edge Type		Spade	Spade	Spade	Spade	Spade	Spade	Spade
Rated bucket capacity (\$)	m³ yd³	10.7 14.0	11.5 15.0	12.3 16.0	10.7 14.0	11.5 15.0	10.7 14.0	10.7 14.0
Struck capacity (\$)	m³ yd³	8.9 11.6	9.5 12.4	10.2 13.3	8.9 11.6	9.5 12.4	8.9 11.6	8.9 11.6
Bucket width (\$)	mm ft/in	4824 15'10"	4884 16'	4824 15'10"	5068 16'7"	4824 15'10"	5165 16'11"	5068 16'7"
Dump clearance at full lift SAE 45° discharge (\$)	mm ft/in	4849 15'11"	4785 15'8"	4741 15'7"	4849 15'11"	4788 15'8"	4935 16'2"	4935 16'2"
Tooth tip	mm	4607	4548	4495	4612	4545	4699	4699
	ft/in	15'1"	14'11"	14'8"	15'1"	14'11"	15'5"	15'5"
Reach at full lift SAE 45° discharge (\$)	mm ft/in	2092 6'11"	2149 7'0"	2194 7'2"	2092 6'11"	2151 7'11"	2036 6'10"	2036 6'10"
Tooth tip	mm	2326	2378	2427	2322	2385	2292	2292
	ft/in	7'7"	7'10"	8'0"	7'7"	7'10"	7'6"	7'6"
Reach with boom horizontal and bucket level	mm ft/in	5114 16'10"	5193 17'0"	5265 17'4"	5108 16'10"	5200 17'1"	5025 16'6"	5025 16'6"
Digging depth (segment) (\$)	mm in	196 7.7	201 7.9	201 7.9	196 7.7	198 7.8	175 6.9	175 6.9
Overall length — bucket level ground (\$)	mm ft/in	15 736 51'7"	15 818 51'11"	15 890 51'1"	15 729 51'7"	15 823 51'11"	15 632 51'4"	15 632 51'4"
Overall height with bucket at full raise (\$)	mm ft/in	9313 30'7"	9313 30'7"	9492 31'1"	9313 30'7"	9313 30'7"	9392 30'10"	9313 30'7"
Loader clearance circle with bucket in carry position (\$)	mm ft/in	11 097 36'5"	11 121 36'6"	11 131 36'6"	11 096 36'5"	11 122 36'6"	11 085 36'5"	11 085 36'5"
Tipping load straight (\$)	kg lb	57 096 125,896	56 402 124,366	56 093 123,684	55 615 122,631	56 662 124,939	53 564 118,109	55 194 121,702
Static tipping load full 35° turn* (\$)	kg lb	51 328 113,178	50 653 111,691	50 338 110,995	49 847 109,912	50 913 112,264	47 796 105,39	49 426 108,984
Static tipping load full 40° turn* (\$)	kg lb	49 634 109,443	48 965 107,968	48 648 107,269	48 153 106,177	49 225 108,542	46 102 101,655	47 732 105,249
Static tipping load full 43° turn* (\$)	kg lb	48 527 107,003	47 863 105,537	47 544 104,835	47 047 103,738	48 123 —	44 996 99,216	46 625 102,809
Breakout force* (\$)	kg lb	58 466 128,917	55 998 123,475	54 249 119,619	57 842 127,541	56 147 123,803	59 381 130,935	60 218 132,781
Operating weight* (\$)	kg lb	97 295 214,535	97 688 215,402	98 068 215,750	98 674 217,576	97 469 214,919	100 844 222,361	99 050 218,405

*Static tipping load and operating weight shown are based on standard machine configurations with a fuel tank, coolant, lubricants, and operator.

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society for Automotive Engineers. SAE Standards J732C govern loader ratings and are denoted in the text by (\$).

Bucket Type		Tires 50/65R51 with Static Radius 1347 mm (4.4 ft)					
		Standard	High Lift	Standard	High Lift	Standard	High Lift
		Rock		High Abrasion		Rock	
		Teeth & Segments	Teeth & Segments	Teeth & Segments	Teeth & Segments	Teeth & Segments	Teeth & Segments
Ground Engaging Tools		Spade	Spade	Spade	Spade	Spade	Spade
Cutting Edge Type		303-3270	303-3270	303-3310	303-3310	303-3260	303-3260
Rated bucket capacity (\$)	m ³	12.8	12.8	12.8	12.8	12.0	12.0
	yd ³	16.7	16.7	16.7	16.7	15.7	15.7
Struck capacity (\$)	m ³	10.0	10.0	10.0	10.0	10.0	10.0
	yd ³	13.1	13.1	13.1	13.1	13.1	13.1
Heaped capacity (\$)	m ³	13.0	13.0	13.0	13.0	12.0	12.0
	yd ³	17.0	17.0	17.0	17.0	15.7	15.7
Bucket width (\$)	mm	5080	5080	5160	5160	5080	5080
	ft	16.7	16.7	16.9	16.9	16.7	16.7
Dump clearance at full lift SAE 45° discharge (\$)	mm	4654	5299	4721	5366	4744	5389
	ft	15.3	17.4	15.5	17.6	15.6	17.7
Reach at full lift 45° discharge tooth tip (\$)	mm	2503	2612	2507	2616	2413	2522
	ft	8.2	8.6	8.2	8.6	7.9	8.3
Reach with boom horizontal and bucket level	mm	4922	5438	4878	5394	4794	5310
	ft	16.1	17.8	16.0	17.7	15.7	17.4
Digging depth (segment) (\$)	mm	246	313	231	298	246	313
	in	9.7	12.3	9.1	11.7	9.7	12.3
Overall length — bucket level ground (\$)	mm	15 214	15 846	15 158	15 792	15 086	15 718
	ft	49.8	51.9	49.7	51.7	49.4	51.5
Reach at 45° dump and 2130 mm (7'0") height (W/T)	mm	3667	4189	3681	4202	3590	4111
	ft	12.0	13.7	12.1	13.8	11.8	13.5
Full dump at maximum lift	degrees	50.3	50.0	50.3	50.0	50.3	50.0
Tipping load straight (\$)	kg	84 789	71 202	84 101	70 571	85 197	71 635
	lb	186,959	157,001	185,444	155,609	187,859	157,955
Static tipping load, full 40° turn** (\$)	kg	73 591	61 346	72 928	60 734	74 015	61 791
	lb	162,268	135,268	160,807	133,918	163,203	136,249
Static tipping load, full 43° turn** (\$)	kg	71 931	59 885	71 271	59 275	72 357	60 331
	lb	158,607	132,046	157,153	130,702	159,547	133,031
Breakout force** (\$)	kN	709	708.3	729.8	729.1	754.1	753.4
	lb	159,390	159,232	164,066	163,908	169,528	169,371
Operating weight* (\$)	kg	133 190	134 156	133 626	134 592	132 730	133 696
	lb	293,018	295,143	293,977	296,102	292,006	294,131

*Static tipping load and operating weight shown are based on standard machine configurations with a fuel tank, coolant, lubricants, and operator.

**Measured 102 mm (4.0") behind tip of segments with bucket hinge pin as pivot point in accordance with SAE J732C.

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society for Automotive Engineers. SAE Standards J732C govern loader ratings and are denoted in the text by (\$).

Bucket Type		Tires 50/65R51 with Static Radius 1347 mm (4.4 ft)					
		Standard	High Lift	Standard	High Lift	Standard	High Lift
		High Abrasion		Rock		Rock	
		Teeth & Segments	Teeth & Segments	Teeth & Segments	Teeth & Segments	Teeth & Segments	Teeth & Segments
Ground Engaging Tools		Spade	Spade	Spade	Spade	Spade	Spade
Cutting Edge Type		303-3330	303-3330	303-3280	303-3280	303-3290	303-3290
Rated bucket capacity (\$)	m ³ yd ³	12.0 15.7	12.0 15.7	13.8 18.0	13.8 18.0	14.5 19.0	14.5 19.0
Struck capacity (\$)	m ³ yd ³	10.0 13.1	10.0 13.1	11.0 14.4	11.0 14.4	12.0 15.7	12.0 15.7
Heaped capacity (\$)	m ³ yd ³	12.0 15.7	12.0 15.7	14.0 18.3	14.0 18.3	14.0 18.3	14.0 18.3
Bucket width (\$)	mm ft	5160 16.9	5160 16.9	5080 16.7	5080 16.7	5080 16.7	5080 16.7
Dump clearance at full lift SAE 45° discharge (\$)	mm ft	4769 15.6	5414 17.8	4555 14.9	5200 17.1	4555 14.9	5200 17.1
Reach at full lift 45° discharge tooth tip (\$)	mm ft	2459 8.1	2568 8.4	2602 8.5	2711 8.9	2602 8.5	2711 8.9
Reach with boom horizontal and bucket level	mm ft	4810 15.8	5326 17.4	5062 16.6	5578 18.3	5062 16.6	5578 18.3
Digging depth (segment) (\$)	mm in	231 9.1	298 11.7	246 9.7	313 12.3	246 9.7	313 12.3
Overall length — bucket level ground (\$)	mm ft	15 090 49.4	15 724 51.5	15 354 50.3	15 986 52.4	15 354 50.3	15 986 52.4
Reach at 45° dump and 2130 mm (7'0") height (W/T)	mm ft	3640 11.9	4160 13.6	3749 12.3	4273 14.0	3749 12.3	4273 14.0
Full dump at maximum lift	degrees	50.3	50.0	50.3	50.0	50.3	50.0
Tipping load straight (\$)	kg lb	84 654 186,662	71 092 156,759	81 591 179,909	68 155 150,283	81 757 180,275	68 223 150,433
Static tipping load, full 40° turn** (\$)	kg lb	73 468 161,998	61 245 135,046	70 469 155,384	58 357 128,678	70 588 155,647	58 390 128,750
Static tipping load, full 43° turn** (\$)	kg lb	71 810 158,341	59 785 131,827	68 819 151,747	56 905 125,475	68 932 151,996	56 932 125,535
Breakout force** (\$)	kN lb	756.7 170,113	755.9 169,933	660.8 148,554	660.2 148,419	659.3 148,217	658.7 148,082
Operating weight* (\$)	kg lb	133 238 293,124	134 204 295,249	135 789 298,736	136 755 300,861	136 018 299,240	136 984 301,365

*Static tipping load and operating weight shown are based on standard machine configurations with a fuel tank, coolant, lubricants, and operator.

**Measured 102 mm (4.0") behind tip of segments with bucket hinge pin as pivot point in accordance with SAE J732C.

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society for Automotive Engineers. SAE Standards J732C govern loader ratings and are denoted in the text by (\$).

Bucket Type		Tires 50/65R51 with Static Radius 1368 mm (4.6 ft)					
		Standard	High Lift	Standard	High Lift	Standard	High Lift
		Rock		High Abrasion		Rock	
		Teeth & Segments	Teeth & Segments	Teeth & Segments	Teeth & Segments	Teeth & Segments	Teeth & Segments
Ground Engaging Tools		Spade	Spade	Spade	Spade	Spade	Spade
Cutting Edge Type		303-3270	303-3270	303-3310	303-3310	303-3260	303-3260
Rated bucket capacity (\$)	m ³	12.8	12.8	12.8	12.8	12.0	12.0
	yd ³	16.7	16.7	16.7	16.7	15.7	15.7
Struck capacity (\$)	m ³	10.0	10.0	10.0	10.0	10.0	10.0
	yd ³	13.1	13.1	13.1	13.1	13.1	13.1
Heaped capacity (\$)	m ³	13.0	13.0	13.0	13.0	12.0	12.0
	yd ³	17.0	17.0	17.0	17.0	15.7	15.7
Bucket width (\$)	mm	5080	5080	5160	5160	5080	5080
	ft	16.7	16.7	16.9	16.9	16.7	16.7
Dump clearance at full lift SAE 45° discharge (\$)	mm	4675	5320	4742	5387	4765	5410
	ft	15.3	17.5	15.6	17.7	15.6	17.8
Reach at full lift 45° discharge tooth tip (\$)	mm	2501	2610	2505	2614	2411	2520
	ft	8.2	8.6	8.2	8.6	7.9	8.3
Reach with boom horizontal and bucket level	mm	4920	5436	4876	5392	4792	5308
	ft	16.1	17.8	16.0	17.7	15.7	17.4
Digging depth (segment) (\$)	mm	225	292	210	277	225	292
	in	8.9	11.5	8.3	10.9	8.9	11.5
Overall length — bucket level ground (\$)	mm	15 198	15 832	15 142	15 778	15 070	15 704
	ft	49.8	51.9	49.6	51.7	49.4	51.4
Reach at 45° dump and 2130 mm (7'0") height (W/T)	mm	3668	4190	3682	4203	3591	4112
	ft	12.0	13.7	12.1	13.8	11.8	13.5
Full dump at maximum lift	degrees	50.3	50.0	50.3	50.0	50.3	50.0
Tipping load straight (\$)	kg	84 201	70 685	83 515	70 055	84 610	71 119
	lb	185,664	155,862	184,152	154,472	186,566	156,817
Static tipping load, full 40° turn** (\$)	kg	73 073	60 890	72 411	60 278	73 497	61 335
	lb	161,125	134,262	159,666	132,914	162,061	135,244
Static tipping load, full 43° turn** (\$)	kg	71 422	59 437	70 764	58 828	71 849	59 884
	lb	157,486	131,059	156,035	129,717	158,428	132,045
Breakout force** (\$)	kN	710.6	709.9	731.5	730.7	755.9	755.1
	lb	159,749	159,592	164,448	164,268	169,933	169,753
Operating weight* (\$)	kg	132 430	133 396	132 866	133 832	131 970	132 936
	lb	291,346	293,471	292,305	294,430	290,334	292,459

*Static tipping load and operating weight shown are based on standard machine configurations with a fuel tank, coolant, lubricants, and operator.

**Measured 102 mm (4.0") behind tip of segments with bucket hinge pin as pivot point in accordance with SAE J732C.

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society for Automotive Engineers. SAE Standards J732C govern loader ratings and are denoted in the text by (\$).

Bucket Type		Tires 50/65R51 with Static Radius 1368 mm (4.6 ft)					
		Standard	High Lift	Standard	High Lift	Standard	High Lift
		High Abrasion		Rock		Rock	
		Teeth & Segments	Teeth & Segments	Teeth & Segments	Teeth & Segments	Teeth & Segments	Teeth & Segments
Ground Engaging Tools		Spade	Spade	Spade	Spade	Spade	Spade
Cutting Edge Type		303-3330	303-3330	303-3280	303-3280	303-3290	303-3290
Rated bucket capacity (\$)	m ³ yd ³	12.0 15.7	12.0 15.7	13.8 18.0	13.8 18.0	14.5 19.0	14.5 19.0
Struck capacity (\$)	m ³ yd ³	10.0 13.1	10.0 13.1	11.0 14.4	11.0 14.4	12.0 15.7	12.0 15.7
Heaped capacity (\$)	m ³ yd ³	12.0 15.7	12.0 15.7	14.0 18.3	14.0 18.3	14.0 18.3	14.0 18.3
Bucket width (\$)	mm ft	5160 16.9	5160 16.9	5080 16.7	5080 16.7	5080 16.7	5080 16.7
Dump clearance at full lift SAE 45° discharge (\$)	mm ft	4790 15.7	5435 17.8	4576 15.0	5221 17.1	4576 15.0	5221 17.1
Reach at full lift 45° discharge tooth tip (\$)	mm ft	2457 8.0	2566 8.4	2600 8.5	2709 8.9	2600 8.5	2709 8.9
Reach with boom horizontal and bucket level	mm ft	4808 15.8	5324 17.4	5060 16.6	5576 18.3	5060 16.6	5576 18.3
Digging depth (segment) (\$)	mm in	210 8.3	277 10.9	225 8.9	292 11.5	225 8.9	292 11.5
Overall length — bucket level ground (\$)	mm ft	15 074 49.4	15 710 51.5	15 338 50.2	15 972 52.3	15 338 50.2	15 972 52.3
Reach at 45° dump and 2130 mm (7'0") height (W/T)	mm ft	3641 11.9	4161 13.6	3751 12.3	4274 14.0	3751 12.3	4274 14.0
Full dump at maximum lift	degrees	50.3	50.0	50.3	50.0	50.3	50.0
Tipping load straight (\$)	kg lb	84 067 185,369	70 576 155,620	81 008 178,623	67 642 149,150	81 172 178,984	67 708 149,296
Static tipping load, full 40° turn** (\$)	kg lb	72 950 160,856	60 789 134,041	69 954 154,248	57 904 127,678	70 071 154,507	57 934 127,746
Static tipping load, full 43° turn** (\$)	kg lb	71 302 157,221	59 338 130,841	68 314 150,633	56 460 124,494	68 425 150,878	56 485 124,550
Breakout force** (\$)	kN lb	758.5 170,518	757.6 170,315	662.4 148,913	661.7 148,756	660.9 148,576	660.2 148,419
Operating weight* (\$)	kg lb	132 478 291,452	133 444 293,577	135 029 297,064	135 995 299,189	135 258 297,568	136 224 299,693

*Static tipping load and operating weight shown are based on standard machine configurations with a fuel tank, coolant, lubricants, and operator.

**Measured 102 mm (4.0") behind tip of segments with bucket hinge pin as pivot point in accordance with SAE J732C.

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society for Automotive Engineers. SAE Standards J732C govern loader ratings and are denoted in the text by (\$).

Bucket Type		Tires 50/65-51 with Static Radius 1412 mm (4.8 ft)					
		Standard	High Lift	Standard	High Lift	Standard	High Lift
		Rock		High Abrasion		Rock	
		Teeth & Segments	Teeth & Segments	Teeth & Segments	Teeth & Segments	Teeth & Segments	Teeth & Segments
Ground Engaging Tools		Spade	Spade	Spade	Spade	Spade	Spade
Cutting Edge Type		303-3270	303-3270	303-3310	303-3310	303-3260	303-3260
Rated bucket capacity (\$)	m ³	12.8	12.8	12.8	12.8	12.0	12.0
	yd ³	16.7	16.7	16.7	16.7	15.7	15.7
Struck capacity (\$)	m ³	10.0	10.0	10.0	10.0	10.0	10.0
	yd ³	13.1	13.1	13.1	13.1	13.1	13.1
Heaped capacity (\$)	m ³	13.0	13.0	13.0	13.0	12.0	12.0
	yd ³	17.0	17.0	17.0	17.0	15.7	15.7
Bucket width (\$)	mm	5080	5080	5160	5160	5080	5080
	ft	16.7	16.7	16.9	16.9	16.7	16.7
Dump clearance at full lift SAE 45° discharge (\$)	mm	4719	5364	4786	5431	4809	5454
	ft	15.5	17.6	15.7	17.8	15.8	17.9
Reach at full lift 45° discharge tooth tip (\$)	mm	2503	2612	2507	2616	2413	2522
	ft	8.2	8.6	8.2	8.6	7.9	8.3
Reach with boom horizontal and bucket level	mm	4922	5438	4878	5394	4794	5310
	ft	16.1	17.8	16.0	17.7	15.7	17.4
Digging depth (segment) (\$)	mm	181	248	166	233	181	248
	in	7.1	9.8	6.5	9.2	7.1	9.8
Overall length — bucket level ground (\$)	mm	15 163	15 803	15 107	15 748	15 035	15 675
	ft	49.7	51.8	49.5	51.6	49.3	51.4
Reach at 45° dump and 2130 mm (7'0") height (W/T)	mm	3677	4198	3690	4211	3599	4119
	ft	12.0	13.8	12.1	13.8	11.8	13.5
Full dump at maximum lift	degrees	50.3	50.0	50.3	50.0	50.3	50.0
Tipping load straight (\$)	kg	84 789	71 202	84 101	70 571	85 197	71 635
	lb	186,959	157,001	185,444	155,609	187,859	157,955
Static tipping load, full 40° turn** (\$)	kg	73 591	61 346	72 928	60 734	74 015	61 791
	lb	162,268	135,268	160,807	133,918	163,203	136,249
Static tipping load, full 43° turn** (\$)	kg	71 931	59 885	71 271	59 275	72 357	60 331
	lb	158,607	132,046	157,153	130,702	159,547	133,031
Breakout force** (\$)	kN	714.1	713.1	735	734	759.5	758.5
	lb	160,536	160,311	165,235	165,010	170,742	170,518
Operating weight* (\$)	kg	133 190	134 156	133 626	134 502	132 730	133 696
	lb	293,018	295,143	293,977	295,904	292,006	294,131

*Static tipping load and operating weight shown are based on standard machine configurations with a fuel tank, coolant, lubricants, and operator.

**Measured 102 mm (4.0") behind tip of segments with bucket hinge pin as pivot point in accordance with SAE J732C.

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society for Automotive Engineers. SAE Standards J732C govern loader ratings and are denoted in the text by (\$).

Bucket Type		Tires 50/65-51 with Static Radius 1412 mm (4.8 ft)					
		Standard	High Lift	Standard	High Lift	Standard	High Lift
		High Abrasion		Rock		Rock	
		Teeth & Segments	Teeth & Segments	Teeth & Segments	Teeth & Segments	Teeth & Segments	Teeth & Segments
Ground Engaging Tools		Spade	Spade	Spade	Spade	Spade	Spade
Cutting Edge Type		303-3330	303-3330	303-3280	303-3280	303-3290	303-3290
Rated bucket capacity (\$)	m ³ yd ³	12.0 15.7	12.0 15.7	13.8 18.0	13.8 18.0	14.5 19.0	14.5 19.0
Struck capacity (\$)	m ³ yd ³	10.0 13.1	10.0 13.1	11.0 14.4	11.0 14.4	12.0 15.7	12.0 15.7
Heaped capacity (\$)	m ³ yd ³	12.0 15.7	12.0 15.7	14.0 18.3	14.0 18.3	14.0 18.3	14.0 18.3
Bucket width (\$)	mm ft	5160 16.9	5160 16.9	5080 16.7	5080 16.7	5080 16.7	5080 16.7
Dump clearance at full lift SAE 45° discharge (\$)	mm ft	4834 15.9	5479 18.0	4620 15.2	5265 17.3	4620 15.2	5265 17.3
Reach at full lift 45° discharge tooth tip (\$)	mm ft	2459 8.1	2568 8.4	2602 8.5	2711 8.9	2602 8.5	2711 8.9
Reach with boom horizontal and bucket level	mm ft	4810 15.8	5326 17.4	5062 16.6	5578 18.3	5062 16.6	5578 18.3
Digging depth (segment) (\$)	mm in	166 6.5	233 9.2	181 7.1	248 9.8	181 7.1	248 9.8
Overall length — bucket level ground (\$)	mm ft	15 039 49.3	15 680 51.4	15 303 50.1	15 943 52.2	15 303 50.1	15 943 52.2
Reach at 45° dump and 2130 mm (7'0") height (W/T)	mm ft	3649 12.0	4168 13.7	3760 12.3	4283 14.0	3760 12.3	4283 14.0
Full dump at maximum lift	degrees	50.3	50.0	50.3	50.0	50.3	50.0
Tipping load straight (\$)	kg lb	84 654 186,662	71 092 156,759	81 591 179,909	68 155 150,283	81 757 180,275	68 223 150,433
Static tipping load, full 40° turn** (\$)	kg lb	73 468 161,998	61 245 135,046	70 469 155,384	58 357 128,678	70 588 155,647	58 390 128,750
Static tipping load, full 43° turn** (\$)	kg lb	71 810 158,341	59 785 131,827	68 819 151,747	56 905 125,475	68 932 151,996	56 932 125,535
Breakout force** (\$)	kN lb	762.1 171,327	761 171,080	665.7 149,655	664.8 149,453	664.2 149,318	663.3 149,116
Operating weight* (\$)	kg lb	133 238 293,124	134 204 295,249	135 789 298,736	136 755 300,861	136 018 299,240	136 984 301,365

*Static tipping load and operating weight shown are based on standard machine configurations with a fuel tank, coolant, lubricants, and operator.

**Measured 102 mm (4.0") behind tip of segments with bucket hinge pin as pivot point in accordance with SAE J732C.

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society for Automotive Engineers. SAE Standards J732C govern loader ratings and are denoted in the text by (\$).

		Spade Edge Rock Buckets With Teeth & Segment				High Lift
Rated bucket capacity (\$)	m ³ yd ³	14.0 18.5	15.0 19.5	17.0 22.5	19.0 25.0	Same Same
Struck capacity (\$)	m ³ yd ³	11.0 14.4	12.0 15.7	14.0 18.3	15.0 19.6	Same Same
Bucket width (\$)	mm ft/in	5640 18'6"	5640 18'6"	5640 18'6"	5640 18'6"	Same Same
Dump clearance at full lift and 45° discharge (\$)	mm ft/in	5771 18'11"	5771 18'11"	5663 18'7"	5556 18'3"	+339 +1'1"
Reach at full lift and 45° discharge (\$)	mm ft/in	2071 6'9"	2071 6'9"	2160 7'1"	2266 7'5"	+561 +1'10"
Reach with lift arms horizontal and bucket level	mm ft/in	4916 16'1"	4916 16'1"	5056 16'7"	5206 17'0"	+640 +2'1"
Digging depth (\$)	mm in	108 4	108 4	108 4	108 4	+15 +0.5
Overall length (\$)	mm ft/in	16 604 54'6"	16 604 54'6"	16 744 54'11"	16 894 55'5"	+792 +2'7"
Overall height with bucket at full raise (\$)	mm ft/in	10 719 35'2"	10 719 35'2"	10 866 35'7"	10 911 35'2"	+339 +1'1"
Loader clearance circle with bucket in carry position (\$)	mm ft/in	25 336 83'1"	25 336 83'1"	25 408 83'4"	25 484 83'7"	+578 +1'11"
Static tipping load, straight** (\$)	kg lb	130 783 288,327	131 140 289,114	130 266 287,187	128 499 283,192	0.83 0.83
Static tipping load, full 40° turn** (\$)	kg lb	113 391 250,188	113 684 250,835	112 784 248,849	111 091 245,113	0.82 0.82
Breakout force*** (\$)	kN lb	1134 254,993	1133 254,709	1055 237,173	989 222,336	0.96 0.96
Operating weight** (\$)	kg lb	191 899 423,064	192 039 423,828	192 699 424,828	193 779 427,209	+2735 +6030

*Dimensions are measured to the tip of the bucket teeth to provide accurate clearance data. SAE Standards specifies the cutting edge.

**Static tipping load and operating weight shown are based on standard machine configuration with 53.5/85-57 tires, full fuel tank, coolant and lubricants.

***Measured 102 mm (4") behind tip of cutting edge with bucket hinge pin as pivot point in accordance with SAE J732 JUN92.

†Factor multiplied by standard arrangement data to get high lift arrangement value.

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers (SAE). SAE Standards J732 JUN92 and J742 FEB85 govern loader ratings, denoted in the text by (\$).

		Spade Edge Rock Buckets With Teeth & Segment		Straight Edge Coal Bucket	High Lift
Rated bucket capacity (\$)	m ³ yd ³	18.0 23.5	19.0 25.0	31.0 41.0	Same Same
Struck capacity (\$)	m ³ yd ³	14.5 19.0	15.0 19.6	27.0 35.3	Same Same
Bucket width (\$)	mm ft/in	6200 20'4"	6200 20'4"	6200 20'4"	Same Same
Dump clearance at full lift and 45° discharge (\$)	mm ft/in	5663 18'7"	5563 18'3"	5635 18'6"	+339 +1'1"
Reach at full lift and 45° discharge (\$)	mm ft/in	2160 7'1"	2278 7'6"	2306 7'6"	+561 +1'10"
Reach with lift arms horizontal and bucket level	mm ft/in	5056 16'7"	5210 17'1"	5179 17'0"	+640 +2'1"
Digging depth (\$)	mm in	108 4	108 4	63 2	+15 +0.5
Overall length (\$)	mm ft/in	16 744 54'11"	16 898 55'5"	16 830 55'2"	+792 +2'7"
Overall height with bucket at full raise (\$)	mm ft/in	10 621 34'10"	10 636 34'11"	11 845 38'10"	+339 +1'1"
Loader clearance circle with bucket in carry position (\$)	mm ft/in	25 930 85'1"	26 004 84'4"	26 146 85'9"	+560 1'10"
Static tipping load, straight** (\$)	kg lb	127 909 281,991	126 522 278,933	129 295 285,046	0.83 0.83
Static tipping load, full 40° turn** (\$)	kg lb	110 539 243,895	109 241 241,032	111 719 246,298	0.82 0.82
Breakout force*** (\$)	kN lb	1060 238,289	995 223,685	974 218,964	0.96 0.96
Operating weight** (\$)	kg lb	193 999 427,694	194 729 429,303	195 169 430,273	+2735 +6030

*Dimensions are measured to the tip of the bucket teeth to provide accurate clearance data. SAE Standards specifies the cutting edge.

**Static tipping load and operating weight shown are based on standard machine configuration with 53.5/85-57 tires, full fuel tank, coolant and lubricants.

***Measured 102 mm (4") behind tip of cutting edge with bucket hinge pin as pivot point in accordance with SAE J732 JUN92.

†Factor multiplied by standard arrangement data to get high lift arrangement value.

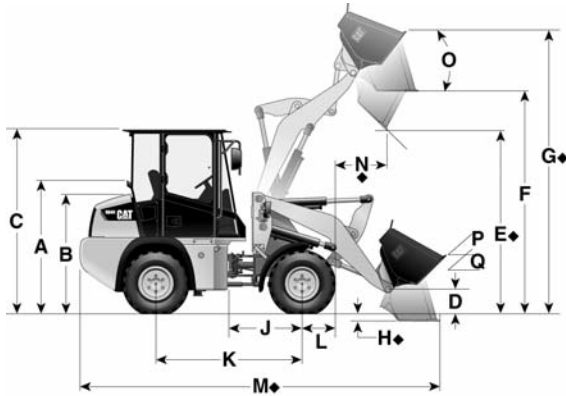
NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers (SAE). SAE Standards J732 JUN92 and J742 FEB85 govern loader ratings, denoted in the text by (\$).

Wheel Loaders Integrated Toolcarriers

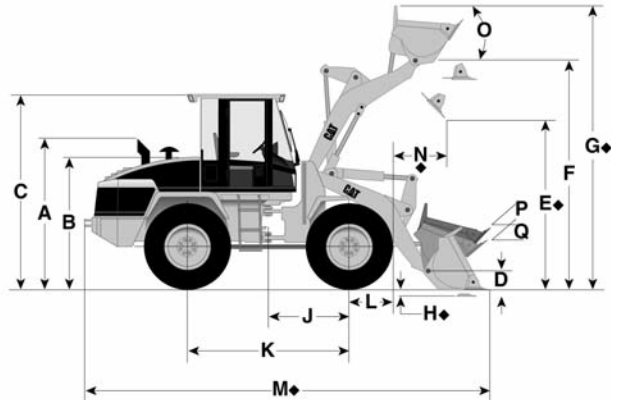
Machine Dimensions

- 904H–908H
- Vertical Coupler

904H



906H/907H/908H



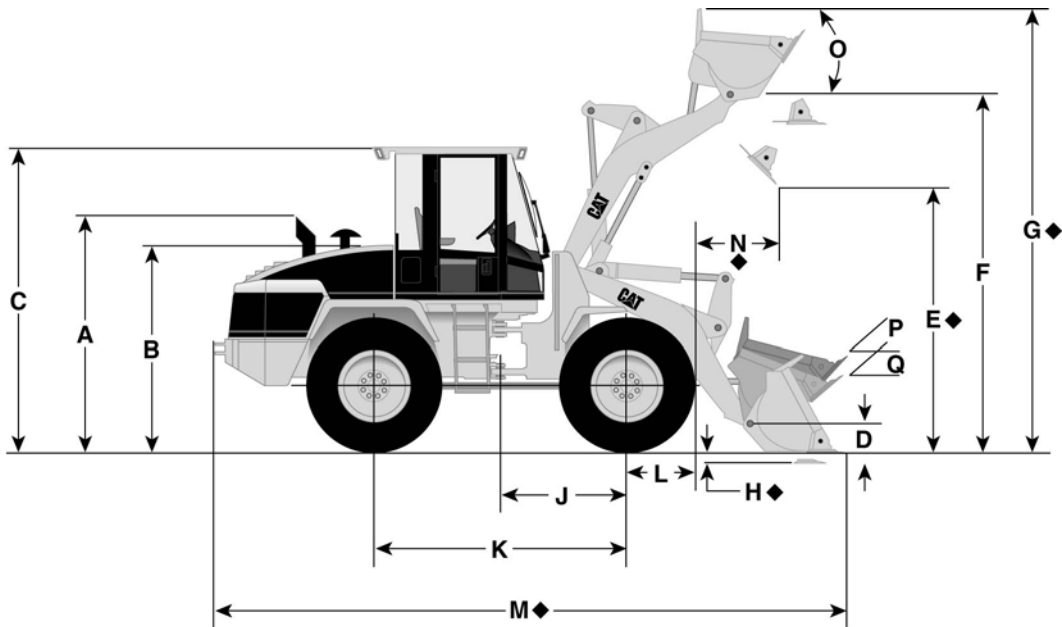
Dimensions shown represent standard machine with General Purpose bucket (bolt-on cutting edge) and standard tires.

◆ Varies with Bucket Size and/or Bucket Configuration — Refer to Performance Data

MODEL	904H		906H		907H		908H	
	General Purpose Bolt-on Edges 0.6 m ³	0.8 yd ³	General Purpose Bolt-on Edges 0.9 m ³	1.17 yd ³	General Purpose Bolt-on Edges 1.0 m ³	1.31 yd ³	General Purpose Bolt-on Edges 1.1 m ³	1.48 yd ³
A Height to top of stack	1714 mm	5'7"	2007 mm	6'7"	2007 mm	6'7"	2131 mm	7'0"
B Height to top of engine compartment	1545 mm	5'1"	1645 mm	5'5"	1645 mm	5'5"	1710 mm	5'7"
C Height to top of ROPS	2378 mm	7'10"	2463 mm	8'1"	2586 mm	8'6"	2650 mm	8'8"
D Hinge pin height at carry position	135 mm	5"	114 mm	4"	114 mm	4"	181 mm	7"
◆E Dump clearance at full lift and 45° discharge angle	2343 mm	7'8"	2359 mm	7'9"	2359 mm	7'9"	2620 mm	8'7"
F Hinge pin height at full lift	3110 mm	10'2"	3227 mm	10'7"	3227 mm	10'7"	3410 mm	11'2"
◆G Maximum overall height	3996 mm	13'1"	4246 mm	13'11"	4246 mm	13'11"	4400 mm	14'5"
◆H Maximum digging depth	107 mm	4"	107 mm	4"	107 mm	4"	101 mm	4"
J Machine center point to axle	900 mm	3'0"	1085 mm	3'7"	1085 mm	3'7"	1085 mm	3'7"
K Wheel base	1900 mm	6'3"	2170 mm	7'1"	2170 mm	7'1"	2170 mm	7'1"
L Free radius of tire	418 mm	1'5"	513 mm	1'8"	513 mm	1'8"	547 mm	1'10"
◆M Maximum overall length	4693 mm	15'5"	5620 mm	18'5"	5620 mm	18'5"	5630 mm	18'6"
◆N Reach at full lift	677 mm	2'3"	820 mm	2'8"	820 mm	2'8"	866 mm	2'10"
O Maximum rollback at maximum lift	53.5°		52°		52°		49°	
P Maximum rollback at carry height	48°		52°		52°		52°	
Q Maximum rollback at ground	44.3°		47°		47°		47°	
Ground clearance (std. tires)	287 mm	11"	301 mm	12"	301 mm	12"	340 mm	13"
Tread width (std. tires)	1327 mm	4'4"	400 mm	1'4"	400 mm	1'4"	403 mm	1'4"
Width over tires (std. tires)	1642 mm	5'5"	1820 mm	6'0"	1820 mm	6'0"	1993 mm	6'6"
Tires used for measurements	12-16.5-10PR		405/70 R18		405/70 R18		405/70 R20	

Machine Dimensions
 ● 906H–914G
 ● Horizontal Coupler

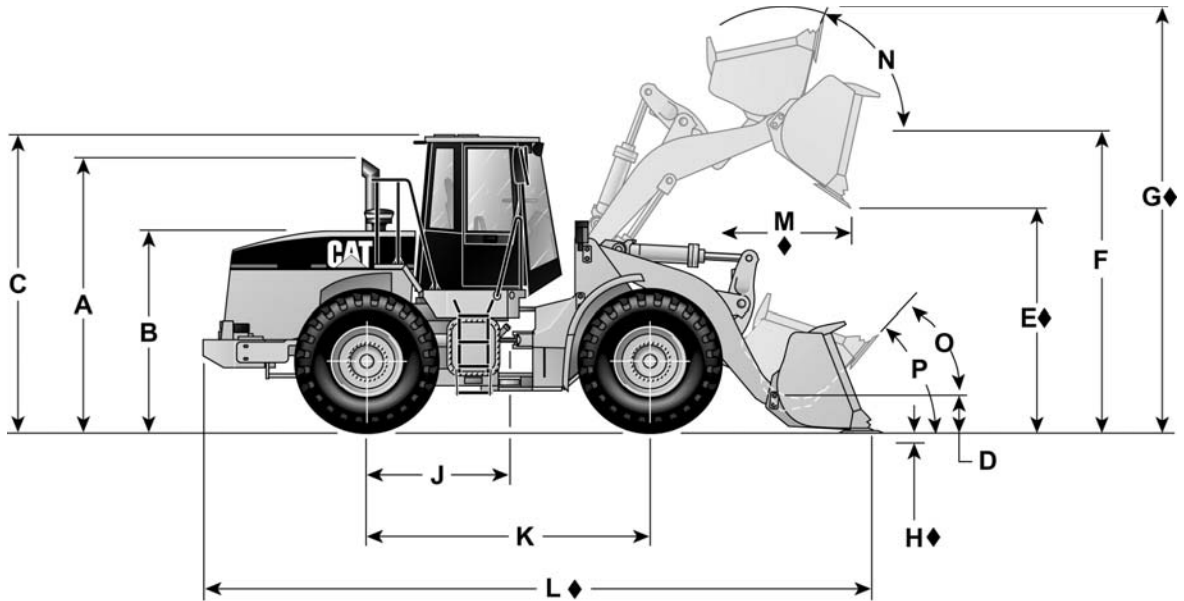
Wheel Loaders
 Integrated Toolcarriers



Dimensions shown represent standard machine with General Purpose bucket (bolt-on cutting edge) and standard tires.

◆ Varies with Bucket Size and/or Bucket Configuration — Refer to Performance Data

MODEL	906H General Purpose Bolt-on Edges		907H General Purpose Bolt-on Edges		908H General Purpose Bolt-on Edges		914G General Purpose Bolt-on Edges	
	0.9 m³	1.17 yd³	1.0 m³	1.31 yd³	1.1 m³	1.48 yd³	1.3 m³	1.7 yd³
A Height to top of stack	2007 mm	6'7"	2007 mm	6'7"	2131 mm	7'0"	2.26 m	7'5"
B Height to top of engine compartment	1645 mm	5'5"	1645 mm	5'5"	1710 mm	5'7"	2.08 m	6'10"
C Height to top of ROPS	2463 mm	8'1"	2586 mm	8'6"	2650 mm	8'8"	3.1 m	10'2"
D Hinge pin height at carry position	114 mm	4"	114 mm	4"	181 mm	7"	374 mm	15"
◆E Dump clearance at full lift and 45° discharge angle	2478 mm	8'2"	2478 mm	8'2"	2620 mm	8'7"	2.66 m	8'9"
F Hinge pin height at full lift	3227 mm	10'7"	3227 mm	10'7"	3410 mm	11'2"	3.44 m	11'3"
◆G Maximum overall height	4140 mm	13'7"	4140 mm	13'7"	4296 mm	14'1"	4.39 m	14'5"
◆H Maximum digging depth	95 mm	4"	95 mm	4"	101 mm	4"	89 mm	3.5"
J Machine center point to axle	1085 mm	3'7"	1085 mm	3'7"	1085 mm	3'7"	1.3 m	4'3"
K Wheel base	2170 mm	7'1"	2170 mm	7'1"	2170 mm	7'1"	2.6 m	8'6"
L Free radius of tire	513 mm	1'8"	513 mm	1'8"	547 mm	1'10"	670 mm	26"
◆M Maximum overall length	5469 mm	17'11"	5469 mm	17'11"	5630 mm	18'6"	6.23 m	20'5"
◆N Reach at full lift	725 mm	2'5"	725 mm	2'5"	770 mm	2'6"	973 mm	3'2"
O Maximum rollback at maximum lift	52°		52°		49°		60°	
P Maximum rollback at carry height	52°		52°		52°		46°	
Q Maximum rollback at ground	47°		47°		47°		41°	
Ground clearance (std. tires)	301 mm	12"	301 mm	12"	340 mm	13"	456 mm	18"
Tread width (std. tires)	400 mm	1'4"	400 mm	1'4"	403 mm	1'4"	1.8 m	5'10.9"
Width over tires (std. tires)	1820 mm	6'0"	1820 mm	6'0"	1993 mm	6'6"	2.26 m	7'4.9"
Tires used for measurements	405/70 R18		405/70 R18		405/70 R20		17.5-R25 (L-2)	



Dimensions shown represent standard machine with bucket, bolt-on cutting edge, and standard tires.

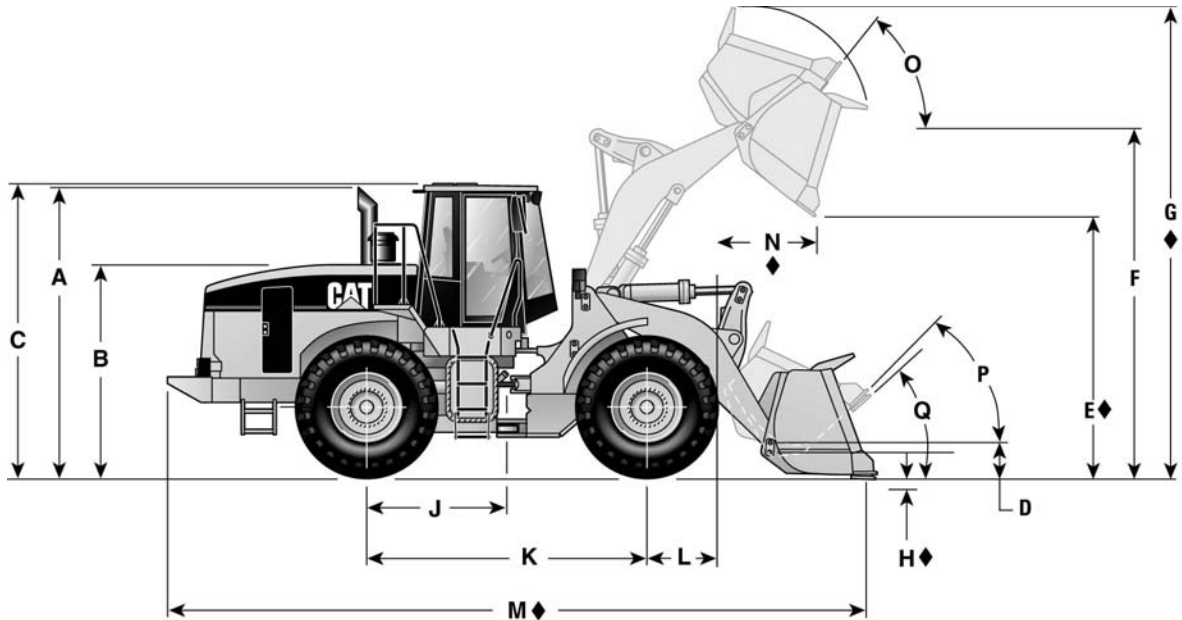
◆ Varies with Bucket Size and/or Bucket Configuration — Refer to Performance Data.

MODEL	924Hz*	
	1.8 m ³	2.3 yd ³
A Height to top of exhaust stack	3211 mm	10'7"
B Height to top of hood	2219 mm	7'4"
C Height to top of ROPS/FOPS	3227 mm	10'7"
D Carry height	435 mm	17"
◆ E Dump clearance at maximum lift and 45° dump	3432 mm	11'3"
F Bucket pin height at maximum lift	3757 mm	12'4"
◆ G Overall height — bucket raised	4809 mm	15'9"
◆ H Digging depth	42 mm	1.7"
J Center line of front axle to hitch	1400 mm	4'7"
K Wheel base length	2800 mm	9'2"
◆ L Maximum overall length	6898 mm	22'8"
◆ M Reach at maximum lift and 45° dump	791 mm	2'7"
N Rack back angle at maximum lift	58°	
O Rack back angle at carry	48°	
P Rack back angle at ground	44°	
Height to center of axle	692 mm	2'4"
Ground clearance	436 mm	1'5"
Length — rear axle to bumper	1962 mm	6'5"
Bucket clearance at maximum lift and level	3434 mm	11'4"
Dump angle at maximum lift	45°	
Tires used for measurements	20.5R25 (L-3)	

*Loose Material buckets with bolt-on edges.



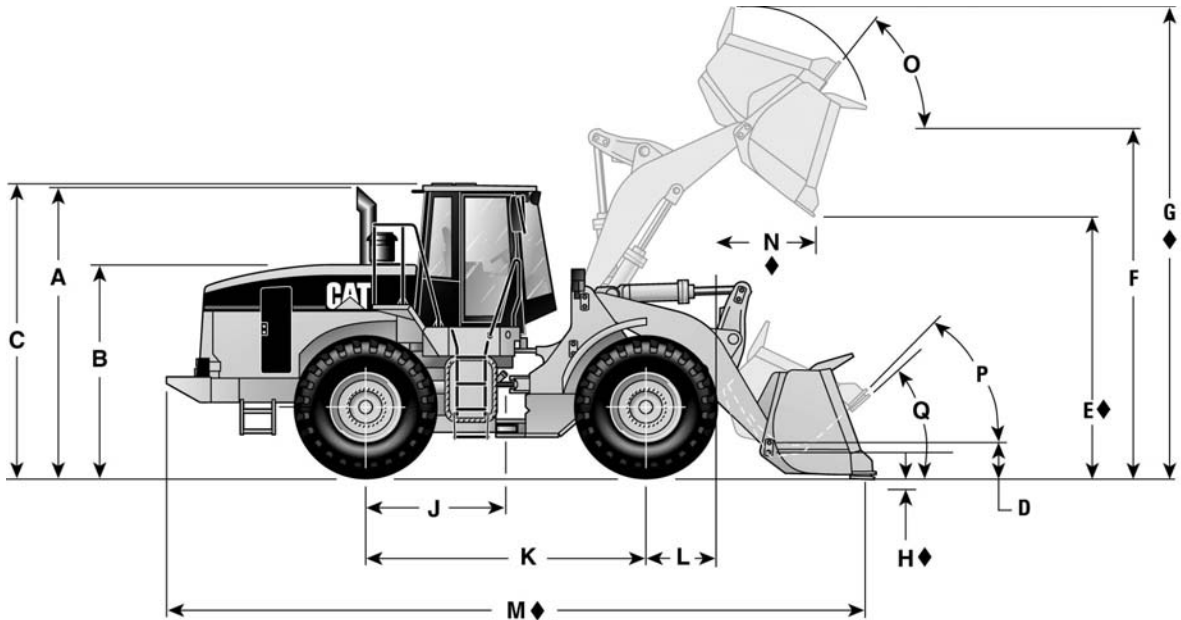
12



Dimensions shown represent standard machine with bucket, bolt-on cutting edge, and standard tires.

◆ Varies with Bucket Size and/or Bucket Configuration — Refer to Performance Data.

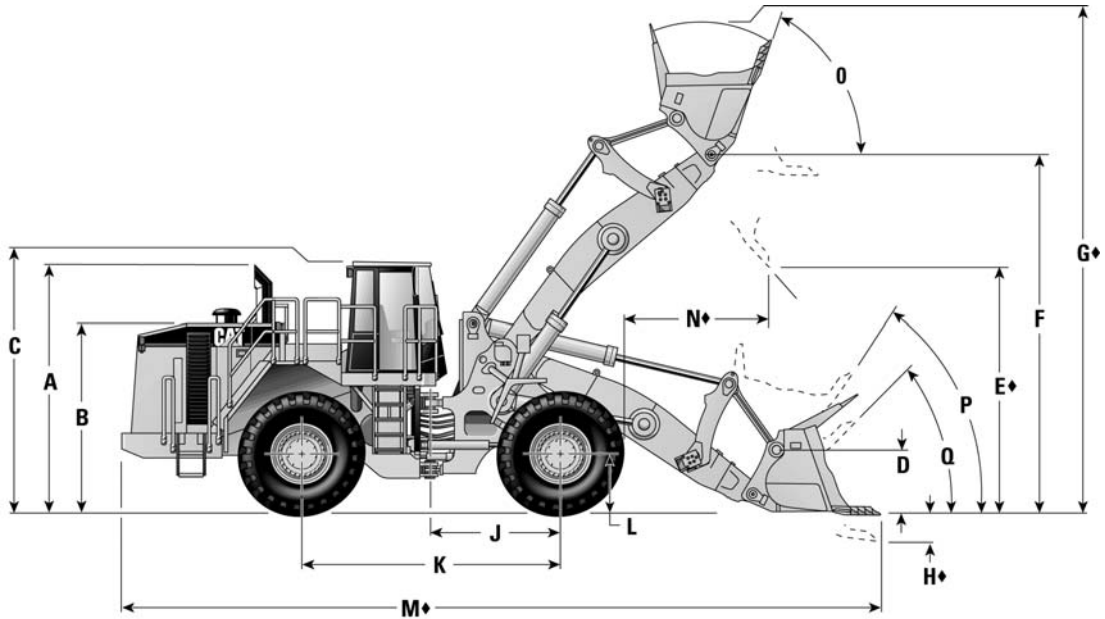
MODEL	950H		962H		966H		972H	
	General Purpose Bolt-on Edges 3.1 m³ 4 yd³		General Purpose Bolt-on Edges 3.5 m³ 4.5 yd³		General Purpose Bolt-on Edges 3.8 m³ 5 yd³		General Purpose Bolt-on Edges 4.3 m³ 5.5 yd³	
A Height to top of exhaust pipe	3.37 m	11'1"	3.37 m	11'1"	3.55 m	11'8"	3.56 m	11'8"
B Height to top of engine compartment	2.46 m	8'1"	2.46 m	8'1"	2.68 m	8'9"	2.68 m	8'9"
C Height to top of ROPS	3.45 m	11'4"	3.45 m	11'4"	3.60 m	11'10"	3.61 m	11'10"
D Hinge pin height at carry position	455 mm	18"	455 mm	18"	507 mm	20"	507 mm	20"
◆E Dump clearance at full lift and 45° discharge angle	2.92 m	9'7"	2.81 m	9'2"	3.12 m	10'3"	3.31 m	10'10"
F Hinge pin height at full lift	3.99 m	13'1"	3.99 m	13'1"	4.24 m	13'10"	4.47 m	14'8"
◆G Maximum overall height	5.44 m	17'10"	5.38 m	17'8"	5.81 m	19'1"	6.07 m	19'11"
◆H Maximum digging depth	92 mm	3.6"	92 mm	3.6"	108 mm	4.25"	88 mm	3.5"
J Machine center point to axle	1.68 m	5'6"	1.68 m	5'6"	1.72 m	5'8"	1.73 m	5'8"
K Wheel base	3.35 m	11'0"	3.35 m	11'0"	3.45 m	11'4"	3.45 m	11'4"
L Radius of tire	835 mm	33"	835 mm	33"	903 mm	36"	903 mm	36"
◆M Maximum overall length	7.99 m	26'2"	8.17 m	26'9"	8.81 m	28'11"	9.07 m	29'9"
◆N Reach at full lift	1202 mm	3'11"	1308 mm	4'3"	1270 mm	4'2"	1246 mm	4'1"
O Maximum rollback at maximum lift	59°		59°		61°		55°	
P Maximum rollback at carry height	45°		45°		47°		47°	
Q Maximum rollback at ground	39°		39°		42°		41°	
Ground clearance (std. tires)	412 mm	16"	412 mm	16"	496 mm	20"	496 mm	20"
Tread width (std. tires)	2.14 m	7'0"	2.14 m	7'0"	2.23 m	7'4"	2.23 m	7'4"
Width over tires (std. tires)	2.78 m	9'1"	2.78 m	9'1"	3.00 m	9'10"	3.00 m	9'10"
Tires used for measurements	23.5-R25, XHA (L-3)		23.5-R25, XHA (L-3)		26.5-R25, SRG (L-4)		26.5-R25, SRG (L-4)	



Dimensions shown represent standard machine with spade edge rock bucket and standard tires.

◆ Varies with Bucket Size and/or Bucket Configuration — Refer to Performance Data.

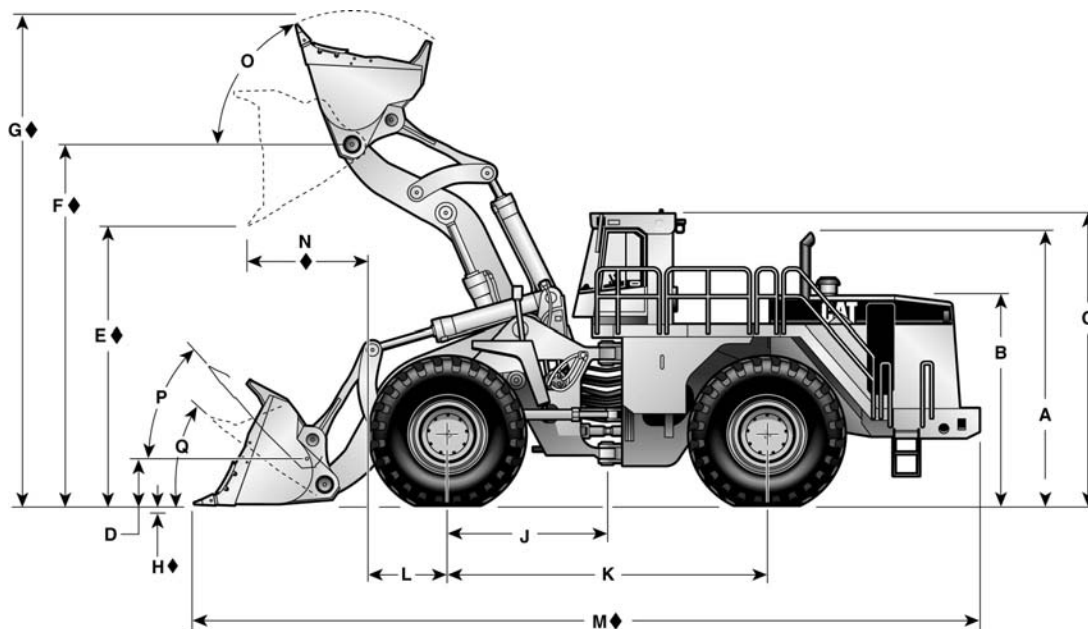
MODEL	980H General Purpose Bolt-on Edges		980H General Purpose High Lift Bolt-on Edges	
	5.7 m³	7.5 yd³	5.7 m³	7.5 yd³
A Height to top of stack	3.72 m	12'2"	3.72 m	12'2"
B Height to top of engine compartment	2.72 m	8'11"	2.72 m	8'11"
C Height to top of ROPS	3.77 m	12'4"	3.77 m	12'4"
D Hinge pin height at carry position	453 mm	18"	453 mm	18"
◆E Dump clearance at full lift and 45° discharge angle	3.27 m	10'9"	3.49 m	11'6"
F Hinge pin height at full lift	4.50 m	14'9"	4.73 m	15'6"
◆G Maximum overall height	6.36 m	20'10"	6.58 m	21'7"
◆H Maximum digging depth	125 mm	5"	123 mm	4.8"
J Machine center point to axle	1.85 m	6'1"	1.85 m	6'1"
K Wheel base	3.70 m	12'2"	3.70 m	12'2"
L Radius of tire	867 mm	2'10"	928 mm	3'1"
◆M Maximum overall length	9.47 m	31'1"	9.68 m	31'9"
◆N Reach at full lift	1.53 m	5'0"	1.53 m	5'0"
O Maximum rollback at maximum lift	61°		61°	
P Maximum rollback at carry height	49°		49°	
Q Maximum rollback at ground	41°		41°	
Ground clearance (std. tires)	442 mm	17.4"	442 mm	17.4"
Tread width (std. tires)	2.44 m	8'0"	2.44 m	8'0"
Width over tires (std. tires)	3.25 m	10'8"	3.25 m	10'8"
Tires used for measurements	29.5-R25 (L-3)		29.5-R25 (L-3)	



Dimensions shown represent standard machine with spade edge rock bucket and standard tires.

◆ Varies with Bucket Size and/or Bucket Configuration — Refer to Performance Data.

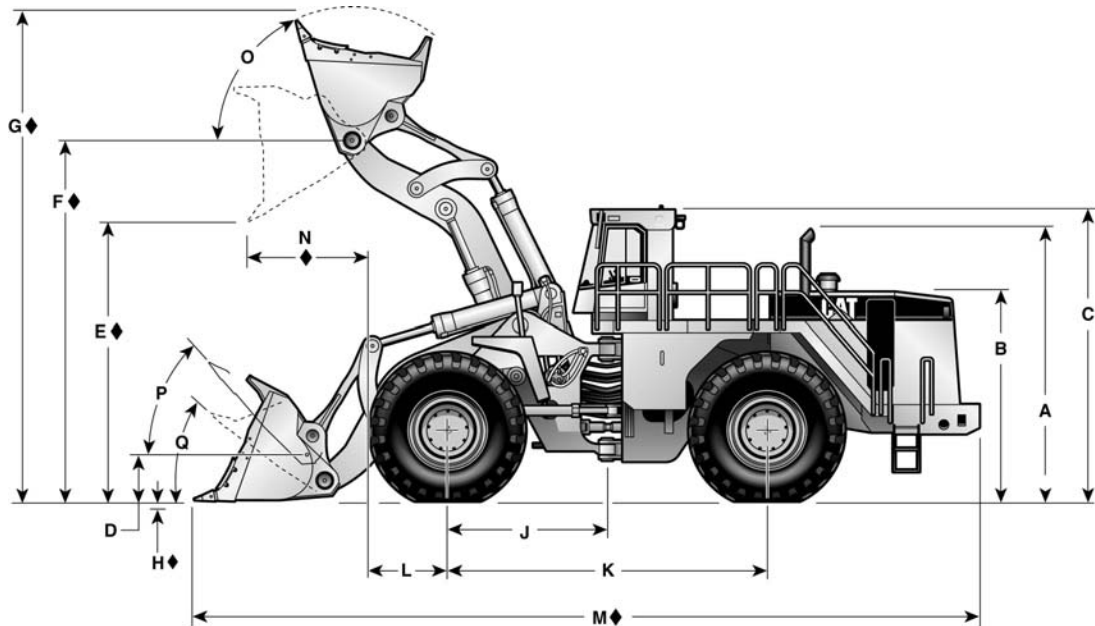
MODEL	3.88 Meter Linkage				4.25 Meter Linkage			
	988H		988H		988H		988H	
	Spade Edge Rock With Teeth & Segments	6.4 m³ 8.33 yd³	Spade Edge Rock With Teeth & Segments	6.9 m³ 9.0 yd³	Spade Edge Rock With Teeth & Segments	6.4 m³ 8.33 yd³	Spade Edge Rock With Teeth & Segments	6.9 m³ 9.0 yd³
A Height to top of stack	4.11 m	13'6"	4.11 m	13'6"	4.11 m	13'6"	4.11 m	13'6"
B Height to top of engine compartment	3.16 m	10'4"	3.16 m	10'4"	3.16 m	10'4"	3.16 m	10'4"
C Height to top of ROPS	4.13 m	13'7"	4.13 m	13'7"	4.13 m	13'7"	4.13 m	13'7"
D Hinge pin height at carry position	926 mm	3'0"	926 mm	3'0"	926 mm	3'0"	926 mm	3'0"
◆ E Dump clearance at full lift and 45° discharge angle	3.47 m	11'4"	3.41 m	11'2"	3.88 m	12'9"	3.82 m	12'7"
F Hinge pin height at full lift	5.85 m	19'2"	5.85 m	19'2"	5.85 m	19'2"	5.85 m	19'2"
◆ G Maximum overall height	7.7 m	25'3"	7.8 m	25'6"	8.11 m	26'7"	8.19 m	26'10"
◆ H Maximum digging depth	195 mm	7'7"	195 mm	7'7"	226 mm	8'9"	226 mm	8'9"
J Machine center point to axle	2.28 m	7'6"	2.28 m	7'6"	2.28 m	7'6"	2.28 m	7'6"
K Wheel base	4.55 m	14'11"	4.55 m	14'11"	4.55 m	14'11"	4.55 m	14'11"
L Radius of tire	978 mm	3'3"	978 mm	3'3"	978 mm	3'3"	978 mm	3'3"
◆ M Maximum overall length	12.21 m	40'1"	12.29 m	40'4"	12.66 m	41'6"	12.74 m	41'9"
◆ N Reach at full lift	2.03 m	6'8"	2.08 m	6'10"	2.13 m	7'0"	2.18 m	7'2"
Full dump at maximum lift		49°		49°		49°		49°
O Maximum rollback at maximum lift		65°		65°		65°		65°
P Maximum rollback at carry height		55.5°		55.5°		55.5°		55.5°
Q Maximum rollback at ground		45.7°		45.7°		45.7°		45.7°
Ground clearance (std. tires)	549 mm	20"	549 mm	20"	549 mm	20"	549 mm	20"
Tread width (std. tires)	2.59 m	8'6"	2.59 m	8'6"	2.59 m	8'6"	2.59 m	8'6"
Width over tires (std. tires)	3.47 m	11'5"	3.47 m	11'5"	3.47 m	11'5"	3.47 m	11'5"
Tires used for measurements	35/65-33 (L-4)		35/65-33 (L-4)		35/65-33 (L-4)		35/65-33 (L-4)	



Dimensions shown represent standard machine with spade edge rock bucket and standard tires.

◆ Varies with Bucket Size and/or Bucket Configuration — Refer to Performance Data

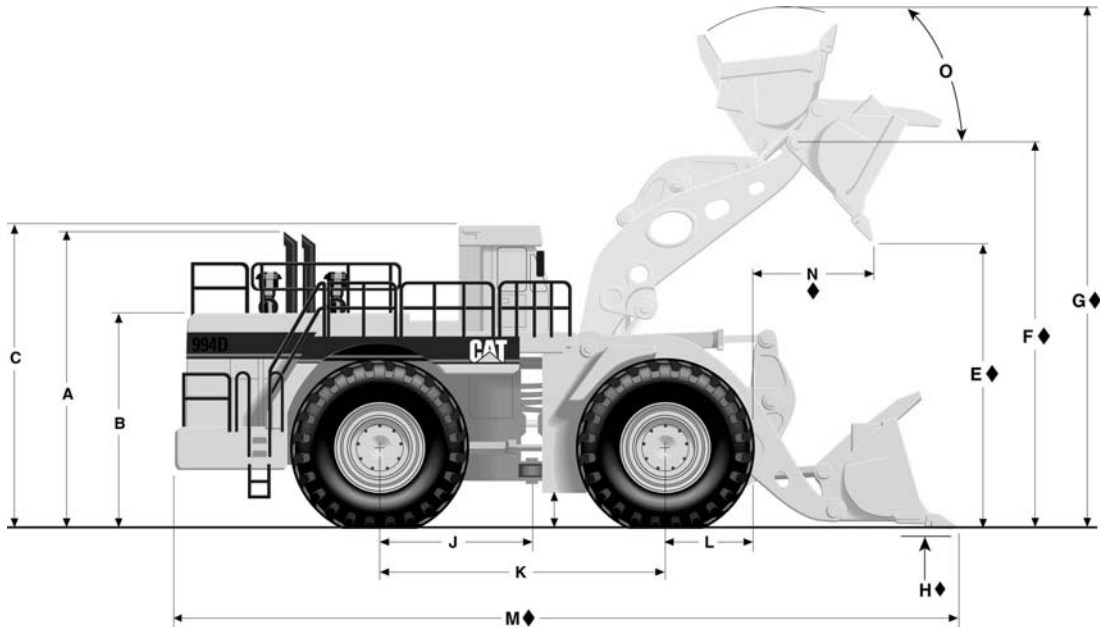
MODEL	990H Spade Edge Rock With Teeth		990H High Lift Spade Edge Rock With Teeth		992K Spade Edge Rock With Teeth	
	8.6 m³	11.2 yd³	8.6 m³	11.2 yd³	10.7 m³	14 yd³
A Height to top of stack	4.76 m	15'7"	4.76 m	15'7"	5.24 m	17'2"
B Height to top of engine compartment	3.55 m	11'8"	3.55 m	11'8"	4.0 m	13'1"
C Height to top of ROPS	5.11 m	16'9"	5.11 m	16'9"	5.67 m	18'7"
D Hinge pin height at carry position	816 mm	2'8"	862 mm	2'10"	1209 mm	4'0"
◆ E Dump clearance at full lift and 45° discharge angle	4.22 m	13'10"	4.59 m	15'1"	4.61 m	15'3"
◆ F Hinge pin height at full lift	5.87 m	19'3"	6.43 m	21'1"	6.92 m	22'8"
◆ G Maximum overall height	8.09 m	26'7"	8.66 m	28'5"	9.31 m	30'6"
◆ H Maximum digging depth	148 mm	6"	191 mm	8"	196 mm	8"
J Machine center point to axle	2.3 m	7'7"	2.3 m	7'7"	2.94 m	9'8"
K Wheel base	4.6 m	15'1"	4.6 m	15'1"	5.89 m	19'4"
L Radius of tire	1.18 m	3'11"	1.18 m	3'11"	1.37 m	4'6"
◆ M Maximum overall length	12.8 m	42'0"	13.5 m	44'3"	15.73 m	51'7"
◆ N Reach at full lift	2.22 m	7'3"	2.51 m	8'3"	2.12 m	6'11"
O Maximum rollback at maximum lift	63.8°		60.6°		65°	
P Maximum rollback at carry height	48.4°		47.4°		52.7°	
Q Maximum rollback at ground	39.1°		38.9°		43.4°	
Ground clearance (std. tires)	478 mm	18.8"	478 mm	18.8"	682 mm	26.8"
Tread width (std. tires)	3.05 m	10'0"	3.05 m	10'0"	3.30 m	10'10"
Width over tires (std. tires)	4.16 m	13'3"	4.16 m	13'3"	4.50 m	14'9"
Tires used for measurements	41.25/70-39 (L-5)		41.25/70-39 (L-5)		45/65-45 (L-5)	



Dimensions shown represent standard machine with spade edge rock bucket and standard tires.

◆ Varies with Bucket Size and/or Bucket Configuration — Refer to Performance Data

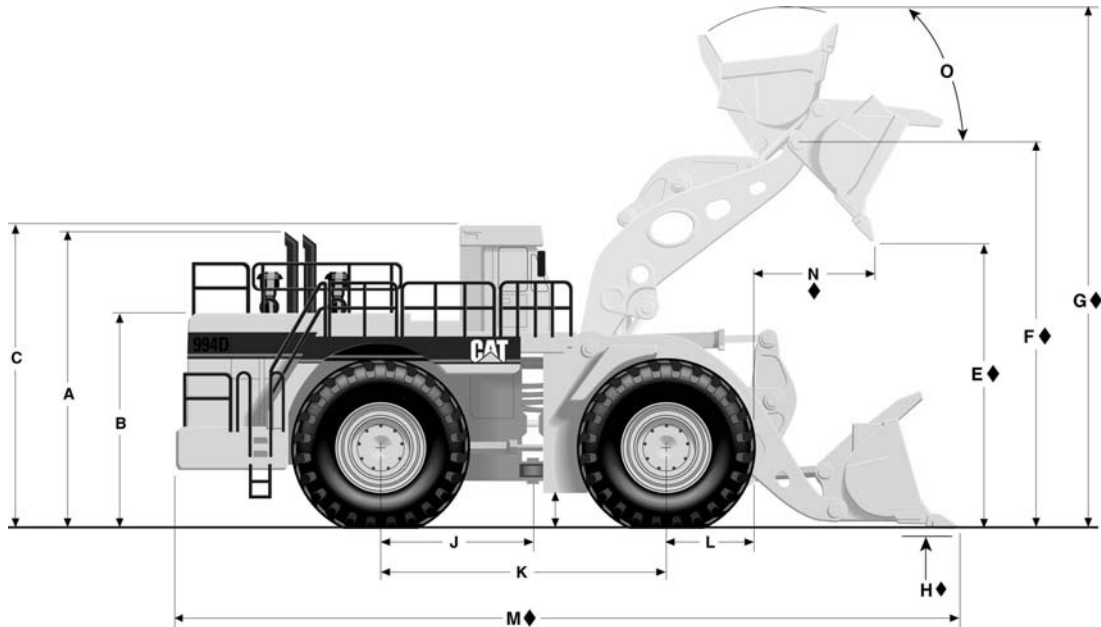
MODEL	993K Standard Lift Spade Edge Rock with Teeth & Segments		993K High Lift Spade Edge Rock with Teeth & Segments	
	13 m³	17 yd³	13 m³	17 yd³
A Height to top of stack	5.45 m	17'9"	5.45 m	17'9"
B Height to top of engine compartment	4.25 m	14'0"	4.25 m	14'0"
C Height to top of ROPS	6.00 m	19'7"	6.00 m	19'7"
D Hinge pin height at carry position	1009 mm	39.7"	1185 mm	46.7"
◆ E Dump clearance at full lift and 45° discharge angle	4.65 m	15'3"	5.29 m	17'4"
F Hinge pin height at full lift	7.00 m	23'0"	7.64 m	25'1"
◆ G Maximum overall height	9.79 m	32'1"	10.43 m	34'0"
◆ H Maximum digging depth	181 mm	7"	246 mm	10"
J Machine center point to axle	2.94 m	9'8"	2.94 m	9'8"
K Wheel base	5.89 m	19'4"	5.89 m	19'4"
L Radius of tire	1.34 m	4'4"	1.34 m	4'4"
◆ M Maximum overall length	15.21 m	50'0"	15.84 m	52'0"
◆ N Reach at full lift	2.50 m	8'2"	2.61 m	8'6"
O Maximum rollback at maximum lift	63.9°		65.7°	
P Maximum rollback at carry height	52.5°		53.5°	
Q Maximum rollback at ground	46.3°		46.1°	
Ground clearance (std. tires)	590 mm	2'0"	590 mm	2'0"
Tread width (std. tires)	3.54 m	11'6"	3.54 m	11'6"
Width over tires (std. tires)	4.93 m	16'2"	4.93 m	16'2"
Tires used for measurements	50/65-51 (L-5)		50/65-51 (L-5)	



Dimensions shown represent standard machine with spade edge rock bucket and standard tires.

◆ Varies with Bucket Size and/or Bucket Configuration — Refer to Performance Data

MODEL	994F Standard Lift 5640 mm (18'6") Spade Edge Bucket With Teeth & Segments		994F High Lift 5640 mm (18'6") Spade Edge Bucket With Teeth & Segments		994F Standard Lift 5640 mm (18'6") Spade Edge Bucket With Teeth & Segments	
	17 m³	22.5 yd³	17 m³	22.5 yd³	19 m³	24.5 yd³
A Height to top of stack	6988 mm	22.9'	6988 mm	22.9'	6988 mm	22.9'
B Height to top of engine compartment	6736 mm	22.1'	6736 mm	22.1'	6736 mm	22.1'
C Height to top of ROPS	4833 mm	15.9'	4833 mm	15.9'	4833 mm	15.9'
D Hinge pin height at carry position	1030 mm	3.4'	1258 mm	4.2'	1030 mm	3.4'
◆ E Dump clearance at full lift and 45° discharge angle	5.7 m	18.8'	6 m	19.8'	5.6 m	18.3'
◆ F Hinge pin height at full lift	8.16 m	26.8'	8.50 m	27.9'	8.16 m	26.8'
◆ G Maximum overall height	10.87 m	35.7'	11.2 m	36.7'	10.9 m	35.9'
◆ H Maximum digging depth	108 mm	4"	123 mm	4.8"	68 mm	3"
J Machine center point to axle	3.2 m	10.5'	3.2 m	10.5'	3.2 m	10.5'
K Wheel base	6.4 m	21'	6.4 m	21'	6.4 m	21'
L Radius of tire	2.0 m	6.5'	2.0 m	6.5'	2.0 m	6.5'
◆ M Maximum overall length	16.74 m	54.9'	17.53 m	57.5'	16.86 m	55.3'
◆ N Reach at full lift	2.2 m	7.2'	2.72 m	8.9'	2.3 m	7.6'
O Maximum rollback at maximum lift	64°		64°		64°	
P Maximum rollback at carry height	53°		58°		53°	
Q Maximum rollback at ground	40°		40°		40°	
Ground clearance (std. tires)	811 mm	2.7'	811 mm	2.7'	811 mm	2.7'
Tread width (std. tires)	4.1 m	13.6'	4.1 m	13.6'	4.1 m	13.6'
Width over tires (std. tires)	5.5 m	18.1'	5.5 m	18.1'	5.5 m	18.1'
Tires used for measurements	53.5/85-57 76 PR L-5		53.5/85-57 76 PR L-5		53.5/85-57 76 PR L-5	



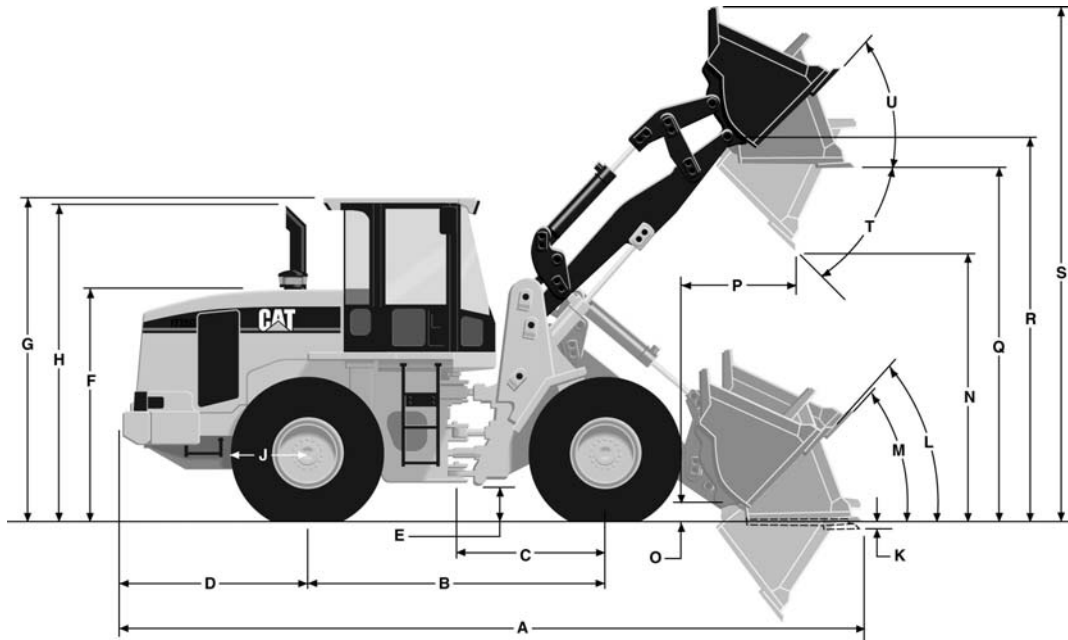
Dimensions shown represent standard machine with spade edge rock bucket and standard tires.

◆ Varies with Bucket Size and/or Bucket Configuration — Refer to Performance Data

MODEL	994F High Lift 6200 mm (20'4") Spade Edge Bucket With Teeth & Segments		994F Super High Lift 6500 mm (21'4") Serrated Edge Coal Bucket	
	19 m ³	24.5 yd ³	36 m ³	47 yd ³
A Height to top of stack	6988 mm	22.9'	7005 mm	23'
B Height to top of engine compartment	6736 mm	22.1'	6753 mm	22.2'
C Height to top of ROPS	4833 mm	15.9'	4850 mm	15.9'
D Hinge pin height at carry position	1258 mm	4.2'	7296 mm	23.9'
◆E Dump clearance at full lift and 45° discharge angle	5.9 m	19.3'	7.34 m	24.1'
◆F Hinge pin height at full lift	8.5 m	27.9'	10.1 m	33.1'
◆G Maximum overall height	10.97 m	36'	14.4 m	47.2'
◆H Maximum digging depth	82 mm	3"	299 mm	11.8"
J Machine center point to axle	3.2 m	10.5'	3.2 m	10.5'
K Wheel base	6.4 m	21'	6.4 m	21'
L Radius of tire	2.0 m	6.5'	2.0 m	6.5'
◆M Maximum overall length	17.64 m	57.9'	19.5 m	64'
◆N Reach at full lift	2.76 m	9.1'	3.4 m	11.1'
O Maximum rollback at maximum lift	64°		64°	
P Maximum rollback at carry height	58°		58°	
Q Maximum rollback at ground	40°		40°	
Ground clearance (std. tires)	811 mm	2.7'	569 mm	1.9'
Tread width (std. tires)	4.1 m	13.6'	4.1 m	13.6'
Width over tires (std. tires)	5.5 m	18.1'	5.5 m	18.1'
Tires used for measurements	53.5/85-57 76 PR L-5		58/85-57	

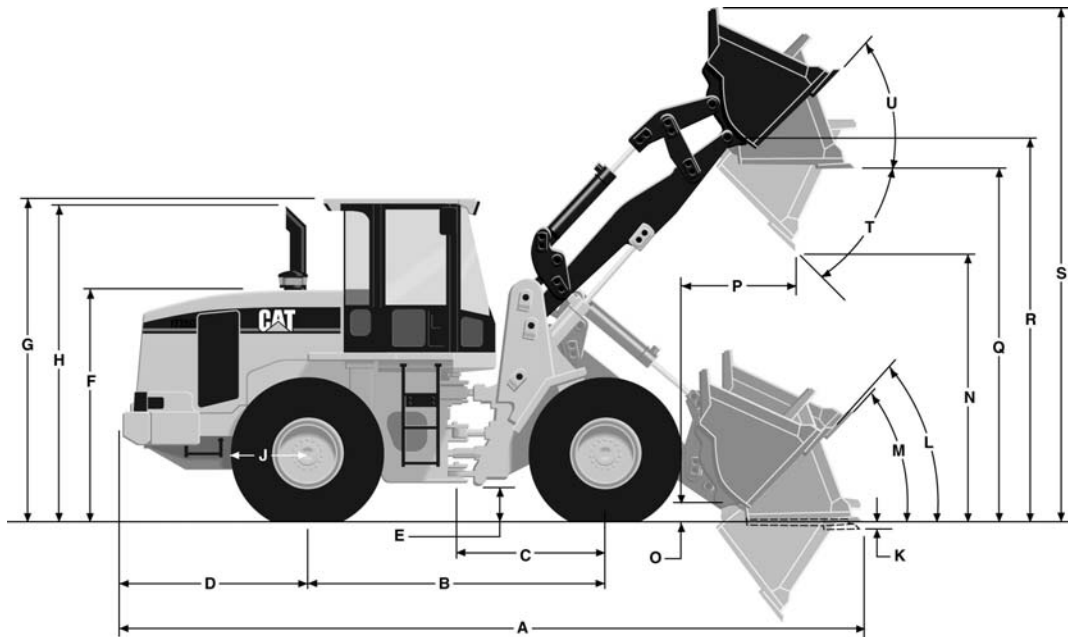
- Machine Dimensions
- with General Purpose Buckets and Bolt-on Cutting Edge

Wheel Loaders Integrated Toolcarriers



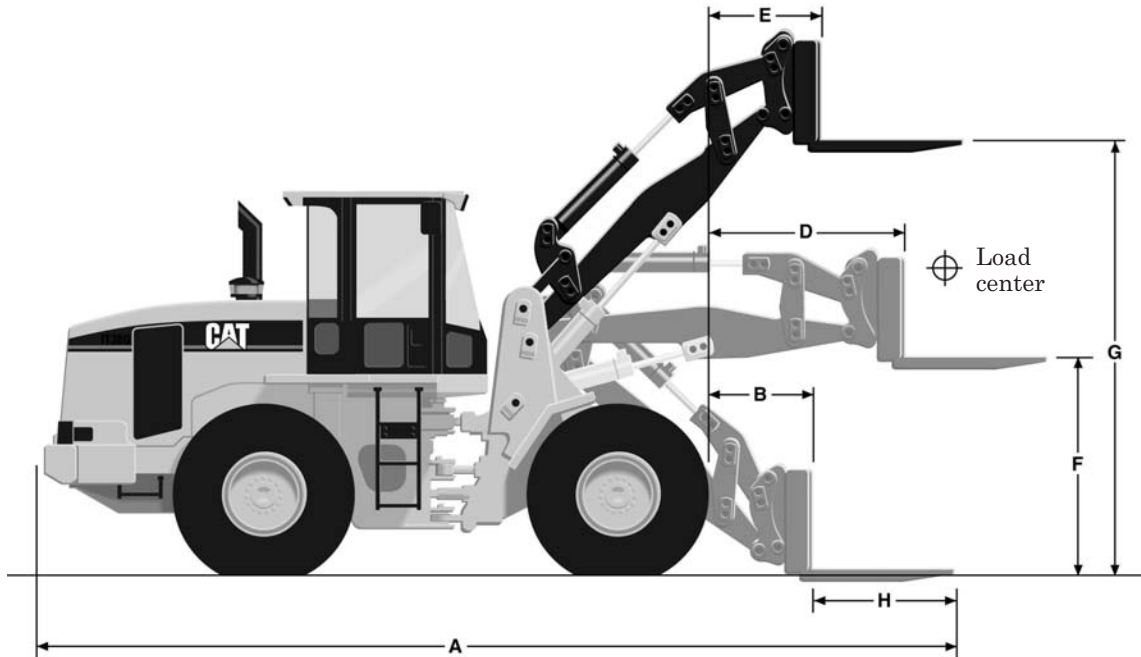
MODEL	IT14G		924H* Standard		924H* High Lift	
Bucket	1.3 m³	1.7 yd³	1.8 m³	2.3 yd³	1.8 m³	2.3 yd³
A Maximum overall length	6424 mm	21'1"	7147 mm	23'5"	7795 mm	25'7"
B Wheel base	2600 mm	8'6"	2800 mm	9'2"	2800 mm	9'3"
C Machine center point to front axle	1300 mm	4'3"	1400 mm	4'7"	1400 mm	4'8"
D Rear axle to counterweight	1658 mm	5'5"	1962 mm	6'5"	1962 mm	6'5"
E Ground clearance	456 mm	18"	436 mm	17"	436 mm	17"
F Height to top of engine compartment	2080 mm	6'10"	2219 mm	7'4"	2218 mm	7'4"
G Height to top of ROPS	3100 mm	10'2"	3227 mm	10'8"	3226 mm	10'8"
H Height to top of stack	2255 mm	7'5"	3211 mm	10'7"	3210 mm	10'7"
J Tire radius (empty machine)	620 mm	2'0"	—	—	—	—
K Maximum digging depth (bucket level)	175 mm	6.9"	64 mm	2.5"	75 mm	3"
L Maximum rollback at carry height	54°		51°		54°	
M Maximum rollback at ground	49°		50°		50°	
N Dump clearance at full lift and 45° discharge angle	2920 mm	9'7"	2828 mm	9'4"	3335 mm	10'11"
O Hinge pin height at carry position	374 mm	15"	435 mm	17"	592 mm	23"
P Reach at full lift and 45° dump	787 mm	2'7"	992 mm	3'3"	993 mm	3'4"
Q Clearance level bucket at full height	3565 mm	11'8"	3556 mm	11'8"	4063 mm	13'4"
R Maximum hinge pin height	3798 mm	12'6"	3881 mm	12'8"	4387 mm	14'5"
S Maximum overall height	4801 mm	15'9"	5178 mm	16'11"	5684 mm	18'8"
T Full dump at maximum lift	48°		45°		45°	
U Maximum roll back at maximum lift	57°		58°		62°	
Height to center of axle	—		692 mm	2'4"	692 mm	2'4"
Tires	17.5R25		20.5R25 (L-3)		20.5R25 (L-3)	

*VersaLink/Hook On.



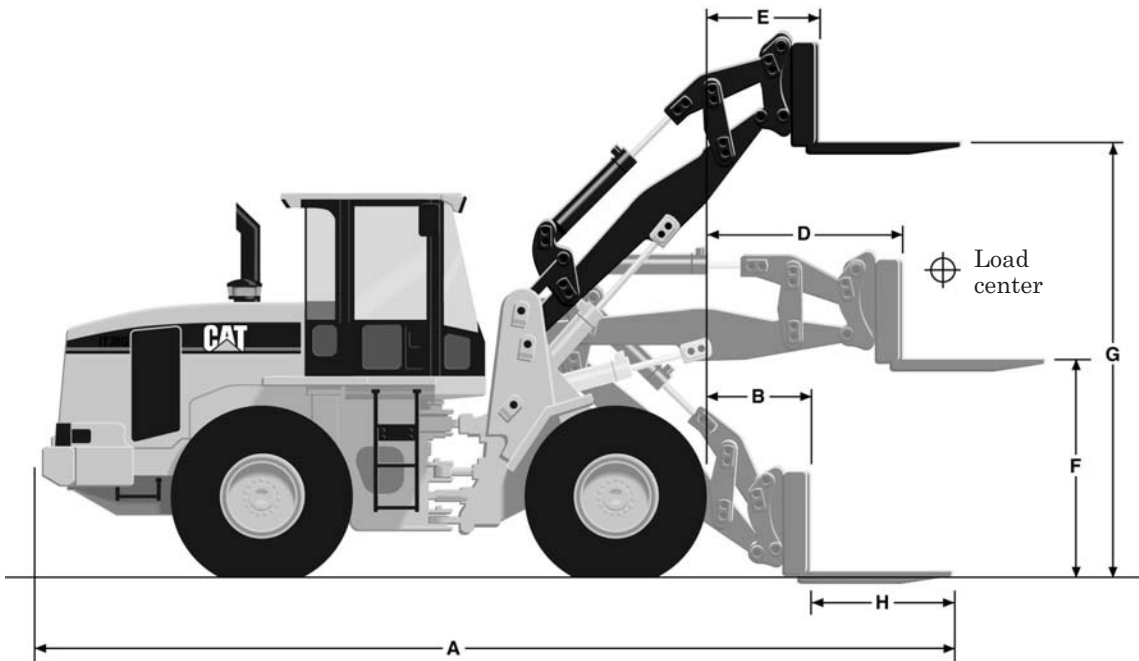
MODEL	930H* Standard		930H* High Lift		IT38H		IT62H	
Bucket	2.1 m ³	2.7 yd ³	2.1 m ³	2.7 yd ³	2.5 m ³	3.3 yd ³	3.5 m ³	4.6 yd ³
A Maximum overall length	7601 mm	24'11"	8080 mm	26'6"	7598 mm	24'11"	8422 mm	27'7"
B Wheel base	2900 mm	9'6"	2900 mm	9'6"	3020 mm	9'11"	3350 mm	11'0"
C Machine center point to front axle	1450 mm	4'9"	1450 mm	4'9"	1510 mm	4'11"	1675 mm	5'6"
D Rear axle to counterweight	1988 mm	6'6"	1988 mm	6'6"	1954 mm	6'4"	2000 mm	6'7"
E Ground clearance	411 mm	16"	411 mm	16"	397 mm	15"	412 mm	16"
F Height to top of engine compartment	2234 mm	7'4"	2234 mm	7'4"	2415 mm	7'11"	2462 mm	8'1"
G Height to top of ROPS	3278 mm	10'9"	3278 mm	10'9"	3356 mm	11'0"	3452 mm	11'4"
H Height to top of stack	3205 mm	10'6"	3205 mm	10'6"	3099 mm	10'2"	3369 mm	11'1"
J Tire radius (empty machine)	—	—	—	—	741 mm	2'5"	835 mm	2'9"
K Maximum digging depth (bucket level)	201 mm	8"	201 mm	8"	110 mm	4.3"	75 mm	2.97"
L Maximum rollback at carry height	53°	—	57°	—	46°	—	53°	—
M Maximum rollback at ground	51°	—	52°	—	48°	—	46°	—
N Dump clearance at full lift and 45° discharge angle	2833 mm	9'4"	3333 mm	10'11"	2761 mm	9'0"	2825 mm	9'3"
O Hinge pin height at carry position	428 mm	16"	577 mm	22"	235 mm	9.3"	315 mm	12"
P Reach at full lift and 45° dump	934 mm	3'1"	934 mm	3'1"	1135 mm	3'8"	1236 mm	4'0"
Q Clearance level bucket at full height	3667 mm	12'0"	4169 mm	13'8"	3585 mm	11'9"	3755 mm	12'3"
R Maximum hinge pin height	4049 mm	13'3"	4549 mm	14'11"	4061 mm	13'4"	4123 mm	13'6"
S Maximum overall height	5303 mm	17'5"	5803 mm	19'0"	5185 mm	17'0"	5628 mm	18'5"
T Full dump at maximum lift	45°	—	45°	—	45°	—	49°	—
U Maximum roll back at maximum lift	60°	—	62°	—	45°	—	58°	—
Height to center axle	685 mm	2'3"	685 mm	2'3"	688 mm	2'3"	744 mm	2'5"
Tires	20.5R25 (L3)		20.5R25 (L3)		20.5R25		23.5R25	

*VersaLink/Hook On.



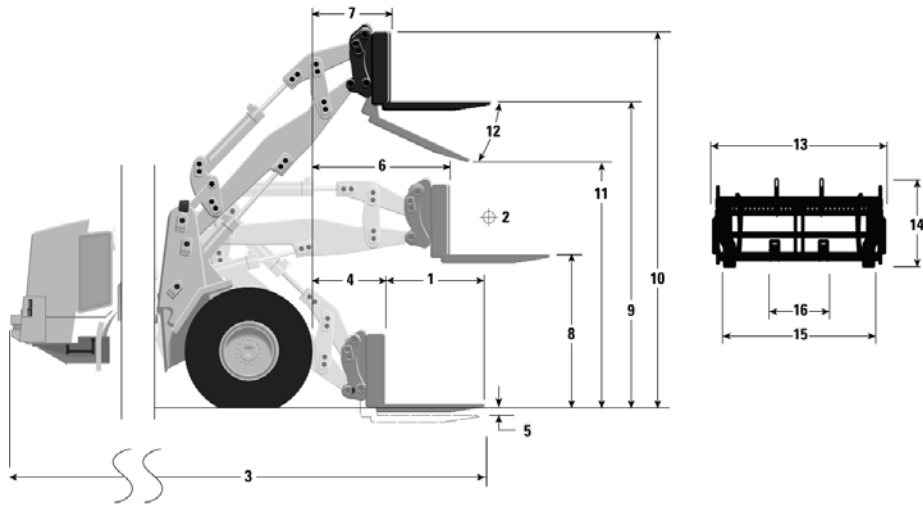
MODEL	IT14G		924H* Standard		924H* High Lift	
Rated operating load						
Per SAE J1197	1870 kg	4123 lb	2724 kg	5993 lb	2329 kg	5124 lb
Per CEN 474-3 rough terrain	2244 kg	4948 lb	3279 kg	7214 lb	2803 kg	6167 lb
Per CEN 474-3 firm level ground	2992 kg	6597 lb	4372 kg	9618 lb	3738 kg	8224 lb
A Maximum overall length	6873 mm	22'7"	7604 mm	24'11"	8113 mm	26'7"
B Reach with forks at ground level	745 mm	2'5"	871 mm	2'10"	1379 mm	4'6"
C Load center	600 mm	24"	600 mm	24"	600 mm	24"
D Reach with arms horizontal and forks level	1490 mm	4'11"	1562 mm	5'1"	1953 mm	6'5"
E Reach with fork at maximum height	586 mm	1'11"	762 mm	2'6"	762 mm	2'6"
F Arms horizontal and forks level	1808 mm	5'11"	1790 mm	5'10"	1790 mm	5'10"
G Ground to top of tine at maximum height	3708 mm	12'2"	3637 mm	11'11"	4145 mm	13'7"
H Fork tine length	1200 mm	3'11"	1220 mm	4'0"	1220 mm	4'0"
Tires	17.5R25		20.5R25 (L-3)		20.5R25 (L-3)	

*VersaLink/Hook On.



MODEL	930H* Standard		930H* High Lift	
Static tipping load with arms horizontal and forks level				
Straight	7247 kg	15,943 lb	6265 kg	13,783 lb
Articulated	6357 kg	13,985 lb	5477 kg	12,049 lb
Rated operating load				
Per SAE J1197	3179 kg	6993 lb	2739 kg	6026 lb
Per CEN 474-3 rough terrain	3827 kg	8419 lb	3296 kg	7251 lb
Per CEN 474-3 firm level ground	5102 kg	11,225 lb	4394 kg	9668 lb
A Maximum overall length	7854 mm	25'9"	8360 mm	27'5"
B Reach with forks at ground level	994 mm	3'3"	1500 mm	4'11"
C Load center	600 mm	24"	600 mm	24"
D Reach with arms horizontal and forks level	1693 mm	5'7"	2086 mm	6'10"
E Reach with fork at maximum height	772 mm	2'6"	772 mm	2'6"
F Reach at end of forks with arms horizontal and forks level	1861 mm	6'1"	1861 mm	6'1"
G Ground to top of tine at maximum height	3889 mm	12'9"	4389 mm	14'5"
H Fork tine length	1200 mm	3'11"	1200 mm	3'11"
Tires	20.5R25 (L3)		20.5R25 (L3)	

*VersaLink/Hook On.



MODEL

IT38H

1 Fork tine length	1219 mm	48"	1524 mm	60"	1829 mm	72"
2 Load center	610 mm	24"	762 mm	30"	914 mm	36"
Tipping load — forks level straight	8857 kg	19,520 lb	8395 kg	18,502 lb	7972 kg	17,570 lb
Tipping load — forks level articulated	7664 kg	16,891 lb	7259 kg	15,999 lb	6889 kg	15,183 lb
Rated load (SAE J1197)	3832 kg	8445 lb	3630 kg	8000 lb	3444 kg	7591 lb
Rated load (CEN EN 474-3 rough terrain)	4598 kg	10,134 lb	4356 kg	9600 lb	4133 kg	9110 lb
Rated load (CEN EN 474-3 firm and level ground)	6131 kg	13,513 lb	5807 kg	12,799 lb	5511 kg	12,146 lb
3 Maximum overall length	7924 mm	312.0"	8228 mm	324.0"	8533 mm	336.0"
4 Reach with forks at ground level	980 mm	38.6"	980 mm	38.6"	980 mm	38.6"
5 Ground to top of tine at minimum height and fork level	66 mm	2.6"	66 mm	2.6"	66 mm	2.6"
6 Reach with arms horizontal and forks level	1584 mm	62.4"	1584 mm	62.4"	1584 mm	62.4"
7 Reach with fork at maximum height	855 mm	33.6"	855 mm	33.6"	855 mm	33.6"
8 Ground to top of tine with arms horizontal and fork level	1774 mm	69.8"	1774 mm	69.8"	1774 mm	69.8"
9 Ground to top of tine at maximum height and fork level	3629 mm	142.9"	3629 mm	142.9"	3629 mm	142.9"
10 Overall height of fork at full lift (top of carriage to ground)	4699 mm	185.0"	4699 mm	185.0"	4699 mm	185.0"
11 Clearance at full lift and maximum dump	2408 mm	94.8"	2152 mm	84.7"	1896 mm	74.6"
12 Maximum discharge angle from horizontal	57°		57°		57°	
13 Carriage width	2235 mm	88.0"	2235 mm	88.0"	2235 mm	88.0"
14 Carriage height	1133 mm	44.6"	1133 mm	44.6"	1133 mm	44.6"
15 Outside tine width (maximum spread)	1969 mm	77.5"	1969 mm	77.5"	1969 mm	77.5"
16 Outside tine width (minimum spread)	425 mm	16.7"	425 mm	16.7"	425 mm	16.7"
Tine width (single tine)	152 mm	6.0"	152 mm	6.0"	152 mm	6.0"
Tine thickness	64 mm	2.5"	64 mm	2.5"	64 mm	2.5"
Operating weight	15 906 kg	35,056 lb	15 943 kg	35,139 lb	15 981 kg	35,221 lb

Based on 2134 mm (84") carriage, Fusion coupler and Fusion pallet fork.

Static tipping loads and operating weight are based on the following loader configuration: L3 Michelin XHA tires, air conditioning, ride control, power train guard, full fluids, fuel tank, coolant, lubricants, and operator. Static tipping loads conform to the international standard as defined in ISO* 14397-1 (Sept2007).

Specifications and ratings conform to the following standards: ISO 14397-1, SAE** J1197, SAE J732, CEN*** EN 474-3.

The rated operating load for a loader equipped with a pallet fork is determined by:

- SAE J1197: 50% of full turn static tipping load or hydraulic limit.
- CEN EN 474-3: 60% of full turn static tipping load on rough terrain or hydraulic limit.
- CEN EN 474-3: 80% of full turn static tipping load on firm and level ground or hydraulic limit.

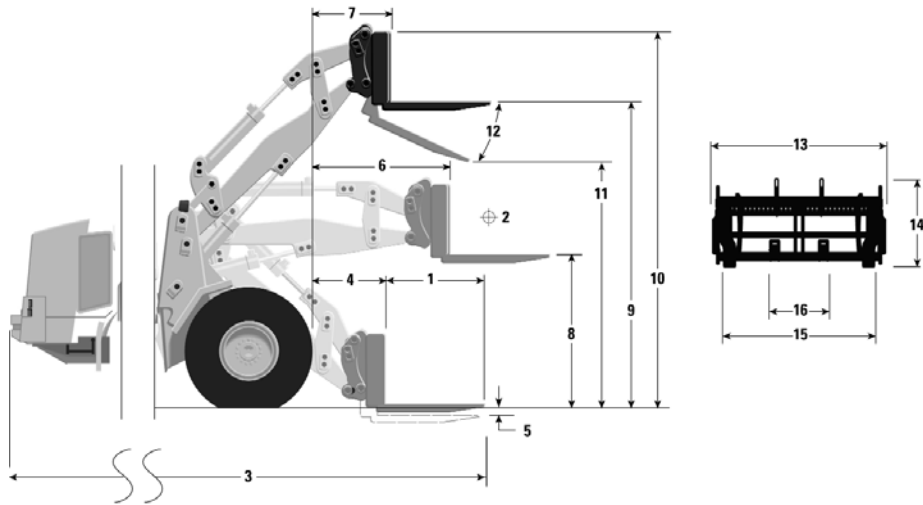
*ISO — International Organization for Standardization

**SAE — Society of Automotive Engineers

***CEN — European Committee for Standardization

Machine Dimensions

- with Fusion Pallet Forks



MODEL

IT62H

1 Fork tine length	1524 mm	60"	1829 mm	72"	2134 mm	84"	2438 mm	96"
2 Load center	762 mm	30"	914 mm	36"	1067 mm	42"	1219 mm	48"
Tipping load — forks level straight	9760 kg	21,512 lb	9284 kg	20,462 lb	8841 kg	19,485 lb	8428 kg	18,576 lb
Tipping load — forks level articulated	8321 kg	18,340 lb	7906 kg	17,424 lb	7519 kg	16,571 lb	7158 kg	15,776 lb
Rated load (SAE J1197)	4161 kg	9170 lb	3953 kg	8712 lb	3759 kg	8286 lb	3579 kg	7888 lb
Rated load (CEN EN 474-3 rough terrain)	4993 kg	11,004 lb	4743 kg	10,455 lb	4511 kg	9943 lb	4295 kg	9466 lb
Rated load (CEN EN 474-3 firm and level ground)	6657 kg	14,672 lb	6325 kg	13,939 lb	6015 kg	13,257 lb	5726 kg	12,621 lb
3 Maximum overall length	8972 mm	353.2"	9277 mm	365.3"	9582 mm	377.3"	9887 mm	389.3"
4 Reach with forks at ground level	1263 mm	49.7"	1264 mm	49.8"	1264 mm	49.8"	1264 mm	49.8"
5 Ground to top of tine at minimum height and fork level	27 mm	1.1"	27 mm	1.1"	27 mm	1.1"	27 mm	1.1"
6 Reach with arms horizontal and forks level	1782 mm	70.2"	1782 mm	70.2"	1782 mm	70.2"	1783 mm	70.2"
7 Reach with fork at maximum height	923 mm	36.4"	924 mm	36.4"	924 mm	36.4"	924 mm	36.4"
8 Ground to top of tine with arms horizontal and fork level	1744 mm	68.6"	1744 mm	68.6"	1744 mm	68.6"	1744 mm	68.6"
9 Ground to top of tine at maximum height and fork level	3803 mm	149.7"	3803 mm	149.7"	3803 mm	149.7"	3803 mm	149.7"
10 Overall height of fork at full lift (top of carriage to ground)	5049 mm	198.8"	5049 mm	198.8"	5049 mm	198.8"	5049 mm	198.8"
11 Clearance at full lift and maximum dump	2214 mm	87.2"	1944 mm	76.5"	1674 mm	65.9"	1404 mm	55.3"
12 Maximum discharge angle from horizontal	62°		62°		62°		62°	
13 Carriage width	2540 mm	100.0"	2540 mm	100.0"	2540 mm	100.0"	2540 mm	100.0"
14 Carriage height	1335 mm	52.5"	1335 mm	52.5"	1335 mm	52.5"	1335 mm	52.5"
15 Outside tine width (maximum spread)	2176 mm	85.7"	2176 mm	85.7"	2176 mm	85.7"	2176 mm	85.7"
16 Outside tine width (minimum spread)	620 mm	24.4"	620 mm	24.4"	620 mm	24.4"	620 mm	24.4"
Tine width (single tine)	178 mm	7.0"	178 mm	7.0"	178 mm	7.0"	178 mm	7.0"
Tine thickness	89 mm	3.5"	89 mm	3.5"	89 mm	3.5"	89 mm	3.5"
Operating weight	19 446 kg	42,858 lb	19 508 kg	42,995 lb	19 571 kg	43,134 lb	19 633 kg	43,270 lb

Based on 2438 mm (96") carriage, Fusion coupler and Fusion pallet fork.

Static tipping loads and operating weight are based on the following loader configuration: L3 Michelin XHA tires, air conditioning, ride control, power train guard, full fluids, fuel tank, coolant, lubricants, and operator. Static tipping loads conform to the international standard as defined in ISO* 14397-1 (Sept2007).

Specifications and ratings conform to the following standards: ISO 14397-1, SAE** J1197, SAE J732, CEN*** EN 474-3.

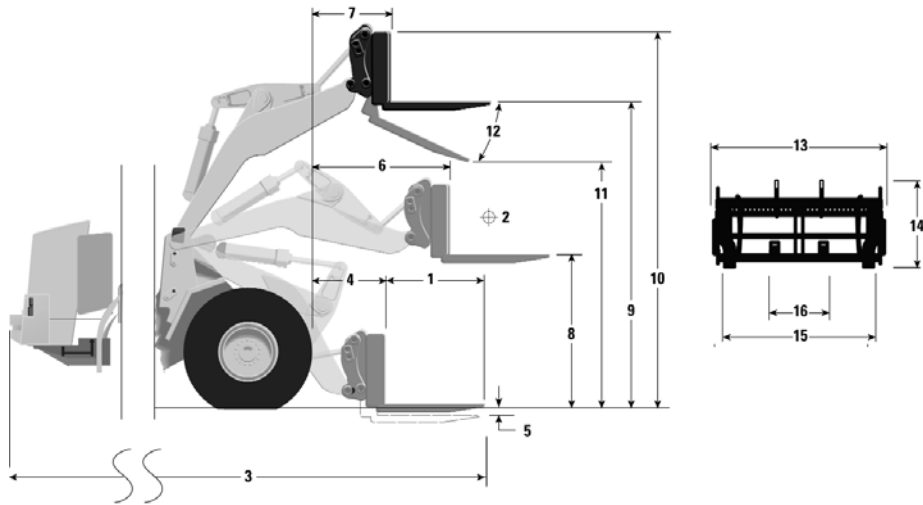
The rated operating load for a loader equipped with a pallet fork is determined by:

- SAE J1197: 50% of full turn static tipping load or hydraulic limit.
- CEN EN 474-3: 60% of full turn static tipping load on rough terrain or hydraulic limit.
- CEN EN 474-3: 80% of full turn static tipping load on firm and level ground or hydraulic limit.

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MODEL

938H

1 Fork tine length	1219 mm	48"	1524 mm	60"	1829 mm	72"
2 Load center	610 mm	24"	762 mm	30"	914 mm	36"
Tipping load — forks level straight	8677 kg	19,123 lb	8191 kg	18,053 lb	7749 kg	17,080 lb
Tipping load — forks level articulated	7547 kg	16,635 lb	7120 kg	15,692 lb	6731 kg	14,836 lb
Rated load (SAE J1197)	3774 kg	8317 lb	3560 kg	7846 lb	3366 kg	7418 lb
Rated load (CEN EN 474-3 rough terrain)	4528 kg	9981 lb	4272 kg	9415 lb	4039 kg	8901 lb
Rated load (CEN EN 474-3 firm and level ground)	6038 kg	13,308 lb	5312 kg	11,708 lb	4613 kg	10,167 lb
3 Maximum overall length	7659 mm	301.5"	7964 mm	313.5"	8269 mm	325.5"
4 Reach with forks at ground level	830 mm	32.7"	830 mm	32.7"	830 mm	32.7"
5 Ground to top of tine at minimum height and fork level	77 mm	3.0"	77 mm	3.0"	77 mm	3.0"
6 Reach with arms horizontal and forks level	1383 mm	54.4"	1383 mm	54.4"	1383 mm	54.4"
7 Reach with fork at maximum height	636 mm	25.0"	636 mm	25.0"	636 mm	25.0"
8 Ground to top of tine with arms horizontal and fork level	1676 mm	66.0"	1676 mm	66.0"	1676 mm	66.0"
9 Ground to top of tine at maximum height and fork level	3511 mm	138.2"	3511 mm	138.2"	3511 mm	138.2"
10 Overall height of fork at full lift (top of carriage to ground)	4581 mm	180.3"	4581 mm	180.3"	4581 mm	180.3"
11 Clearance at full lift and maximum dump	2511 mm	98.8"	2294 mm	90.3"	2077 mm	81.8"
12 Maximum discharge angle from horizontal	45°		45°		45°	
13 Carriage width	2235 mm	88.0"	2235 mm	88.0"	2235 mm	88.0"
14 Carriage height	1133 mm	44.6"	1133 mm	44.6"	1133 mm	44.6"
15 Outside tine width (maximum spread)	1969 mm	77.5"	1969 mm	77.5"	1969 mm	77.5"
16 Outside tine width (minimum spread)	425 mm	16.7"	425 mm	16.7"	425 mm	16.7"
Tine width (single tine)	152 mm	6.0"	152 mm	6.0"	152 mm	6.0"
Tine thickness	64 mm	2.5"	64 mm	2.5"	64 mm	2.5"
Operating weight	15 017 kg	33,098 lb	15 055 kg	33,181 lb	15 092 kg	33,264 lb

Based on 2134 mm (84") carriage, Fusion coupler and Fusion pallet fork.

Static tipping loads and operating weight are based on the following loader configuration: L3 Michelin XHA tires, air conditioning, ride control, power train guard, full fluids, fuel tank, coolant, lubricants, and operator. Static tipping loads conform to the international standard as defined in ISO* 14397-1 (Sept2007).

Specifications and ratings conform to the following standards: ISO 14397-1, SAE** J1197, SAE J732, CEN*** EN 474-3.

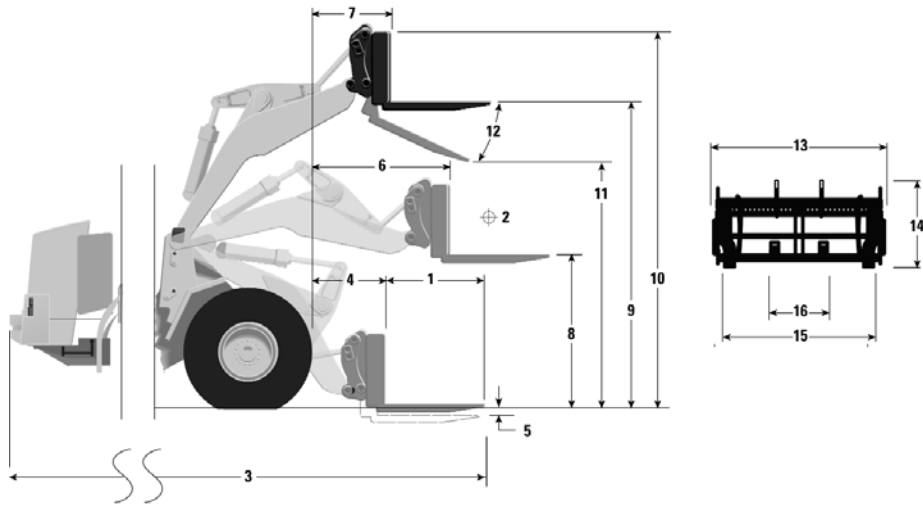
The rated operating load for a loader equipped with a pallet fork is determined by:

- SAE J1197: 50% of full turn static tipping load or hydraulic limit.
- CEN EN 474-3: 60% of full turn static tipping load on rough terrain or hydraulic limit.
- CEN EN 474-3: 80% of full turn static tipping load on firm and level ground or hydraulic limit.

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MODEL

950H

	1524 mm	60"	1829 mm	72"	2134 mm	84"	2438 mm	96"
1 Fork tine length	1524 mm	60"	1829 mm	72"	2134 mm	84"	2438 mm	96"
2 Load center	762 mm	30"	914 mm	36"	1067 mm	42"	1219 mm	48"
Tipping load — forks level straight	8687 kg	19,146 lb	8232 kg	18,144 lb	7811 kg	17,215 lb	7420 kg	16,353 lb
Tipping load — forks level articulated	7469 kg	16,461 lb	7068 kg	15,578 lb	6696 kg	14,758 lb	6351 kg	13,998 lb
Rated load (SAE J1197)	3734 kg	8230 lb	3534 kg	7789 lb	3348 kg	7379 lb	3176 kg	6999 lb
Rated load (CEN EN 474-3 rough terrain)	4481 kg	9876 lb	4241 kg	9347 lb	4018 kg	8855 lb	3811 kg	8399 lb
Rated load (CEN EN 474-3 firm and level ground)	5975 kg	13,169 lb	5539 kg	12,208 lb	4876 kg	10,746 lb	4331 kg	9545 lb
3 Maximum overall length	8642 mm	340.3"	8947 mm	352.3"	9252 mm	364.3"	9557 mm	376.3"
4 Reach with forks at ground level	1068 mm	42.1"	1069 mm	42.1"	1069 mm	42.1"	1069 mm	42.1"
5 Ground to top of tine at minimum height and fork level	83 mm	3.3"	83 mm	3.3"	83 mm	3.3"	83 mm	3.3"
6 Reach with arms horizontal and forks level	1625 mm	64.0"	1625 mm	64.0"	1625 mm	64.0"	1625 mm	64.0"
7 Reach with fork at maximum height	853 mm	33.6"	853 mm	33.6"	853 mm	33.6"	853 mm	33.6"
8 Ground to top of tine with arms horizontal and fork level	1762 mm	69.4"	1762 mm	69.4"	1762 mm	69.4"	1762 mm	69.4"
9 Ground to top of tine at maximum height and fork level	3691 mm	145.3"	3691 mm	145.3"	3691 mm	145.3"	3691 mm	145.3"
10 Overall height of fork at full lift (top of carriage to ground)	4937 mm	194.4"	4937 mm	194.4"	4937 mm	194.4"	4937 mm	194.4"
11 Clearance at full lift and maximum dump	2410 mm	94.9"	2190 mm	86.2"	1970 mm	77.6"	1750 mm	68.9"
12 Maximum discharge angle from horizontal	46°		46°		46°		46°	
13 Carriage width	2540 mm	100.0"	2540 mm	100.0"	2540 mm	100.0"	2540 mm	100.0"
14 Carriage height	1335 mm	52.5"	1335 mm	52.5"	1335 mm	52.5"	1335 mm	52.5"
15 Outside tine width (maximum spread)	2176 mm	85.7"	2176 mm	85.7"	2176 mm	85.7"	2176 mm	85.7"
16 Outside tine width (minimum spread)	620 mm	24.4"	620 mm	24.4"	620 mm	24.4"	620 mm	24.4"
Tine width (single tine)	178 mm	7.0"	178 mm	7.0"	178 mm	7.0"	178 mm	7.0"
Tine thickness	89 mm	3.5"	89 mm	3.5"	89 mm	3.5"	89 mm	3.5"
Operating weight	18 369 kg	40,485 lb	18 431 kg	40,622 lb	18 494 kg	40,761 lb	18 556 kg	40,898 lb

Based on 2438 mm (96") carriage, Fusion coupler and Fusion pallet fork.

Static tipping loads and operating weight are based on the following loader configuration: L3 Michelin XHA tires, air conditioning, ride control, power train guard, full fluids, fuel tank, coolant, lubricants, and operator. Static tipping loads conform to the international standard as defined in ISO* 14397-1 (Sept2007).

Specifications and ratings conform to the following standards: ISO 14397-1, SAE** J1197, SAE J732, CEN*** EN 474-3.

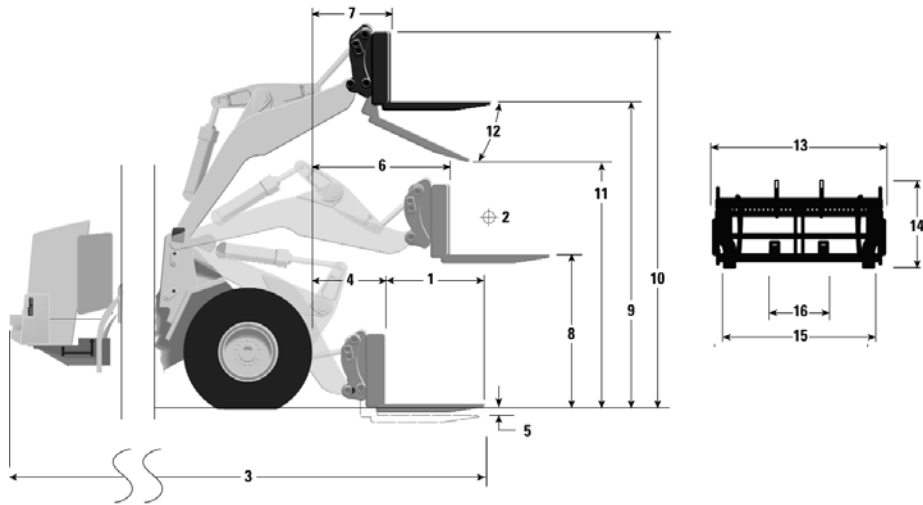
The rated operating load for a loader equipped with a pallet fork is determined by:

- SAE J1197: 50% of full turn static tipping load or hydraulic limit.
- CEN EN 474-3: 60% of full turn static tipping load on rough terrain or hydraulic limit.
- CEN EN 474-3: 80% of full turn static tipping load on firm and level ground or hydraulic limit.

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MODEL

962H

	1524 mm	60"	1829 mm	72"	2134 mm	84"	2438 mm	96"
1 Fork tine length	1524 mm	60"	1829 mm	72"	2134 mm	84"	2438 mm	96"
2 Load center	762 mm	30"	914 mm	36"	1067 mm	42"	1219 mm	48"
Tipping load — forks level straight	9852 kg	21,713 lb	9345 kg	20,596 lb	8876 kg	19,562 lb	8441 kg	18,604 lb
Tipping load — forks level articulated	8438 kg	18,597 lb	7994 kg	17,619 lb	7583 kg	16,713 lb	7202 kg	15,872 lb
Rated load (SAE J1197)	4219 kg	9298 lb	3997 kg	8810 lb	3791 kg	8356 lb	3601 kg	7936 lb
Rated load (CEN EN 474-3 rough terrain)	5063 kg	11,158 lb	4796 kg	10,571 lb	4550 kg	10,028 lb	4321 kg	9523 lb
Rated load (CEN EN 474-3 firm and level ground)	6366 kg	14,031 lb	5539 kg	12,208 lb	4876 kg	10,746 lb	4331 kg	9545 lb
3 Maximum overall length	8745 mm	344.3"	9050 mm	356.3"	9355 mm	368.3"	9660 mm	380.3"
4 Reach with forks at ground level	1068 mm	42.1"	1069 mm	42.1"	1069 mm	42.1"	1069 mm	42.1"
5 Ground to top of tine at minimum height and fork level	83 mm	3.3"	83 mm	3.3"	83 mm	3.3"	83 mm	3.3"
6 Reach with arms horizontal and forks level	1625 mm	64.0"	1625 mm	64.0"	1625 mm	64.0"	1625 mm	64.0"
7 Reach with fork at maximum height	853 mm	33.6"	853 mm	33.6"	853 mm	33.6"	853 mm	33.6"
8 Ground to top of tine with arms horizontal and fork level	1762 mm	69.4"	1762 mm	69.4"	1762 mm	69.4"	1762 mm	69.4"
9 Ground to top of tine at maximum height and fork level	3691 mm	145.3"	3691 mm	145.3"	3691 mm	145.3"	3691 mm	145.3"
10 Overall height of fork at full lift (top of carriage to ground)	4937 mm	194.4"	4937 mm	194.4"	4937 mm	194.4"	4937 mm	194.4"
11 Clearance at full lift and maximum dump	2410 mm	94.9"	2190 mm	86.2"	1970 mm	77.6"	1750 mm	68.9"
12 Maximum discharge angle from horizontal	46°		46°		46°		46°	
13 Carriage width	2540 mm	100.0"	2540 mm	100.0"	2540 mm	100.0"	2540 mm	100.0"
14 Carriage height	1335 mm	52.5"	1335 mm	52.5"	1335 mm	52.5"	1335 mm	52.5"
15 Outside tine width (maximum spread)	2176 mm	85.7"	2176 mm	85.7"	2176 mm	85.7"	2176 mm	85.7"
16 Outside tine width (minimum spread)	620 mm	24.4"	620 mm	24.4"	620 mm	24.4"	620 mm	24.4"
Tine width (single tine)	178 mm	7.0"	178 mm	7.0"	178 mm	7.0"	178 mm	7.0"
Tine thickness	89 mm	3.5"	89 mm	3.5"	89 mm	3.5"	89 mm	3.5"
Operating weight	19 122 kg	42,145 lb	19 184 kg	42,282 lb	19 247 kg	42,420 lb	19 309 kg	42,557 lb

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Based on 2438 mm (96") carriage, Fusion coupler and Fusion pallet fork.

Static tipping loads and operating weight are based on the following loader configuration: L3 Michelin XHA tires, air conditioning, ride control, power train guard, full fluids, fuel tank, coolant, lubricants, and operator. Static tipping loads conform to the international standard as defined in ISO* 14397-1 (Sept2007).

Specifications and ratings conform to the following standards: ISO 14397-1, SAE** J1197, SAE J732, CEN*** EN 474-3.

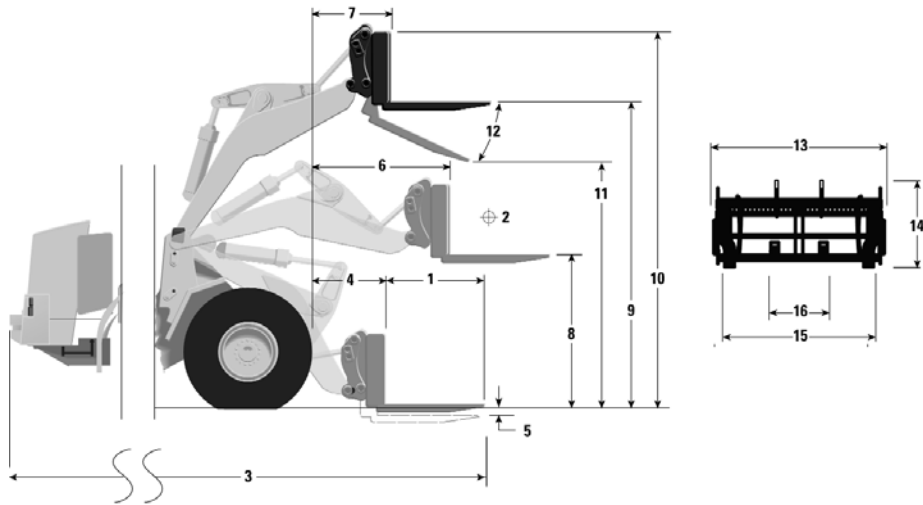
The rated operating load for a loader equipped with a pallet fork is determined by:

- SAE J1197: 50% of full turn static tipping load or hydraulic limit.
- CEN EN 474-3: 60% of full turn static tipping load on rough terrain or hydraulic limit.
- CEN EN 474-3: 80% of full turn static tipping load on firm and level ground or hydraulic limit.

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MODEL

966H

1 Fork tine length	1524 mm	60"	1829 mm	72"	2134 mm	84"	2438 mm	96"
2 Load center	762 mm	30"	914 mm	36"	1067 mm	42"	1219 mm	48"
Tipping load — forks level straight	11 789 kg	25,983 lb	11 214 kg	24,715 lb	10 680 kg	23,540 lb	10 186 kg	22,449 lb
Tipping load — forks level articulated	10 387 kg	22,892 lb	9872 kg	21,757 lb	9394 kg	20,705 lb	8951 kg	19,728 lb
Rated load (SAE J1197)	5193 kg	11,446 lb	4936 kg	10,879 lb	4697 kg	10,353 lb	4476 kg	9864 lb
Rated load (CEN EN 474-3 rough terrain)	6232 kg	13,735 lb	5923 kg	13,054 lb	5637 kg	12,423 lb	5371 kg	11,837 lb
Rated load (CEN EN 474-3 firm and level ground)	8309 kg	18,313 lb	7739 kg	17,056 lb	6841 kg	15,079 lb	6107 kg	13,461 lb
3 Maximum overall length	9194 mm	362.0"	9499 mm	374.0"	9804 mm	386.0"	10 109 mm	398.0"
4 Reach with forks at ground level	1081 mm	42.5"	1081 mm	42.5"	1081 mm	42.6"	1081 mm	42.6"
5 Ground to top of tine at minimum height and fork level	105 mm	4.1"	105 mm	4.1"	105 mm	4.1"	105 mm	4.1"
6 Reach with arms horizontal and forks level	1676 mm	66.0"	1676 mm	66.0"	1676 mm	66.0"	1676 mm	66.0"
7 Reach with fork at maximum height	808 mm	31.8"	809 mm	31.8"	809 mm	31.8"	809 mm	31.9"
8 Ground to top of tine with arms horizontal and fork level	1861 mm	73.3"	1861 mm	73.3"	1861 mm	73.3"	1861 mm	73.3"
9 Ground to top of tine at maximum height and fork level	3945 mm	155.3"	3945 mm	155.3"	3945 mm	155.3"	3945 mm	155.3"
10 Overall height of fork at full lift (top of carriage to ground)	5190 mm	204.3"	5190 mm	204.3"	5190 mm	204.3"	5190 mm	204.3"
11 Clearance at full lift and maximum dump	2775 mm	109.2"	2576 mm	101.4"	2377 mm	93.6"	2178 mm	85.7"
12 Maximum discharge angle from horizontal	41°		41°		41°		41°	
13 Carriage width	2540 mm	100.0"	2540 mm	100.0"	2540 mm	100.0"	2540 mm	100.0"
14 Carriage height	1335 mm	52.5"	1335 mm	52.5"	1335 mm	52.5"	1335 mm	52.5"
15 Outside tine width (maximum spread)	2176 mm	85.7"	2176 mm	85.7"	2176 mm	85.7"	2176 mm	85.7"
16 Outside tine width (minimum spread)	620 mm	24.4"	620 mm	24.4"	620 mm	24.4"	620 mm	24.4"
Tine width (single tine)	178 mm	7.0"	178 mm	7.0"	178 mm	7.0"	178 mm	7.0"
Tine thickness	89 mm	3.5"	89 mm	3.5"	89 mm	3.5"	89 mm	3.5"
Operating weight	23 122 kg	50,960 lb	23 184 kg	51,097 lb	23 247 kg	51,235 lb	23 309 kg	51,372 lb

Based on 2438 mm (96") carriage, Fusion coupler and Fusion pallet fork.

Static tipping loads and operating weight are based on the following loader configuration: L3 Michelin XHA tires, air conditioning, ride control, power train guard, full fluids, fuel tank, coolant, lubricants, and operator. Static tipping loads conform to the international standard as defined in ISO* 14397-1 (Sept2007).

Specifications and ratings conform to the following standards: ISO 14397-1, SAE** J1197, SAE J732, CEN*** EN 474-3.

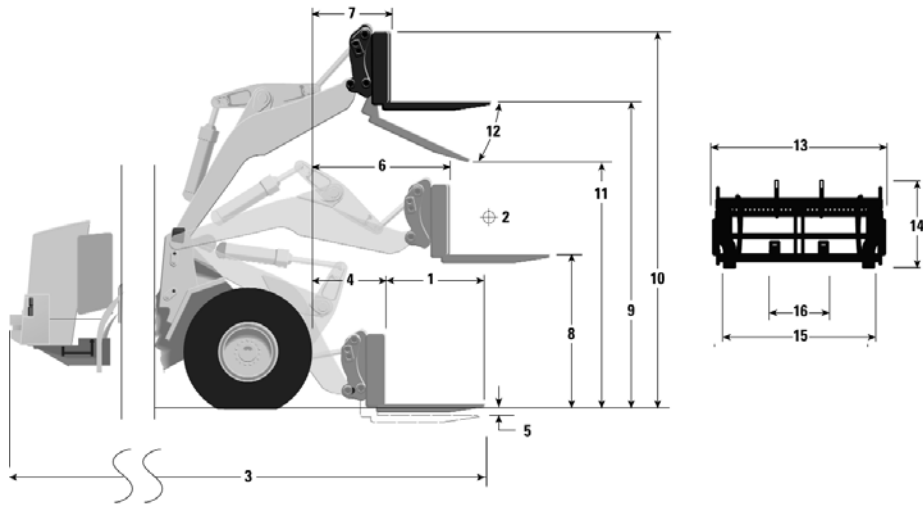
The rated operating load for a loader equipped with a pallet fork is determined by:

- SAE J1197: 50% of full turn static tipping load or hydraulic limit.
- CEN EN 474-3: 60% of full turn static tipping load on rough terrain or hydraulic limit.
- CEN EN 474-3: 80% of full turn static tipping load on firm and level ground or hydraulic limit.

*ISO — International Organization for Standardization

**SAE — Society of Automotive Engineers

***CEN — European Committee for Standardization



MODEL

972H

1 Fork tine length	1524 mm	60"	1829 mm	72"	2134 mm	84"	2438 mm	96"
2 Load center	762 mm	30"	914 mm	36"	1067 mm	42"	1219 mm	48"
Tipping load — forks level straight	13 360 kg	29,445 lb	12 737 kg	28,073 lb	12 159 kg	26,799 lb	11 622 kg	25,615 lb
Tipping load — forks level articulated	11 678 kg	25,739 lb	11 126 kg	24,523 lb	10 613 kg	23,392 lb	10 136 kg	22,340 lb
Rated load (SAE J1197)	5839 kg	12,870 lb	5563 kg	12,261 lb	5307 kg	11,696 lb	5068 kg	11,170 lb
Rated load (CEN EN 474-3 rough terrain)	7007 kg	15,444 lb	6676 kg	14,714 lb	6368 kg	14,035 lb	6082 kg	13,404 lb
Rated load (CEN EN 474-3 firm and level ground)	9343 kg	20,591 lb	8901 kg	19,618 lb	8491 kg	18,714 lb	8109 kg	17,872 lb
3 Maximum overall length	9570 mm	376.8"	9875 mm	388.8"	10 180 mm	400.8"	10 485 mm	412.8"
4 Reach with forks at ground level	1242 mm	48.9"	1242 mm	48.9"	1242 mm	48.9"	1242 mm	48.9"
5 Ground to top of tine at minimum height and fork level	85 mm	3.3"	85 mm	3.3"	85 mm	3.3"	85 mm	3.3"
6 Reach with arms horizontal and forks level	1806 mm	71.1"	1806 mm	71.1"	1806 mm	71.1"	1807 mm	71.1"
7 Reach with fork at maximum height	761 mm	30.0"	761 mm	30.0"	761 mm	30.0"	761 mm	30.0"
8 Ground to top of tine with arms horizontal and fork level	1861 mm	73.3"	1861 mm	73.3"	1861 mm	73.3"	1861 mm	73.3"
9 Ground to top of tine at maximum height and fork level	4167 mm	164.1"	4167 mm	164.1"	4167 mm	164.1"	4167 mm	164.1"
10 Overall height of fork at full lift (top of carriage to ground)	5413 mm	213.1"	5413 mm	213.1"	5413 mm	213.1"	5413 mm	213.1"
11 Clearance at full lift and maximum dump	2998 mm	118.0"	2799 mm	110.2"	2600 mm	102.4"	2401 mm	94.5"
12 Maximum discharge angle from horizontal	41°		41°		41°		41°	
13 Carriage width	2540 mm	100.0"	2540 mm	100.0"	2540 mm	100.0"	2540 mm	100.0"
14 Carriage height	1335 mm	52.5"	1335 mm	52.5"	1335 mm	52.5"	1335 mm	52.5"
15 Outside tine width (maximum spread)	2176 mm	85.7"	2176 mm	85.7"	2176 mm	85.7"	2176 mm	85.7"
16 Outside tine width (minimum spread)	620 mm	24.4"	620 mm	24.4"	620 mm	24.4"	620 mm	24.4"
Tine width (single tine)	178 mm	7.0"	178 mm	7.0"	178 mm	7.0"	178 mm	7.0"
Tine thickness	89 mm	3.5"	89 mm	3.5"	89 mm	3.5"	89 mm	3.5"
Operating weight	25 003 kg	55,106 lb	25 065 kg	55,243 lb	25 128 kg	55,381 lb	25 190 kg	55,518 lb

Based on 2438 mm (96") carriage, Fusion coupler and Fusion pallet fork.

Static tipping loads and operating weight are based on the following loader configuration: L3 Michelin XHA tires, air conditioning, ride control, power train guard, full fluids, fuel tank, coolant, lubricants, and operator. Static tipping loads conform to the international standard as defined in ISO* 14397-1 (Sept2007).

Specifications and ratings conform to the following standards: ISO 14397-1, SAE** J1197, SAE J732, CEN*** EN 474-3.

The rated operating load for a loader equipped with a pallet fork is determined by:

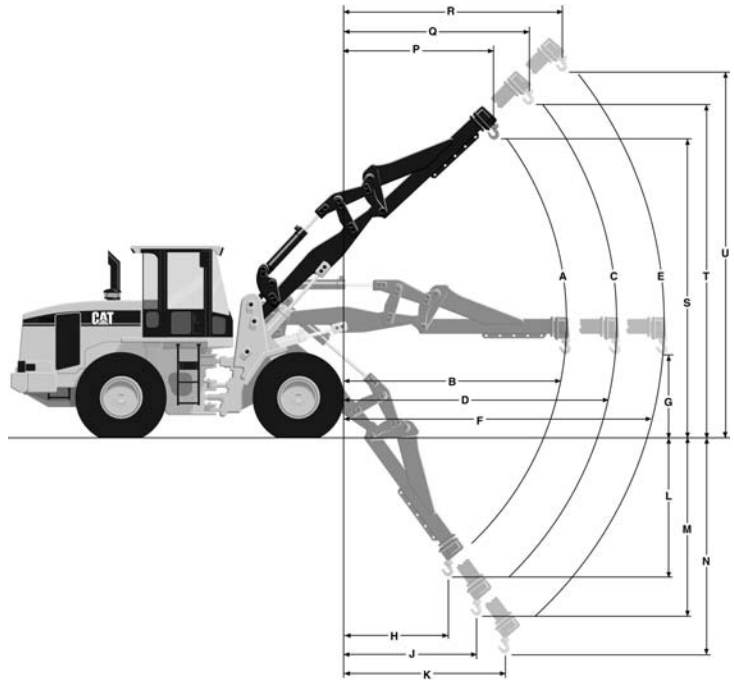
- SAE J1197: 50% of full turn static tipping load or hydraulic limit.
- CEN EN 474-3: 60% of full turn static tipping load on rough terrain or hydraulic limit.
- CEN EN 474-3: 80% of full turn static tipping load on firm and level ground or hydraulic limit.

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**SAE — Society of Automotive Engineers

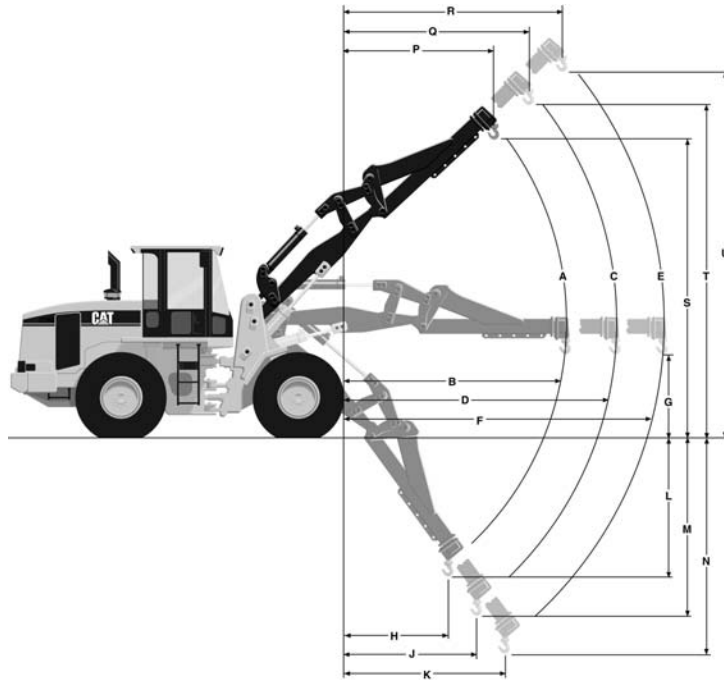
***CEN — European Committee for Standardization

For IT14G and 924H machines equipped with 15.5-25 L-2 tires subtract 39 mm (1.5") from lift height — add 39 mm (1.5") for below ground measurements — add 42 mm (1.7") for all reach measurements.



MODEL	IT14G		924H* Standard		924H* High Lift	
A Operating load (retracted) @ full articulation	1370 kg	3021 lb	1964 kg	4320 lb	1737 kg	3821 lb
B Reach horizontal (retracted)	3179 mm	10'5"	3251 mm	10'8"	3641 mm	11'11"
C Operating load (mid-position) @ full articulation	1076 kg	2373 lb	1560 kg	3433 lb	1405 kg	3090 lb
D Reach horizontal (mid-position)	4178 mm	13'8"	4249 mm	13'11"	4640 mm	15'3"
E Operating load (extended) @ full articulation	888 kg	1958 lb	1296 kg	2851 lb	1181 kg	2598 lb
F Reach horizontal (extended)	5178 mm	17'0"	5249 mm	17'3"	5640 mm	18'6"
G Clearance horizontal	1585 mm	5'2"	1855 mm	6'1"	1855 mm	6'1"
H Reach full down (retracted)	1514 mm	4'11"	833 mm	2'9"	1611 mm	5'3"
J Reach full down (mid-position)	2116 mm	6'11"	1139 mm	3'9"	2036 mm	6'8"
K Reach full down (extended)	2719 mm	8'11"	1446 mm	4'9"	2463 mm	8'1"
L Clearance full down (retracted)	1874 mm	6'2"	1890 mm	6'2"	1817 mm	6'0"
M Clearance full down (mid-position)	2670 mm	8'9"	2840 mm	9'4"	2721 mm	8'11"
N Clearance full down (extended)	3468 mm	11'5"	3792 mm	12'5"	3626 mm	11'11"
P Reach at maximum height (retracted)	1402 mm	4'7"	1454 mm	4'9"	1310 mm	4'4"
Q Reach at maximum height (mid-position)	1962 mm	6'5"	1929 mm	6'4"	1717 mm	5'8"
R Reach at maximum height (extended)	2522 mm	8'2"	2405 mm	7'11"	2125 mm	7'0"
S Clearance at maximum height (retracted)	5185 mm	17'0"	5733 mm	18'10"	6326 mm	20'9"
T Clearance at maximum height (mid-position)	6012 mm	19'9"	6611 mm	21'8"	7238 mm	23'9"
U Clearance at maximum height (extended)	6840 mm	22'5"	7491 mm	24'7"	8151 mm	26'9"
Tires	17.5R25		20.5R25 (L-3)		20.5R25 (L-3)	

*VersaLink/Hook On.



MODEL	930H* Standard		930H* High Lift		938H–972H**
A Rated operating load (retracted) @ full articulation	2333 kg	5132 lb	2072 kg	4557 lb	
B Reach horizontal (retracted)	3381 mm	11'1"	3775 mm	12'5"	
C Rated operating load (mid-position) @ full articulation	1868 kg	4110 lb	1687 kg	3712 lb	
D Reach horizontal (mid-position)	4380 mm	14'4"	4773 mm	15'8"	
E Rated operating load (extended) @ full articulation	1559 kg	3431 lb	1425 kg	3135 lb	
F Reach horizontal (extended)	5380 mm	17'8"	5774 mm	18'11"	
G Clearance horizontal	1842 mm	6'1"	1842 mm	6'1"	
H Reach full down (retracted)	1112 mm	3'8"	1520 mm	5'0"	
J Reach full down (mid-position)	1485 mm	4'10"	1852 mm	6'1"	
K Reach full down (extended)	1858 mm	6'1"	2185 mm	7'2"	
L Clearance full down (retracted)	1928 mm	6'4"	1970 mm	6'6"	
M Clearance full down (mid-position)	2854 mm	9'4"	2911 mm	9'7"	
N Clearance full down (extended)	3782 mm	12'5"	3855 mm	12'8"	
P Reach at maximum height (retracted)	1386 mm	4'7"	1494 mm	4'11"	
Q Reach at maximum height (mid-position)	1824 mm	6'0"	1984 mm	6'6"	
R Reach at maximum height (extended)	2263 mm	7'5"	2475 mm	8'1"	
S Clearance at maximum height (retracted)	5949 mm	19'6"	6380 mm	20'11"	
T Clearance at maximum height (mid-position)	6846 mm	22'6"	7250 mm	23'9"	
U Clearance at maximum height (extended)	7745 mm	25'5"	8122 mm	26'8"	
Tires	20.5R25 (L-3)		20.5R25 (L-3)		

*VersaLink/Hook On.

**For the latest information, visit Fusion.cat.com.

SPECIFICATION DEFINITIONS FOR FRONT END LOADERS

Cat wheel and track loader specifications conform to Society of Automotive Engineers (SAE) definitions as expressed in standards J732 (JUN92), as follows:

Description of Specification Machine

On wheel loaders the tire inflation pressure at which specifications are taken must be described in addition to the current written basic machine description. On track loaders the type of grouser must be specified.

Hydraulic Cycle Times

- a. "Raise Time" — Time in seconds required to raise the bucket from level position on the ground.
- b. "Lower Time" — Time in seconds required to lower the empty bucket from the full height to a level position on the ground.
- c. "Dump Time" — Time in seconds required to move the bucket at maximum height from the maximum rollback position to full dump position while dumping the SAE loose material operating load.

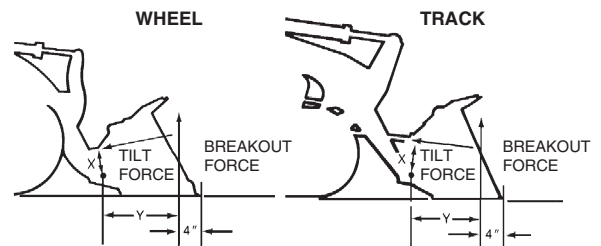
Breakout Force

"Breakout force," pounds (and kilonewtons or kilograms) — the maximum sustained vertical upward force exerted 100 mm (4") behind the tip of the bucket cutting edge and achieved through the ability to lift and/or rollback about the specified pivot point under the following conditions:

- a. Loader on a hard level surface with transmission in neutral.
- b. All brakes released.
- c. Unit at standard operating weight — rear of loader not tied down.
- d. Bottom of cutting edge parallel to and not more than 20 mm (0.75") above or below the ground line.

- e. When bucket circuit is used the pivot point must be specified as the bucket hinge pin, and the unit blocked under the bucket hinge pin pivot point in order to minimize linkage movement.
- f. When the lift circuit is used, the pivot point must be specified as the lift arm hinge pin. Wheel loaders shall have front axle blocked to eliminate change in position of pivot pins due to tire deflection.
- g. If both circuits are used simultaneously, the dominating pivot point listed in (e) or (f) must be specified.
- h. If the circuit used causes the rear of the vehicle to leave the ground, then the vertical force value required to raise the rear of the vehicle is the breakout force.
- i. For irregular shaped buckets, the tip of the bucket cutting edge referred to above shall mean the farther forward point of the cutting edge.

The following are illustrations used (according to provisions of SAE J732 JUN92) to measure Cat Loader breakout forces.

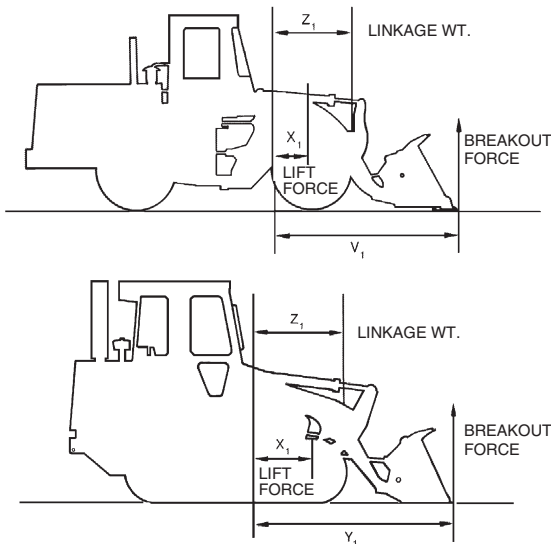


- a. Breakout force resulting from rollback:

$$(\text{Tilt Force}) \times (\text{Dist. "X"}) = (\text{"Y" Dist.}) \times (\text{Breakout Force})$$

$$\frac{(\text{Tilt Force}) \times (\text{Dist. "X"})}{\text{"Y" Dist.}} = \text{Breakout Force}$$

b. Breakout force resulting from bucket lift:



$$\begin{aligned}
 (\text{Lift Force}) \times (\text{Dist. "X}_1\text{"}) &= (\text{"Y}_1\text{ Dist.}) \times (\text{Breakout Force}) \\
 &+ (\text{Linkage Wt.}) \times (\text{Dist. "Z}_1\text{"}) \\
 &+ (\text{Breakout Force}) \\
 &\times (\text{Linkage Mechanical Advantage}) \text{ "V}_1\text{"}
 \end{aligned}$$

$$\begin{aligned}
 \text{Breakout Force} &= \frac{(\text{Lift Force}) \times (\text{Dist. "X}_1\text{"}) - (\text{Linkage Wt.}) \times (\text{Dist. "Z}_1\text{"})}{(\text{Dist. "Y}_1\text{"}) + (\text{Dist. "V}_1\text{"}) \times (\text{Linkage Mech. Advantage})}
 \end{aligned}$$

Static Tipping Load

The minimum weight at center of gravity of "SAE Rated" load in bucket which will rotate rear of machine to a point where, on track loaders, front rollers are clear of the track and on wheel loaders, rear wheels are clear of the ground under the following conditions:

- Loader on hard level surface and stationary.
- Unit at standard operating weight.
- Bucket at maximum rollback position.
- Load at maximum forward position during raising cycle.
- For articulated wheel loaders, the test will be run both with frame straight (straight static tipping load) and fully turned to a specific angle (full turn static tipping load).
- Unit with standard equipment as described in specifications unless otherwise noted under the heading.

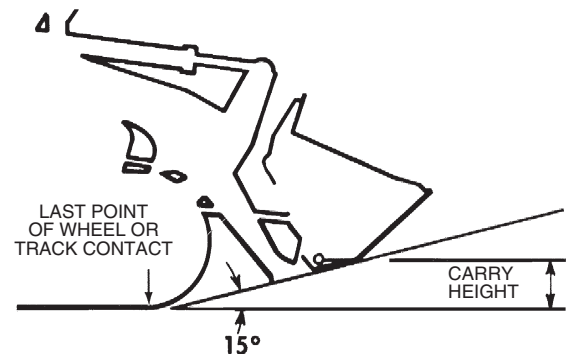
Operating Load

In order to comply with SAE standard J818 MAY87, the operating load of Wheel Loaders should not exceed 50% of the full turn Static Tipping load of the machine when equipped with attachments needed for the job. (For track loaders, operating load should not exceed 35% of the Static Tipping load rating.) See "Performance Data" of each machine in this handbook for increases to static tipping load by adding cab, counterweights, ripper-scarifier, etc.

The SAE operating load is not an indication of a wheel loader's rated payload. It takes into consideration only hydraulic lift and tipping capacity. There is no regard to structural and/or component lives, and for wheel loaders is measured on hard, moderately smooth and level operating surfaces.

Carry Position

SAE defines carry positions as: "The vertical distance from the ground to the center line of the bucket hinge pin, with the angle of approach at 15°." The sketch below illustrates this definition:

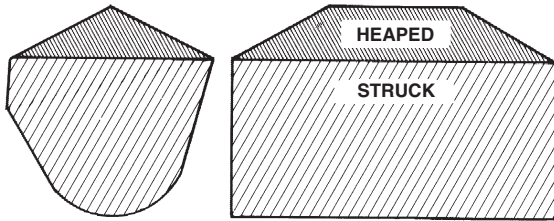
**Loader Clearance Circle**

SAE J732 JUN92 states that "minimum turning radius (over tire)" and "loader clearance circle" should be given for wheel loaders. Both are given on Cat specification sheets, including loader clearance circles for all available buckets for each machine.

Digging Depth

J732 JUN92 specifies digging depth as "the vertical distance in mm (inches) from the ground line to the bottom of the bucket cutting edge at the lowest position with the bucket cutting edge horizontal."

SAE BUCKET RATING



SAE Bucket Capacities

Struck capacity is that volume contained in a bucket after a load is leveled by drawing a straight edge resting on the cutting edge and the back of the bucket.

Heaped capacity is a struck capacity plus that additional material that would heap on the struck load at a 2:1 angle of repose with the struck line parallel to the ground.

SAE J742 (FEB85) specifies that the addition of any auxiliary spill guard to protect against spillage which might injure the operator will not be included in bucket capacity ratings. Buckets with irregular shaped cutting edges (vee edge) the strike plane should be drawn at one-third the distance of the protruding portion of the cutting edge. Cat rock buckets are built with integral see-through rock guards. Cat light material buckets come standard with bolt-on edges. These features which add to actual bucket capacity are included in published ratings.

Dump Height

SAE J732 JUN92 specifies that dump height is the vertical distance from the ground to the lowest point of the cutting edge with the bucket hinge pin at maximum height and the bucket at a 45° dump angle. Dump angle is the angle in degrees that the longest flat section of the inside bottom of the bucket will rotate below horizontal.

SELECTING A MACHINE

Steps in selecting the proper size loader:

1. Determine production required or desired.
2. Determine loader cycle time and cycles per hour.
A machine size must be assumed to select a basic cycle time.

3. Determine required payload per cycle in loose cubic yards and pounds (meters and kilograms).
4. Determine bucket size needed.
5. Make machine selection using bucket size and payload as criteria to meet production requirements.
6. Compare the loader cycle time used in calculations to the cycle time of the machine selected. If there is a difference, rework the process beginning at step 2.

1. Production Required

The production required of a wheel or track loader should be slightly greater than the production capability of the other critical units in the earth or material moving system. For example, if a hopper can handle 300 tons per hour, a loader capable of slightly more than 300 tons should be used. Required production should be carefully calculated so the proper machine and bucket selections are made.

2. Loader Cycle Times

When hauling loose granular material on a hard smooth operating surface, a .45-.55 minute basic cycle time is considered reasonable for Cat articulated loaders with a competent operator. This includes load, dump, four reversals of direction, full cycle of hydraulics and minimum travel.

Material type, pile height, and other factors may improve or reduce production, and should be added to or subtracted from the basic cycle time when applicable.

When hauls are involved, obtain the haul and return portion of the cycle from the estimated travel chart (this section). Add the haul and return times to the estimated basic cycle time to obtain total cycle time.

CYCLE TIME FACTORS

A basic cycle time (Load, Dump, Maneuver) of .45-.55 minutes is average for an articulated loader [the basic cycle for large loaders, 3 m³ (4 yd³) and up, can be slightly longer], but variations can be anticipated in the field. The following values for many variable elements are based on normal operations. Adding or subtracting any of the variable times will give the total basic cycle time.

*Minutes added (+)
 or Subtracted (-)
 From Basic Cycle*

Machine

— Material handler-.05

Materials

— Mixed+.02
 — Up to 3 mm (1/8 in).....+.02
 — 3 mm (1/8 in) to 20 mm
 (3/4 in).....-.02
 — 20 mm (3/4 in) to 150 mm
 (6 in)00
 — 150 mm (6 in) and over+.03 and Up
 — Bank or broken.....+.04 and Up

Pile

— Conveyor or Dozer piled 3 m
 (10 ft) and up00
 — Conveyor or Dozer piled 3 m
 (10 ft) or less+.01
 — Dumped by truck+.02

Miscellaneous

— Common ownership of trucks
 and loaders Up to -.04
 — Independently owned
 trucks Up to +.04
 — Constant operation..... Up to -.04
 — Inconsistent operation Up to +.04
 — Small target Up to +.04
 — Fragile target Up to +.05

Using actual job conditions and the above factors,
 total cycle time can be estimated. Convert total cycle
 time to cycles per hour.

$$\text{Cycles per hour at } 100\% \text{ Efficiency} = \frac{60 \text{ min}}{\text{Total Cycle Time in Minutes}}$$

Job efficiency is an important factor in machine
 selection. Efficiency is the actual number of min-
 utes worked during an hour. Job efficiency accounts
 for bathroom breaks and other work interruptions.

$$\begin{array}{lcl} \text{Cycles per hour} & & \\ \text{at 50 minutes} & \text{Cycles per hour} & 50 \text{ min} \\ \text{per hour} & = \text{at 100\%} & \times \text{actual work} \\ (83\% \text{ efficiency}) & \text{efficiency} & \text{time} \\ & & \hline & & 60 \text{ min hour} \end{array}$$

TRUCK LOADING

Average loader cycle times

914G-962H 0.45-0.50 min
 966H-980H 0.50-0.55 min
 988H-990H 0.55-0.60 min
 992K-994F 0.60-0.70 min

3. Required Payload Per Cycle

Required payload per cycle is determined by divid-
 ing required hourly production by the number of
 cycles per hour.

4. Bucket Selection

After required payload per cycle has been calcu-
 lated, the payload should be divided by the loose cubic
 yard (meter) material weight to determine number
 of loose cubic yards (meters) required per cycle.

The bulk of material handled does not weigh
 1800 kg/m³ (3000 lb/yd³), so a reasonable knowledge
 of material weight is necessary for accurate pro-
 duction estimates. The Tables Section has average
 weight for certain materials when actual weights
 are not known.

The percentage of rated capacity a bucket carries
 in various materials is estimated below. The bucket
 size required to handle the required volume per cycle
 is found with the aid of the percentage of rated bucket
 capacity called "Bucket Fill Factor."

The bucket size needed is determined by dividing
 loose cubic meters (or yards) required per cycle by
 the bucket fill factor.

$$\text{Bucket size} = \frac{\text{Volume Required/Cycle}}{\text{Bucket Fill Factor}}$$

BUCKET FILL FACTORS

The following indicates the approximate amounts
 of material as a percent of rated bucket capacity
 which will actually be delivered per bucket per cycle.
 This is known as "Bucket Fill Factor."

Loose Material	Fill factor
Mixed moist aggregates.....	95-100%
Uniform aggregates up to 3 mm	
(1/8 in).....	95-100
3 mm (1/8 in) to 9 mm (3/8 in).....	90-95
12 mm (1/2 in) to 20 mm (3/4 in).....	85-90
24 mm (1.0 in) and over.....	85-90

Blasted Rock

Well blasted	80-95%
Average	75-90
Poor	60-75

Other

Rock dirt mixtures	100-120%
Moist loam	100-110
Soil, boulders, roots	80-100
Cemented materials	85-95

NOTE: Fill factors on wheel loaders are affected by bucket penetration, breakout force, rackback angle, bucket profile and ground engaging tools such as bucket teeth or bolt-on replaceable cutting edges.

Example:

12 mm (1/2 in) material and 3 m³ (4 yd³) bucket.
 $.90 \times 3 \text{ m}^3 = 2.75 \text{ Loose m}^3 \text{ delivered per cycle.}$
 $.90 \times 4 \text{ yd}^3 = 3.6 \text{ Loose yd}^3 \text{ delivered per cycle.}$

NOTE: Check the static tipping load on the specific machine to determine if bucket load is in fact a safe operating load.

Bucket Selection

$$\text{Tons Required/Cycle} = \frac{\text{Tons Required/Hour}}{\text{Cycles/Hour}}$$

$$\frac{\text{Kg (Pounds)}}{\text{Required/Cycle}} = \frac{\text{Tons Required/Cycle}}{\times 907 \text{ kg (2000 lb)}}$$

$$\text{Volume Required/Cycle} = \frac{\text{kg (Pounds) Cycle}}{\text{Material Weight}} \\ \text{kg/m}^3 \text{ (lb/yd}^3\text{)}$$

Always select a machine with a greater capacity than the calculated required operating capacity. For most applications, payload above recommended and excessive counterweight can hinder machine performance and reduce dynamic stability and machine life.

For optimum performance in fast cycling situations such as truck loading, operating loads should not exceed the recommended capacity. To provide extra stability, calcium chloride (CaCl₂) ballast may be desired when operating at recommended operating load, see SAE Loader rating pages in this section. For specific stability data and optional tire sizes, see the "Performance Data" pages in this section.

When selecting special application buckets, such as multi-purpose and side dump the additional bucket weight must be deducted from recommended capacity.

Specific circumstances may involve other conditions which would also affect loader capacity. Because of the greatly varied applications and conditions, your Cat dealer should be contacted for guidance.

Example problem:

JOB CONDITIONS

Application	Truck loading
Production Required	450 metric ton (496 Tons) per hour
Material	9 mm (3/8") gravel in 6 m (20 ft) high stockpile
Density	1660 kg/m ³ (2800 lb/yd ³)

Trucks are 6-9 m³ (8-12 yd³) capacity and are owned by three contractors. Loading is constant. Hard level surface for loader maneuvering.

1. **PRODUCTION REQUIRED:** Given
2. **CYCLE TIME:** Assume loader size between 914G and 962H for initial choice of basic cycle.
 (Refer to Cycle Time Factors in this section)

Independent trucks	.04 min
Basic Cycle	.50 min
Material	-.02 min
Independent trucks	+.04 min
Constant operation	-.02 min
Total Cycle	.50 min

NOTE: Load and carry times not required in total cycle.

$$\begin{aligned} \text{Cycles/hr} &= 120 \text{ cycles/hr} \times \frac{50 \text{ min actual}}{60 \text{ min per hr}} \\ \text{at 83\% efficiency} &= 100 \text{ cycles/hr} \end{aligned}$$

3. VOLUME REQUIRED PER CYCLE

(Density in tons)

Density in this example was given. When not given, refer to Tables Section to obtain an estimated density for the material being handled.

$$\text{Metric: } \frac{1660 \text{ kg/m}^3}{1000 \text{ kg/ton}} = 1.66 \text{ ton/m}^3$$

$$\text{English: } \frac{2800 \text{ lb/yd}^3}{2000 \text{ lb/ton}} = 1.4 \text{ tons/yd}^3$$

Production Rate Required

$$\text{Metric: } \frac{450 \text{ tons/hr}}{1.66 \text{ tons/m}^3} = 271 \text{ m}^3/\text{hr}$$

$$\text{English: } \frac{496 \text{ tons/hr}}{1.4 \text{ tons/yd}^3} = 354 \text{ yd}^3/\text{hr}$$

Volume Required per Cycle

$$\text{Metric: } \frac{271 \text{ m}^3/\text{hr}}{100 \text{ cycles/hr}} = 2.71 \text{ m}^3/\text{cycle}$$

$$\text{English: } \frac{354 \text{ yd}^3/\text{hr}}{100 \text{ cycles/hr}} = 3.54 \text{ yd}^3/\text{cycle}$$

4. DETERMINE BUCKET SIZE

BUCKET FILL FACTOR

The volume of material required per cycle has been determined. Because of varying material fill factors, buckets do not always carry their rated load, a larger capacity bucket may be needed to carry the volume required. For fill factors, refer to Bucket Fill Factor Chart in this section.

Rated Bucket Capacity Required (Heaped)

$$\frac{2.71 \text{ m}^3/\text{cycle}}{.95 \text{ fill factor}} = 2.85 \text{ m}^3$$

$$\frac{3.54 \text{ yd}^3/\text{cycle}}{.95 \text{ fill factor}} = 3.73 \text{ yd}^3$$

A 2.9 m³ (3.75 yd³) bucket would provide the required capacity.

5. MACHINE SELECTION

The bucket size required and material density lead to the choice of a 950H with a 2.9 m³ (3.75 yd³) General Purpose Bucket (see bucket selection guide pages which follow.)

Finally, SAE payload criteria must be satisfied as follows:

The required operating capacity must not exceed one-half of the full turn static tipping load of the loader as equipped with a specific bucket.

The required operating capacity of the machine is determined by the volume the machine will carry per load times the density.

$$2.9 \text{ m}^3 \times 1660 \text{ kg/m}^3 = 4814 \text{ kg}$$

$$(3.75 \text{ yd}^3 \times 2800 \text{ lb/yd}^3 = 10,500 \text{ lb})$$

One half of full turn static tipping load for the 950H with a 2.9 m³ (3.75 yd³) General Purpose Bucket is 5410 kg (11,925 lb). SAE criteria is satisfied.



An Alternative Method of Machine Selection

Another method of selecting the right Wheel Loader and bucket to meet production requirements is by use of the nomographs on the following pages. The method is quicker and easier than the preceding example because it does not require as many calculations, yet the accuracy is about the same within the normal limits of input data.

Be careful when entering and reading data from the nomographs because some scales increase from bottom to top, while others are the reverse. Do not be overly concerned with the precision as affected by pencil line width or reading to the hundredth of a m³ (yd³). Remember that bucket fill factor, material density and cycle time are at best close estimates.

Example problem:

A Wheel Loader must produce 230 m³ (300 yd³) per hour in a truck loading application. Estimated cycle time is .6 minutes, working 45 minutes per hour. Bucket fill factor is 95% and material density is 1780 kg/m³ (3000 lb/yd³).

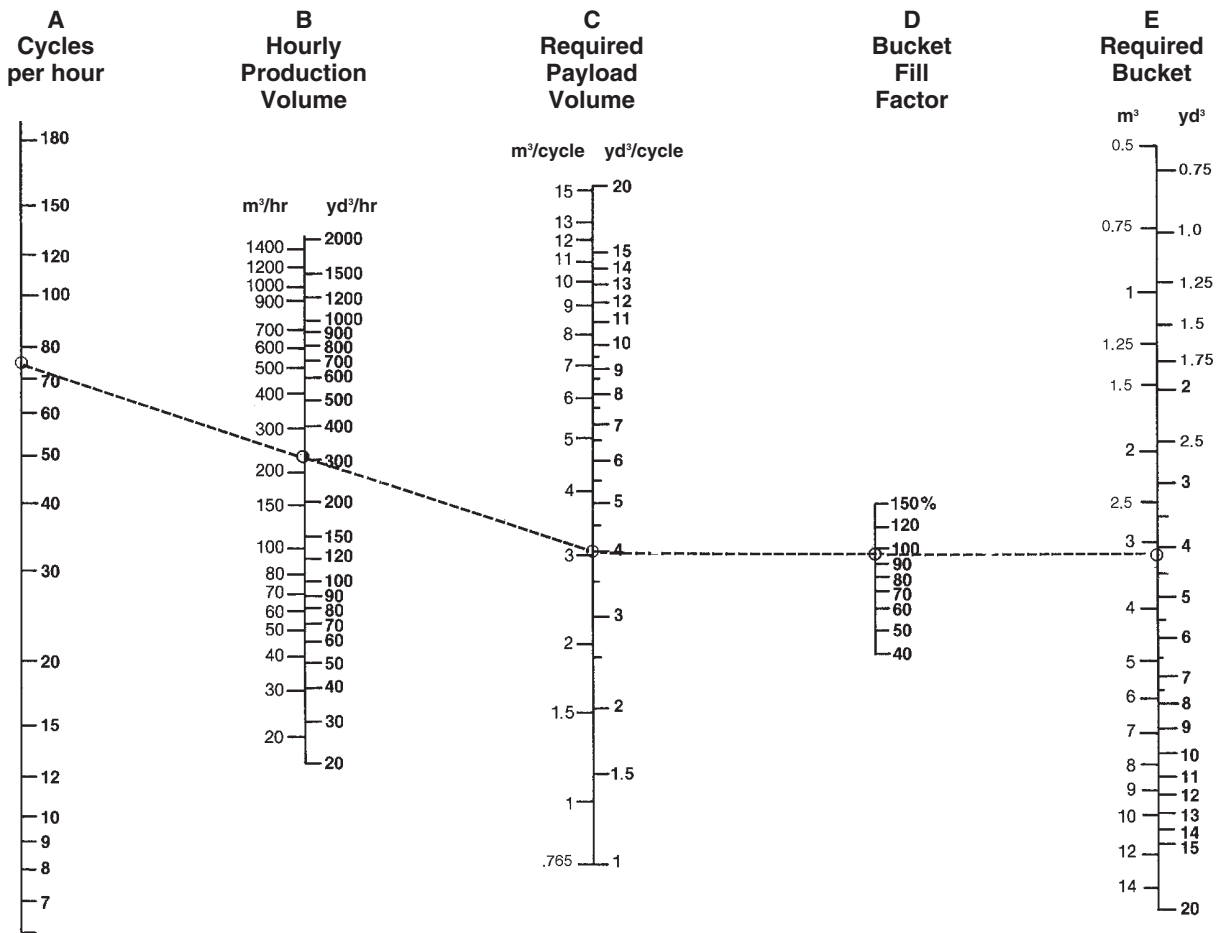
Determine bucket size and machine model.

Solution:

At full efficiency, the Wheel Loader will cycle 100 times per hour. Since only an average of 45 minutes are available, only 75 cycles will be completed.

Starting on Scale A at 75 cycles per hour draw a straight line intersecting 230 m³/hr (300 yd³/hr) on Scale B and extending it on to Scale C giving 3 m³/cycle (4 yd³/cycle) required payload. Follow solution steps 1-10.

1. Enter required hourly production on Scale B
230 m³/hr (300 yd³/hr).
2. Enter cycles per hour on Scale A (60 ÷ .6 = 100
× .75 = 75 cycles/hr).
3. Connect A through B to C. This shows a required
payload of 3 m³ (4 yd³) per cycle.
4. Enter estimated bucket fill factor on Scale D
(0.95).
5. Connect C through Scale D to E for required bucket
size 3 m³ (4 yd³).
6. Transfer cycles per hour Scale A and required
payload Scale C to the following page.



Production and Machine Selection Nomograph

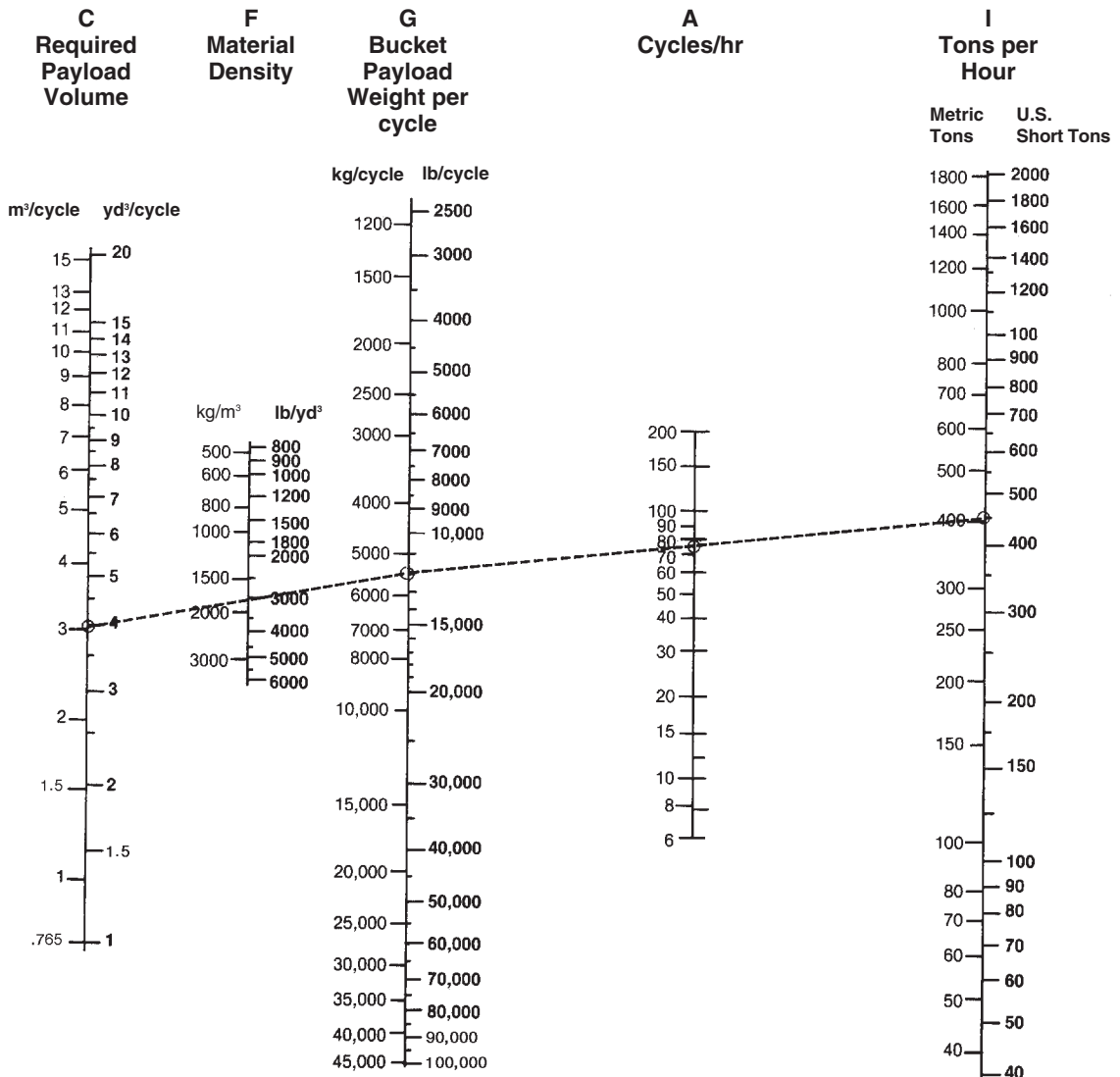
- To find payload weight and tons per hour

Wheel Loaders Integrated Toolcarriers

- Enter material density on Scale F 1780 kg/m³ (3000 lb/yd³).
- Connect C through Scale F to Scale G to give payload weight per cycle 5300 kg (11,500 lb).
- Compare Scale G quantity 5300 kg (11,500 lb) with recommended machine working range listed on the following bucket selection pages.

Operating capacity for the 950H with 3.1 m³ (4 yd³) bucket is dependent on material density and bucket capacity (see bucket selection pages that follow).

- For hourly tonnage, draw a straight line from Scale G through Scale A to Scale I 400 metric tons (450 U.S. tons).

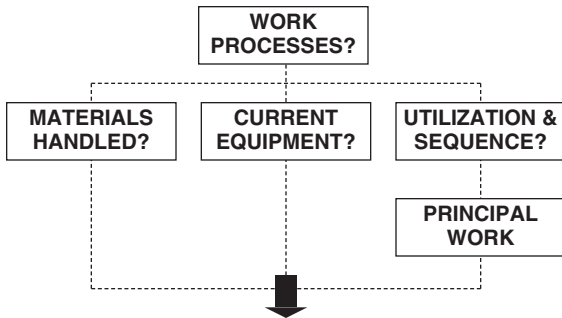


MACHINE/ATTACHMENT SELECTION

The Integrated Toolcarrier's versatility and the wide range of attachments makes the "single machine fleet" concept highly attractive to an increasing number of users.

A Job Analysis helps identify applications, work requirements, material handling parameters and the current working method. Thoroughly research each element in the following chart, the gathered information will help select the proper Integrated Toolcarrier System.

JOB ANALYSIS METHOD



- **APPROPRIATE INTEGRATED TOOLCARRIER MODEL SIZE**
- **NECESSARY ATTACHMENTS**

Work Processes:

The first step in the job analysis is to identify all work processes from start to finish. Key questions outlined below will begin to indicate the required attachments and potential Integrated Toolcarrier applications.

- What kinds of work are performed: (e.g., dozing, loading, stacking, digging, sweeping, handling special materials, etc.)
 - ... in site preparation?
 - ... below ground level?
 - ... at ground level?
 - ... above ground level?
 - ... in landscaping?
 - ... in maintenance equipment yard?
 - etc.
- What work is done manually that could be done with an Integrated Toolcarrier?
- What are the work conditions?:
 - ... underfoot?
 - ... grades?
 - ... tight quarters?
 - ... time restraints?
 - ... climate?
 - etc.

Materials Handled:

Examining the materials handled will assist in determining necessary attachments. Sizes and weights of material(s) handled will indicate the appropriate Integrated Toolcarrier model by defining lift and reach requirements. Concentrate on the material flow at the job site — the point of origin as well as the final destination for the various materials will undoubtedly have material handling requirements.

- What kinds of materials are handled (e.g. snow, earth, bricks, chemicals, pipe, logs, etc.)
- What form are the materials handled in: bulk? palletized?
- How much does each weigh?
- What are the dimensions of each?
- What are the... movement parameters:
 - ... dozed what distance?
 - ... load and carried what distance?
 - ... lifted how high?
 - ... placed below ground level?
 - ... placed what distance from machine?

Current Equipment:

If determining material weight is not possible, much information can be determined from looking at the current equipment fleet. This will suggest required performance capabilities such as lifting capacity.

- Machines currently doing the work (e.g. wheel loaders, lift trucks, sweepers, light capacity cranes, snow plows, etc.)?
- What special (maximum) capabilities does each machine have (production, lift height, load capacity, width/height dimensions, reach, turning radius, travel speed, etc.)?
- To what extent are each machine's maximum capabilities used?
- What are owning/operating costs of each?

Utilization & Sequence:

Utilization implies how often the current machines are used and what will be the utilization factors for the Integrated Toolcarrier with each individual attachment. Sequence implies what order these tasks are accomplished in and if two or more machines operate at the same time. This portion of the job analysis should assist in comparing economies of various systems. Other important considerations may be the number of operators needed, storage space, reduced maintenance requirements, etc.

- How often (what percent) is each machine used?
- How often and when does it sit idle?
- How often and when do two or more machines work at the same time?
- Can the operation be changed to permit single machine operation?

Principal Work:

Utilization and sequence will indicate the principal work the Integrated Toolcarrier will do, further assisting in attachment and model sizing and selection. The basic machine/tool package should be able to handle the toughest, most frequently performed jobs for the primary application. Secondary tools can have a little more "give and take" in their performance capabilities than the primary tool.

- What work can be accomplished by an Integrated Toolcarrier?
- What work will take up the majority of Integrated Toolcarrier time?
- What work will use the maximum static tipping capabilities of the Integrated Toolcarrier?
- What high cost (owning and operating) and/or low utilization machines can be replaced by an Integrated Toolcarrier?

Additional Tips for Tool Sizing and Selection

Tool selection will principally concern hydraulic power requirements and static tipping load considerations. The standard tools offered by Caterpillar can be used on any Integrated Toolcarrier machine with little difficulty. However, tools such as the hydraulic broom, claws, blades and asphalt cutter will require additional consideration before proposing a system to the customer.

Fork Rating

Table indicates rated pallet fork load at standard machine configuration, 600 mm (24") load center, 1200 mm (3'11") fork on IT14G-930H, see operator manual to determine rated load for vehicle configuration being used.

Model	kg	lb	Model	kg	lb
IT14G	1870	4123	930H Standard	3179	6994
924H Standard	2724	5993	930H High Lift	2739	6026
924H High Lift	2329	5124			

Bucket Rating

Bucket capacity, SAE J742 FEB85 (nominally heaped)

Table indicates rated load at vehicle configuration noted by the asterisks. See operator manual to determine rated load for vehicle configuration being used.

1.4 m³ (1.75 yd³) with Bolt-on Cutting Edge

IT14G*	2273 kg	5000 lb
---------------	---------	----------------

1.8 m³ (2.35 yd³) with Bolt-on Cutting Edge

924H** Standard	3638 kg	8004 lb
924H** High Lift	2958 kg	6508 lb

2.0 m³ (2.6 yd³) with Bolt-on Cutting Edge

924H** Standard	3549 kg	7808 lb
924H** High Lift	2875 kg	6325 lb

2.1 m³ (2.75 yd³) with Bolt-on Cutting Edge

930H** Standard	3990 kg	8778 lb
930H** High Lift	3162 kg	6956 lb

2.3 m³ (3.0 yd³) with Bolt-on Cutting Edge

930H** Standard	3935 kg	8657 lb
930H** High Lift	3111 kg	6844 lb

2.5 m³ (3.25 yd³) with Bolt-on Cutting Edge

930H** Standard	3893 kg	8565 lb
930H** High Lift	3071 kg	6756 lb

*Specifications shown are for high-speed version IT14G and include lubricants, full fuel tank, ROPS cab, 80 kg (176 lb) operator, standard 250 kg (550 lb) counterweight and 17.5-R25 (L-2 equivalent) tires.

**Specifications shown include lubricants, full fuel tank, limited slip axles, heavy duty rear brakes, optional counterweights, additional guarding, ROPS cab with A/C, 80 kg (176 lb) operator and 20.5-R25 (L-3) tires.

The charts explain each machine's maximum payload. The maximum material density would be determined by dividing the payload by the bucket capacity. If the actual material density exceeds the recommended material density, the process should be repeated to select the properly sized bucket.

A similar procedure would be used with the forks and material handling arm to determine maximum recommended lifting capacity and/or required IT model size.

Pallet Fork

The pallet fork will fulfill many material handling needs. A modified Class 3 fork carriage provides visibility to the tines for precision pallet work. This carriage with non-standard spacing accepts many Class 3 lift truck attachments.

Pallet fork rated operating loads are based on the following:

SAE J1197 FEB91: 50% of the full turn static tipping load or the hydraulic/structural limitations.

CEN 474-3 (European standard): 60% of the full static tipping load on rough terrain or the hydraulic/structural limitations. 80% of the full turn static tipping load on firm, level ground or the structural/hydraulic limitation. Other local, regional or international guidelines may also apply.

If operation is on rough ground these criteria may need modification. In this instance, the size and rating of existing equipment should be considered.

Sizing for pallet work generally consists of answering the following questions.

1. What are the average loaded pallet dimensions?
2. Lift Capacity — what capacity is required to lift and move the average pallet load? The maximum pallet load?
3. Lift Height — can the machine reach the top level of the standard pallet stack? What are the maximum reach, lift and height requirements?
4. Maneuverability — can the machine work around the current aisle configuration? In the stacking aisles? Main aisles? Intersecting aisles? Are 90° turns required in any aisle for material placement?
5. Length — what tine length is required to fit the commonly used pallets? (1219 mm [4'0"] tines are standard length for most palletized material.)
6. Any machine height restrictions?
7. Any special fork configurations required?

Lift capacity, lift height, aisle configuration and tine length are the most important considerations in recommending a pallet handling machine.

Example problem:

The following example applies the job analysis method to a work situation.

Sewer & Water Contractor

Sets water lines (152 mm-610 mm [6 in-24 in] iron pipe), sanitary sewer lines (152 mm-457 mm [6 in-18 in] PVC) and storm sewer lines (610 mm-1067 mm [24 in-42 in] concrete pipe) primarily in urban areas ... often-times across or down existing streets.

Materials

Loam/Clay: 1600 kg/m³ (2700 lb/yd³) loose density
Bedding
(Gravel): 1900 kg/m³ (3200 lb/yd³) loose density
Water Pipe: 610 mm (24 in) push-on joint ductile iron, 6.1 m (20 ft) sections, 1309 kg (2885 lb) 215 kg/m (144.3 lb/ft) × 6.1 m (20 ft) See trenching pages in the Excavator backhoe section.
Storm Sewer: 1067 mm (42 in), Wall B, concrete pipe, 1.5 m (5 ft) sections, 1556 kg (3430 lb) 1021 kg/m (686 lb/ft × 5 ft) See trenching pages in the Excavator backhoe section.

Manhole

Boxes: 1361 kg (3000 lb)

WHAT INTEGRATED TOOLCARRIER MODEL SHOULD BE RECOMMENDED?

WHICH ATTACHMENTS?

Work Processes	Integrated Toolcarrier Attachment Possibilities
Bundled PVC and individual concrete/iron pipe-loaded/unloaded (yardsite) and strung along trench	Forks/Material Handling Arm
Unload, handle, set manhole boxes	Material Handling Arm
Excess excavated material truck loaded	Bucket
Bedding material handled/placed	Bucket
Trench backfilled	Bucket/Blade
Trench compaction	Compactor Wheel
Rough and finish grading	Bucket/Blade
Street cleanup	Bucket/Broom
Pavement removal	Rebar Snips/Asphalt Cutter

Current Equipment**Utilization**

Cat 22590%
Champ CB607 lift truck,
3175 kg (7000 lb) capacity15%
Deere 444 with 1.1 m³ (1.5 yd³)
G.P. bucket60%
Rosco D-50 sweeperone half hour/day
Rammax 1361 kg (3000 lb) self-propelled
trench compactor25%

Machine sizing

1350 mm (53 in) Forks

Operating Load at Full Turn*

Model	kg	lb
IT14G	1810	5991
924H	2616	5755
930H Standard	3058	6728
930H High Lift	2639	5806
Water pipes: 1309 kg (2885 lb)		IT14G ... 1 pipe — no problem 924H ... 1 pipe — no problem 930H ... 1 pipe — no problem
Storm sewer pipes: 1556 kg (3430 lb)		IT14G ... 1 pipe — no problem 924H ... 1 pipe — no problem 930H ... 1 pipe — no problem

*Note that the most conservative operating load (SAE J1197 FEB91) is used here. The rated operating load for some competitive machines with pallet forks will be based upon European standard CEN 474-3, **assuming operation on firm and level ground** (i.e. using 80% of full turn static tipping load).

Material Handling Arm (MHA)

The rated load for the MHA is 50% of the full turn static tipping load in each position or hydraulic or structural limitations. Manually extendable telescopic sections enable maximum lifting capacity at the full retracted position, and maximum lift height and reach in the fully extended position.

Operating Load at Full Turn

Model	Retracted	Mid	Extended
IT14G	1370 kg 3021 lb	1076 kg 2373 lb	888 kg 1958 lb
924H Standard Hook On	1964 kg 4321 lb	1560 kg 3432 lb	1296 kg 2851 lb
924H High Lift Hook On	1737 kg 3821 lb	1405 kg 3091 lb	1181 kg 2598 lb
930H Standard Hook On	2333 kg 5133 lb	1868 kg 4110 lb	1559 kg 3430 lb
930H High Lift Hook On	2072 kg 4558 lb	1687 kg 3711 lb	1425 kg 3135 lb

Storm sewer pipes:
1556 kg (3430 lb)

IT14G ... no
924H ... yes in
retracted
930H ... yes in
retracted and mid
IT14G ... no
924H ... yes in
retracted and mid
930H ... yes in
retracted, mid and
extended

Manhole boxes:
1361 kg (3000 lb)

Buckets

All general purpose buckets are interchangeable on 924H-930H due to common attachment points on the quick couplers. Bucket selection will depend on the material density in your application. Offering multiple sized buckets allows the user the flexibility to closely match material density and bucket size with machine capability. Equipping a machine with too large a bucket will result in unacceptable stability — too small a bucket may provide inadequate tire coverage.

Bucket 1900 kg/m³ (3200 lb/yd³) ... 100% fill factor

Model	Bucket	Payload	50% Full Turn Static Tipping
924H* Hook On	1.8 m ³	3420 kg	3638 kg
	2.3 yd ³	7360 lb	8004 lb
	2.1 m ³	3990 kg	3549 kg
	2.7 yd ³	8640 lb	7808 lb
930H* Hook On	2.1 m ³	3990 kg	3864 kg
	2.7 yd ³	8640 lb	8501 lb
	2.3 m ³	4370 kg	3810 kg
	3.0 yd ³	9600 lb	8382 lb

NOTE: Metric numbers are a product of conversion.
*924H and 930H equipped with 20.5-R25 (L-3) tires.

Machine/Attachment Recommendation

930H — The greater static tipping load capabilities allow it to do a greater portion of the contractor's total work processes. With the following attachments, the 930H could replace part or all of the specialty units, such as the wheel loader, rough terrain lift truck, street sweeper, and/or the trench compactor. 2.1 m³ (2.75 yd³), 2.3 m³ (3.0 yd³), or 2.5 m³ (3.25 yd³) General Purpose Bucket
1350 mm (53 in) forks (handles all pipes)
Material Handling Arm — (handles pipe sizes under 1067 mm (42 in) concrete and manhole boxes ... 225 would have to set 1219 mm (48 in) and larger concrete pipe
Broom

Optional Attachments to Consider:

24-LH compactor wheel
Rebar snips
Asphalt cutter

**906H
Vertical Coupler**

Bucket Type	Rated Capacity		Maximum Material Density	
	m ³	yd ³	kg/m ³	lb/yd ³
General Purpose	0.90	1.18	1755	2952
Light Material	1.20	1.57	1208	2032
Multi-Purpose	0.75	0.98	2131	3584

**906H
Horizontal Coupler**

Bucket Type	Rated Capacity		Maximum Material Density	
	m ³	yd ³	kg/m ³	lb/yd ³
General Purpose	0.90	1.18	1889	3177
Light Material	1.20	1.57	1271	2138
Multi-Purpose	0.75	0.98	2184	3674

**907H
Vertical Coupler**

Bucket Type	Rated Capacity		Maximum Material Density	
	m ³	yd ³	kg/m ³	lb/yd ³
General Purpose	1.00	1.31	1584	2664
Light Material	1.20	1.57	1218	2049
Multi-Purpose	0.75	0.98	2149	3615

**907H
Horizontal Coupler**

Bucket Type	Rated Capacity		Maximum Material Density	
	m ³	yd ³	kg/m ³	lb/yd ³
General Purpose	1.00	1.31	1706	2870
Light Material	1.20	1.57	1310	2203
Multi-Purpose	0.75	0.98	2202	3704

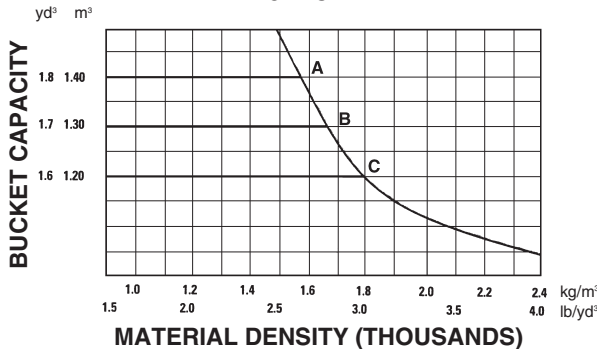
**908H
Vertical Coupler**

Bucket Type	Rated Capacity		Maximum Material Density	
	m ³	yd ³	kg/m ³	lb/yd ³
General Purpose	1.10	1.44	1549	2605
Light Material	1.50	1.96	1034	1739
Multi-Purpose	0.90	1.18	1929	3245

**908H
Horizontal Coupler**

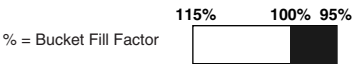
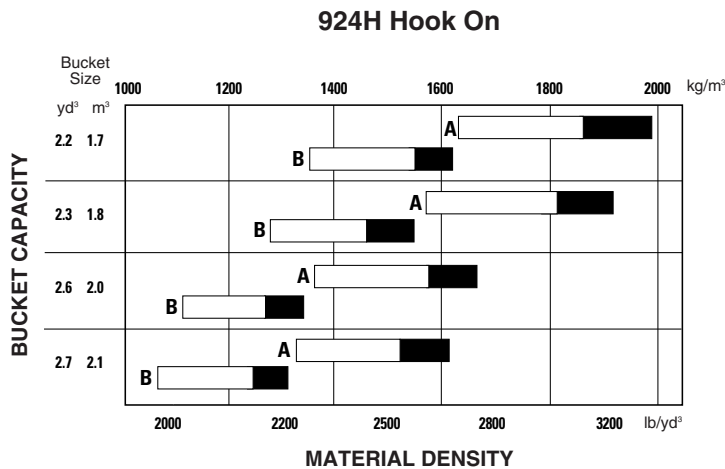
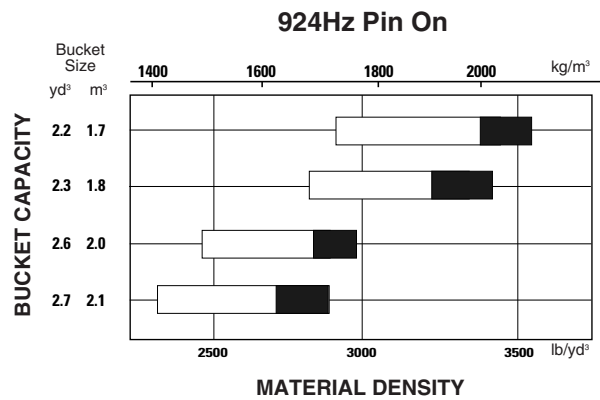
Bucket Type	Rated Capacity		Maximum Material Density	
	m ³	yd ³	kg/m ³	lb/yd ³
General Purpose	1.10	1.44	1658	2789
Light Material	1.50	1.96	1106	1860
Multi-Purpose	0.90	1.18	1967	3309

914G



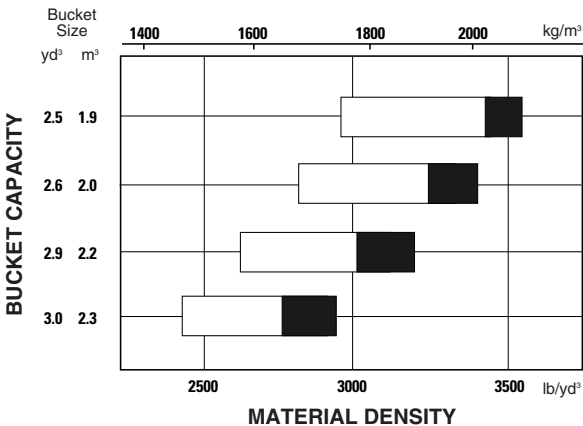
KEY

- A — 1.4 m³ (1.8 yd³) General Purpose Bucket, bolt-on edge
- 1.4 m³ (1.8 yd³) General Purpose Bucket, bolt-on teeth and segments
- B — 1.3 m³ (1.7 yd³) General Purpose Bucket, bolt-on edge
- 1.3 m³ (1.7 yd³) General Purpose Bucket, bolt-on teeth and segments
- 1.3 m³ (1.7 yd³) General Purpose Bucket, bolt-on teeth
- 1.3 m³ (1.7 yd³) General Purpose Bucket, flush mounted teeth
- C — 1.2 m³ (1.6 yd³) General Purpose Bucket, bolt-on teeth

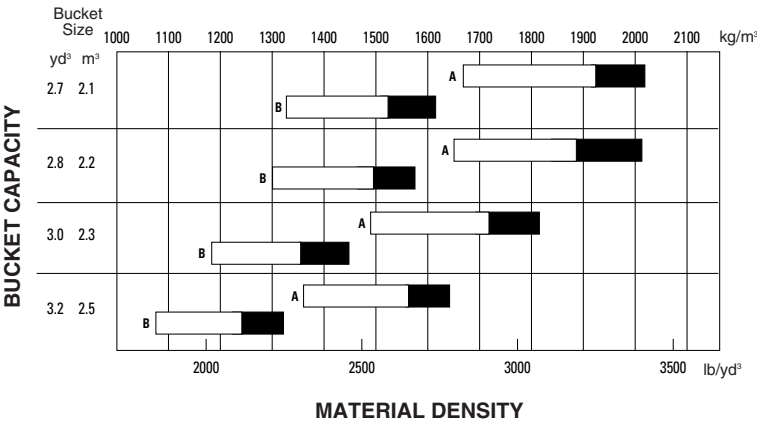


KEY
A — Standard VersaLink
B — High Lift

928Hz



930H



% = Bucket Fill Factor

115%	100%	95%

KEY
A — Standard VersaLink
B — High Lift

938H

Material Density			kg/m³																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
Standard Linkage	Pin-On	General Purpose	2.3 m³ (3.0 yd³)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													

*Material Handling buckets are flat floor buckets.

950H

Material Density			kg/m³	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200			
Standard Linkage	Pin-On	General Purpose	2.7 m³ (3.5 yd³)																						
			2.9 m³ (3.8 yd³)																						
			3.1 m³ (4.1 yd³)																						
			3.3 m³ (4.3 yd³)																						
			3.5 m³ (4.6 yd³)																						
	Pin-On	Material Handling*	3.1 m³ (4.1 yd³)																						
			3.3 m³ (4.3 yd³)																						
			3.5 m³ (4.6 yd³)																						
			2.9 m³ (3.8 yd³)																						
			2.9 m³ (3.8 yd³)																						
	Fusion QC	General Purpose	5.2 m³ (6.8 yd³)																						
			9.0 m³ (11.8 yd³)																						
			3.1 m³ (4.1 yd³)																						
			3.4 m³ (4.5 yd³)																						
			3.4 m³ (4.5 yd³)																						
High Lift Linkage	Pin-On	General Purpose	2.7 m³ (3.5 yd³)																						
			2.9 m³ (3.8 yd³)																						
			3.1 m³ (4.1 yd³)																						
			3.3 m³ (4.3 yd³)																						
			3.5 m³ (4.6 yd³)																						
	Pin-On	Material Handling*	3.1 m³ (4.1 yd³)																						
			3.3 m³ (4.3 yd³)																						
			3.5 m³ (4.6 yd³)																						
			2.9 m³ (3.8 yd³)																						
			2.9 m³ (3.8 yd³)																						
	Fusion QC	General Purpose	5.2 m³ (6.8 yd³)																						
			9.2 m³ (12.0 yd³)																						
			3.1 m³ (4.1 yd³)																						
			3.4 m³ (4.5 yd³)																						
			3.4 m³ (4.5 yd³)																						
Material Density			lb/yd³	674	843	1011	1180	1348	1517	1685	1854	2022	2191	2359	2528	2696	2865	3033	3202	3370	3539	3707			
Bucket Fill			115% 110% 105% 100% 95%																						

*Material Handling buckets are flat floor buckets.

962H

Material Density		kg/m³	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200
Standard Linkage	Pin-On	General Purpose	2.9 m³ (3.8 yd³)														3.3 (4.4)				2.9 (3.8)
			3.1 m³ (4.1 yd³)																		
			3.3 m³ (4.3 yd³)																		
			3.5 m³ (4.6 yd³)																		
			3.6 m³ (4.7 yd³)																		
	Material Handling*	3.3 m³ (4.3 yd³)																			
		3.5 m³ (4.6 yd³)																			
		3.8 m³ (5.0 yd³)																			
	Rock	3.1 m³ (4.1 yd³)																			
		3.1 m³ (4.1 yd³)																			
	Waste	5.2 m³ (6.8 yd³)																			
Fusion QC	General Purpose	3.1 m³ (4.1 yd³)																			
		3.4 m³ (4.5 yd³)																			
		3.8 m³ (5.0 yd³)																			
	Material Handling*	3.4 m³ (4.5 yd³)																			
		3.8 m³ (5.0 yd³)																			
High Lift Linkage	Pin-On	General Purpose	2.9 m³ (3.8 yd³)																		
			3.1 m³ (4.1 yd³)																		
			3.3 m³ (4.3 yd³)																		
			3.5 m³ (4.6 yd³)																		
			3.6 m³ (4.7 yd³)																		
	Material Handling*	3.3 m³ (4.3 yd³)																			
		3.5 m³ (4.6 yd³)																			
		3.8 m³ (5.0 yd³)																			
	Rock	3.1 m³ (4.1 yd³)																			
		3.1 m³ (4.1 yd³)																			
	Waste	5.2 m³ (6.8 yd³)																			
Fusion QC	General Purpose	3.1 m³ (4.1 yd³)																			
		3.4 m³ (4.5 yd³)																			
		3.8 m³ (5.0 yd³)																			
	Material Handling*	3.4 m³ (4.5 yd³)																			
		3.8 m³ (5.0 yd³)																			
Material Density		lb/yd³	674	843	1011	1180	1348	1517	1685	1854	2022	2191	2359	2528	2696	2865	3033	3202	3370	3539	3707
Bucket Fill																					
115% 110% 105% 100% 95%																					

*Material Handling buckets are flat floor buckets.

966H

Material Density			kg/m³	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	
Standard Linkage	Pin-On	General Purpose	3.6 m³ (4.7 yd³)													4.1 (5.4)				3.6 (4.7)			
			3.8 m³ (5.0 yd³)												4.4 (5.7)				3.8 (5.0)				
			4.0 m³ (5.2 yd³)												4.6 (6.0)				4.0 (5.2)				
			4.3 m³ (5.6 yd³)											4.9 (6.5)				4.3 (5.6)					
		Material Handling*	3.8 m³ (5.0 yd³)													4.4 (5.7)				3.8 (5.0)			
		4.0 m³ (5.2 yd³)												4.6 (6.0)				4.0 (5.2)					
	Rock	3.5 m³ (4.6 yd³)																	3.5 (4.6)		3.3 (4.4)		
		3.5 m³ (4.6 yd³)																	3.5 (4.6)		3.3 (4.4)		
	HD Rock	3.5 m³ (4.6 yd³)																	3.5 (4.6)		3.3 (4.4)		
	Waste	6.4 m³ (8.4 yd³)						7.4 (9.5)			6.4 (8.4)												
Fusion QC	General Purpose	3.8 m³ (5.0 yd³)														4.4 (5.7)				3.8 (5.0)			
		4.2 m³ (5.5 yd³)											4.8 (6.3)						4.2 (5.5)				
		Material Handling*	4.2 m³ (5.5 yd³)											4.8 (6.3)					4.2 (5.5)				
		Waste	6.5 m³ (8.5 yd³)						7.5 (9.8)			6.5 (8.5)											
	Woodchip/Mulch	9.9 m³ (12.9 yd³)	11.4 (14.9)																				
Coal	6.7 m³ (8.8 yd³)																						
	7.7 m³ (10.1 yd³)																						
High Lift Linkage	Pin-On	General Purpose	3.6 m³ (4.7 yd³)														4.1 (5.4)				3.6 (4.7)		
			3.8 m³ (5.0 yd³)														4.4 (5.7)				3.8 (5.0)		
			4.0 m³ (5.2 yd³)														4.6 (6.0)				4.0 (5.2)		
			4.3 m³ (5.6 yd³)												4.9 (6.5)				4.3 (5.6)				
		Material Handling*	3.8 m³ (5.0 yd³)														4.4 (5.7)				3.8 (5.0)		
		4.0 m³ (5.2 yd³)													4.6 (6.0)				4.0 (5.2)				
	Rock	3.5 m³ (4.6 yd³)																		3.5 (4.6)		3.3 (4.4)	
		3.5 m³ (4.6 yd³)																		3.5 (4.6)		3.3 (4.4)	
	HD Rock	3.5 m³ (4.6 yd³)																		3.5 (4.6)		3.3 (4.4)	
	Waste	6.4 m³ (8.4 yd³)																					
Fusion QC	General Purpose	3.8 m³ (5.0 yd³)															4.4 (5.7)				3.8 (5.0)		
		4.2 m³ (5.5 yd³)												4.8 (6.3)						4.2 (5.5)			
		Material Handling*	4.2 m³ (5.5 yd³)												4.8 (6.3)					4.2 (5.5)			
		Waste	6.5 m³ (8.5 yd³)																				
	Woodchip/Mulch	9.9 m³ (12.9 yd³)	11.4 (14.9)																				
Coal	6.7 m³ (8.8 yd³)																						
	7.7 m³ (10.1 yd³)																						
Material Density			lb/yd³	1011	1180	1348	1517	1685	1854	2022	2191	2359	2528	2696	2865	3033	3202	3370	3539	3707	3876	4044	
Bucket Fill			115% 110% 105% 100% 95%																				

*Material Handling buckets are flat floor buckets.

972H

Material Density			kg/m³	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400		
Standard Linkage	Pin-On	General Purpose	4.0 m³ (5.2 yd³)														4.6 (6.0)							
			4.3 m³ (5.6 yd³)														4.9 (6.5)							
			4.5 m³ (5.9 yd³)															5.2 (6.8)			4.5 (5.9)			
			4.6 m³ (6.0 yd³)															5.3 (6.9)			4.6 (6.0)			
			5.1 m³ (6.7 yd³)											5.9 (7.7)				5.1 (6.7)						
		Material Handling*	4.3 m³ (5.6 yd³)														4.9 (6.5)				4.3 (5.6)			
		4.7 m³ (6.2 yd³)															5.4 (7.1)			4.7 (6.2)				
	Rock	4.0 m³ (5.2 yd³)																	4.0 (5.2)			3.8 (4.9)		
	HD Rock	4.0 m³ (5.2 yd³)																	4.0 (5.2)			3.8 (4.9)		
	Waste	6.4 m³ (8.4 yd³)								7.4 (9.6)				6.4 (8.4)										
	Fusion QC	General Purpose	4.2 m³ (5.5 yd³)															4.8 (6.3)					4.2 (5.5)	
			4.8 m³ (6.3 yd³)														5.5 (7.2)				4.8 (6.3)			
Material Handling*		4.6 m³ (6.0 yd³)															5.3 (6.9)				4.6 (6.0)			
Waste		6.5 m³ (8.5 yd³)																			7.5 (9.8)	6.5 (8.5)		
Woodchip/ Mulch		9.9 m³ (12.9 yd³)				11.4 (14.9)																9.9 (12.9)		
Coal		6.7 m³ (8.8 yd³)																				7.7 (10.1)	6.7 (8.8)	
	7.7 m³ (10.1 yd³)																				8.9 (11.6)	7.7 (10.1)		
High Lift Linkage	Pin-On	General Purpose	4.0 m³ (5.2 yd³)														4.6 (6.0)						4.0 (5.2)	
			4.3 m³ (5.6 yd³)															4.9 (6.5)				4.3 (5.6)		
			4.5 m³ (5.9 yd³)																5.2 (6.8)				4.5 (5.9)	
			4.6 m³ (6.0 yd³)																5.3 (6.9)				4.6 (6.0)	
			5.1 m³ (6.7 yd³)												5.9 (7.7)				5.1 (6.7)					
		Material Handling*	4.3 m³ (5.6 yd³)															4.9 (6.5)				4.3 (5.6)		
		4.7 m³ (6.2 yd³)																5.4 (7.1)			4.7 (6.2)			
	Rock	4.0 m³ (5.2 yd³)																	4.0 (5.2)			3.8 (4.9)		
	HD Rock	4.0 m³ (5.2 yd³)																	4.0 (5.2)			3.8 (4.9)		
	Waste	6.4 m³ (8.4 yd³)																				7.4 (9.6)	6.4 (8.4)	
	Fusion QC	General Purpose	4.2 m³ (5.5 yd³)																4.8 (6.3)					4.2 (5.5)
			4.8 m³ (6.3 yd³)																5.5 (7.2)				4.8 (6.3)	
Material Handling*		4.6 m³ (6.0 yd³)																5.3 (6.9)				4.6 (6.0)		
Waste		6.5 m³ (8.5 yd³)																				7.5 (9.8)	6.5 (8.5)	
Woodchip/ Mulch		9.9 m³ (12.9 yd³)																				11.4 (14.9)	9.9 (12.9)	
Coal		6.7 m³ (8.8 yd³)																				7.7 (10.1)	6.7 (8.8)	
	7.7 m³ (10.1 yd³)																				8.9 (11.6)	7.7 (10.1)		
Material Density			lb/yd³	1011	1180	1348	1517	1685	1854	2022	2191	2359	2528	2696	2865	3033	3202	3370	3539	3707	3876	4044		
Bucket Fill																								
115% 110% 105% 100% 95%																								

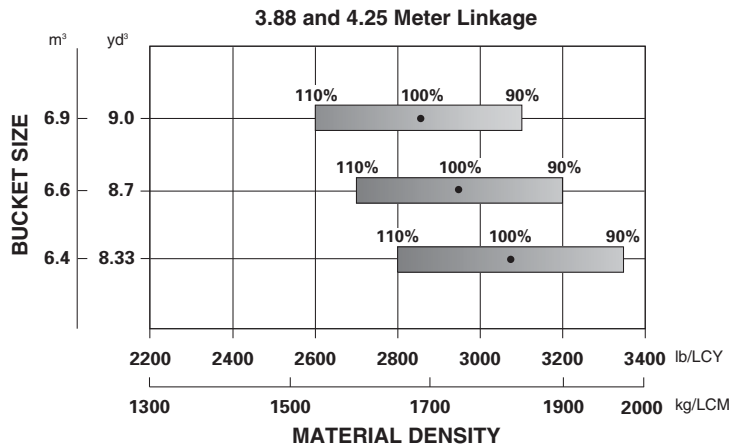
*Material Handling buckets are flat floor buckets.

980H

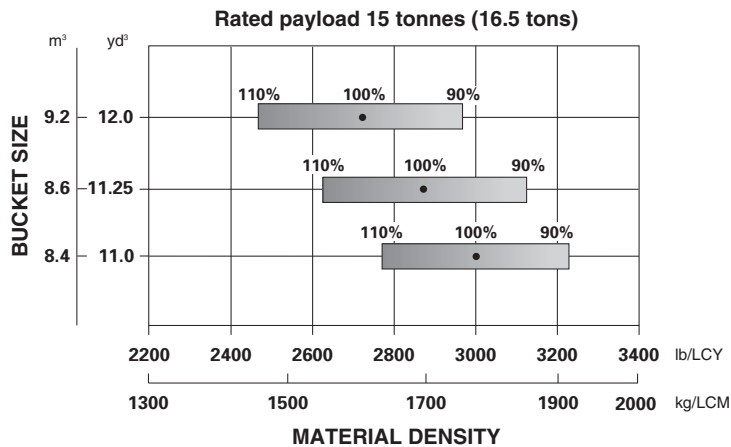
Material Density			kg/m³	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	2600		
Standard Linkage	Pin-On	General Purpose	4.6 m³ (6.0 yd³)														5.3 (6.9)				4.6 (6.0)				
			5.0 m³ (6.5 yd³)																			5.0 (6.5)			
			5.4 m³ (7.1 yd³)												6.2 (8.1)										
			5.7 m³ (7.5 yd³)																						
		6.1 m³ (8.0 yd³)**																							
		6.6 (8.6)																							
		7.0 (9.2)																							
		6.1 (8.0)																							
		6.2 (8.1)																							
		5.4 (7.1)																							
Material Handling*	6.1 m³ (8.0 yd³)**																								
	7.0 (9.2)																								
	6.1 (8.0)																								
	6.2 (8.1)																								
Rock	4.2 m³ (5.5 yd³)																								
	4.5 m³ (5.9 yd³)																								
	4.2 (5.5)																								
	4.3 (5.6)																								
Spade Rock	4.3 m³ (5.6 yd³)																								
	4.7 m³ (6.2 yd³)																								
HD Quarry Spade Rock	4.3 (5.6)																								
	4.1 (5.3)																								
Waste	4.5 m³ (5.9 yd³)																								
	4.5 (5.9)																								
Coal	10.5 m³ (13.7 yd³)	12.1 (15.8)																							
	10.5 (13.7)																								
Waste	8.2 m³ (10.7 yd³)																								
	9.4 (12.3)																								
Coal	8.2 (10.7)																								
	9.4 (12.3)																								
High Lift Linkage	Pin-On	General Purpose	4.6 m³ (6.0 yd³)																						
			5.0 m³ (6.5 yd³)																						
			5.4 m³ (7.1 yd³)																						
			5.7 m³ (7.5 yd³)																						
		6.1 m³ (8.0 yd³)**																							
		6.6 (8.6)																							
		7.0 (9.2)																							
		6.1 (8.0)																							
		6.2 (8.1)																							
		5.4 (7.1)																							
Material Handling*	6.1 m³ (8.0 yd³)**																								
	7.0 (9.2)																								
	6.1 (8.0)																								
	6.2 (8.1)																								
Rock	4.2 m³ (5.5 yd³)																								
	4.5 m³ (5.9 yd³)																								
	4.2 (5.5)																								
	4.3 (5.6)																								
Spade Rock	4.3 m³ (5.6 yd³)																								
	4.7 m³ (6.2 yd³)																								
HD Quarry Spade Rock	4.3 (5.6)																								
	4.1 (5.3)																								
Waste	4.5 m³ (5.9 yd³)																								
	4.5 (5.9)																								
Coal	10.5 m³ (13.7 yd³)	12.1 (15.8)																							
	10.5 (13.7)																								
Waste	8.2 m³ (10.7 yd³)																								
	9.4 (12.3)																								
Coal	8.2 (10.7)																								
	9.4 (12.3)																								

*Material Handling buckets are flat floor buckets.
**With 980H Aggregate Loader Package.

988H



990H — Standard



NOTE: Percentages shown represent bucket fill factor.

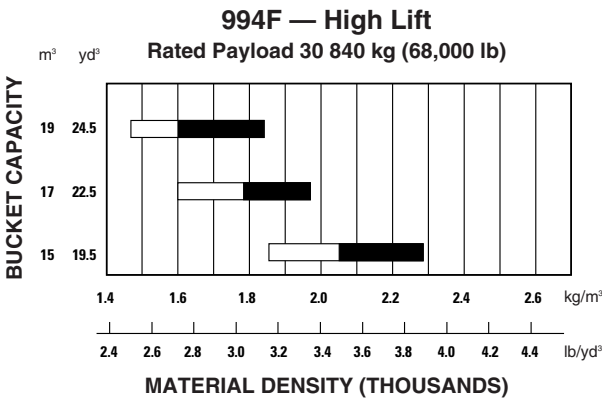
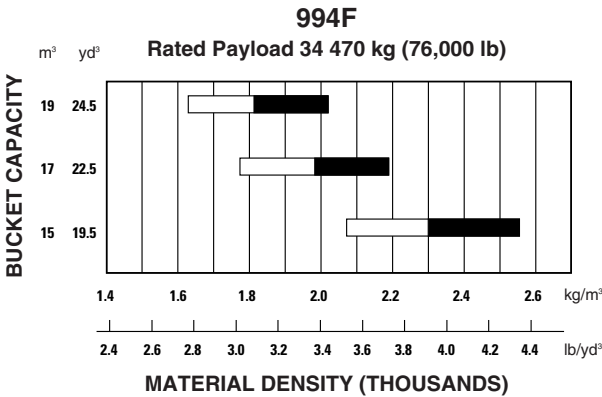
• – Center point at 100% fill

992K

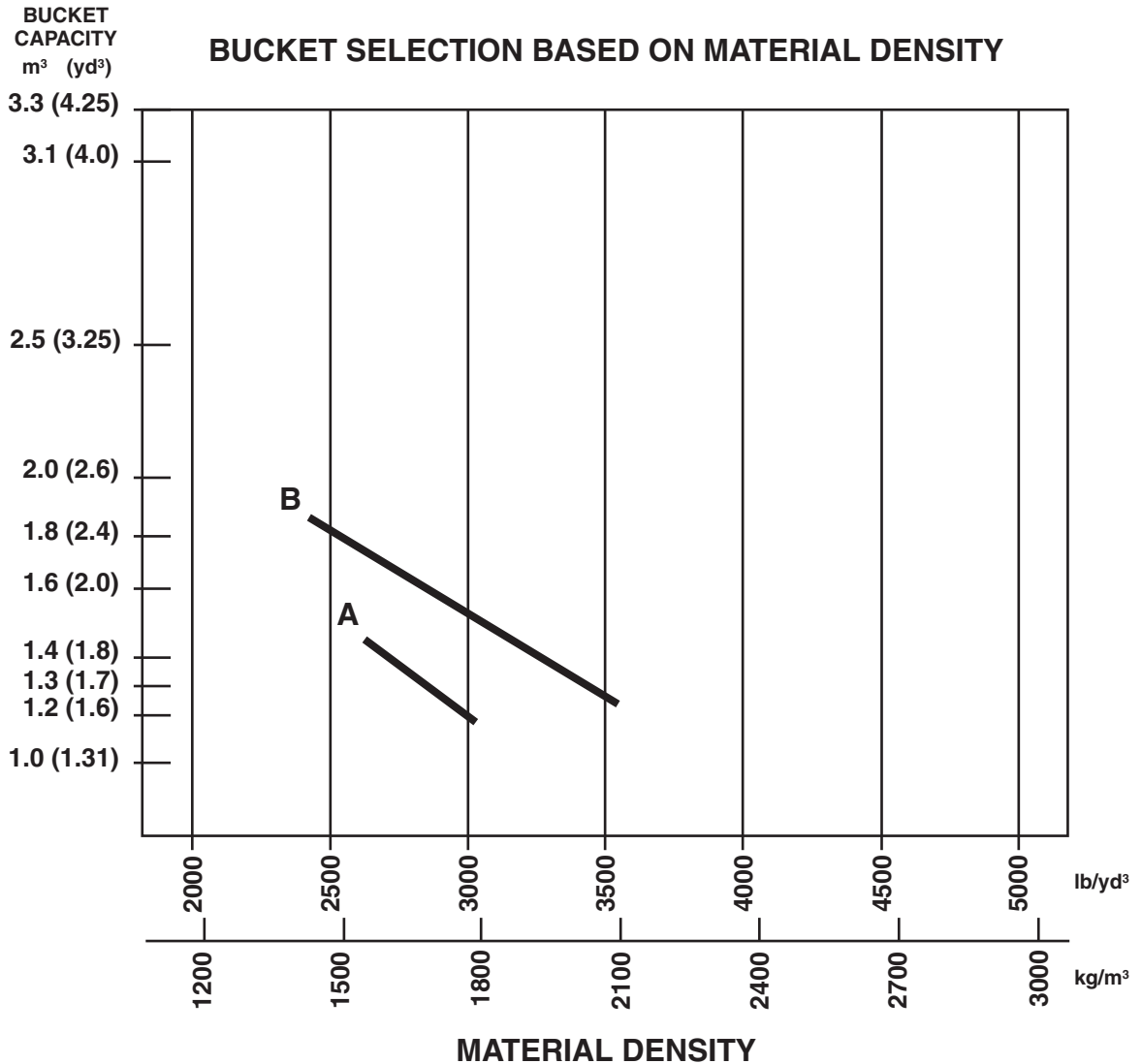
Material Density				Bucket Volume	
tonnes/m ³	kg/m ³	lb/yd ³	tons/yd ³	m ³	yd ³
0.87-0.97	867-971	2500-2800	1.25-1.40	12.2	16
0.94-1.04	936-1040	2700-3000	1.35-1.50	11.5	15
1.01-1.11	1006-1110	2900-3200	1.45-1.60	10.7	14

993K

Material Density				Bucket Volume	
tonnes/m ³	kg/m ³	lb/yd ³	tons/yd ³	m ³	yd ³
1.27-1.42	1263-1422	3650-4100	1.82-2.05	10.0	13
1.03-1.16	1027-1158	2970-3340	1.48-1.67	12.2	16
0.97-1.09	971-1089	2800-3135	1.40-1.57	13.0	17
0.92-1.03	916-1027	2640-2960	1.32-1.48	13.8	18
0.87-0.97	867-971	2500-2800	1.25-1.40	14.5	19



% = Bucket Fill Factor 110% 100% 95% Standard



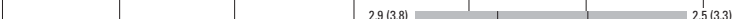
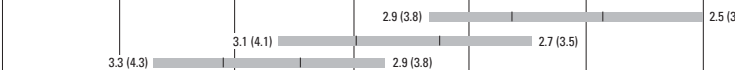
NOTE: Machines equipped same as those on Performance Data pages.

KEY

A — IT14G

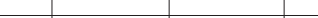
B — 924Hz

IT38H

Material Density		kg/m³	1200130014001500160017001800								
Standard Linkage	Fusion QC	General Purpose	2.5 m³ (3.3 yd³) 3.1 m³ (4.1 yd³)								
		Material Handling*	2.5 m³ (3.3 yd³) 2.7 m³ (3.5 yd³) 2.9 m³ (3.8 yd³) 3.1 m³ (4.1 yd³)								
	Material Density		lb/yd³	2022219123592528269628653033							
	Bucket Fill										

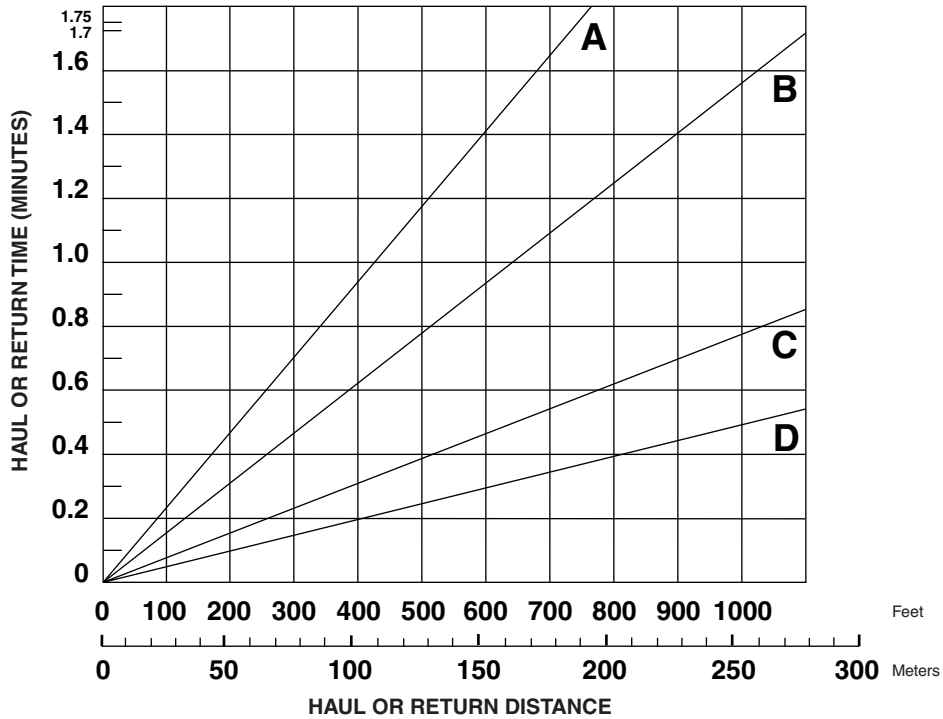
*Material Handling buckets are flat floor buckets.

IT62H

Material Density		kg/m ³	1200130014001500160017001800								
Standard Linkage	Fusion QC	General Purpose	3.1 m ³ (4.1 yd ³)								
		3.4 m ³ (4.5 yd ³)				3.6 (4.7)			3.1 (4.1)		
		3.8 m ³ (5.0 yd ³)	4.4 (5.7)				3.8 (5.0)				
	Material Handling*	3.5 m ³ (4.6 yd ³)				4.0 (5.2)			3.5 (4.6)		
		3.8 m ³ (5.0 yd ³)				4.4 (5.7)			3.8 (5.0)		
Material Density		lb/yd ³	2022219123592528269628653033								
Bucket Fill											
115% 110% 105% 100% 95%											

*Material Handling buckets are flat floor buckets.

928Hz

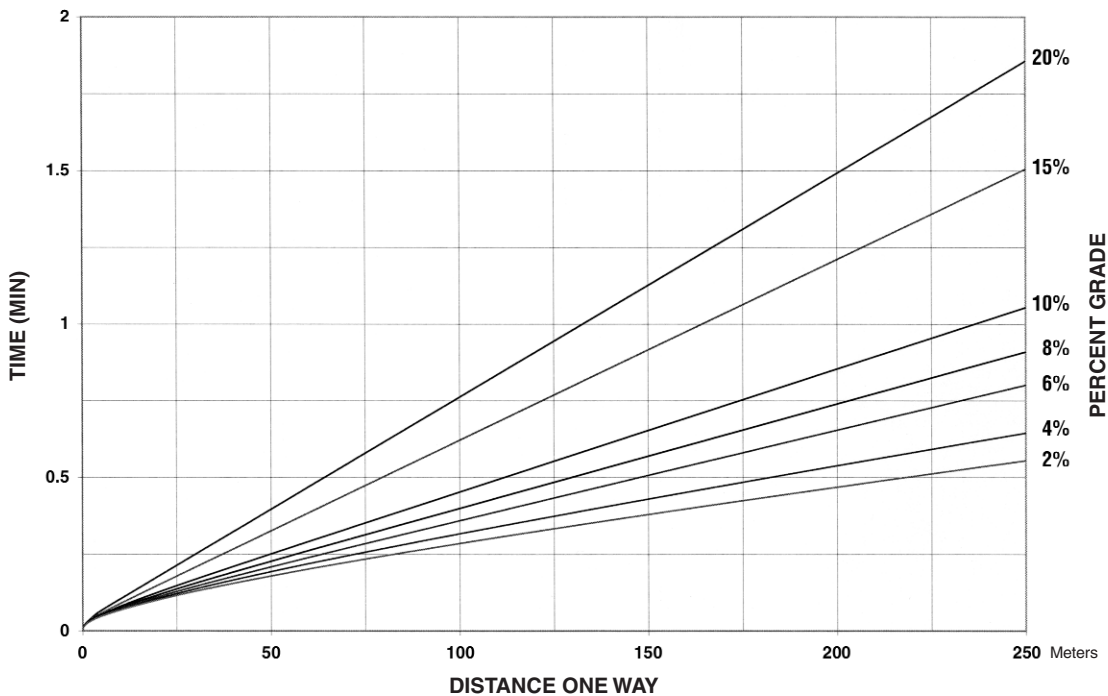


KEY

- A — 1st Forward and Reverse Speed
- B — 2nd Forward and Reverse Speed
- C — 3rd Forward and Reverse Speed
- D — 4th Forward Speed

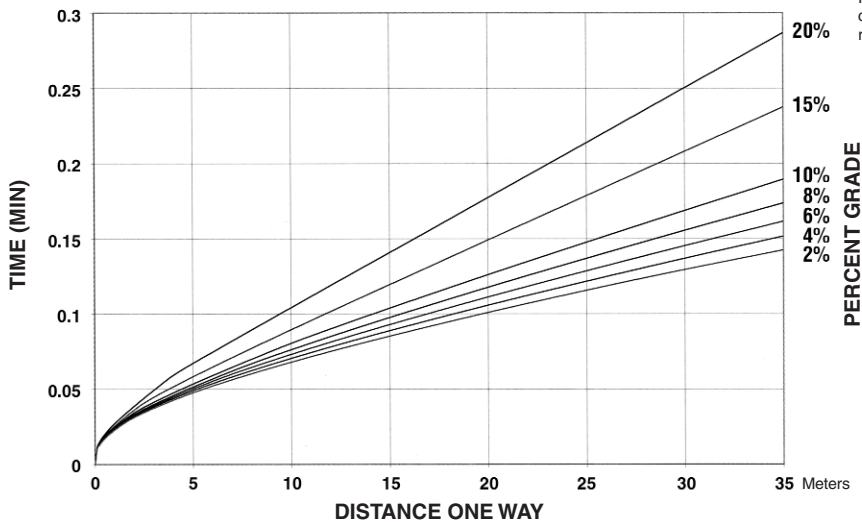
NOTE: Loader maneuver, load and dump time must be added to travel time.
4th gear curve not indicated; primarily used for transporting machine.

938H TRAVEL TIME — LOADED



Travel times assume maximum governor pedal depression and automatic shifting for any VSC setting.

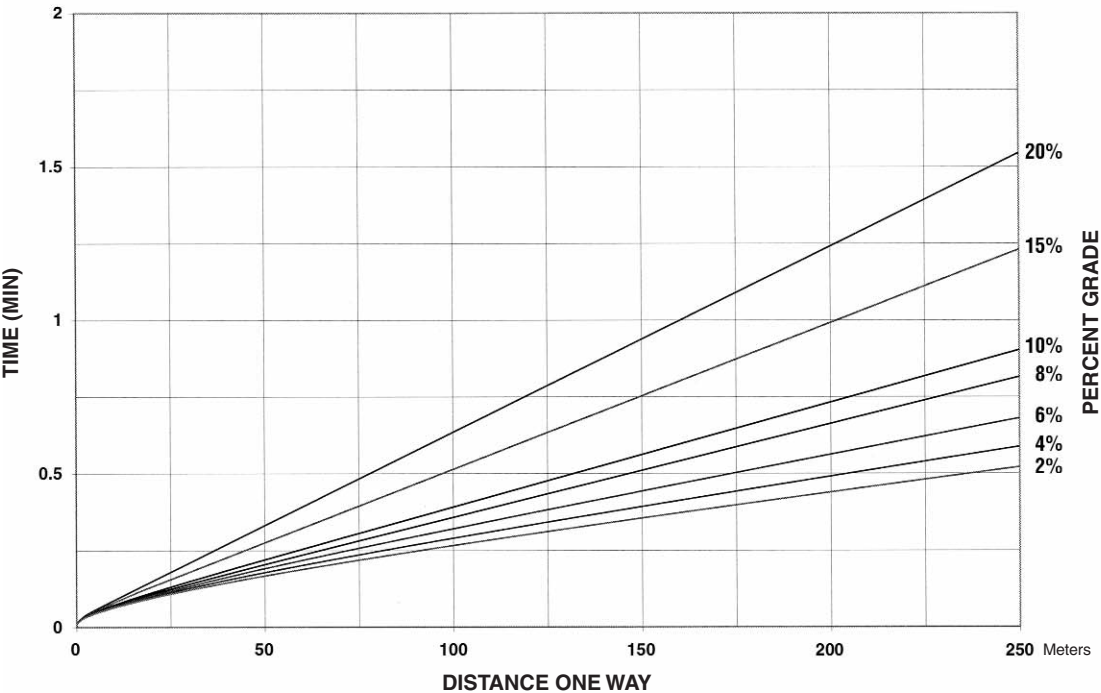
In load and carry applications it is important to consult the tire manufacturer on Ton-MPH ratings and pressure recommendations.



Travel Time — Empty
● 938H
● 20.5R-25 Tires

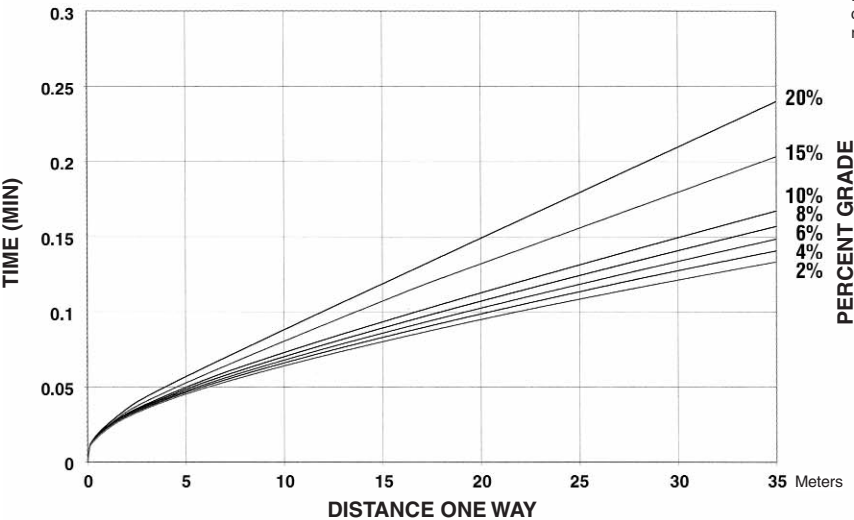
Wheel Loaders
Integrated Toolcarriers

938H TRAVEL TIME — EMPTY

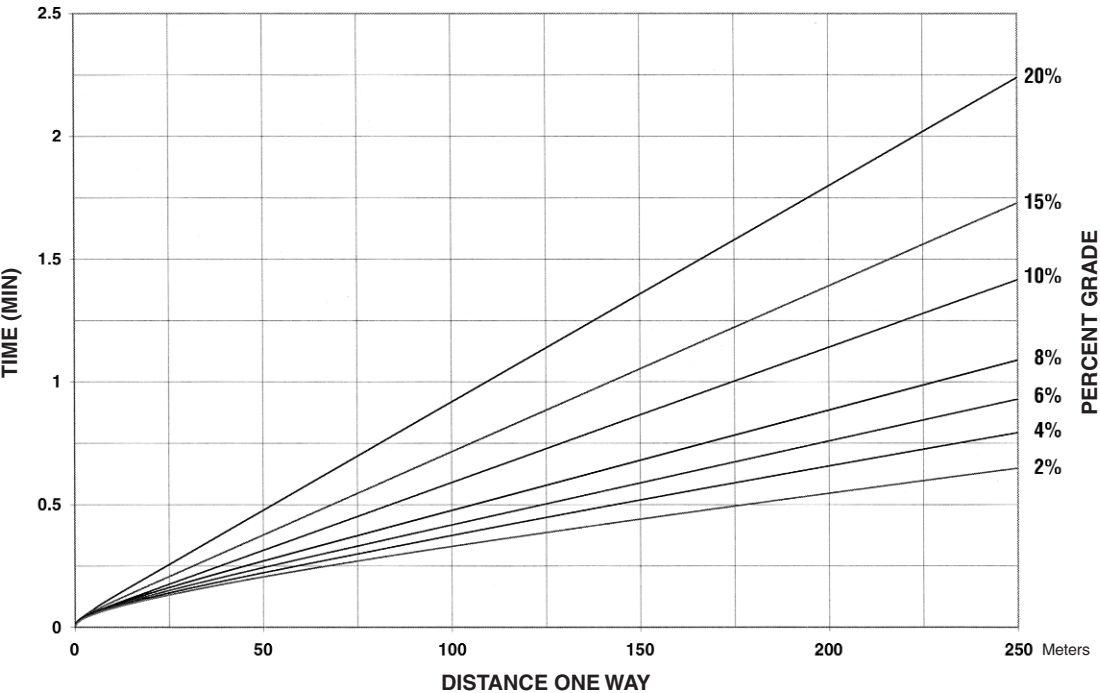


Travel times assume maximum governor pedal depression and automatic shifting for any VSC setting.

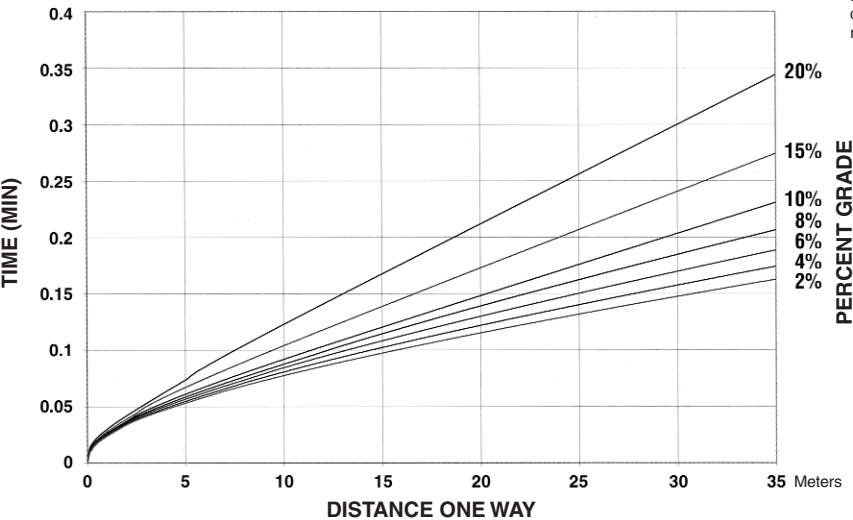
In load and carry applications it is important to consult the tire manufacturer on Ton-MPH ratings and pressure recommendations.



950H TRAVEL TIME — LOADED



Travel times assume maximum governor pedal depression and automatic shifting for any VSC setting.

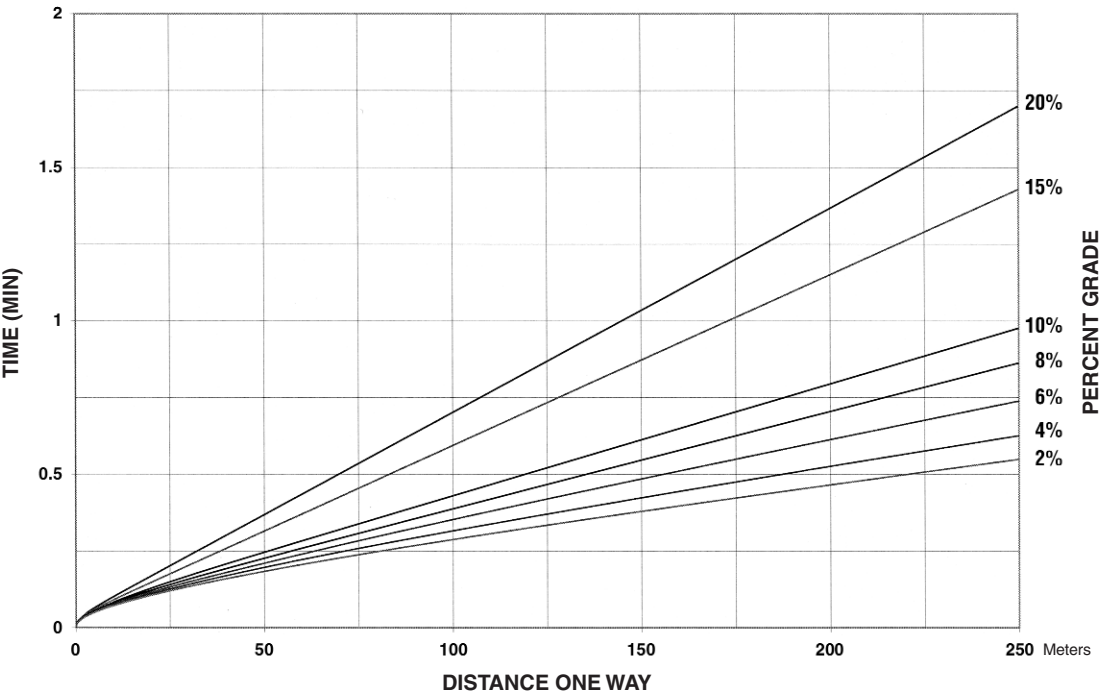


In load and carry applications it is important to consult the tire manufacturer on Ton-MPH ratings and pressure recommendations.

Travel Time — Empty
● 950H
● 23.50-R25 Tires

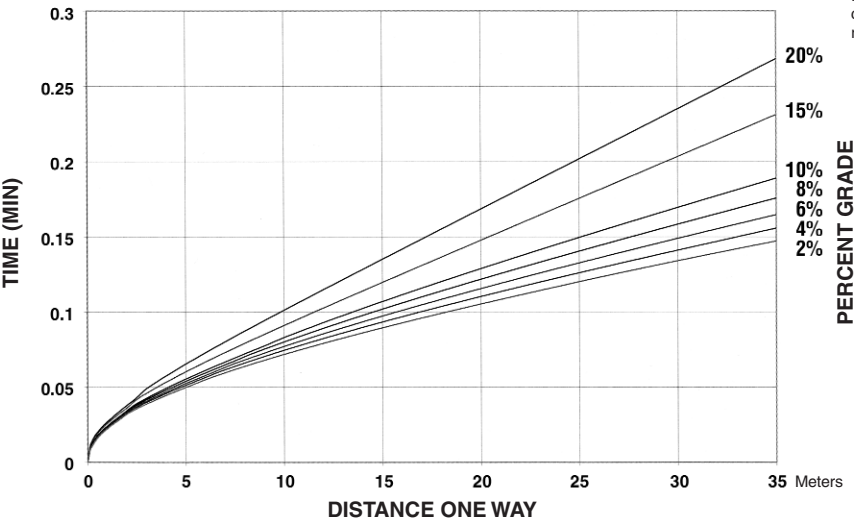
Wheel Loaders
Integrated Toolcarriers

950H TRAVEL TIME — EMPTY

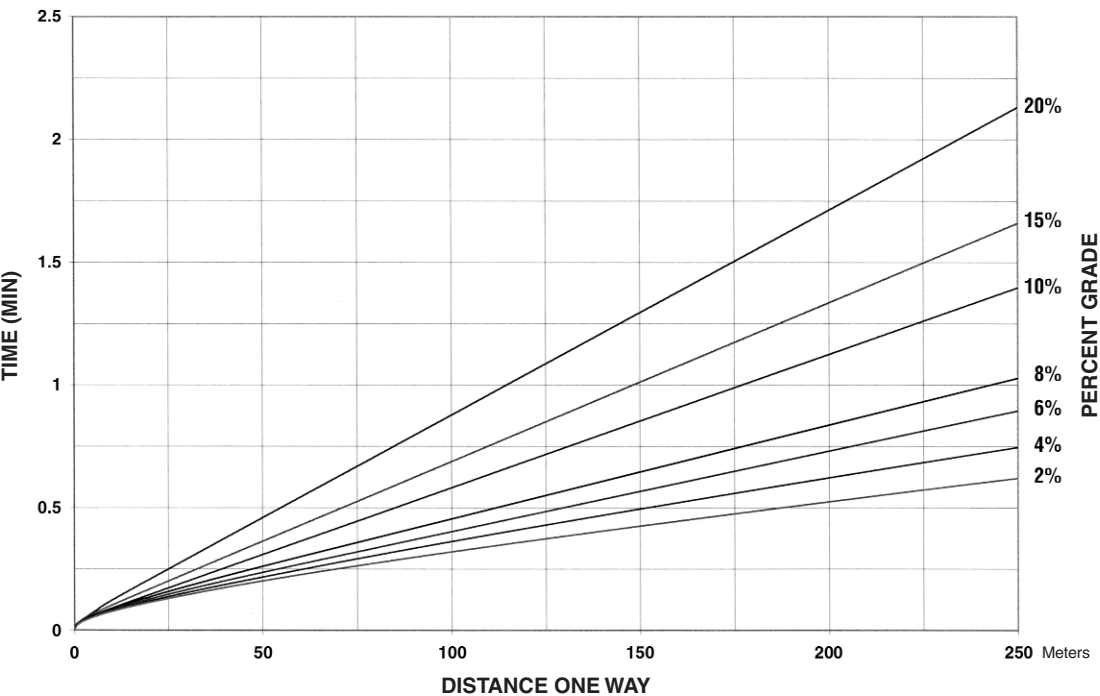


Travel times assume maximum governor pedal depression and automatic shifting for any VSC setting.

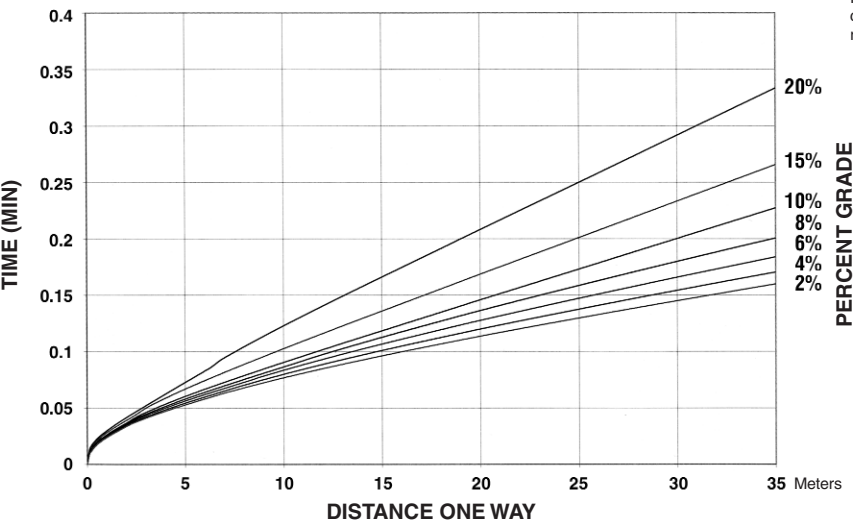
In load and carry applications it is important to consult the tire manufacturer on Ton-MPH ratings and pressure recommendations.



962H TRAVEL TIME — LOADED



Travel times assume maximum governor pedal depression and automatic shifting for any VSC setting.

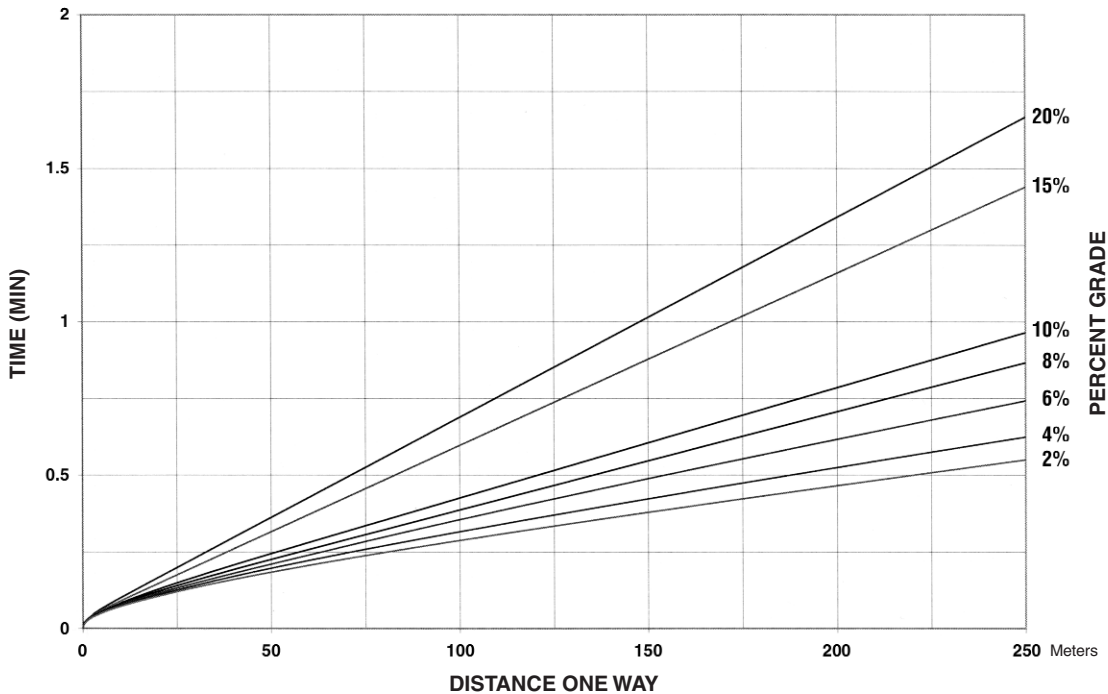


In load and carry applications it is important to consult the tire manufacturer on Ton-MPH ratings and pressure recommendations.

Travel Time — Empty
● 962H
● 23.5-R25 Tires

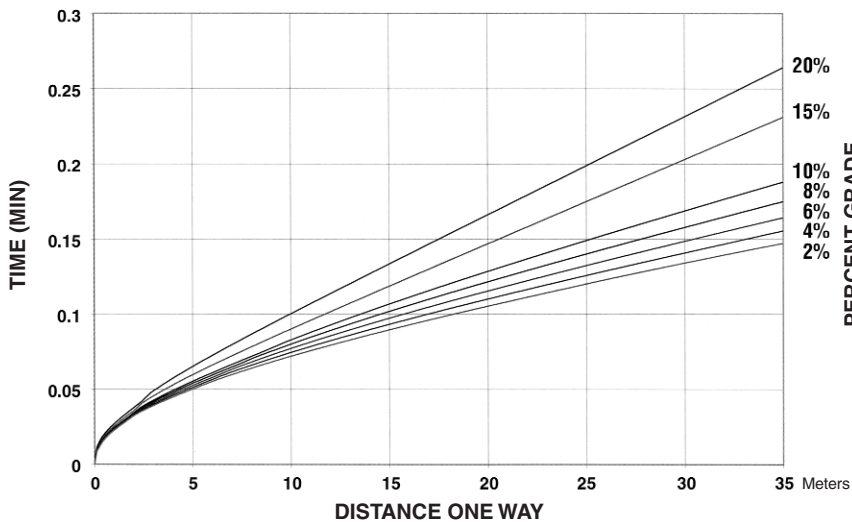
Wheel Loaders
Integrated Toolcarriers

962H TRAVEL TIME — EMPTY

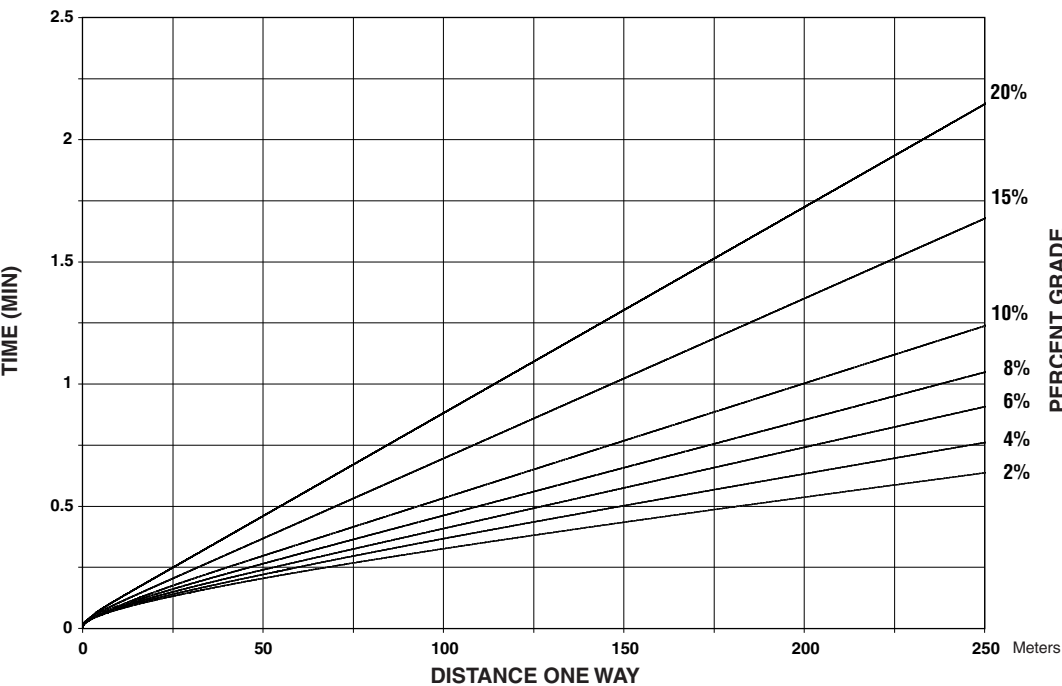


Travel times assume maximum governor pedal depression and automatic shifting for any VSC setting.

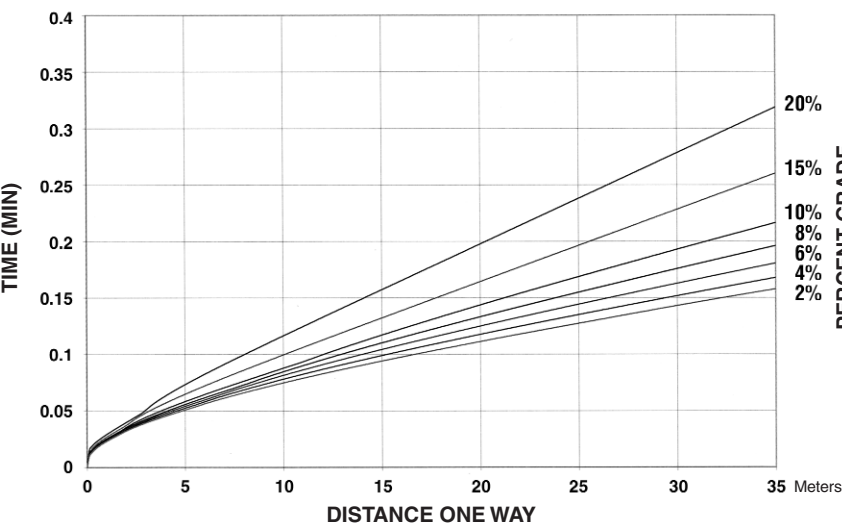
In load and carry applications it is important to consult the tire manufacturer on Ton-MPH ratings and pressure recommendations.



966H TRAVEL TIME — LOADED



Travel times assume maximum governor pedal depression and automatic shifting for any VSC setting.

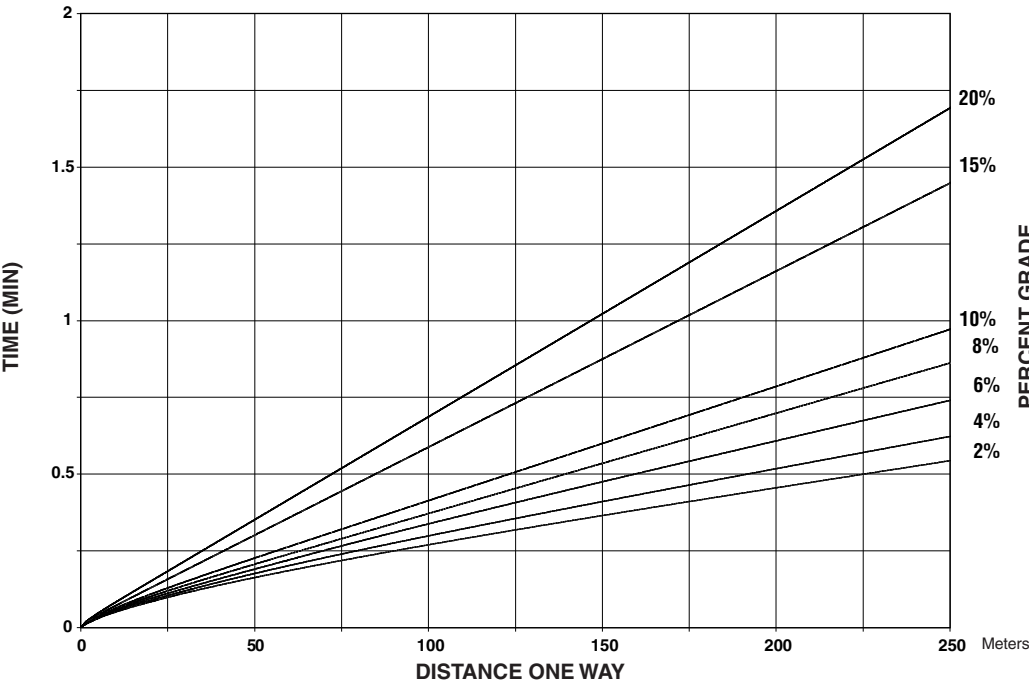


In load and carry applications it is important to consult the tire manufacturer on Ton-MPH ratings and pressure recommendations.

Travel Time — Empty
● 966H
● 26.5-25 Tires

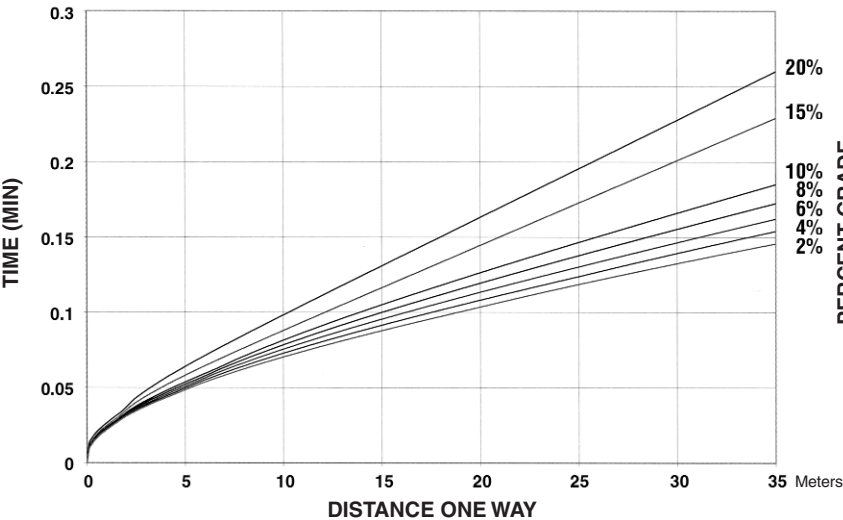
Wheel Loaders
Integrated Toolcarriers

966H TRAVEL TIME — EMPTY

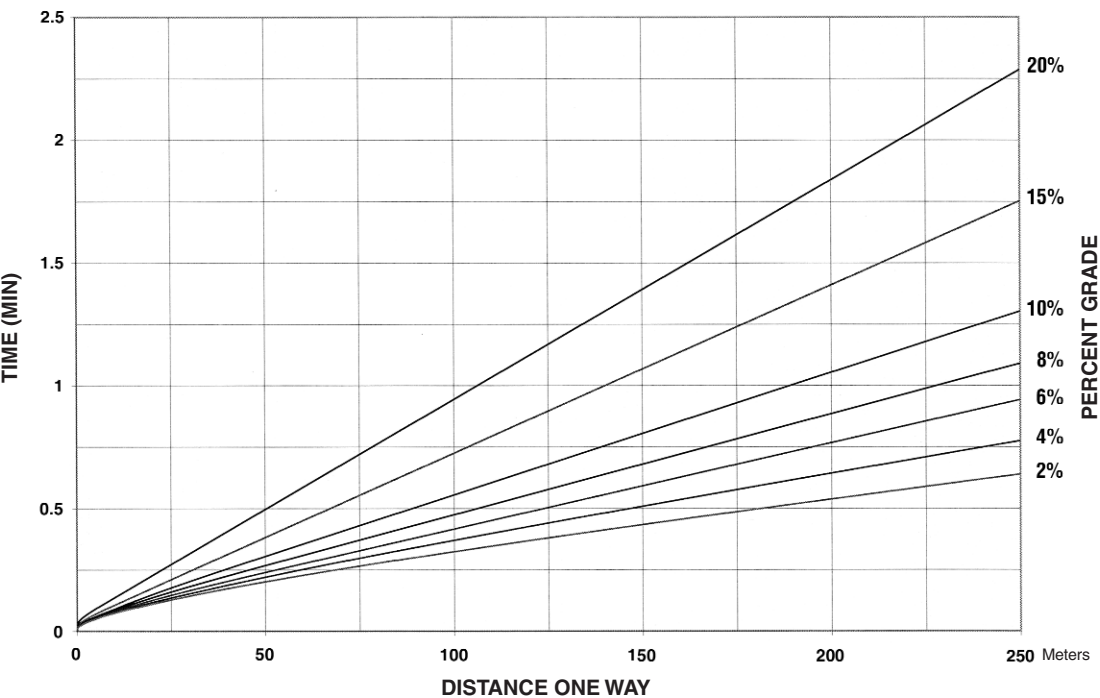


Travel times assume maximum governor pedal depression and automatic shifting for any VSC setting.

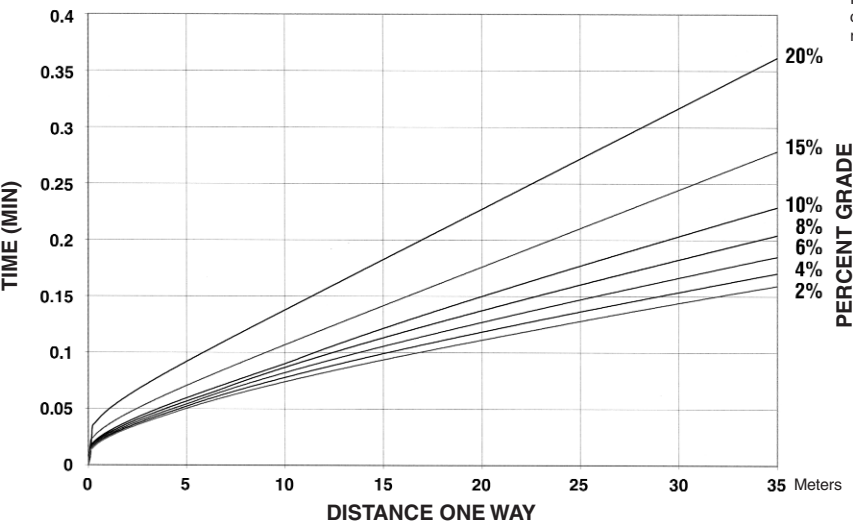
In load and carry applications it is important to consult the tire manufacturer on Ton-MPH ratings and pressure recommendations.



972H TRAVEL TIME — LOADED



Travel times assume maximum governor pedal depression and automatic shifting for any VSC setting.

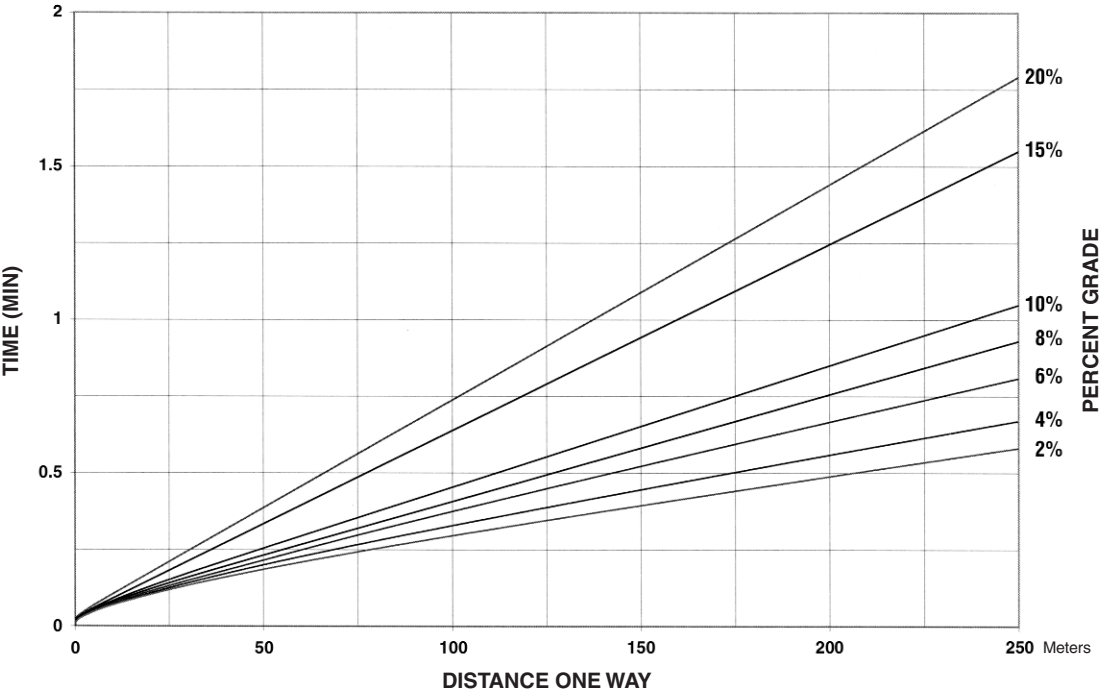


In load and carry applications it is important to consult the tire manufacturer on Ton-MPH ratings and pressure recommendations.

Travel Time — Empty
● 972H
● 26.5-25 Tires

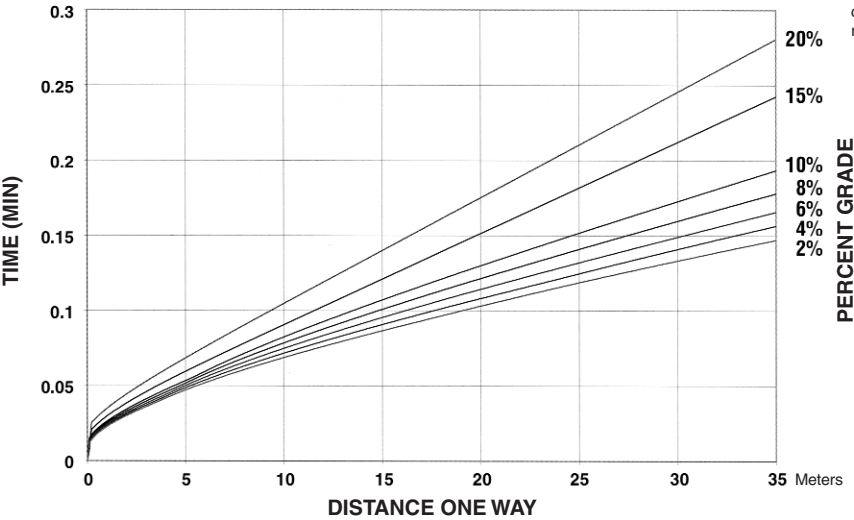
Wheel Loaders
Integrated Toolcarriers

972H TRAVEL TIME — EMPTY

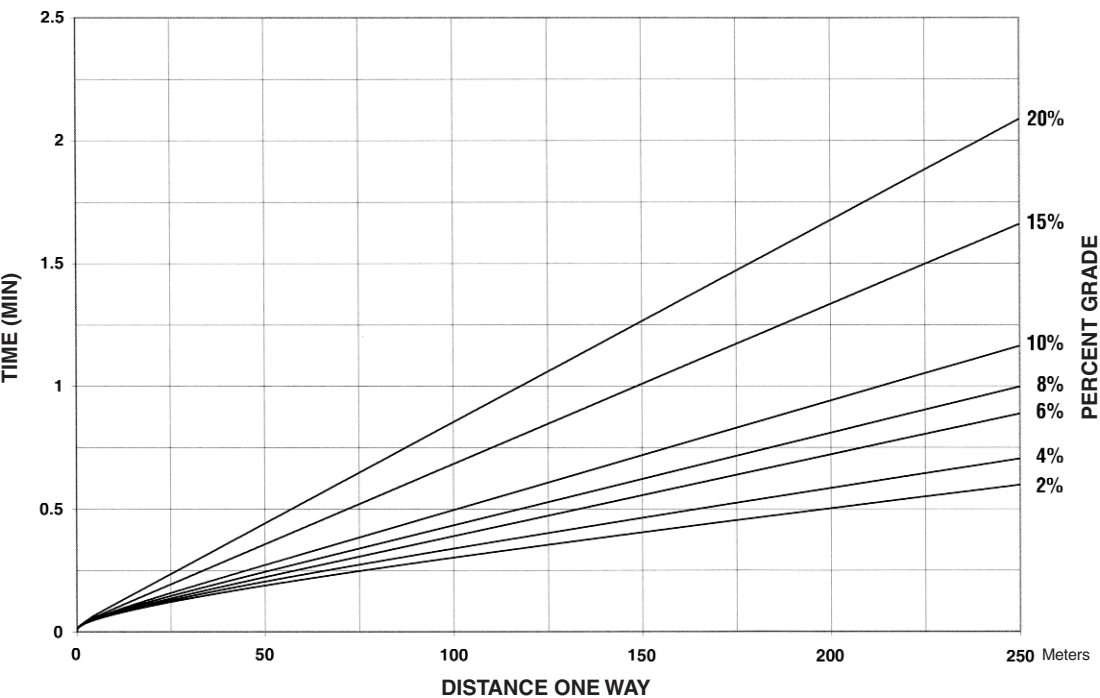


Travel times assume maximum governor pedal depression and automatic shifting for any VSC setting.

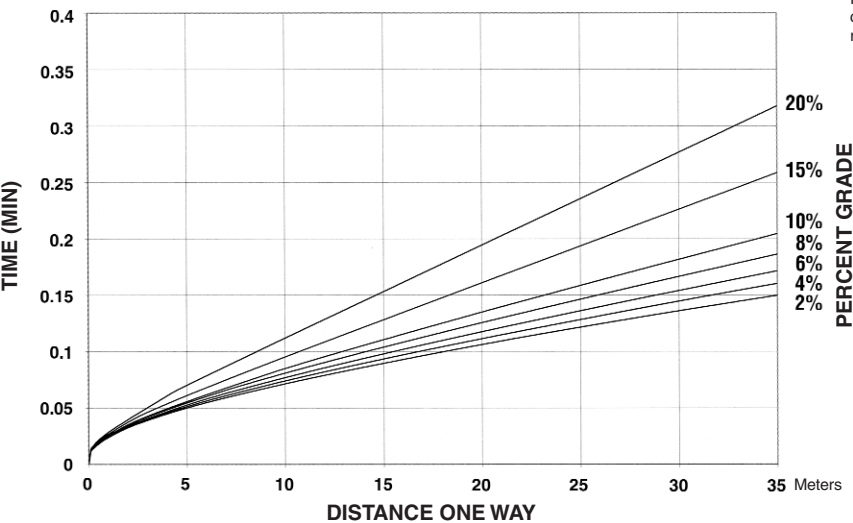
In load and carry applications it is important to consult the tire manufacturer on Ton-MPH ratings and pressure recommendations.



980H TRAVEL TIME — LOADED



Travel times assume maximum governor pedal depression and automatic shifting for any VSC setting.

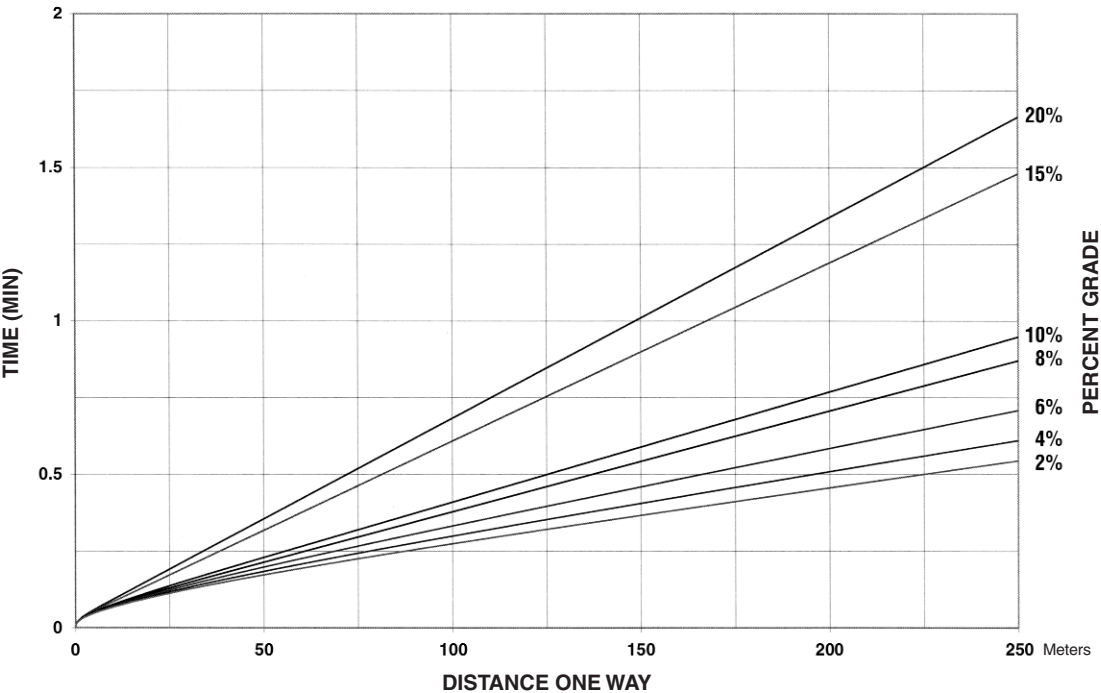


In load and carry applications it is important to consult the tire manufacturer on Ton-MPH ratings and pressure recommendations.

Travel Time — Empty
● 980H
● 29.5R25 Tires

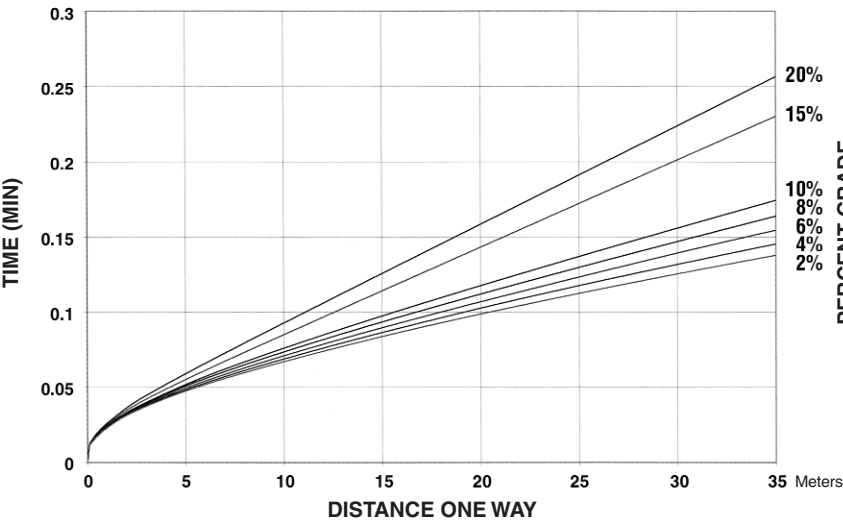
Wheel Loaders
Integrated Toolcarriers

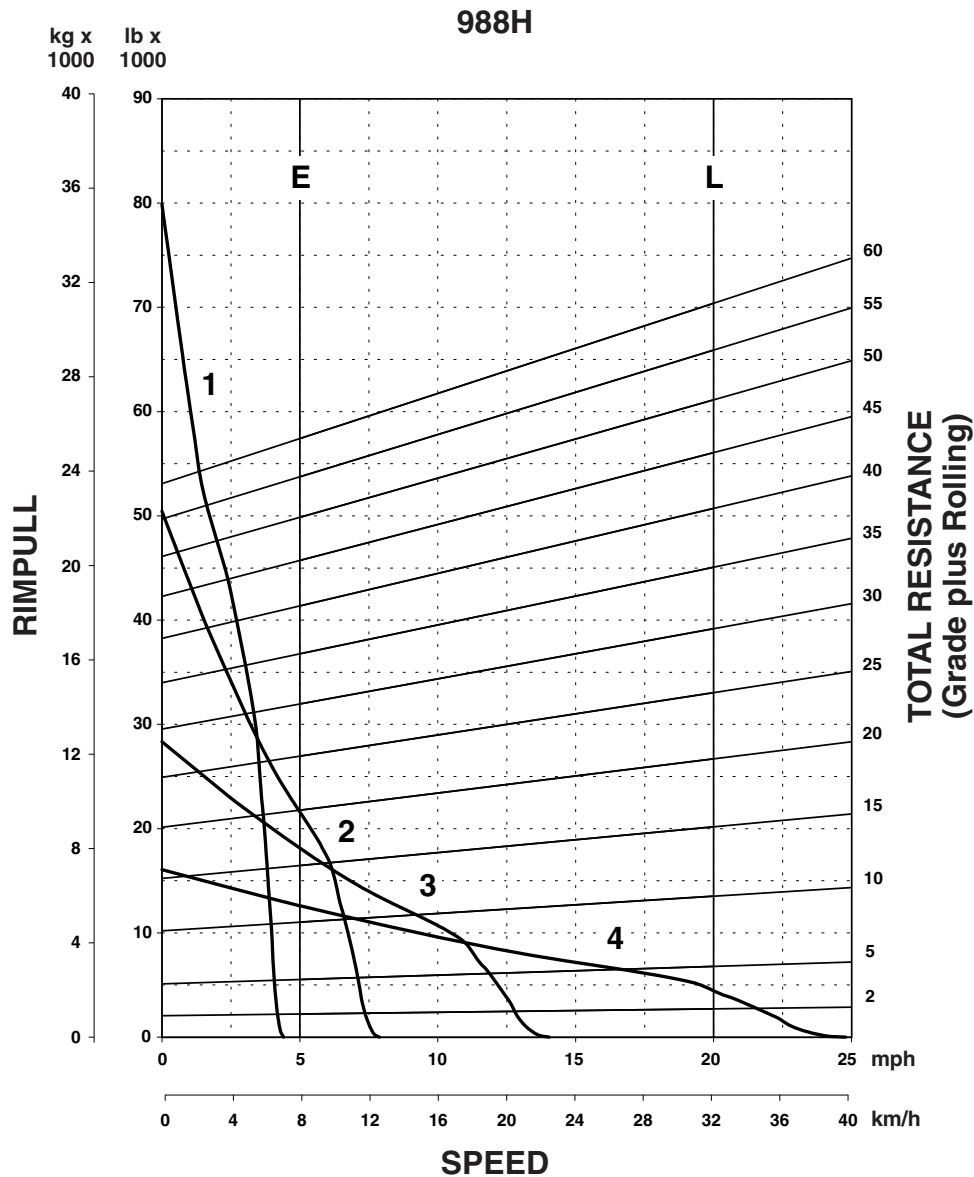
980H TRAVEL TIME — EMPTY

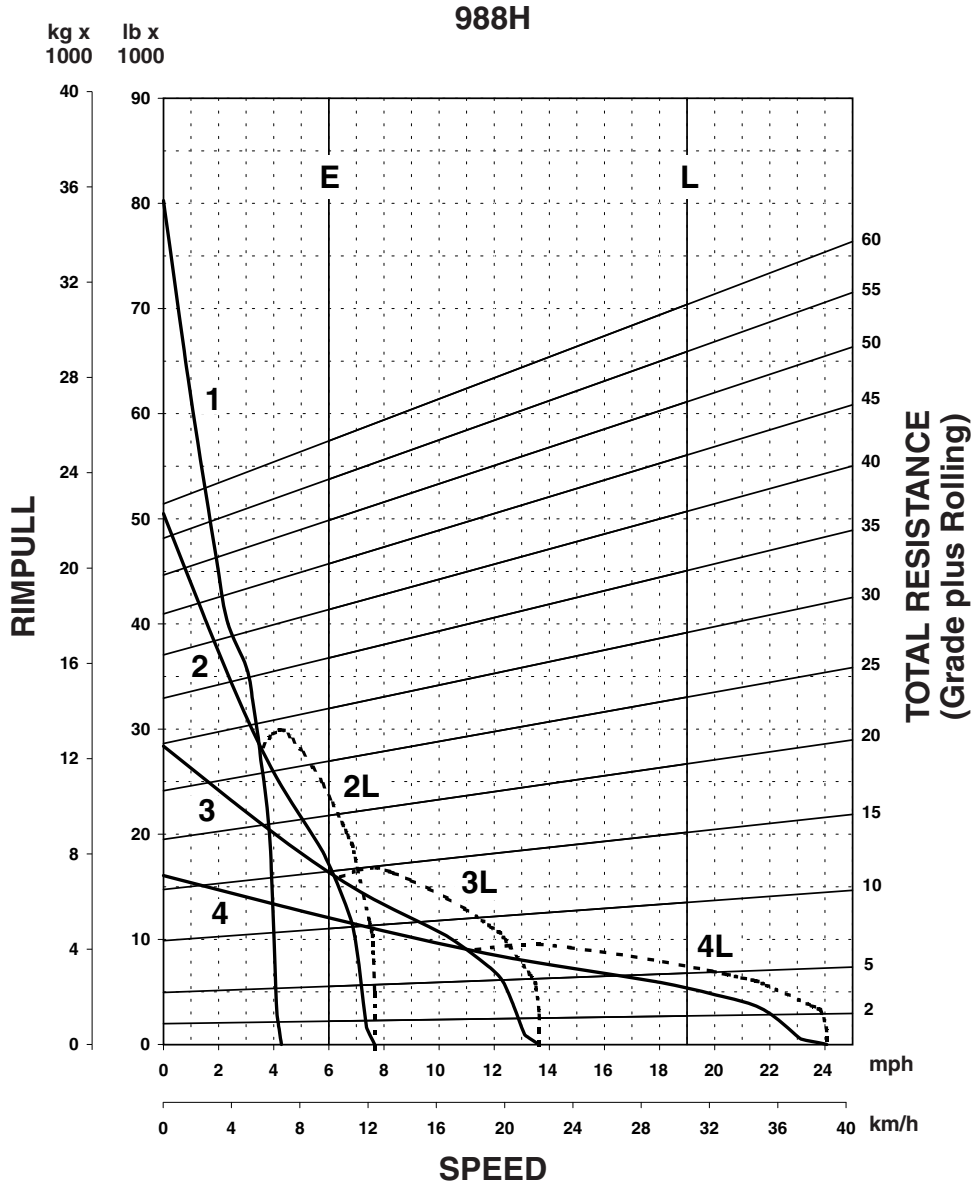


Travel times assume maximum governor pedal depression and automatic shifting for any VSC setting.

In load and carry applications it is important to consult the tire manufacturer on Ton-MPH ratings and pressure recommendations.







KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear

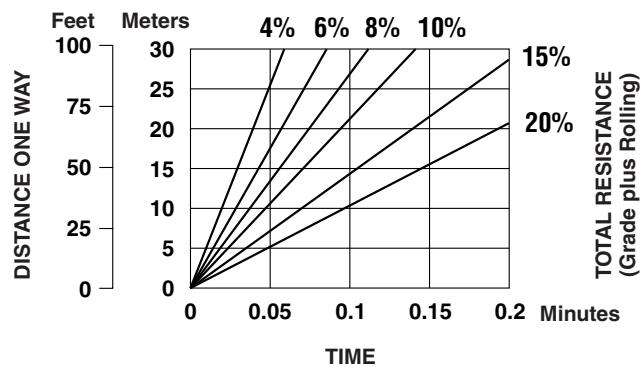
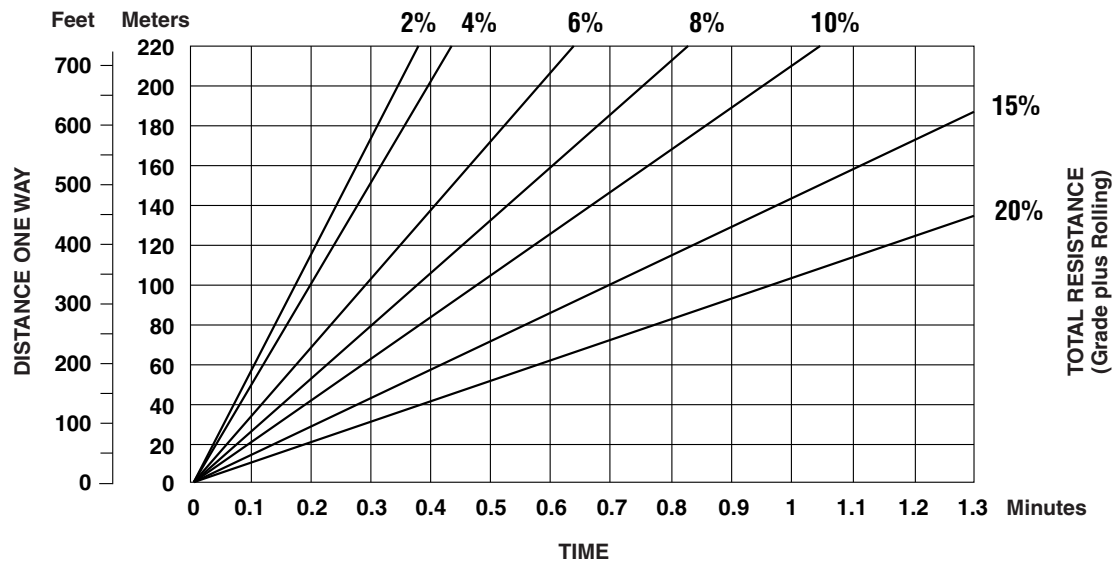
KEY

- E — Empty 50 183 kg (110,634 lb)
- L — Loaded 61 523 kg (135,634 lb)

Calculated Pull: Idle Hydraulics
 Curves Assume NO SLIP Conditions

- Travel Time — Loaded
- 988H — No Lock-Up
 - 35/65-33 Tires

988H TRAVEL TIME — LOADED



NOTE: Curves assume use of highest operating speed attainable: 4th gear for 2%-6% TR, 3rd gear for 8%-10% TR, 2nd gear for 15% and 20% TR.

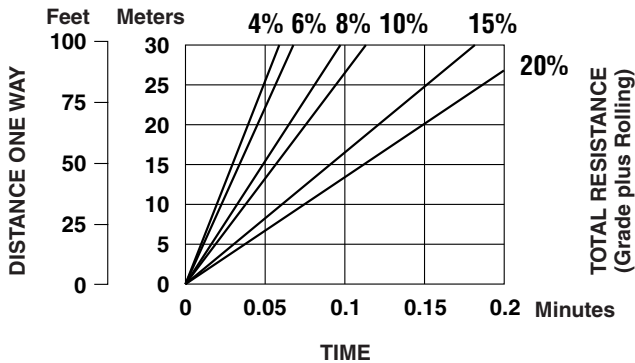
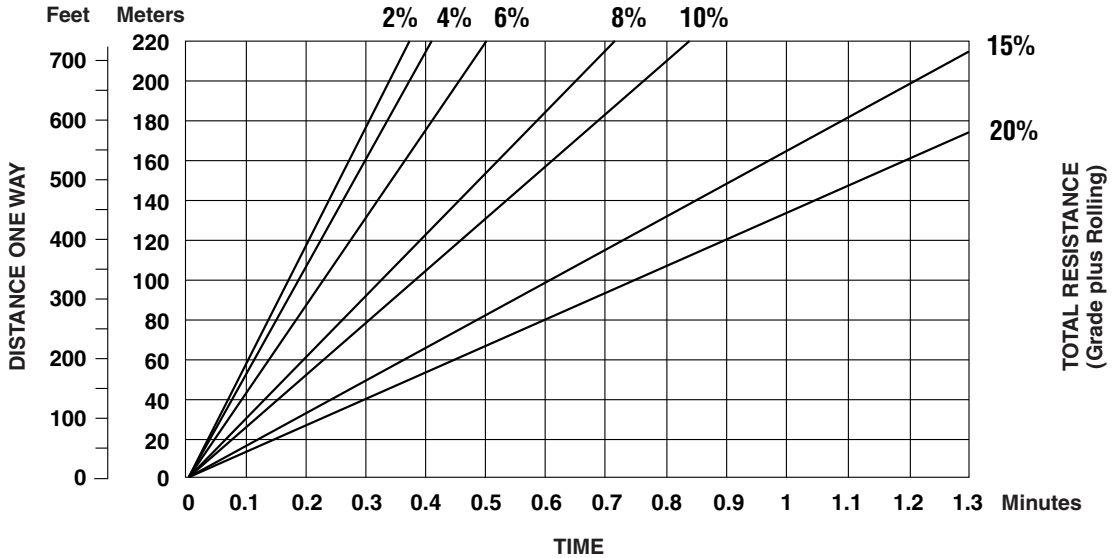
In load-and-carry applications it is important to consult the tire manufacturer on Ton-MPH ratings and pressure recommendations.

Lock-Up Clutch torque converter is available as an attachment. Contact your Cat dealer for additional information.

- Travel Time — Empty
- 988H — No Lock-Up
 - 35/65-33 Tires

Wheel Loaders Integrated Toolcarriers

988H TRAVEL TIME — EMPTY



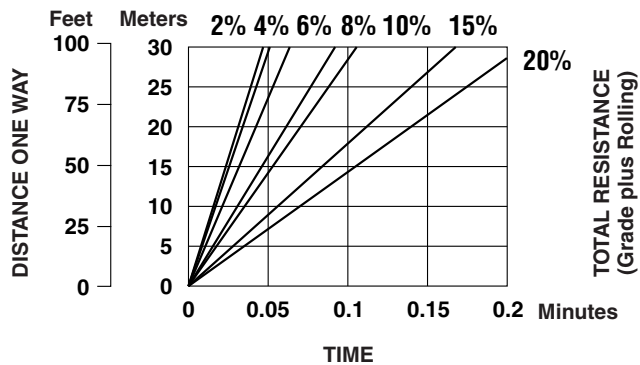
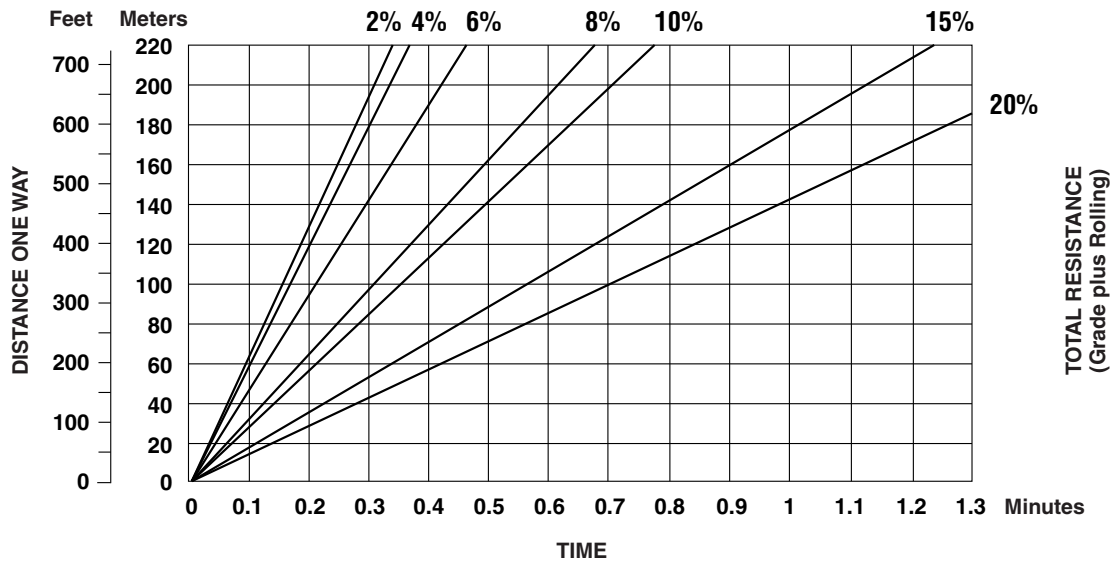
NOTE: Curves assume use of highest operating speed attainable: 4th gear for 2%-8% TR, 3rd gear for 10% TR, 2nd gear for 15% and 20% TR.

In load-and-carry applications it is important to consult the tire manufacturer on Ton-MPH ratings and pressure recommendations.

Lock-Up Clutch torque converter is available as an attachment. Contact your Cat dealer for additional information.

- Travel Time — Loaded
- 988H — Lock-Up Clutch
 - 35/65-33 Tires

988H TRAVEL TIME — LOADED



NOTE: Curves assume use of highest operating speed attainable: 4th gear for 2%-6% TR, 3rd gear for 8%-10% TR, 2nd gear for 15% and 20% TR.

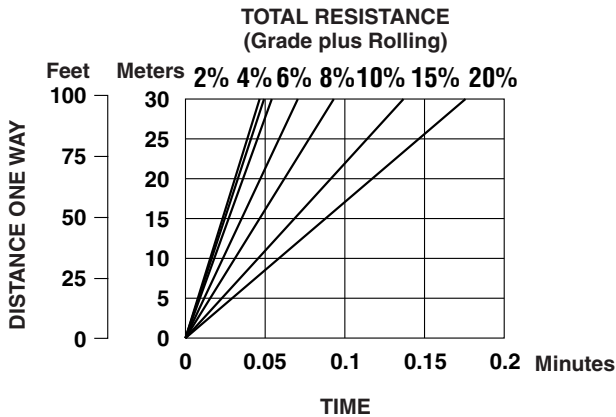
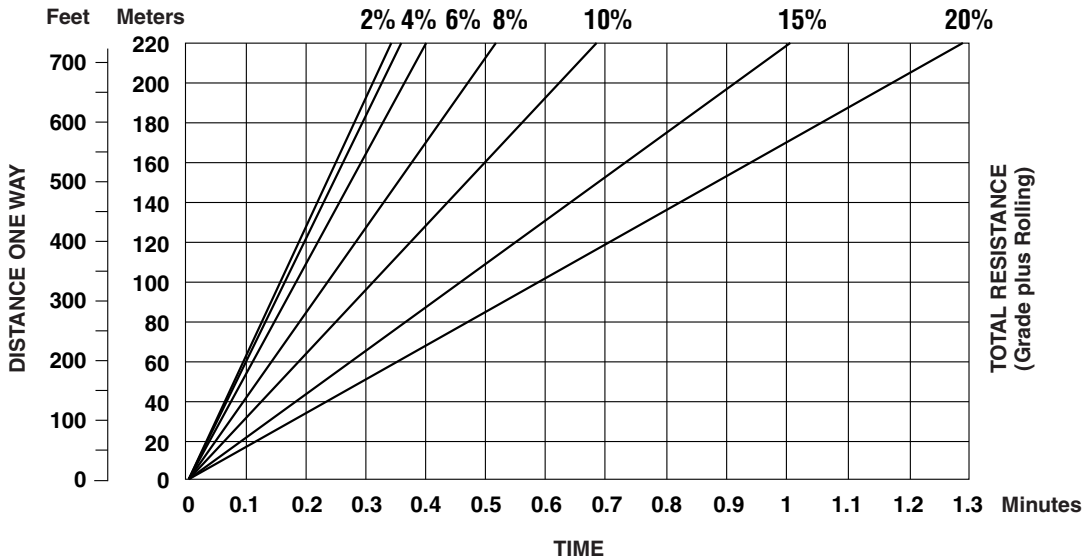
In load-and-carry applications it is important to consult the tire manufacturer on Ton-MPH ratings and pressure recommendations.

Lock-Up Clutch torque converter is available as an attachment. Contact your Cat dealer for additional information.

- Travel Time — Empty
- 988H — Lock-Up Clutch
- 35/65-33 Tires

Wheel Loaders Integrated Toolcarriers

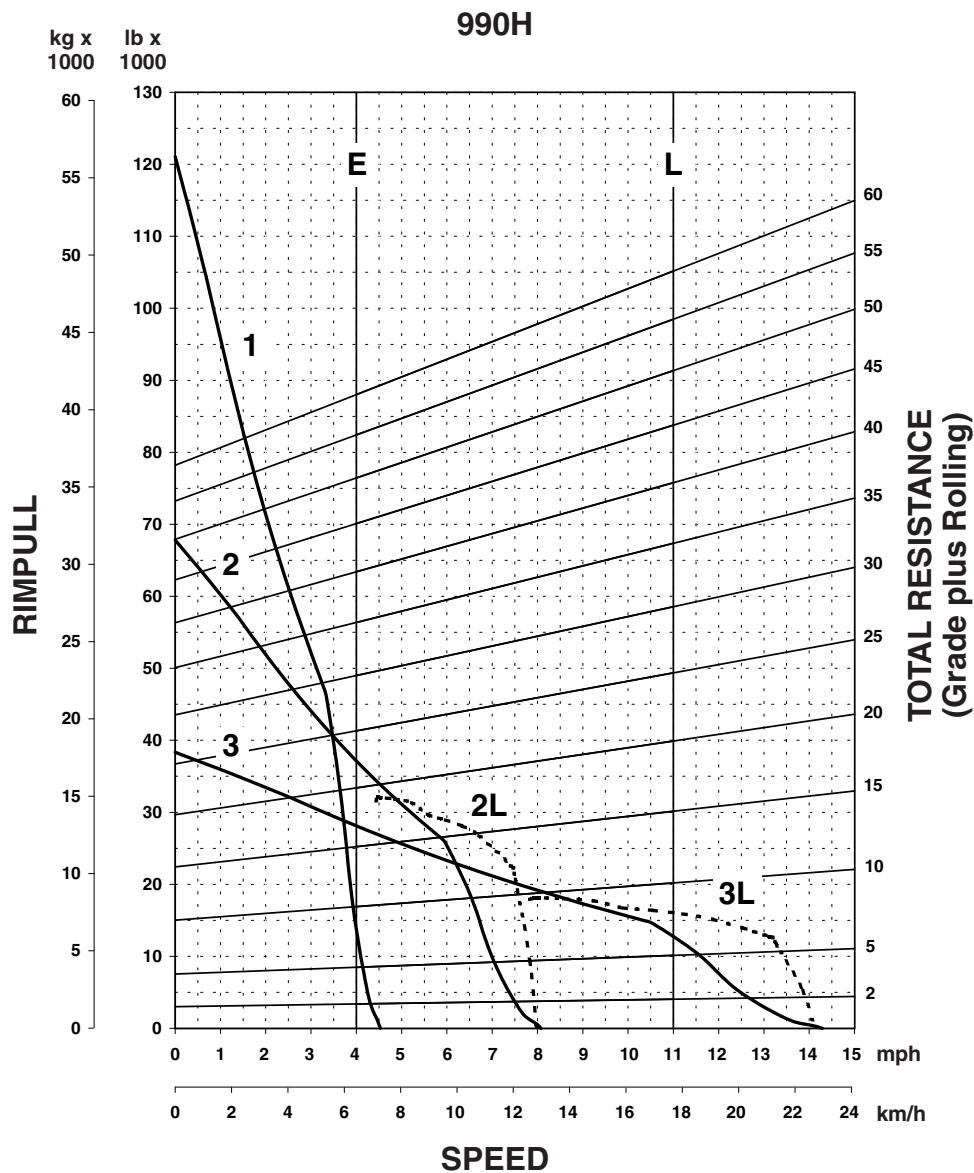
988H TRAVEL TIME — EMPTY



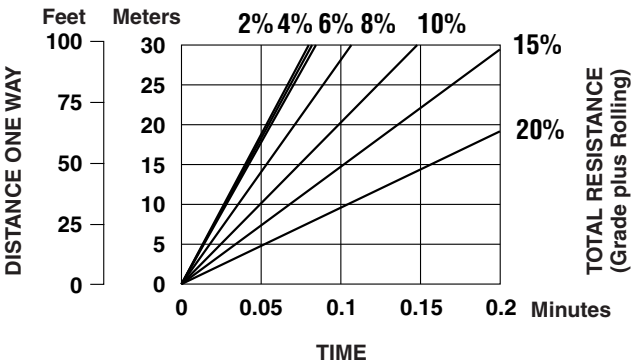
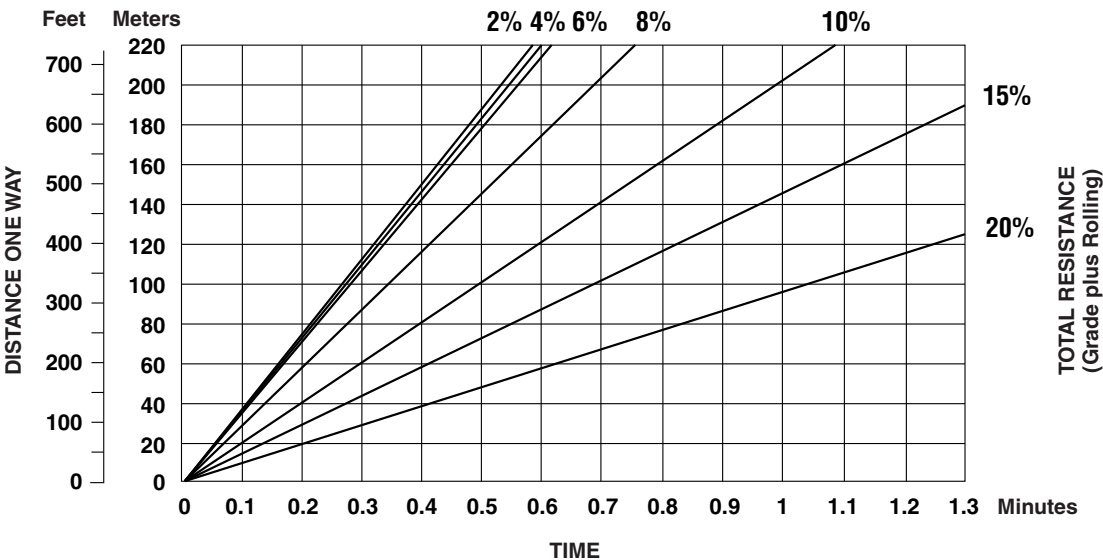
NOTE: Curves assume use of highest operating speed attainable: 4th gear for 2%-8% TR, 3rd gear for 10%-15% TR, 2nd gear for 20% TR.

In load-and-carry applications it is important to consult the tire manufacturer on Ton-MPH ratings and pressure recommendations.

Lock-Up Clutch torque converter is available as an attachment. Contact your Cat dealer for additional information.



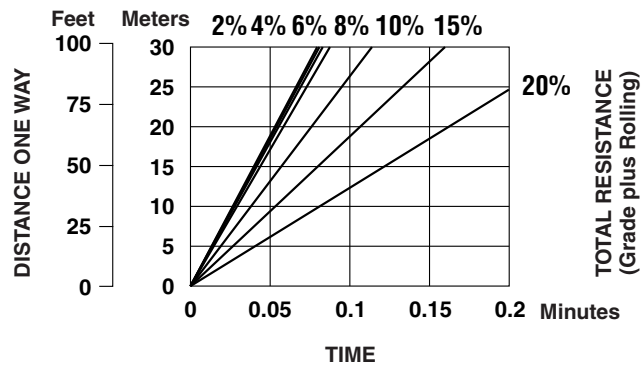
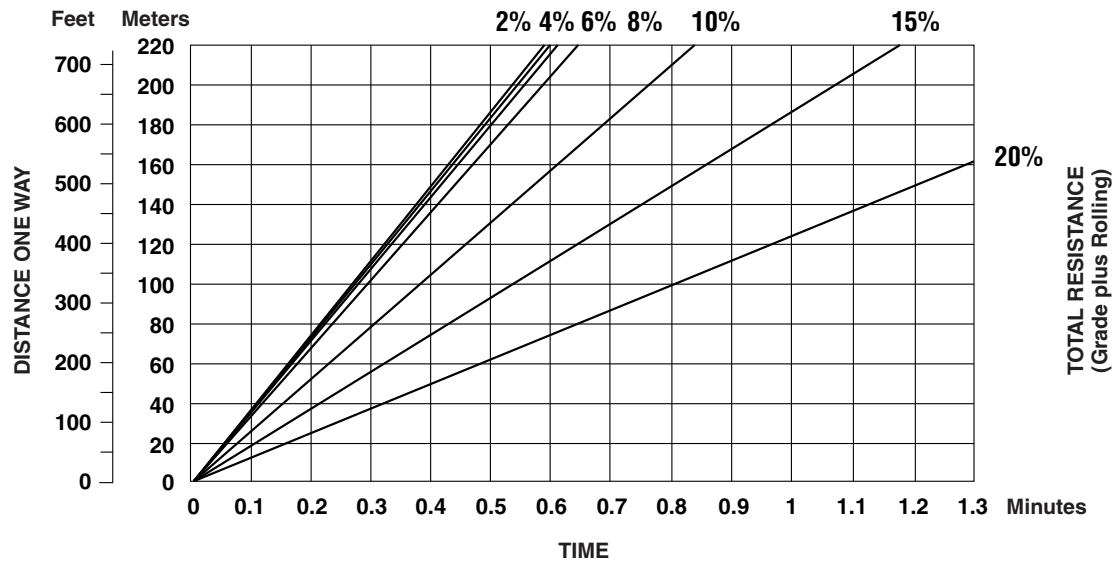
990H TRAVEL TIME — LOADED



NOTE: Curves assume use of highest operating speed attainable: 3rd gear for 2%-8% TR, 2nd gear for 10%-20% TR.

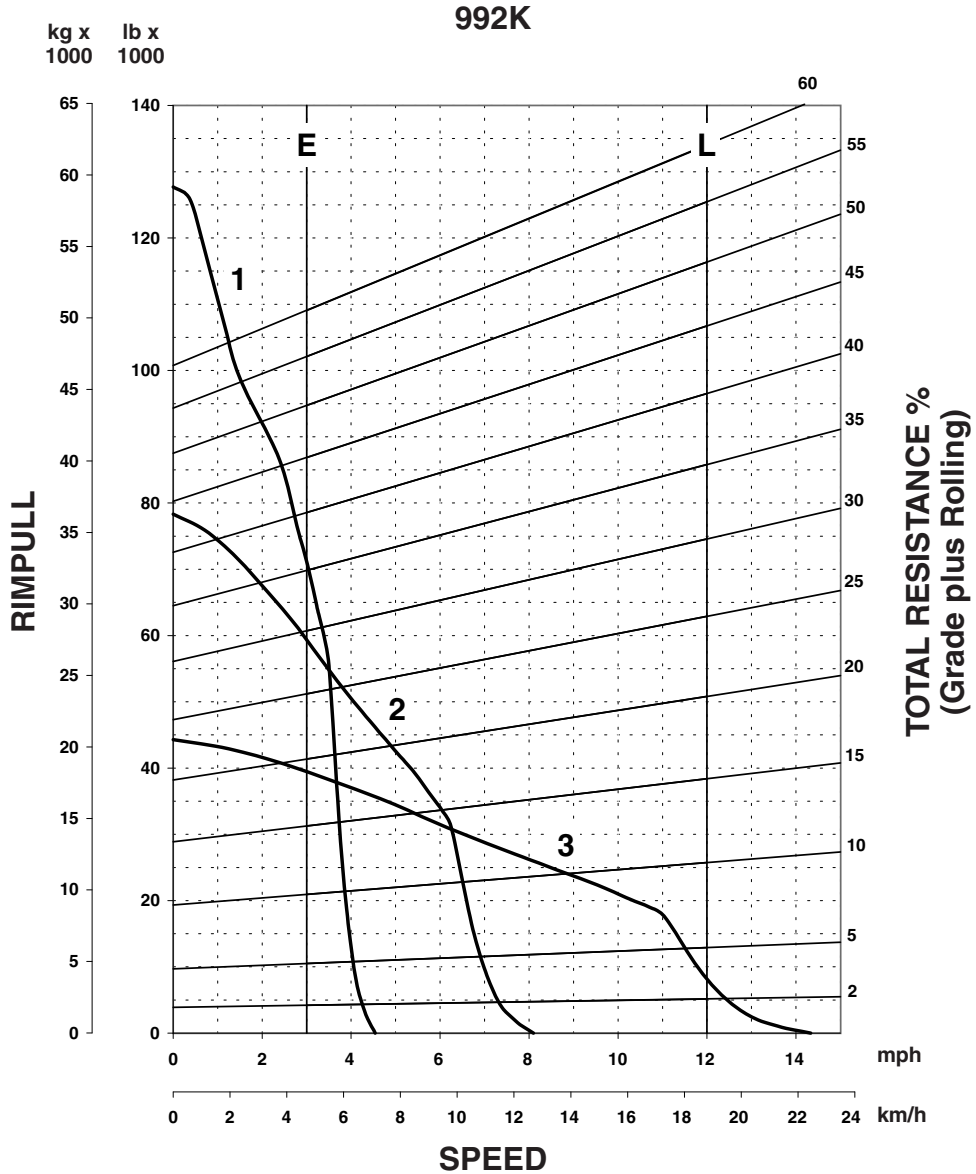
In load-and-carry applications it is important to consult the tire manufacturer on Ton-MPH ratings and pressure recommendations.

990H TRAVEL TIME — EMPTY



NOTE: Curves assume use of highest operating speed attainable: 3rd gear for 2%-10% TR, 2nd gear for 15% and 20% TR.

In load-and-carry applications it is important to consult the tire manufacturer on Ton-MPH ratings and pressure recommendations.



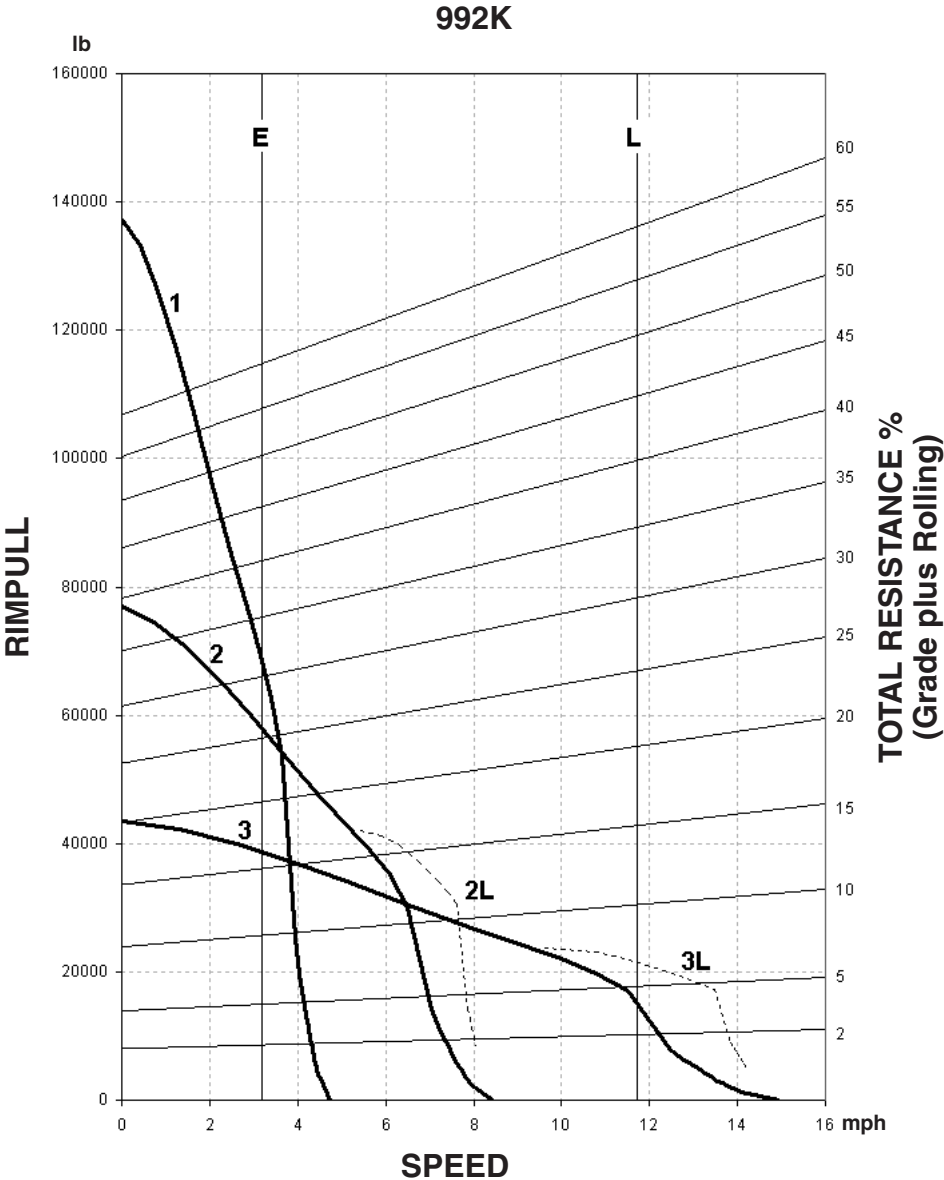
KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear

KEY

- E — Empty 92 797 kg (204,580 lb)
- L — Loaded 114 570 kg (252,580 lb)

Calculated Pull: Idle Hydraulics
 Curves Assume NO SLIP Conditions



KEY

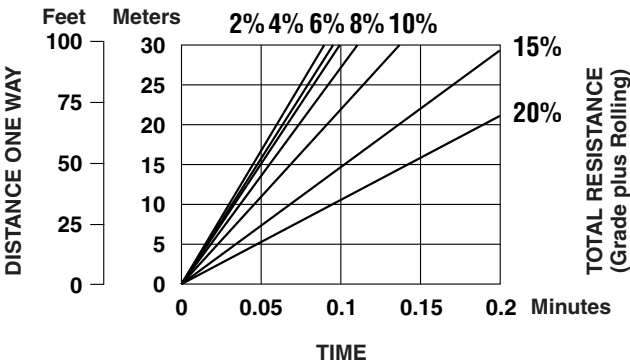
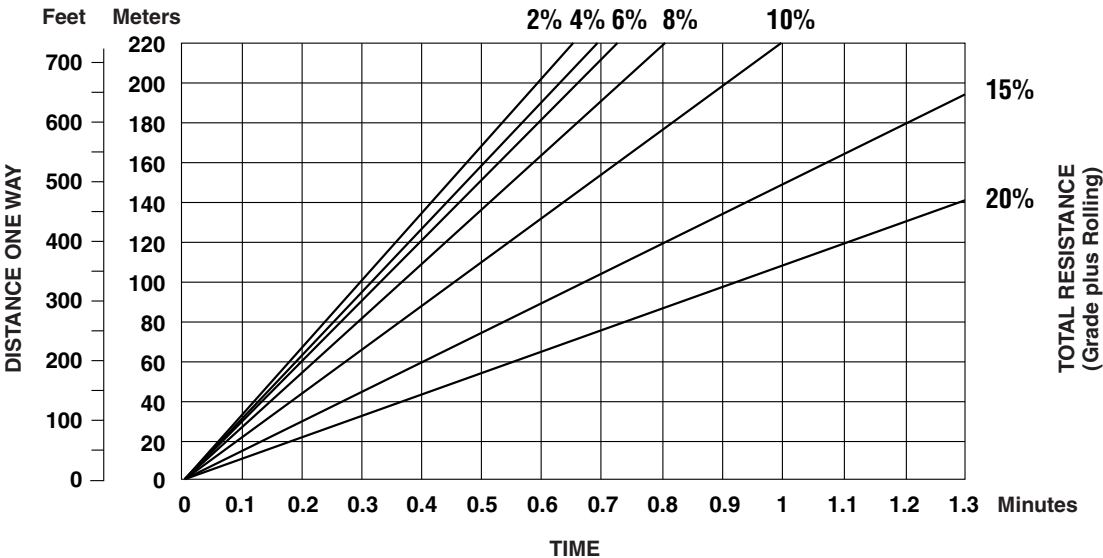
- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear

KEY

- E — Empty 92 797 kg (204,580 lb)
- L — Loaded 114 570 kg (252,580 lb)

Calculated Pull: Idle Hydraulics
Curves Assume NO SLIP Conditions

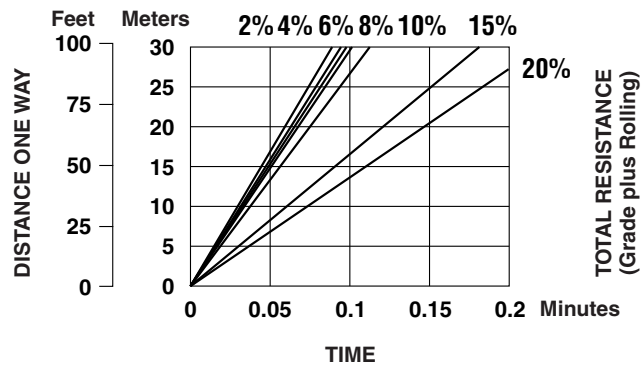
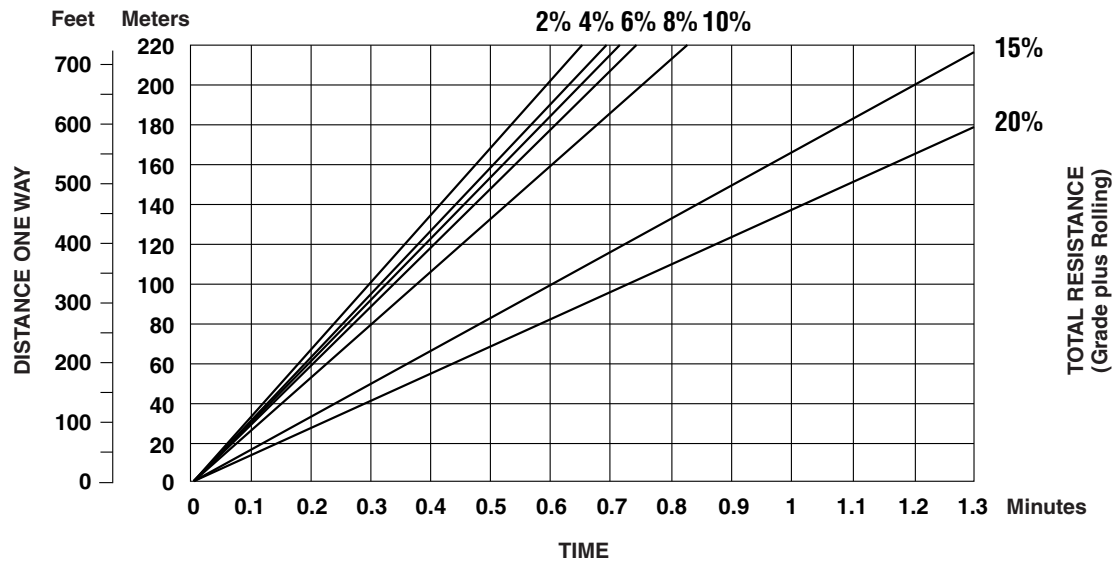
992K TRAVEL TIME — LOADED



NOTE: Curves assume use of highest operating speed attainable: 3rd gear for 2%-10% TR, 2nd gear for 15% and 20% TR.

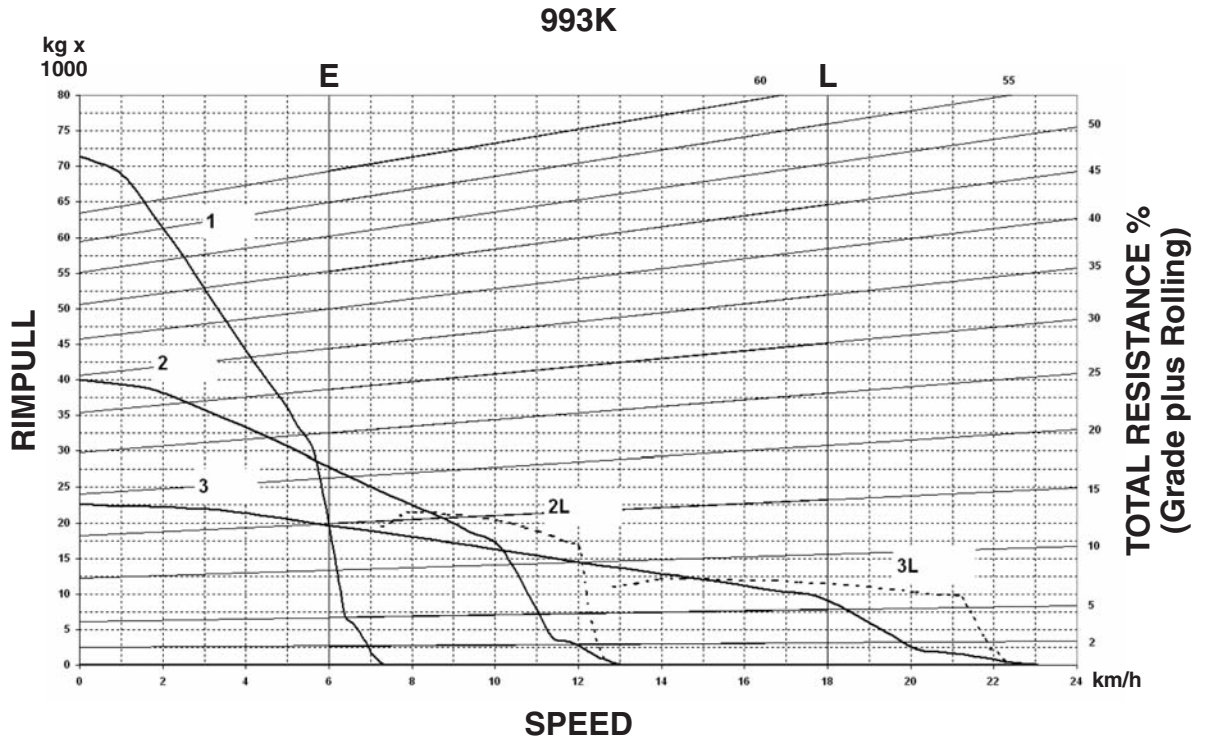
In load-and-carry applications it is important to consult the tire manufacturer on Ton-MPH ratings and pressure recommendations.

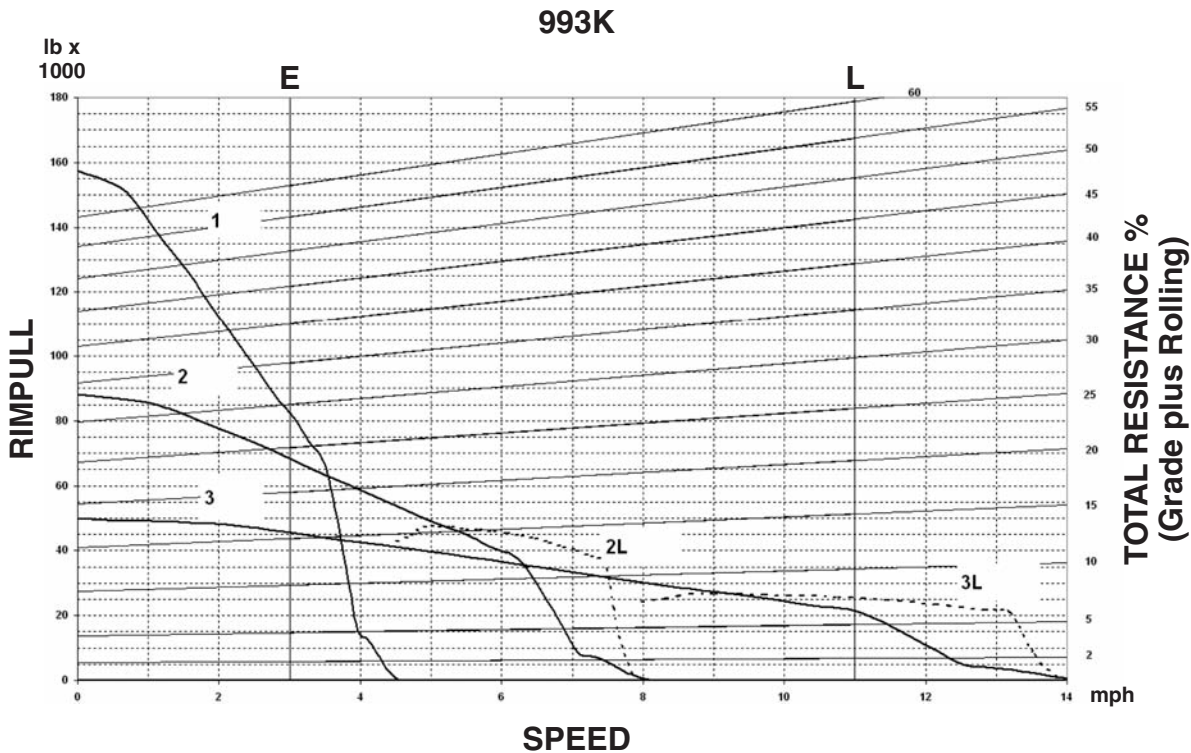
992K TRAVEL TIME — EMPTY



NOTE: Curves assume use of highest operating speed attainable: 3rd gear for 2%-10% TR, 2nd gear for 15% and 20% TR.

In load-and-carry applications it is important to consult the tire manufacturer on Ton-MPH ratings and pressure recommendations.





KEY

- 1— 1st Gear
- 2— 2nd Gear
- 3— 3rd Gear

KEY

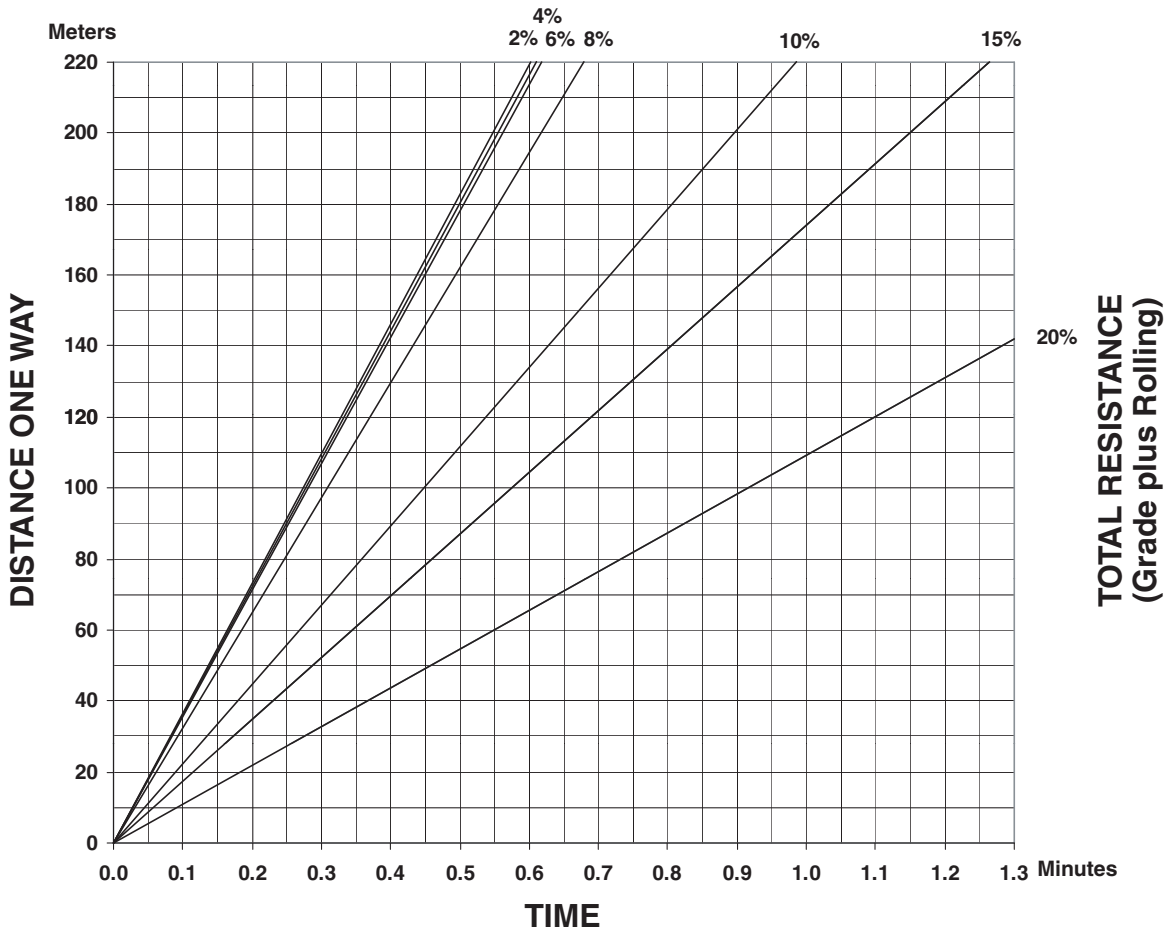
- E — Empty
- L — Loaded

Calculated Pull: Idle Hydraulics
Curves Assume NO SLIP Conditions

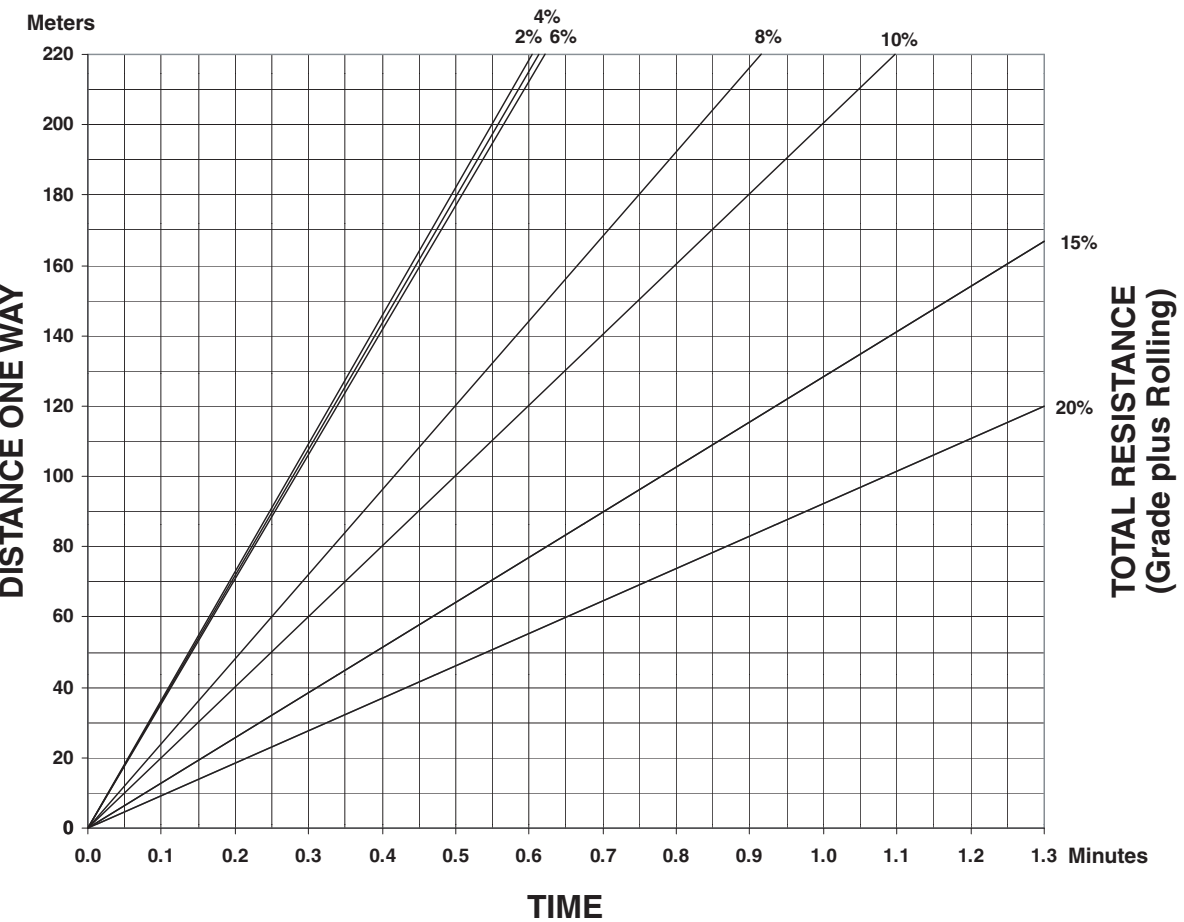
- Travel Time — Empty
- 993K — Lock-Up Clutch
- Idle Hydraulics

Wheel Loaders Integrated Toolcarriers

993K TRAVEL TIME — EMPTY



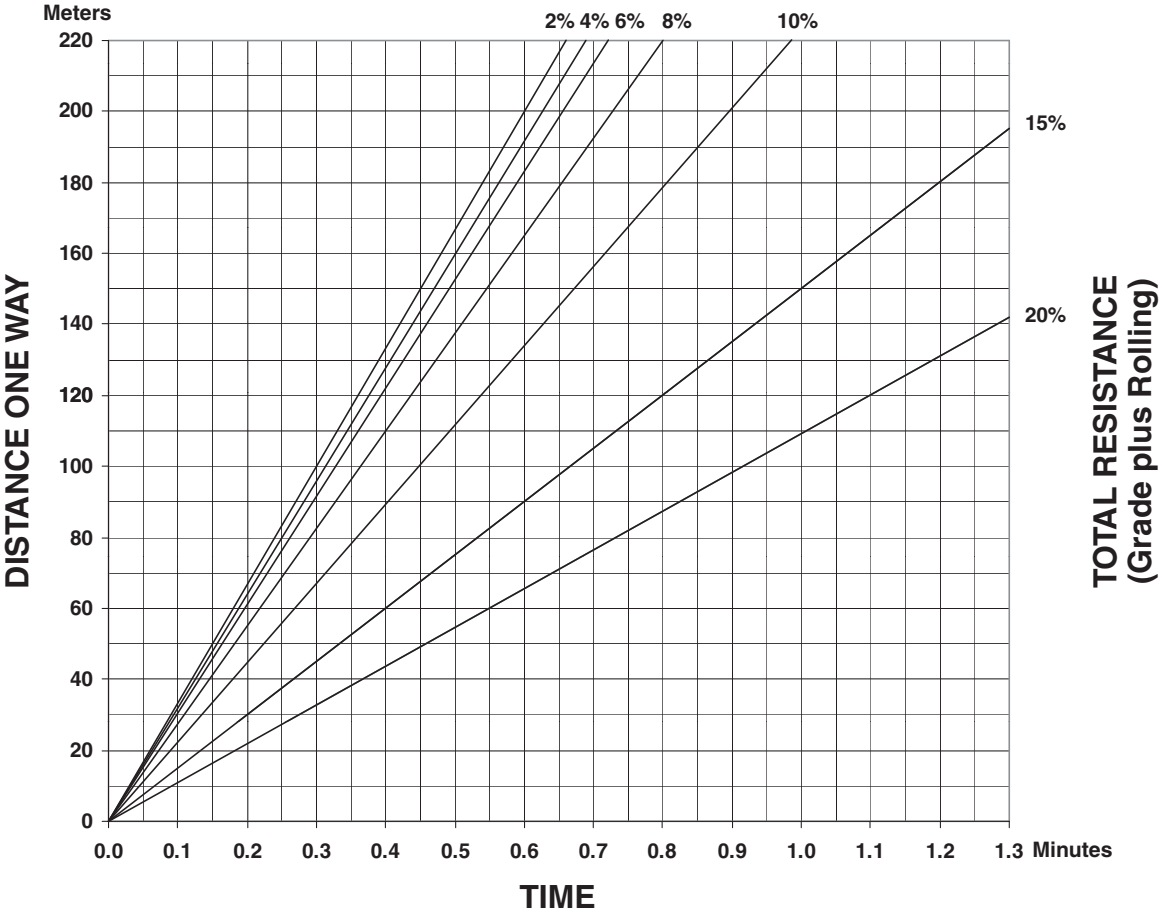
993K TRAVEL TIME — LOADED



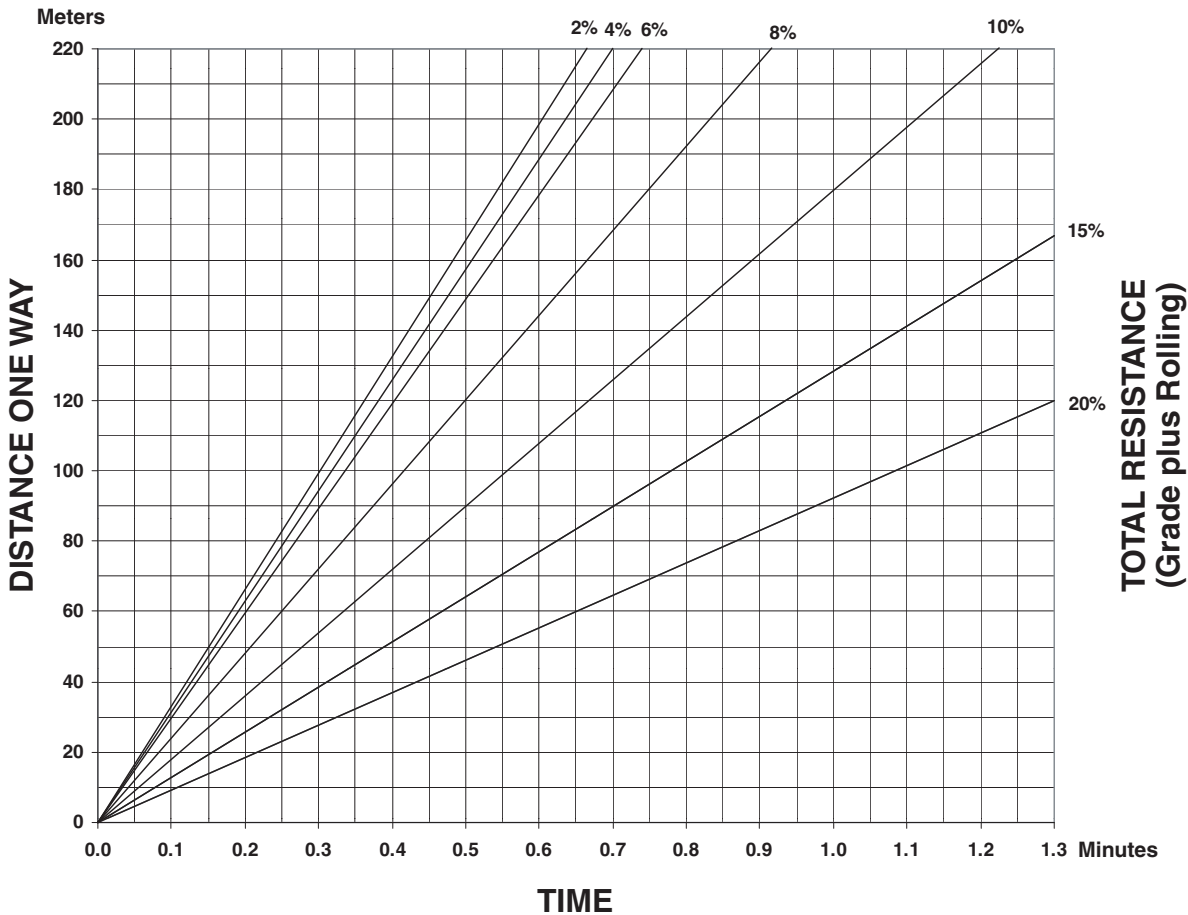
Travel Time — Empty
● 993K — Standard
● Idle Hydraulics

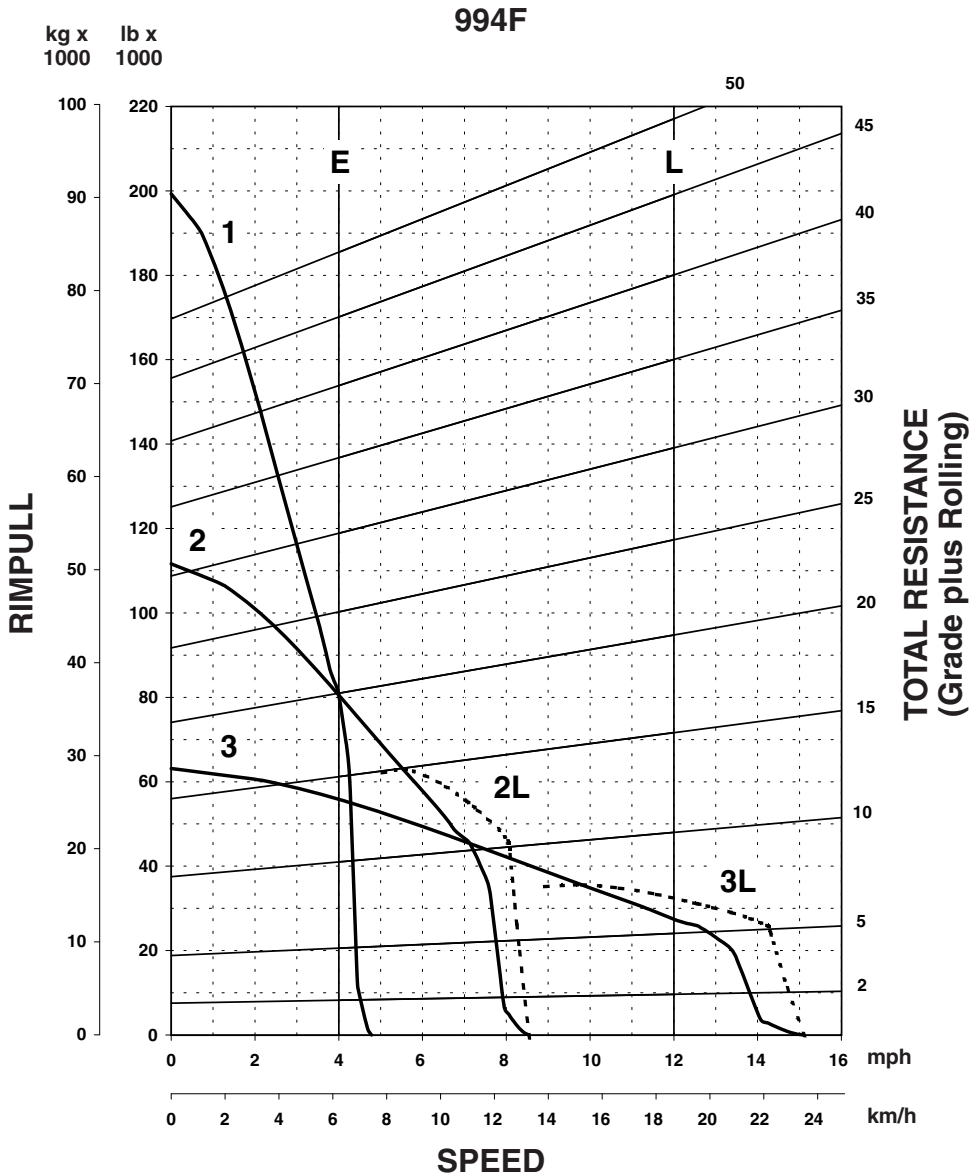
Wheel Loaders
Integrated Toolcarriers

993K TRAVEL TIME — EMPTY



993K TRAVEL TIME — LOADED





KEY

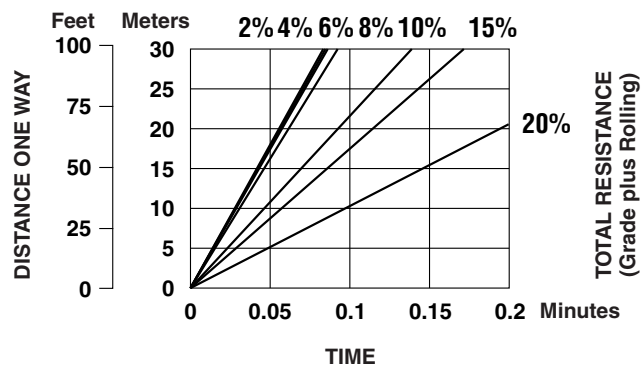
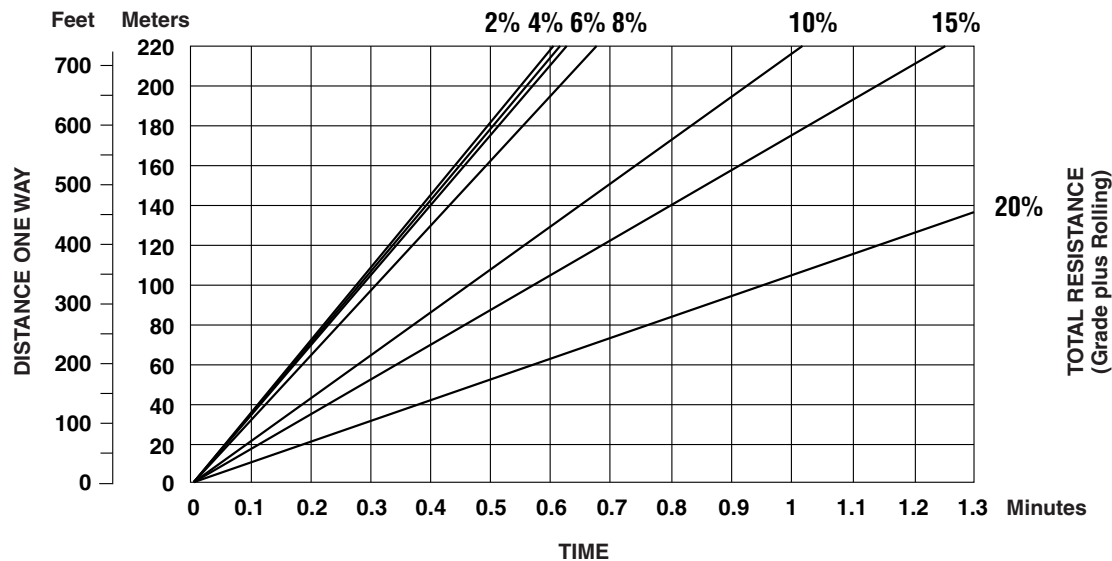
- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear

KEY

- E — Empty 189 345 kg (417,429 lb)
- L — Loaded 223 819 kg (493,429 lb)

Calculated Pull: Idle Hydraulics
Curves Assume NO SLIP Conditions

994F TRAVEL TIME — LOADED



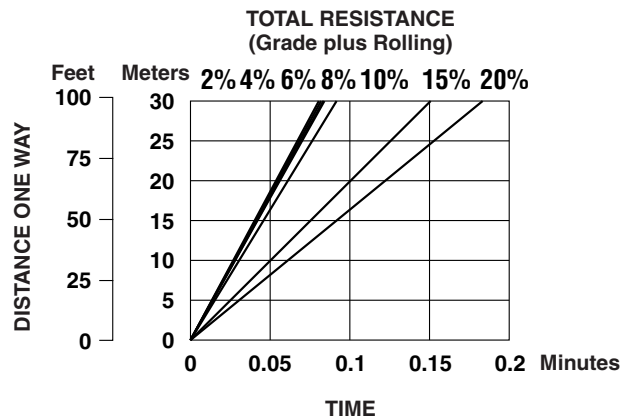
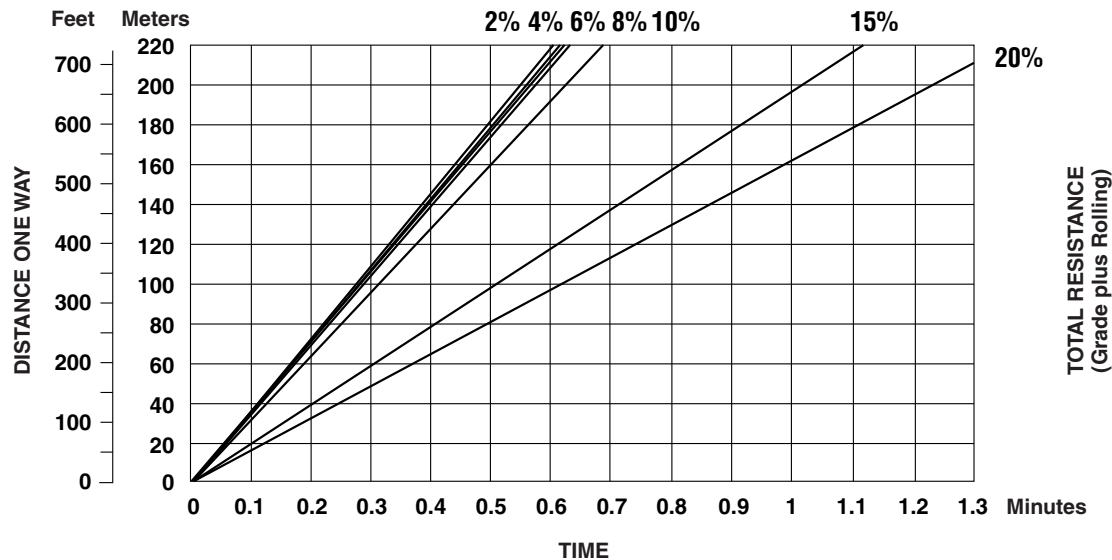
NOTE: Curves assume use of highest operating speed attainable: 3rd gear for 2%-10% TR, 2nd gear for 15% and 20% TR.

In load-and-carry applications it is important to consult the tire manufacturer on Ton-MPH ratings and pressure recommendations.

Travel Time — Empty
● 994F
● 50/80-57 Tires

Wheel Loaders
Integrated Toolcarriers

994F TRAVEL TIME — EMPTY

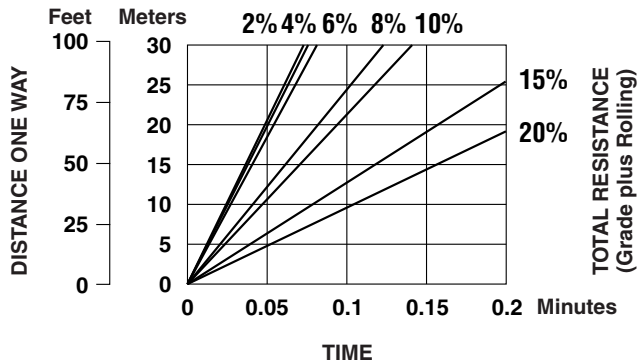
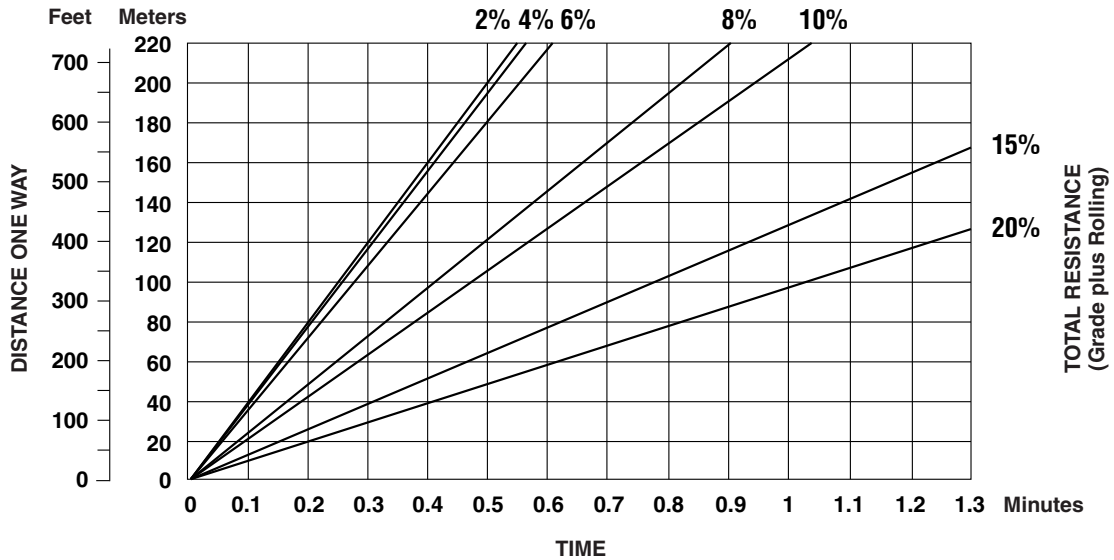


NOTE: Curves assume use of highest operating speed attainable: 3rd gear for 2%-10% TR, 2nd gear for 15% and 20% TR.

In load-and-carry applications it is important to consult the tire manufacturer on Ton-MPH ratings and pressure recommendations.

- 994F Steady State
- 50/80-57 Tires

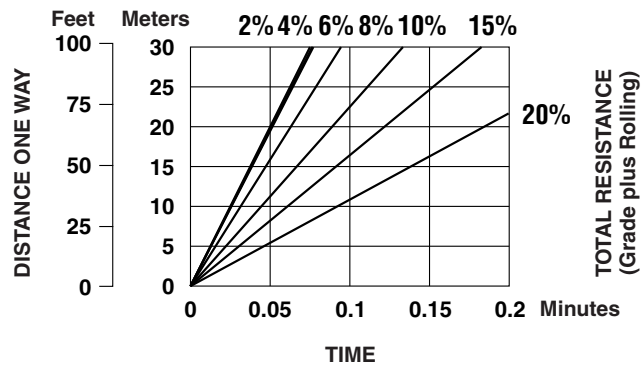
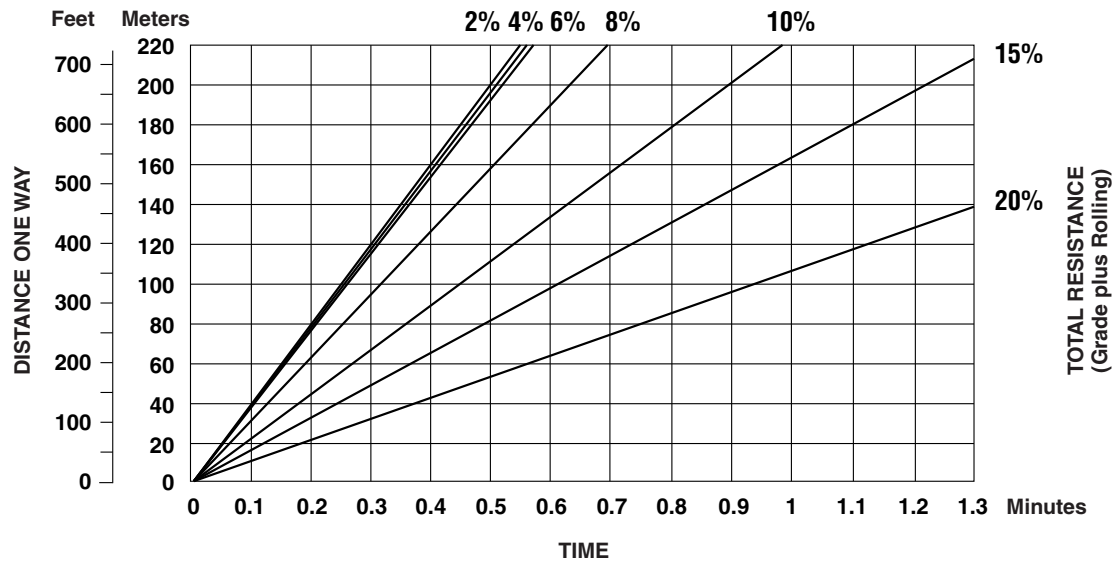
994F TRAVEL TIME — LOADED



NOTE: Curves assume use of highest operating speed attainable: 3rd gear for 2%-8% TR, 2nd gear for 10% and 15% TR, 1st gear for 20% TR.

In load-and-carry applications it is important to consult the tire manufacturer on Ton-MPH ratings and pressure recommendations.

994F TRAVEL TIME — EMPTY



NOTE: Curves assume use of highest operating speed attainable: 3rd gear for 2%-10% TR, 2nd gear for 15% TR, 1st gear for 20% TR.

In load-and-carry applications it is important to consult the tire manufacturer on Ton-MPH ratings and pressure recommendations.

Bucket Size (m ³ or yd ³)		1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0
Cycle Time	Cycles Per Hr	Unshaded area indicates average production.																		
0.35	171																			
0.40	150	150	225	330	375	450	525													
0.45	133	135	200	268	332	400	466	530	600	665	730	800	865							
0.50	120	120	180	240	300	360	420	480	540	600	660	720	780	840	900	960	1003	1080	1140	1200
0.55	109	109	164	218	272	328	382	436	490	545	600	655	705	765	820	870	925	980	1008	1090
0.60	100	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
0.65	92	92	138	184	230	276	322	368	416	460	505	555	600	645	690	735	780	830	875	920
0.70	86							342	386	430	474	515	560	600	645	690	730	775	815	860
0.75	80													560	600	640	680	720	760	800

Bucket Size (m ³ or yd ³)		11.0	12.0	13.0	14.0	15.0	16.0	17.0	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
Cycle Time	Cycles Per Hr	Unshaded area indicates average production.															
0.35	171																
0.40	150																
0.45	133																
0.50	120	1320	1440														
0.55	109	1200	1310	1420	1520	1635	1740	1850	1960	2070	2180	2285	2395	2505	2615	2725	2830
0.60	100	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	2600
0.65	92	1010	1105	1195	1285	1380	1470	1560	1655	1745	1840	1930	2020	2115	2205	2300	2390
0.70	86	945	1030	1120	1200	1290	1375	1460	1545	1630	1720	1805	1890	1975	2060	2150	2235
0.75	80	880	960	1040	1120	1200	1280	1360	1440	1520	1600	1680	1760	1840	1920	2000	2080
0.80	75			975	1050	1125	1200	1275	1350	1425	1500	1575	1650	1725	1800	1875	1950

Job Efficiency Worktime/Hr	Efficiency Factor	Bucket Load Factor Bucket Size × 1.00
60 Min Hr	100%	
55	91%	.95
50	83%	.90
45	75%	.85
40	69%	.80
—	—	.75

Metric Tons • 1600 kg Lm³ (1.6 t) density

Bucket Size m³		1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5
Cycle Time	Cycles Per Hr	Unshaded area indicates average production.																	
0.40	150	240	360	480	600	720													
0.45	133	213	319	426	532	638	745	851	958	1064	1170								
0.50	120	192	288	384	480	576	672	768	864	960	1056	1152	1248	1344	1440	1536	1632	1730	1825
0.55	109	174	262	349	436	523	610	698	785	872	959	1046	1134	1221	1308	1395	1482	1570	1655
0.60	100	160	240	320	400	480	560	640	720	800	880	960	1040	1120	1200	1280	1360	1440	1520
0.65	92	147	221	294	368	442	515	589	662	736	810	883	957	1030	1104	1178	1251	1325	1400
0.70	86						482	550	619	688	757	826	894	963	1032	1101	1170	1238	1310
0.75	80											768	832	896	960	1024	1088	1150	1215
Bucket Payload Metric (Tons)		1.6	2.4	3.2	4.0	4.8	5.6	6.4	7.2	8.0	8.8	9.6	10.4	11.2	12.0	12.8	13.6	14.4	15.2

Bucket Size m³		10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0	18.0	19.0	20.0
Cycle Time	Cycles Per Hr	Unshaded area indicates average production.										
0.40	150											
0.45	133											
0.50	120											
0.55	109	1744	1918	2092	2267	2441	2616	2790	2964	3139	3313	3488
0.60	100	1600	1760	1920	2080	2240	2400	2560	2720	2880	3040	3200
0.65	92	1472	1619	1766	1913	2060	2208	2355	2502	2649	2796	2944
0.70	86	1376	1513	1651	1788	1926	2064	2201	2339	2476	2614	2752
0.75	80	1280	1408	1536	1664	1792	1920	2048	2176	2304	2432	2560
0.80	75	1200	1320	1440	1560	1680	1800	1920	2040	2160	2280	2400
Bucket Payload Metric (Tons)		16.0	17.6	19.2	20.8	22.4	24.0	25.6	27.2	28.8	30.4	32.0

Wheel Loaders Integrated Toolcarriers

Production Estimating Table
● Shot Rock ● 60 min hour
● U.S. Tons

U.S. Tons ● 2700 lb/LCY (1.35 T) density

Bucket Size yd ³		1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0
Cycle Time	Cycles Per Hr	Unshaded area indicates average production.																		
0.40	150	203	330	420	510	615	705	810												
0.45	133	180	293	360	454	545	625	720	810	905	985	1080	1170							
0.50	120	162	254	324	408	492	565	650	730	815	890	970	1060	1140	1200	1300	1380	1470	1540	1620
0.55	109	147	240	294	370	448	515	590	665	740	805	885	960	1030	1090	1180	1250	1330	1400	1740
0.60	100	135	220	270	340	410	470	540	610	680	740	810	880	950	1000	1080	1150	1220	1280	1350
0.65	92	124	200	250	314	380	435	500	560	625	680	750	810	875	920	985	1060	1120	1180	1250
0.70	86								525	585	635	695	755	815	860	930	990	1050	1100	1160
0.75	80													760	800	865	920	975	1030	1080
Bucket Payload (Tons)		1.35	2.2	2.7	3.4	4.1	4.7	5.4	6.1	6.8	7.4	8.1	8.8	9.5	10.0	10.8	11.5	12.2	12.8	13.5

Bucket Size yd ³		11.0	12.0	13.0	14.0	15.0	16.0	17.0	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
Cycle Time	Cycles Per Hr	Unshaded area indicates average production.															
0.40	150																
0.45	133																
0.50	120	1782	1945														
0.55	109	1620	1765	1905	2060	2200	2350	2495	2645	2790	2940	3080	3235	3375	3530	3670	3825
0.60	100	1485	1620	1750	1890	2020	2160	2290	2430	2560	2700	2830	2970	3100	3240	3370	3510
0.65	92	1365	1490	1610	1735	1855	1985	2105	2235	2355	2480	2600	2730	2850	2980	3100	3225
0.70	86	1275	1390	1505	1625	1735	1855	1965	2085	2200	2320	2430	2550	2665	2785	2895	3015
0.75	80	1190	1295	1400	1510	1615	1725	1830	1940	2045	2160	2260	2375	2480	2590	2695	2805
0.80	75			1310	1415	1515	1620	1715	1820	1920	2025	2120	2225	2325	2430	2525	2630
Bucket Payload (Tons)		14.9	16.4	17.5	18.9	20.2	21.6	22.9	24.3	25.6	27.0	28.3	29.7	31.0	32.4	33.7	35.1

Work Tools	994F	993K	992K	990H	988H	980H	972H	966H	962H	950H	938H	928HZ	924HZ	914G	908H, 907H, 906H†	908H, 907H, 906H††	904H
Quick coupler				X	X	X								X	X	X	X
Fusion Quick Coupler							X	X	X	X	X	X	X				
General purpose bucket				X	X	X	X	X	X	X	X	X	X	X	X	X	X
Coal bucket	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
Woodchip bucket					X	X	X	X	X	X	X	X	X	X			
Refuse bucket						X	X	X	X	X	X	X	X				
Material handling bucket				X	X	X	X	X	X	X	X	X	X	X	X		X
Sand & gravel bucket					X	X	X	X	X	X							
Rock bucket	X	X	X	X	X	X	X	X	X	X							
Slag bucket				X	X	X											
Bonus bucket					X	X											
Multi-purpose bucket							X	X	X	X	X	X	X	X	X	X	X
Side dump bucket							X	X	X	X	X	X	X	X			
Bucket with top clamp						X	X	X	X	X	X	X	X	X			
Material handling arm						X	X	X	X	X	X	X	X	X	X	X	X
Pallet fork					X	X	X	X	X	X	X	X	X	X	X		X
Millyard fork					X	X	X	X	X	X	X	X	X				
Log/lumber fork							X	X	X	X	X	X	X	X			
Logging fork				X	X	X	X	X	X	X	X						
Core fork							X	X	X	X		X					
V-plow									X	X	X	X	X	X			
Manual reverse plow							X	X	X	X	X	X	X	X			
Hydraulic reverse plow							X	X	X	X	X	X	X	X			
Loader rake							X	X	X	X	X	X	X	X			
Hydraulic angle broom									X	X	X	X*	X*	X	X		X
Block handling bucket					X	X											
Block handling fork					X	X											
Breaker tine					X	X											
Boom clearing rake					X	X											
Stone seive bucket										X							
High dump bucket							X	X	X	X	X	X	X	X			
Pickup sweeper												X*	X*				X

*Requires IT compatible quick coupler.

†Vertical coupler.

††Horizontal coupler.

NOTE: List is not all-inclusive. Contact your Cat dealer for special attachment needs.

BUCKETS

General Purpose — for most material types with choice of cutting edges and teeth.

Loose Material — designed for snow, woodchips, hay, coal, etc. Add independently controlled top clamp for materials like hay, brush, silage or compost.

Multi-purpose — versatile ... loads, strips top-soil, bulldozes, clamps pipe, cleans up debris, plus many other tasks.

High dump or “roll-out” — for extended dump height of light materials.

Side dump — dump forward or to the left ... ideal in close quarters or to reduce turning time.

Grading — long, flat floor and straight edge for finish work in housing developments, concrete pours, landscaping and light dozing.

FORKS

Log or lumber forks — with optional clamps, single, double or full-width.

Wide frame forks — adjustable for control of long pipes, culverts, etc.

Stinger fork — with long single shaft to penetrate salvage autos or round hay bales.

Utility pallet forks — for a variety of tasks, with three different tine sizes.

Pulpwood — choice of single or double top clamp for positive control of material.

Sorting — designed for durability and efficiency in stacking operations.

BLADES

Angling dozer — choice of manual or hydraulic angling 25° left or right.

Straight blade — for spreading, leveling and other utility dozing.

One-way snow blade — economical snow clearing with minimal machine effort.

V-plow — excellent for breaking up large drifts or high speed clearing operations.

Material Handling arm — carries and places pipe, prefabricated building panels and handles bulky, nonpalletized material ... two telescopic sections extend for three position operation.

AND MORE ...

Rotary broom — for street cleanup, snow removal, jobsite clean-up, clearing runways ... angles left or right 30°.

Asphalt cutter — aids repair work on roads, pavements, water and sewer mains ... cuts clean to 125 mm (5").

Hooks — for attachment to dumpsters, bins, troughs, etc., to permit quick, easy, instant movement from place to place.

These products are available through your Cat dealer.

Work Tools

Work Tools	IT62H	IT38H	930H	924H	IT14G
Bucket with Top Clamp	X	X	X	X	X
Multi-Purpose Bucket	X	X	X	X	X
Side Dump Bucket	X	X	X	X	X
High Dump Bucket	X	X	X	X	X
MH Bucket	X	X	X	X	X
Clean-up Bucket	X				
Pallet Fork	X	X	X	X	X
Log/Lumber Fork	X	X	X	X	X
Core Fork			X	X	X
Straight Blade			X	X	X
Manual Angle Blade	X	X	X	X	X
Hydraulic Angle Blade			X	X	X
Manual Reversible Plow	X	X	X	X	X
Hydr. Reversible Plow	X	X	X	X	X
V-Plow			X	X	X
One Way Plow			X	X	X
Asphalt Cutter			X	X	X
Hydraulic Angle Broom	X	X	X	X	X
Pick-up Broom			X	X	X
Hydraulic Hammers			X	X	X
Loader Rake	X	X	X	X	X
Woodchip	X	X	X	X	X
Refuse	X	X	X	X	X
Millyard Fork	X	X			
Logging Fork	X	X			
Grapple	X	X			

This list not all inclusive. Contact your Cat dealer for special attachment needs.

FUSION™ COUPLER SYSTEM

Caterpillar is breaking new ground with the Fusion™ Coupler System. Caterpillar engineers designed this new system to exceed the performance of any other Cat or competitive coupler solution in the marketplace. This coupler system is a factory- or field-installed option for Cat Loaders from 924H/G through 972H/G, including IT38 and IT62 machines. Fusion offers benefits in four main categories:

Performance

This new, patented interface provides coupler flexibility with performance virtually identical to pin-on.

Imagine lifting a hundred-pound box with your arms fully extended. Now, imagine lifting that same load close to your body. That's the genius of Fusion: designed to integrate the work tool and the machine by pulling the coupler and tool closer to the wheel loader. As a result, the center of gravity is moved inward, towards the machine. This translates to increased lifting ability when compared to machines equipped with competing coupler systems.

Durability

The advanced wedging mechanism of the Fusion™ Coupler creates a tight, rattle-free fit. This new lock up system eliminates play and wear — resulting in a long service life.

Wedges pull the attachment tight to the machine in two directions — in and down. Constant hydraulic pressure on the coupler wedges compensate for wear, assuring a tight fit throughout the life of the coupler. Tight fit gives better tool control and increased productivity. Plus, coupler durability is substantially increased over traditional couplers.

Visibility

A new, open coupler frame design opens sight lines from the operator's seat, making it easier than ever before to engage and disengage attachments with certainty.

Offset tines and other design changes to Fusion Pallet Forks, working in conjunction with the Fusion Coupler, increase visibility substantially at ground level and truck bed height when compared to traditional coupler and fork combinations.

Flexibility/Compatibility

With the Fusion Coupler system, Caterpillar customers get **one common interface**. This unique, single interface eliminates the need for many different couplers across the entire range of Cat Small and Medium Wheel Loaders. This expanded machine compatibility not only allows one machine to pick up a range of work tools, but also for one work tool to be used by a host of different machines. Realize the flexibility and opportunity afforded your rental operation, or the improvements to machine and work tool management on your customers' job sites.

Fusion is supported by a full line of work tools. Just about any work tool available for pin-on is also available, or can be converted, to work with Fusion. For complete information, visit <https://fusion.cat.com>

Fusion Work Tools

	924H/G, 924Hz/Gz	930H/G	928H/G	IT38H/G	938H/G	IT62H/G	950H/G	962H/G	966H/G	972H/G
GP Bucket	X	X	X	X	X	X	X	X	X	X
Grapple Bucket	X	X	X	X	X	X	X	X	X	
Coal/Light Material Bucket				X	X	X	X	X	X	X
High Dump Bucket	X	X	X	X	X	X	X	X	X	
Material Handling Bucket	X	X	X	X	X	X	X	X	X	X
Multi-Purpose Bucket	X	X	X	X	X	X	X	X	X	
Spade Rock Bucket							X	X	X	X
Side Dump Bucket	X	X	X	X	X	X	X	X	X	
Woodchip/Cleanup Bucket	X	X	X	X	X	X	X	X	X	X
Waste Bucket	X	X	X	X	X	X	X	X	X	X
Pickup Broom	X	X	X	X	X	X	X	X		
Angle Broom	X	X	X	X	X	X	X	X		
Pallet Fork	X	X	X	X	X	X	X	X	X	X
Log and Lumber Fork	X	X	X	X	X	X	X	X	X	X
Rakes	X	X	X	X	X	X	X	X	X	X
Top Clamp Rakes	X	X	X	X	X	X	X	X		
Material Handling Arms	X	X	X	X	X	X	X	X	X	X
Plow	X	X	X	X	X	X	X	X	X	X
V-Plow							X	X	X	X

See Product Bulletin GEJQ0222 for complete Fusion Work Tool information.

TRACK LOADERS

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Features of 939C:

- **Hydrostatic drive train** offers infinitely variable speeds, fast acceleration, dynamic hydrostatic braking, superior maneuverability and excellent controllability.

Features common to all D-series models (953D-963D-973D):

- **Improved serviceability.** All D-series Track-Type Loaders are equipped with a tiltable cab that allows complete service of the hydraulic system. Most daily maintenance checks are performed from the machine's right side, facilitating quick start up. Easy access to major components enhances serviceability and increase uptime.
- **Operator Station.** Experience a high level of efficiency, comfort and productivity with the new D-series cab. The cab features a new gauge cluster, a fully air-suspension seat, the new seat mounted controls, an automatic air climate control and provides excellent visibility.
- **Messenger.** Messenger is a new electronic monitoring system with real time, visual feedback on engine and machine operating conditions. It provides information on diagnostic data, maintenance, and allows operating settings such as implement reactions.
- **Hydrostatic Drive.** The closed loop hydrostatic drive with electronic control provides precise modulation for quick, smooth operation and superior maneuverability. Shorter cycle times, high efficiency, and excellent maneuverability results in increased productivity.

Features common to all D-series models (953D-963D-973D) (continued):

- **Steering controls.** Now, both the 953D and 963D are offered with a choice of either the traditional V-lever with pedal steering or joystick control. With joystick control both steering and transmission functions are managed using the joystick. The joystick handles includes three buttons. The yellow buttons are used to increase/decrease the travel speed of the machine. The black button activates the horn. There are four different settings for both forward and reverse with the speed displayed on the multifunctional dashboard. This pattern is commonly referred to as S-pattern steering.
- **Electro-hydraulic implements controls.** The new electro hydraulic implement controls provide the operator with responsive, smooth and precise control of bucket and lift arms.
- **Kickout settings.** Automatic kickouts are part of the electro-hydraulic controls; adjust from inside the cab with a simple rocker switch. Kickout stops are hydraulically cushioned for greater operator comfort and less material spillage.
- **Positing Sensing Cylinder.** The D-series has electro-hydraulic implement controls for lower operator effort. The new position sensing cylinders allow setting detents at any positions from the cab. They feature also a load sensing implement pump which reduces engine power consumption.
- **Hydraulic on-demand fan.** The fan is a hydraulic demand type one with optional reversible function, operating in sucker mode. It gives the best efficiency and avoids also sucking the dust and debris coming from the outside into the cooling package.
- **Special Application Arrangements.** Special arrangements — Waste Handling, Demolition, Wide Gauge and more, are available or can be designed on request, to allow the D-series to work in special applications.

Features of 953D-963D:

- **C6.6 ACERT Engine.** The Cat C6.6 ACERT engine utilizes the Cat Common Rail fuel delivery system. Designed for performance, durability, serviceability, and fuel economy, it meets EPA Tier 3, EU Stage IIIA and Japan Ministry of Land, Infrastructure & Transport Step 3 emission standards.
- **SystemOne Moving U/C Standard.** The revolutionary Cat SystemOne™ Undercarriage provides maximum undercarriage life and reliability no matter the application, environment or underfoot conditions. Built to last longer and require less maintenance it ensures a dramatic drop in owning and operating costs.

Features of 973D:

- **C9 ACERT Engine.** The Cat® C9 ACERT engine is an 8.8 liter (537 in³) displacement, six-cylinder, in-line configured engine with hydraulically actuated electronic fuel injection or HEUI™. The 196 kW (263 hp) rated net power engine meets the latest worldwide emissions standards.
- **Special Application Arrangements.** The steel mill arrangement protects the 973D and its operator against extreme conditions to allow the machine to handle hot slag in steel mill operations. The special arrangement features additional guarding for critical components, sealed undercarriage, heat shields for fuel tank, power train and hydraulics, silicone seals and heat resistant windshield, remote parking brake release and fire-resistant fluids. The Steel Mill Arrangement provides the best protection available for this extremely difficult application.

Features of 973C:

- **Rear engine location** provides natural stability as a “working” counterweight, excellent visibility and good weight to horsepower ratio.
- **Electronic hydrostatic drive train with pedal steering** offers independent control of each track. Power turns, counterrotation infinitely variable speeds, and fast acceleration for increased maneuverability and production.
- **Variable displacement pump and motors** provide excellent efficiency and controllability.
- **Z-bar linkage** provides increased breakout force, fewer grease points and fast dump speed.
- **Special arrangements** including Wide Gauge, Waste Handling, Ship Hold, Tunneling and Steel Mill are available to tailor the machine to specific applications.
- **C-series cab and controls** offer a high level of operator comfort. Low sound level, large interior volume, two large storage compartments, fully adjustable armrests, ergonomic control, standard air conditioning and air suspension seat, adjustable steering pedal, Cat contour seat, and excellent visibility.
- **Computerized Monitoring System (CMS)** provides operator with gauges and other information, alerts of occurring or impending problems, registers fault codes and acts as an extended diagnostic system.
- **Pilot operated hydraulic controls** offer low lever forces for precise, consistent bucket control and reduces operator fatigue.
- **Implement power requirements** have priority over track requirements automatically ... full implement power available for maximum breakout force and simultaneous lift and dump capability results in fast loading and cycle times.
- **Oscillating track roller frames** decrease ground shock, increase machine stability and improve traction.

Features common to all models (C-series and D-series):

- **Unmatched versatility** — excavates, loads, dozes, grades, clears, strips, backfills in all underfoot conditions including those that could damage tires.
- **Sound-suppressed, air-pressurized, resiliently mounted ROPS cab** for superior working environment.
- **Sealed loader linkage** extends lubrication intervals and reduces maintenance time.
- **Automatic bucket controls** let bucket rise to pre-set dumping height and return to pre-set digging angle for fast cycle time.
- **General Purpose and Multi-Purpose** buckets, quick couplers and many other work tools are available to increase versatility.
- **Radial rippers** are Multishank with wide beam coverage for utility ripping close to walls, footings and embankments. Five shanks available for 939C. Three shanks for 953D, 963D, 973C and 973D.
- **Product Link System** reports machine location and hours and consequently makes the maintenance easier and reduces the downtime.
- **Cat Machine Security System** allows better machine protection by preventing theft. A microchip is embedded in the key to provide more security.
- **K System** is a Caterpillar exclusive which allows ease of installation and removal. New adapters provide better performance and offer a longer lasting life than J series (+30%).

						
MODEL	939C		953D		963D	
Flywheel Power	67.1 kW	90 hp	110 kW	148 hp	141 kW	189 hp
Operating Weight*†	9480 kg	20,900 lb	15 517 kg	34,209 lb	20 220 kg	44,577 lb
Engine Model	3046 T		C6.6 ACERT		C6.6 ACERT	
Rated Engine RPM	2400		2000		2000	
Bore	94 mm	3.7"	105 mm	4"	105 mm	4.13"
Stroke	120 mm	4.7"	127 mm	5"	127 mm	5"
No. Cylinders	6		6		6	
Displacement	5 L	305 in³	6.6 L	402.7 in³	6.6 L	402.7 in³
Speeds Forward/Reverse	0-9 km/h	0-5.6 mph	km/h	mph	km/h	mph
1st	—		0-10	0-6.2	0-10	0-6.2
2nd	—		Infinitely		Infinitely	
3rd	—		Variable		Variable	
Hydraulic Cycle Time, Bucket Empty, in Seconds:						
Raise	5.6		5.9		5.8	
Dump	2.4		1.5		1.3	
Lower (Empty, Float Down)	2.9		3.2		2.9	
Total	10.9		10.6		10.0	
Track Rollers (Each Side)	6		6		7	
Width of Standard Track Shoe	406 mm	16"	480 mm	19"	550 mm	21.6"
Length of Track on Ground†	2140 mm	84.4"	2323 mm	91.4"	2543 mm	100.1"
Ground Contact Area (with Standard Shoes)†	1.74 m²	2700 in²	2.3 m²	3565 in²	2.8 m²	4340 in²
Ground Pressure†	53.7 kPa	7.8 psi	65.5 kPa	9.5 psi	71.5 kPa	10.3 psi
Ground Clearance	369 mm	14.5"	416 mm	16.3"	471 mm	18.5"
Track Gauge	1550 mm	61"	1800 mm	71"	1850 mm	72.8"
Width without Bucket (with Standard Shoes)	1960 mm	77"	2280 mm	89.7"	2400 mm	94.5"
Fuel Tank Refill Capacity	157 L	41.4 U.S. gal	316 L	83.5 U.S. gal	400 L	105.6 U.S. gal
Hydraulic System Refill Capacity	56.8 L	15 U.S. gal	70 L	18.5 U.S. gal	90 L	23.8 U.S. gal

*939C weights include basic machine (General Arrangement Number), lubricants, coolants, full fuel tank, operator, general purpose bucket and bucket teeth and OROPS. 953D and 963D include GP bucket with bolt-on adapters, long tips and segments.

†SystemOne Undercarriage Changes (953D, 963D)

With the introduction of New SystemOne Undercarriage, mentioned data may change. Specific conception or various modification in dimension affect the weight, the length and therefore the ground pressure. These differences don't have to be taken into account as long as they show a minimal change: ±1% ±0.2% and depend on the undercarriage configuration and the use.



MODEL	973C		973D	
Flywheel Power	178 kW	239 hp	196 kW	263 hp
Operating Weight*	26 373 kg	58,142 lb	28 058 kg	61,857 lb
Engine Model	C9 ACERT		C9 ACERT	
Rated Engine RPM	2000		1900	
Bore	112 mm	4.41"	112 mm	4.41"
Stroke	149 mm	5.87"	149 mm	5.87"
No. Cylinders	6		6	
Displacement	8.8 L	537 in ³	8.8 L	537 in ³
Speeds Forward/Reverse	km/h	mph	km/h	mph
1st	0-10	0-6.2	—	—
2nd	Infinitely		Infinitely	
3rd	Variable		Variable	
Hydraulic Cycle Time, Bucket Empty, in Seconds:				
Raise	6.7		6.5	
Dump	1.5		1.4	
Lower (Empty, Float Down)	2.9		2.7	
Total	11.1		10.6	
Track Rollers (Each Side)	7		7	
Width of Standard Track Shoe	500 mm	19.7"	550 mm	21.7"
Length of Track on Ground	2930 mm	115"	2930 mm	115"
Ground Contact Area (with Standard Shoes)	2.93 m ²	4542 in ²	3.22 m ²	4991 in ²
Ground Pressure	91.2 kPa	13.2 psi	85.5 kPa	12.0 psi
Ground Clearance	457 mm	17.9"	482 mm	18.98"
Track Gauge	2080 mm	82"	2160 mm	85"
Width without Bucket (with Standard Shoes)	2580 mm	102"	2710 mm	106.7"
Fuel Tank Refill Capacity	430 L	113 U.S. gal	621 L	164.1 U.S. gal
Hydraulic System Refill Capacity	62 L	16.4 U.S. gal	189 L	49.9 U.S. gal

*973C includes GP bucket with bolt-on adapters, long tips and segments.

BUCKET	General Purpose		Multi-Purpose	
Capacity, Rated (Nominal Heaped)	1.15 m³	1.5 yd³	1.15 m³	1.5 yd³
Struck	0.95 m³	1.25 yd³	0.95 m³	1.25 yd³
Bucket Width*	2160 mm	7'1"	2160 mm	7'1"
Dump Clearance at Full Lift and 45° Discharge	2667 mm	8'9"	2604 mm	8'6.5"
Maximum Reach at Full Lift and 45° Discharge	866 mm	2'10.1"	877 mm	2'10.5"
Digging Depth	127 mm	5"	165 mm	6.5"
Overall Length	4359 mm	14'3.6"	4359 mm	14'4"
Overall Height	4384 mm	14'4.6"	4384 mm	14'4.6"
Static Tipping Load	6607 kg	14,560 lb	6396 kg	14,100 lb
Breakout Force**	89.9 kN	20,200 lb	92 kN	20,690 lb
Operating Weight***	9484 kg	20,910 lb	10 030 kg	22,110 lb

*Bolt-on teeth increase bucket width by 42 mm (1.65"). Bolt-on cutting edge increases bucket width by 10 mm (0.39").
**Breakout force is measured 102 mm (4") behind tip of cutting edge with bucket hinge pin as pivot point.
***Operating weight includes coolant, lubricants, full fuel tank, bottom guards (STD), bucket teeth, ROPS canopy and operator. 454 kg (1000 lb) rear counterweight is also removed while using Multi-Purpose bucket.

Machine stability can be affected by the addition of other attachments. Add or subtract the following to/from machine operating weight and static tipping load:

	Change in Operating Weight		Change in Static Tipping Load	
	kg	lb	kg	lb
Cab, ROPS	+204	+450	+266	+586
Bucket teeth (long) & segments	+118	+260	-150	-330
Air Conditioner	+ 77	+170	+ 88	+194
Ripper with 3 teeth (includes removal of 295 kg (650 lb) rear counterweight)	+ 17	+ 37	+ 49	+108
Rear counterweight (per plate)	+115	+255	+203	+448

BUCKET	General Purpose Bare		General Purpose Bolt-on Adapters, Long Teeth & Segments		General Purpose Bolt-on Cutting Edge		General Purpose Flush Weld-on Adapters & Long Teeth	
Capacity, Rated (Nominal Heaped)	1.75 m ³	2.29 yd³	1.85 m ³	2.42 yd³	1.85 m ³	2.42 yd³	1.85 m ³	2.42 yd³
Struck	1.45 m ³	1.90 yd³	1.55 m ³	2.03 yd³	1.55 m ³	2.03 yd³	1.45 m ³	1.90 yd³
Cutting Edge, Type	Straight		Straight		Straight		—	
Bucket Width◀	2392 mm	94.2"	2485 mm	97.8"	2395 mm	94.3"	2438 mm	96"
Teeth	None		8, bolt-on plus replaceable tips		None		8, bolt-on plus replaceable tips	
Dump Clearance @ Full Lift and 45° Discharge	2855 mm	112.4"	2616 mm	102.9"	2786 mm	109.6"	2659 mm	104.7"
Reach at 45° Discharge Angle 2133 mm (7'0") Clearance	1550 mm	61"	1630 mm	64.2"	1559 mm	61.4"	1656 mm	65.2"
Reach @ Full Lift and 45° Discharge	928 mm	36.5"	1099 mm	43.3"	961 mm	37.8"	1104 mm	43.5"
Digging Depth	92 mm	3.6"	140 mm	5.5"	117 mm	4.6"	105 mm	4.1"
Ground Clearance from Face of Shoes	416 mm	16.3"	416 mm	16.3"	416 mm	16.3"	416 mm	16.3"
Overall Machine Width without Bucket (with Standard Track) 480 mm (19")	2280 mm	89.7"	2280 mm	89.7"	2280 mm	89.7"	2280 mm	89.7"
Overall Machine Width without Bucket (with Narrow Track) 380 mm (15")	2180 mm	85.8"	2180 mm	85.8"	2180 mm	85.8"	2180 mm	85.8"
Overall Length	5926 mm	233.3"	6252 mm	246.1"	6017 mm	236.9"	6198 mm	244"
Overall Height	3105 mm	122.2"	3105 mm	122.2"	3105 mm	122.2"	3105 mm	122.2"
Static Tipping Load	11 431 kg	25,201 lb	11 089 kg	24,447 lb	11 252 kg	24,806 lb	11 255 kg	24,813 lb
Breakout Force*	160.5 kN	36,092 lb	157.8 kN	35,491 lb	159.3 kN	35,828 lb	162.5 kN	36,549 lb
Operating Weight**	15 517 kg	34,209 lb	15 758 kg	34,740 lb	15 638 kg	34,475 lb	15 635 kg	34,469 lb

* Breakout force is measured 100 mm (3.94") behind tip of cutting edge with bucket hinge pin as pivot point.

** Operating weight includes coolant, lubricants, full fuel tank, ROPS cab, bucket, and 75 kg (165 lb) operator.

◀ Bolt-on teeth increase bucket width by 52 mm (2"). Bolt-on cutting edge increases bucket width by 17 mm (0.67").

Machine stability can be affected by the addition of other attachments. Add or subtract the following to/from machine operating weight and static tipping load:

	Change in Operating Weight		Change in Static Tipping Load for General Purpose Bucket	
	kg	lb	kg	lb
Ripper (includes ripper, rear lines, and third valves)	+461	+1016	+967	+2131
Air conditioner	Standard		Standard	
Wide track shoes, 480 mm (19") double grouser	−588	−1296	−405	− 892
Rear bumper (removal)	−185	− 408	−411	− 906

BUCKET	Multi-Purpose Bare		Multi-Purpose Bolt-on Adapters, Long Tips & Segments		Multi-Purpose Bolt-on Cutting Edge	
Capacity, Rated (Nominal Heaped)	1.5 m³	1.96 yd³	1.6 m³	2.09 yd³	1.6 m³	2.09 yd³
Struck	1.25 m³	1.63 yd³	1.35 m³	1.76 yd³	1.35 m³	1.76 yd³
Cutting Edge, Type	Straight		Straight		Straight	
Bucket Width◀	2378 mm	93.6"	2471 mm	97.3"	2395 mm	94.3"
Teeth	None		8, bolt-on plus replaceable tips		None	
Dump Clearance @ Full Lift and 45° Discharge	2738 mm	107.7"	2499 mm	98.3"	2669 mm	105"
Reach at 45° Discharge Angle						
2133 mm (7'0") Clearance	1434 mm	56.5"	1457 mm	57.4"	1428 mm	56.2"
Reach @ Full Lift and 45° Discharge	973 mm	38.3"	1144 mm	45"	1006 mm	39.6"
Digging Depth	142 mm	5.6"	190 mm	7.5"	147 mm	5.8"
Overall Length	6077 mm	239.3"	6401 mm	252"	6167 mm	242.8"
Overall Height	3105 mm	122.2"	3105 mm	122.2"	3105 mm	122.2"
Static Tipping Load	10 831 kg	23,878 lb	10 492 kg	23,130 lb	10 663 kg	23,507 lb
Breakout Force*	137.2 kN	30,843 lb	134.3 kN	30,191 lb	135.5 kN	30,461 lb
Operating Weight**	16 062 kg	35,410 lb	16 302 kg	35,939 lb	16 183 kg	35,677 lb

* Breakout force is measured 100 mm (3.94") behind tip of cutting edge with bucket hinge pin as pivot point.
** Operating weight includes coolant, lubricants, full fuel tank, ROPS cab, General Purpose bucket, and 80 kg (176 lb) operator.
◀ Bolt-on teeth increase bucket width by 52 mm (2"). Bolt-on cutting edge increases bucket width by 17 mm (0.67").

Machine stability can be affected by the addition of other attachments.

BUCKET	General Purpose Bare		General Purpose Bolt-on Cutting Edge		General Purpose Flush Weld-on Adapters & Long Tips		General Purpose Bolt-on Adapters, Long Tips & Segments	
Capacity, Rated (Nominal Heaped)	2.3 m ³	3.0 yd³	2.45 m ³	3.2 yd³	2.45 m ³	3.2 yd³	2.45 m ³	3.2 yd³
Struck	2.0 m ³	2.6 yd³	2.14 m ³	2.8 yd³	2.0 m ³	2.6 yd³	2.14 m ³	2.8 yd³
Cutting Edge, Type	Straight		Straight		—		Straight	
Bucket Width*	2508 mm	98.7"	2539 mm	99.9"	2583 mm	101.6"	2612 mm	102.8"
Teeth	None		None		8, weld-on plus replaceable tips		8, weld-on plus replaceable tips	
Dump Clearance @ Full Lift and 45° Discharge	3155 mm	124.2"	3068 mm	120.7"	2951 mm	116.1"	2915 mm	114.7"
Reach at 45° Discharge Angle 2133 mm (7'0") Clearance	1771 mm	69.7"	1793 mm	70.5"	1926 mm	75.8"	1886 mm	74.2"
Reach @ Full Lift and 45° Discharge	1060 mm	41.7"	1215 mm	47.8"	1397 mm	55"	1373 mm	54"
Digging Depth	80 mm	3.1"	115 mm	4.5"	95 mm	3.7"	138 mm	5.4"
Ground Clearance from Face of Shoes	471 mm	18.5"	471 mm	18.5"	471 mm	18.5"	471 mm	18.5"
Overall Machine Width without Bucket (with Standard Track) 550 mm (21.6")	2400 mm	94.5"	2400 mm	94.5"	2400 mm	94.5"	2400 mm	94.5"
Overall Machine Width without Bucket (with Narrow Track) 450 mm (18")	2300 mm	90.5"	2300 mm	90.5"	2300 mm	90.5"	2300 mm	90.5"
Overall Length	6584 mm	259.2"	6676 mm	262.8"	6883 mm	270.9"	6896 mm	271.4"
Overall Height	3335 mm	131.3"	3335 mm	131.3"	3335 mm	131.3"	3335 mm	131.3"
Static Tipping Load	14 969 kg	33,000 lb	14 685 kg	32,375 lb	14 815 kg	32,661 lb	14 482 kg	31,927 lb
Breakout Force**	208.6 kN	46,895 lb	206.1 kN	46,333 lb	207.4 kN	46,625 lb	203.8 kN	45,816 lb
Operating Weight***	20 220 kg	44,585 lb	20 433 kg	45,055 lb	20 332 kg	44,832 lb	20 592 kg	45,405 lb

*With bolt-on cutting edge add 17 mm (0.67"), with bolt-on teeth add 52 mm (2"), for flush weld-on teeth add 75 mm (3").

**Breakout force is measured 100 mm (3.94") behind tip of cutting edge with bucket hinge pin as pivot point.

***Operating weight includes coolant, lubricants, full fuel tank, ROPS cab, bucket, and 75 kg (165 lb) operator.

Machine stability can be affected by the addition of other attachments. Add or subtract the following to/from machine operating weight and static tipping load:

	Change in Operating Weight		Change in Static Tipping Load for General Purpose Bucket	
	kg	lb	kg	lb
Ripper (includes ripper, rear lines, and third valves)	+639	+1409	+1421	+3133
Rear bumper (removal)	-195	- 430	- 464	-1023

BUCKET	Multi-Purpose Bare		Multi-Purpose Bolt-on Segments & Long Teeth		Multi-Purpose Bolt-on Cutting Edge	
Capacity, Rated (Nominal Heaped)	1.9 m ³	2.5 yd³	2.0 m ³	2.6 yd³	2.0 m ³	2.6 yd³
Struck	1.6 m ³	2.1 yd³	1.7 m ³	2.2 yd³	1.7 m ³	2.2 yd³
Cutting Edge, Type	Straight		Straight		Straight	
Bucket Width*	2482 mm	97.7"	2575 mm	101.3"	2515 mm	99"
Teeth	None		8, bolt-on plus replaceable tips		None	
Dump Clearance @ Full Lift and 45° Discharge	3000 mm	118.1"	2772 mm	109.1"	2909 mm	114.5"
Reach at 45° Discharge Angle 2133 mm (7'0") Clearance	1598 mm	62.9"	1650 mm	65.0"	1607 mm	63.3"
Reach @ Full Lift and 45° Discharge	1065 mm	41.9"	1240 mm	48.8"	1119 mm	44"
Digging Depth	161 mm	6.3"	209 mm	8.2"	191 mm	7.5"
Ground Clearance from Face of Shoes	471 mm	18.5"	471 mm	18.5"	471 mm	18.5"
Overall Machine Width without Bucket (with Standard Track) 550 mm (21.6")	2400 mm	94.5"	2400 mm	94.5"	2400 mm	94.5"
Overall Machine Width without Bucket (with Narrow Track) 450 mm (18")	2300 mm	90.5"	2300 mm	90.5"	2300 mm	90.5"
Overall Length	6698 mm	263.7"	7013 mm	276.1"	6820 mm	268.5"
Overall Height	3335 mm	131.3"	3335 mm	131.3"	3335 mm	131.3"
Static Tipping Load	14 487 kg	31,944 lb	14 124 kg	31,143 lb	14 208 kg	31,329 lb
Breakout Force**	193.2 kN	43,333 lb	189.2 kN	42,533 lb	193.7 kN	43,545 lb
Operating Weight***	20 710 kg	45,666 lb	20 975 kg	46,250 lb	20 911 kg	46,109 lb

*With bolt-on cutting edge add 17 mm (**0.67"**), for bolt-on teeth add 52 mm (**2"**).

Breakout force is measured 100 mm (3.94"**) behind tip of cutting edge with bucket hinge pin as pivot point.

***Operating weight includes coolant, lubricants, full fuel tank, ROPS cab, bucket, and 75 kg (**165 lb**) operator.

Machine stability can be affected by the addition of other attachments.

BUCKET	General Purpose Bare		General Purpose Bolt-on Adapters, Long Tips & Segments		General Purpose Bolt-on Cutting Edge		General Purpose Weld-on Flush Adapters & Tips	
Capacity, Rated (Nominal Heaped)	2.8 m ³	3.66 yd ³	3.2 m ³	4.19 yd ³	3.2 m ³	4.19 yd ³	2.8 m ³	3.66 yd ³
Struck	2.41 m ³	3.15 yd ³	2.77 m ³	3.62 yd ³	2.77 m ³	3.62 yd ³	2.41 m ³	3.15 yd ³
Cutting Edge, Type	Straight		Straight		Straight		Spade	
Bucket Width◀	2854 mm	112.4"	2854 mm	112.4"	2854 mm	112.4"	2934 mm	115.5"
Teeth	None		8, bolt-on plus replaceable tips		None		8, weld-on plus replaceable tips	
Dump Clearance @ Full Lift and 45° Discharge	3358 mm	132"	3154 mm	124"	3281 mm	129"	3154 mm	124.2"
Reach @ 45° Discharge Angle 2133 mm (7'0") Clearance	1992 mm	78"	2096 mm	82"	2031 mm	80"	2096 mm	82.5"
Reach @ Full Lift and 45° Discharge	1313 mm	51"	1482 mm	58"	1357 mm	53"	1482 mm	58.3"
Digging Depth	92 mm	3.6"	143 mm	5.6"	122 mm	4.8"	92 mm	3.6"
Ground Clearance from Face of Shoes	457 mm	17.9"	457 mm	17.9"	457 mm	17.9"	457 mm	17.9"
Overall Machine Width without Bucket (with Standard Track)	2580 mm	102"	2580 mm	102"	2580 mm	102"	2580 mm	102"
Overall Machine Width without Bucket (with Wide Track)	2930 mm	115.8"	2930 mm	115.8"	2930 mm	115.8"	2930 mm	115.8"
Overall Length	7092 mm	279"	7362 mm	290"	7175 mm	282"	7372 mm	290.2"
Overall Height	3500 mm	137.8"	3500 mm	137.8"	3500 mm	137.8"	3500 mm	137.8"
Static Tipping Load	20 249 kg	44,649 lb	19 747 kg	43,542 lb	19 908 kg	43,897 lb	20 010 kg	44,122 lb
Breakout Force*	213.3 kN	47,992 lb	194.5 kN	43,762 lb	195.7 kN	44,032 lb	181.3 kN	40,792 lb
Operating Weight**	26 373 kg	58,153 lb	26 731 kg	58,941 lb	26 616 kg	58,688 lb	26 542 kg	58,525 lb

* Breakout force is measured 100 mm (3.94") behind tip of cutting edge with bucket hinge pin as pivot point.

** Operating weight includes lubricants, full fuel tank, ROPS cab, General Purpose bucket, and 80 kg (176 lb) operator.

◀ Bolt-on teeth increase bucket width by 63.8 mm (2.5"). Bolt-on cutting edge increases bucket width by 19 mm (0.74").

Machine stability can be affected by the addition of other attachments. Add or subtract the following to/from machine operating weight and static tipping load:

	Change in Operating Weight		Change in Static Tipping Load	
	kg	lb	kg	lb
Ripper (includes 3 shanks and rear hydraulic arrangement)	+616	+1359	+ 208	+ 458.6
Rear bumper (removal)	-582	-1283	-1339	-2952.5

BUCKET	Multi-Purpose Bare		Multi-Purpose Bolt-on Adapters, Long Tips & Segments & Long Teeth		Multi-Purpose Bolt-on Cutting Edge		Steel Mill Arrangement Slag Bucket	
Capacity, Rated (Nominal Heaped)	2.6 m³	3.4 yd³	2.9 m³	3.79 yd³	2.9 m³	3.79 yd³	2.8 m³	3.7 yd³
Struck	2.19 m³	2.86 yd³	2.56 m³	3.35 yd³	2.56 m³	3.35 yd³	—	
Cutting Edge, Type	Straight		Straight		Straight		Straight	
Bucket Width◀	2710 mm	106.7"	2710 mm	106.7"	2710 mm	106.7"	2716 mm	106.9"
Teeth	None		8, bolt-on plus replaceable tips		None		8, weld-on plus replaceable tips	
Dump Clearance @ Full Lift and 45° Discharge	3049 mm	120"	2828 mm	111.3"	2966 mm	116"	2986 mm	117.5"
Reach @ 45° Discharge Angle 2133 mm (7'0") Clearance	1832 mm	72.1"	1936 mm	76.22"	1871 mm	73.6"	1784 mm	70.2"
Reach @ Full Lift and 45° Discharge	1261 mm	49.6"	1403 mm	55.3"	1293 mm	50.9"	1237 mm	48.7"
Digging Depth	200 mm	7.9"	254 mm	10"	230 mm	9.05"	118 mm	4.6"
Overall Length	7333 mm	288.7"	7591 mm	298.9"	7415 mm	291.9"	7600 mm	299.2"
Overall Height	3500 mm	137.8"	3500 mm	137.8"	3500 mm	137.8"	3500 mm	137.8"
Static Tipping Load	19 095 kg	42,104 lb	18 615 kg	41,046 lb	18 309 kg	40,371 lb	18 470 kg	40,720 lb
Breakout Force*	173.9 kN	39,127 lb	159.7 kN	35,932 lb	161.1 kN	36,247 lb	203 kN	45,760 lb
Operating Weight**	27 532 kg	60,698 lb	27 875 kg	61,454 lb	27 775 kg	61,233 lb	29 560 kg	65,180 lb

* Breakout force is measured 100 mm (3.94") behind tip of cutting edge with bucket hinge pin as pivot point.
** Operating weight includes lubricants, full fuel tank, ROPS cab, General Purpose bucket, and 80 kg (176 lb) operator.
◀ Bolt-on teeth increase bucket width by 63.8 mm (2.5"). Bolt-on cutting edge increases bucket width by 19 mm (0.74").

Machine stability can be affected by the addition of other attachments.

BUCKET	General Purpose Bare		General Purpose Bolt-on Adapters, Long Tips & Segments		General Purpose Bolt-on Cutting Edge		General Purpose Flush Weld-on Adapters & Long Tips	
Capacity, Rated (Nominal Heaped)	2.86 m ³	3.74 yd³	3.21 m ³	4.20 yd³	3.04 m ³	3.98 yd³	3.21 m ³	4.20 yd³
Struck	2.44 m ³	3.19 yd³	2.81 m ³	3.68 yd³	2.66 m ³	3.48 yd³	2.81 m ³	3.68 yd³
Cutting Edge, Type	Straight		Straight		Straight		Spade	
Bucket Width◀	2910 mm	114.6"	2910 mm	114.6"	2910 mm	114.6"	2990 mm	117.7"
Teeth	None		8, bolt-on plus replaceable tips		None		8, weld-on plus replaceable tips	
Dump Clearance @ Full Lift and 45° Discharge	3375 mm	132.9"	3013 mm	118.6"	3193 mm	125.7"	3069 mm	120.8"
Reach @ 45° Discharge Angle 2133 mm (7'0") Clearance	1839 mm	72.4"	2065 mm	81.3"	1929 mm	75.9"	2110 mm	83.1"
Reach @ Full Lift and 45° Discharge	1165 mm	45.9"	1327 mm	52.2"	1199 mm	47.2"	1357 mm	53.4"
Digging Depth	97 mm	3.8"	159 mm	6.3"	127 mm	5.0"	129 mm	5.1"
Ground Clearance from Face of Shoes	483 mm	19.0"	483 mm	19.0"	483 mm	19.0"	483 mm	19.0"
Overall Machine Width without Bucket (with Standard Track)	2710 mm	106.7"	2710 mm	106.7"	2710 mm	106.7"	2710 mm	106.7"
Overall Machine Width without Bucket (with Optional Track)	2835 mm	111.6"	2835 mm	111.6"	2835 mm	111.6"	2835 mm	111.6"
Overall Length	7194 mm	283.2"	7305 mm	287.6"	7275 mm	286.4"	7479 mm	294.4"
Overall Height	3510 mm	138.2"	3510 mm	138.2"	3510 mm	138.2"	3510 mm	138.2"
Static Tipping Load	21 179 kg	46,700 lb	20 831 kg	45,932 lb	20 959 kg	46,215 lb	21 006 kg	46,318 lb
Breakout Force*	281 kN	63,225 lb	220 kN	49, 500 lb	261 kN	58,725 lb	—	
Operating Weight**	27 371 kg	60,353 lb	27 744 kg	61,176 lb	27 648 kg	60,964 lb	27 478 kg	60,589 lb

* Breakout force is measured 100 mm (3.94") behind tip of cutting edge with bucket hinge pin as pivot point.

** Operating weight includes lubricants, full fuel tank, ROPS cab, General Purpose bucket, and 80 kg (176 lb) operator.

◀ Bolt-on teeth increase bucket width by 63.8 mm (2.5"). Bolt-on cutting edge increases bucket width by 19 mm (0.74").

Machine stability can be affected by the addition of other attachments. Add or subtract the following to/from machine operating weight and static tipping load:

	Change in Operating Weight		Change in Static Tipping Load	
	kg	lb	kg	lb
Ripper (includes 3 shanks and rear hydraulic arrangement)	—	—	—	—
Rear bumper (removal)	—	—	—	—

BUCKET	Multi-Purpose Bare		Multi-Purpose Bolt-on Segments & Long Teeth		Multi-Purpose Bolt-on Cutting Edge	
Capacity, Rated (Nominal Heaped)	2.75 m ³	3.60 yd³	3.05 m ³	3.99 yd³	2.86 m ³	3.74 yd³
Struck	2.33 m ³	3.05 yd³	2.7 m ³	3.53 yd³	2.44 m ³	3.19 yd³
Cutting Edge, Type	Straight		Straight		Straight	
Bucket Width ◀	2972 mm	117.0"	2972 mm	117.0"	2972 mm	117.0"
Teeth	None		8, bolt-on plus replaceable tips		None	
Dump Clearance @ Full Lift and 45° Discharge	3300 mm	129.9"	3106 mm	122.3"	3229 mm	127.1 mm
Reach @ 45° Discharge Angle						
2133 mm (7'0") Clearance	2110 mm	83.1"	2327 mm	91.6"	2160 mm	85.0"
Digging Depth	188 mm	7.4"	244 mm	9.6"	219 mm	8.6"
Ground Clearance from Face of Shoes	582 mm	22.9"	582 mm	22.9"	582 mm	22.9"
Overall Machine Width without Bucket (with Standard Track)	2710 mm	106.7"	2710 mm	106.7"	2710 mm	106.7"
Overall Machine Width without Bucket (with Optional Track)	2835 mm	111.6"	2835 mm	111.6"	2835 mm	111.6"
Overall Length	7445 mm	293.1"	7743 mm	304.8"	7527 mm	296.3"
Overall Height	3510 mm	138.2"	3510 mm	138.2"	3510 mm	138.2"
Static Tipping Load	19 810 kg	43,681 lb	19 455 kg	42,898 lb	19 535 kg	43,075 lb
Breakout Force*	236 kN	53,100 lb	193 kN	43,425 lb	222 kN	49,950 lb
Operating Weight**	28 866 kg	63,650 lb	29 225 kg	64,441 lb	29 143 kg	64,260 lb

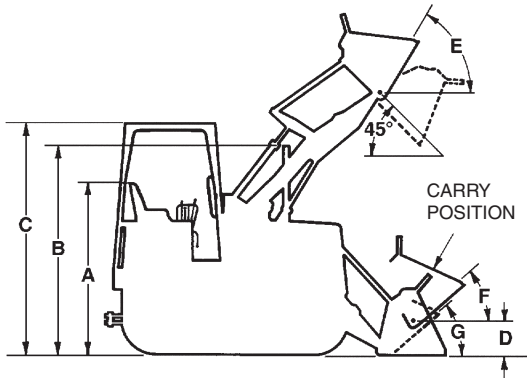
* Breakout force is measured 100 mm (3.94") behind tip of cutting edge with bucket hinge pin as pivot point.

** Operating weight includes lubricants, full fuel tank, ROPS cab, General Purpose bucket, and 80 kg (176 lb) operator.

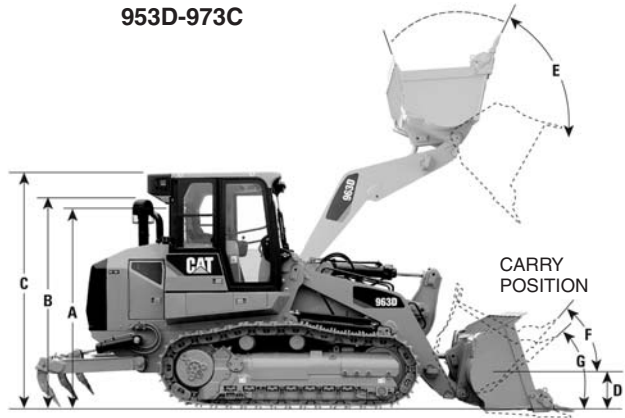
◀ Bolt-on teeth increase bucket width by 63.8 mm (2.5"). Bolt-on cutting edge increases bucket width by 19 mm (0.74").

Machine stability can be affected by the addition of other attachments.

939C

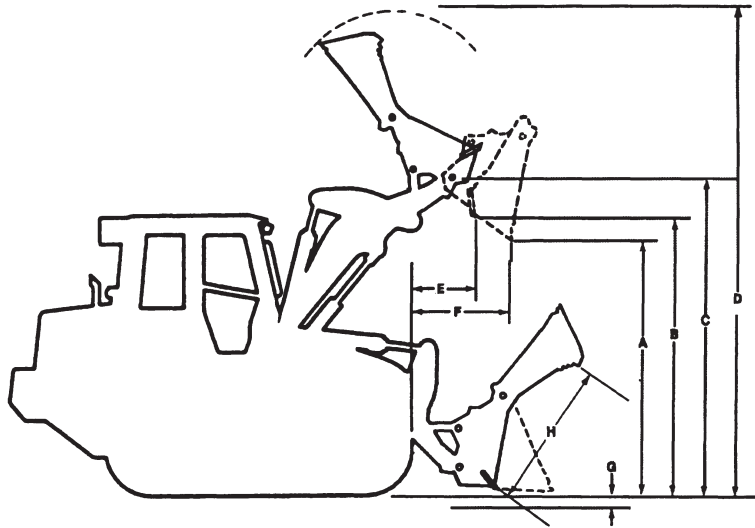


953D-973C



	939C		953D		963D	
A Height to Top of Seat	2000 mm	79"	2560 mm	100.7"	2790 mm	109.8"
B Height to Top of Stack	2810 mm	110"	2783.5 mm	109.6"	2953 mm	116"
C Height to Top of ROPS	2760 mm	108"	3105 mm	122.2"	3335 mm	131"
D Hinge Pin Height at Carry Position	414 mm	16.3"	421 mm	16.5"	467 mm	18"
E Rollback at Maximum Lift		67.7°		56°		52°
F Rollback at Carry Height		51.2°		48°		50°
G Rollback at Ground Level		42.6°		41°		43°
Grading Angle (Bare Edge)		—		74°		63°
Width without Bucket (standard track)	1960 mm	77"	2280 mm	89.7"	2400 mm	94"
(optional track)	2010 mm	79"	2180 mm	85.8"	2300 mm	90.5"
Weight of General Purpose Bucket with Teeth & Segments		—	1266 kg	2792 lb	1866 kg	4114 lb

	973C		973D	
A Height to Top of Seat	2970 mm	116.92"	2975 mm	117.1"
B Height to Top of Stack	2989 mm	117.67"	3018 mm	118.8"
C Height to Top of ROPS	3500 mm	137.79"	3510 mm	138.2"
D Hinge Pin Height at Carry Position	505 mm	19.58"	483 mm	19.0"
E Rollback at Maximum Lift		58°		59°
F Rollback at Carry Height		51°		49°
G Rollback at Ground Level		42°		42°
Grading Angle (Bare Edge)		69°		85°
Width without Bucket (standard track)	2580 mm	101.57"	2710 mm	106.7"
(optional track)	2755 mm	108.5"	2835 mm	111.6"
Weight of General Purpose Bucket with Teeth & Segments	2183 kg	4814 lb	2090 kg	4608 lb



	939C		953D		963D	
A Forward Dump Clearance*	2680 mm	106"	2738 mm	107.7"	3000 mm	118"
B Bottom Dump Clearance*	3050 mm	120"	3181 mm	125.2"	3450 mm	135.8"
C Hinge Pin Height*	3320 mm	131"	3610 mm	142.1"	3940 mm	155"
D Overall Height	4680 mm	184"	4871 mm	192"	5308 mm	209"
E Bottom Dump Reach	453 mm	18"	559 mm	22"	627 mm	24.7"
F Forward Dump Reach*	776 mm	31"	973 mm	38"	1079 mm	42.5"
G Digging Depth	127 mm	5"	142 mm	5.6"	161 mm	6.3"
H Bucket Opening	930 mm	36"	1061 mm	41.7"	1248 mm	49"
Reach at 2133 mm (7'0") Height*	1200 mm	47"	1434 mm	56.4"	1598 mm	63"
Tilt Back at Ground Level	43°		42°		45°	
Closure Force, Clamp to Cutting Edge	56.8 kN	12,780 lb	N/A		N/A	
Weight of Bucket with Teeth, Segments and Additional Hydraulics	1005 kg	2216 lb	1762 kg	3884.5 lb	2236 kg	4930 lb
	973C		973D			
A Forward Dump Clearance*	2830 mm	111.41"	3138 mm	123.5"		
B Bottom Dump Clearance*	3660 mm	144.09"	3670 mm	144"		
C Hinge Pin Height*	4240 mm	166.92"	4234 mm	166.7"		
D Overall Height	5800 mm	228.34"	5651 mm	222.4"		
E Bottom Dump Reach	693 mm	27.28"	655 mm	26"		
F Forward Dump Reach*	1403 mm	55.23"				
G Digging Depth	254 mm	9.99"	159 mm	6.26"		
H Bucket Opening	1380 mm	54.33"				
Reach at 2133 mm (7'0") Height*	1936 mm	76.22"	2327 mm	92"		
Tilt Back at Ground Level	45°				45°	
Closure Force, Clamp to Cutting Edge	89 kN	20,000 lb				
Weight of Bucket with Teeth, Segments and Additional Hydraulics	3560 kg	7850 lb	3453 kg	7614 lb		

*45° Discharge and full lift.

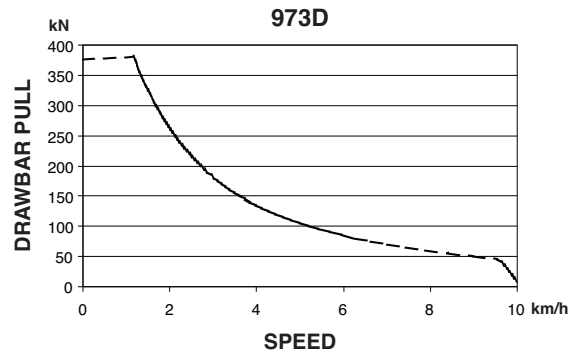
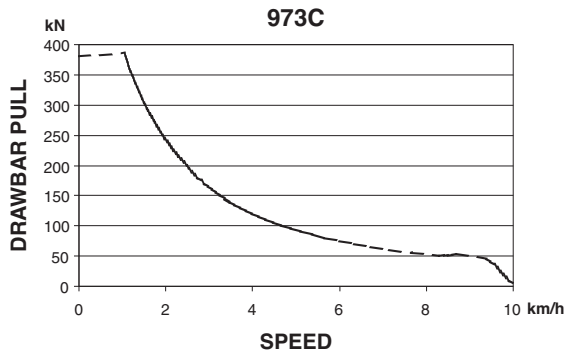
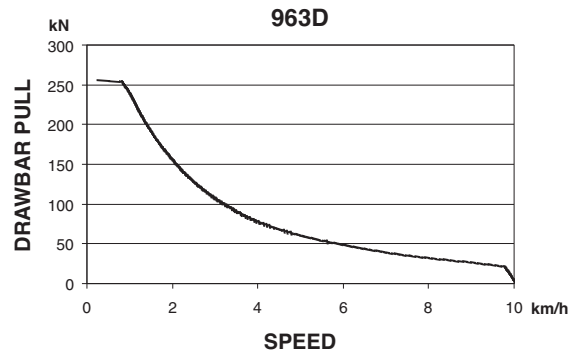
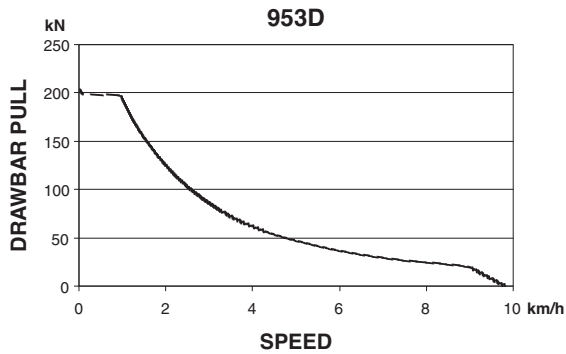
Operator may prefer to tip bucket forward when bottom dumping.

TRACK LOADER	939C		953D		963D	
Ripper-Scarifier Type	Radial		Radial		Radial	
Dimensions:						
Ripper Shank						
Maximum Penetration Depth	205 mm	8.1"	240 mm	9.45"	330 mm	12.99"
Maximum Reach at Ground Line (from track to teeth on ground)	627 mm	24.7"	1350 mm	53"	1585 mm	62.4"
Maximum Ground Clearance under Tip (shank pinned in bottom hole)	593 mm	23.3"	552 mm	21.7"	667 mm	26.3"
Maximum Ramp Angle, Ripper Up (shank pinned in bottom hole)	33.5°		18°		17°	
Shank Section	36 × 76 mm 1.4" × 3"		50 × 109 mm 2.0" × 4.3"		58.5 × 138 mm 2.3" × 5.4"	
Ripper Beam						
Overall Width	1580 mm	62"	1950 mm	76.8"	1950 mm	76.7"
Height	130 mm	5.1"	165 mm	6.5"	165 mm	6.5"
Length	140 mm	5.5"	211 mm	8.3"	211 mm	8.3"
Number of Pockets	5		3		3	
Pocket Spacing	356 mm	14"	900 mm	35.4"	896 mm	35.2"
Shank Gauge	1420 mm	56"	1800 mm	70.8"	1792 mm	70.5"
Track Clearance with Standard Shoe	139 mm	5.5"	105.2 mm	4.1"	225.3 mm	8.9"
Installed Weights:						
Ripper with Standard Shank (1 shank)	250 kg	550 lb	581 kg	1281 lb	713 kg	1572 lb
Each Additional Shank	11 kg	24 lb	25 kg	55 lb	36 kg	79 lb
Ripper Forces*						
Penetration Force at Ground Level	2687 kg	5924 lb	50 kN	11,240 lb	64 kN	14,400 lb
Pryout Force at Maximum Digging Depth	5265 kg	11,610 lb	116 kN	26,077 lb	151 kN	33,946 lb

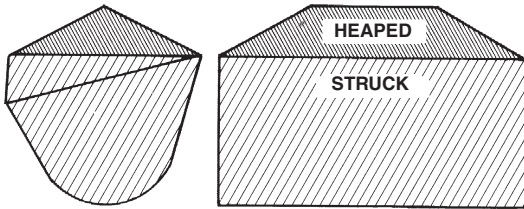
*These values may vary slightly with different vehicle configurations.

TRACK LOADER		973C	973D
Ripper-Scarifier Type		Radial	Parallelogram
Dimensions:			
Ripper Shank			
Maximum Penetration Depth		377 mm14.84"	397 mm15.6"
Maximum Reach at Ground Line (from track to teeth on ground)		1770 mm69.7"	1938 mm76.3"
Maximum Ground Clearance under Tip (shank pinned in bottom hole)		688 mm27.09"	888 mm34.9"
Maximum Ramp Angle, Ripper Up (shank pinned in bottom hole)		20°	28.5°
Shank Section		74 × 175 mm 2.9" × 6.9" (Curved)	74 × 175 mm 2.9" × 6.9"
Ripper Beam			
Overall Width		2200 mm86.61"	2200 mm86.6"
Height		216 mm8.5"	216 mm8.5"
Length		254 mm10"	254 mm10"
Number of Pockets		3	3
Pocket Spacing		1000 mm39.36"	875 mm34.4"
Shank Gauge		2000 mm78.73"	1750 mm68.9"
Track Clearance with Standard Shoe		N/A	N/A
Installed Weights:			
Ripper with Standard Shank (1 shank)		1196 kg2636 lb	1700 kg3747 lb
Each Additional Shank		3 shanks std.	3 shanks std.
Ripper Forces*			
Penetration Force at Ground Level		85 kN19,125 lb	100 kN22,500 lb
Pryout Force at Maximum Digging Depth		175 kN39,375 lb	242 kN54,450 lb

*These values may vary slightly with different vehicle configurations.



NOTES: Usable pull will depend upon weight and traction of equipped tractor.
 Assumes sufficient machine weight for <5% track slip at POR pressure.
 Assumes pumps and motors are broken in.
 Assumes nominal engine power and valve settings.
 Drawbar pull at track stall will be lower.

SAE BUCKET RATING**SAE Bucket Capacities**

Struck capacity is that volume contained in a bucket after a load is leveled by drawing a straight edge resting on the cutting edge and the back of the bucket.

Heaped capacity is a struck capacity *plus* that additional material that would heap on the struck load at a 2:1 angle of repose with the struck line parallel to the ground.

SAE J742 (Oct. 79) specifies that the addition of any auxiliary spill guard to protect against spillage of material which might injure the operator will not be included in bucket capacity ratings. Buckets with irregular shaped cutting edges (vee edge) the strike plane should be drawn at one-third the distance of the protruding portion of the cutting edge. Cat rock buckets are built with integral see-through rock guards. Cat light material buckets come standard with bolt-on edges. These features which add to actual bucket capacity are included in published ratings.

Dump Height

SAE J732 JUN92 specifies that dump height is the vertical distance from the ground to the lowest point of the cutting edge with the bucket hinge pin at maximum height and the bucket at a 45° dump angle. Dump angle is the angle in degrees that the longest flat section of the inside bottom of the bucket will rotate below horizontal.

Static Tipping Load

The minimum weight at center of gravity of “SAE Rated” load in bucket which will rotate rear of machine to a point where, on track loaders, front rollers are clear of the track under the following conditions:

- Loader on hard level surface and stationary.
- Unit at standard operating weight.
- Bucket at maximum rollback position.

- Load at maximum forward position during raising cycle.
- Unit with standard equipment as described in specifications unless otherwise noted under the heading.

Operating Load

In order to comply with SAE standard J818 MAY87, the operating load for track loaders should not exceed 35% of the Static Tipping load rating. See “Performance Data” of each machine in this handbook for increases to static tipping load by adding cab, counterweights, ripper-scarifier, etc.

SELECTING A MACHINE**Steps in selecting the proper size loader:**

- Determine production required or desired.
- Determine loader cycle time and cycles per hour. A machine size must be assumed to select a basic cycle time.
- Determine required payload per cycle in loose cubic yards and pounds (meters and kilograms).
- Determine bucket size needed.
- Make machine selection using bucket size and payload as criteria to meet production requirements.
- Compare the loader cycle time used in calculations to the cycle time of the machine selected. If there is a difference, rework the process beginning at step 2.

1. Production Required

The production required of a track loader should be slightly greater than the production capability of the other critical units in the earth or material moving system. For example, if a hopper can handle 300 tons per hour, a loader capable of slightly more than 300 tons should be used. Required production should be carefully calculated so the proper machine and bucket selections are made.

2. Loader Cycle Times

Material type, pile height, and other factors may improve or reduce production, and should be added to or subtracted from the basic cycle time when applicable.

When hauls are involved, obtain haul and return portions of the cycle from the estimated travel chart (this section). Add the haul and return times to the estimated basic cycle time to obtain total cycle time.

CYCLE TIME FACTORS

A basic cycle time (Load, Dump, Maneuver) of 0.25-0.35 minutes is average for a track loader [the basic cycle for large track loaders, 2 m³ (2.6 yd³) and up, can be slightly longer], but variations can be authenticated in the field. The following values for many variable elements are based on normal operations. Adding or subtracting any of the variable times will give the total basic cycle time.

Estimating Cycle Time

Cycle time of a track loader needs to be determined to find loads per hour. Total cycle time includes the following segments:

Load Time + Maneuver Time + Travel Time + Dump Time

Load Time —

Material	Minutes
Uniform aggregates	0.03-0.05
Moist mixed aggregates	0.03-0.06
Moist loam	0.03-0.07
Soil, boulders, roots	0.04-0.20
Cemented materials	0.05-0.20

Maneuver Time — includes basic travel, four changes of direction and turning time, and will be about 0.20 minutes with a competent operator.

Travel Time — in a load and carry operation is comprised of haul and return times which can be determined by the travel charts in this section.

Dump Time — is dictated by the size and strength of the dump target and varies from 0.00 to 0.10 minutes. Typical dump times into highway trucks are from 0.04 to 0.07 minutes.

NOTE: When comparing hydrostatic track loaders with former power shift models (using the production estimating method) two factors must be considered: (1) The hydrostatic track loaders on the average outcycle power shift models by up to 10 percent due to faster machine speed and easier operation. (2) Larger, rear engine hydrostatic track loaders incorporate Z-bar linkage, which provides substantially better bucket fill factors. The degree to which each factor affects estimated production should be left to the user's judgment depending on the particular job application and conditions.

Example: Moist loam is being excavated from a bank and loaded into trucks.

	Minutes
Load — moist loam	0.05
Maneuver Time	0.20
Travel — none	
required	0.00
Dump	0.05
Total Cycle	0.30 min. or 200 cycles per 60 min. hour

*Minutes added (+)
or Subtracted (–)
From Basic Cycle*

Materials

— Mixed	+0.02
— Up to 3 mm (1/8 in)	+0.02
— 3 mm (1/8 in) to 20 mm (3/4 in)	–0.02
— 20 mm (3/4 in) to 150 mm (6 in)	 0.00
— 150 mm (6 in) and over	+0.03 and Up
— Bank or broken	+0.04 and Up

Pile

— Conveyor or Dozer piled 3 m (10 ft) and up	 0.00
— Conveyor or Dozer piled 3 m (10 ft) or less	+0.01
— Dumped by truck	+0.02

Miscellaneous

— Common ownership of trucks and loaders	Up to –0.04
— Independently owned trucks	Up to +0.04
— Constant operation	Up to –0.04
— Inconsistent operation	Up to +0.04
— Small target	Up to +0.04
— Fragile target	Up to +0.05

Using actual job conditions and the above factors, total cycle time can be estimated. Convert total cycle time to cycles per hour.

$$\frac{\text{Cycles per hour at } 100\% \text{ Efficiency}}{= \frac{60 \text{ Min}}{\text{Total Cycle Time in Minutes}}}$$

Job efficiency is an important factor in machine selection. Efficiency is the actual number of minutes worked during an hour. Job efficiency accounts for operator breaks, and other work interruptions. See “Efficiency Considerations” page 13-23.

- Bucket Fill Factors
 - Recommended Operating Capacities
- Loader Production

Bucket Fill Factors

The following indicates the approximate amounts of material as a percent of rated bucket capacity which will actually be delivered per bucket per cycle. This is known as “Bucket Fill Factor.”

Loose Material	Fill Factor
Mixed Moist Aggregates	95-110%
Uniform Aggregates	
up to 3 mm (1/8 in)	95-110
3 mm-9 mm (1/8 in-3/8 in)	90-110
12 mm-20 mm (1/2 in-3/4 in)	90-110
24 mm and over (1 in)	90-110
Blasted Rock	
Well	80-95%
Average	75-90
Poor	60-75
Other	
Rock Dirt Mixtures	100-120%
Moist Loam	100-120
Soil, Boulders, Roots	80-100
Cemented Materials	85-100

Fill factors on track loaders are affected by bucket penetration, breakout force, rackback angle, bucket profile and ground engaging tools such as bucket teeth and segments or bolt-on replaceable cutting edges.

GENERAL PURPOSE BUCKET
W/TEETH & SEGMENTS
MAXIMUM OPERATING CAPACITIES

MODEL	GENERAL PURPOSE BUCKET SIZE		MAXIMUM OPERATING CAPACITY	
	m ³	yd ³	kg	lb
939C	1.15	1.5	2040	4500
953D	1.85	2.4	3182	7015
963D	2.45	3.2	4214	9290
973C	3.2	4.2	5504	12,134
973D	3.21	4.2	5521	12,174

LOADER PRODUCTION

Loader production equals quantity of material the bucket carries per load × number of bucket loads per hour.

Estimating Bucket Load

The quantity of material in a loader bucket is estimated by two methods, depending on whether the material being loaded is in a loose or bank state.

1. When the material is loose, as in stockpile loading, the bucket load is estimated in loose meters (or cubic yards) by a Bucket Fill Factor (see Tables Section or chart following this discussion). The quantity of material is determined as follows:

Rated Bucket Capacity × Bucket Fill Factor =
Bucket Payload in Loose m³ (yd³)

For example, a 973 with a 3.2 m³ (4.2 yd³) General Purpose bucket loading moist loam material will carry:

3.2 m³ × 1.15 = 3.68 loose cubic meters
(4.2 yd³ × 1.15 = 4.83 loose cubic yards)

Once the potential bucket load has been determined, check the static tipping load ratings on the specific machine to determine if bucket load is in fact a safe operating load. (*Safe operating load as defined by SAE for track loaders should not exceed 35% of static tipping load.*)

Productivity in many applications is measured in tons. See Tables Section for material densities if conversion to tons is desired.

2. When material is in the bank state, as in excavation, productivity is measured in bank meters (cubic yards). Bucket load in Bm³ (BCY) is estimated by applying one of the load factors from the Tables section to convert the excavated material in the bucket from Bm³ (BCY) to Lm³ (LCY) to allow for the digging and carrying characteristics of the material. The quantity of excavated material a bucket carries is then determined as follows:

Rated Bucket Capacity × Load Factor × Bucket Fill Factor = Bucket Payload in Bm³ (BCY)

Example: a 953D with a 1.85 m³ (2.4 yd³) General Purpose bucket loading wet loam earth from bank:

1.85 m³ × 0.79 × 1.15 = 1.68 Bm³
(2.4 yd³ × 0.79 × 1.15 = 2.18 BCY)

Estimating Production

Machine and job considerations include:

- Machine model and bucket size
- Material type, particle size, density and load factor (see Tables Section)
- Bucket fill factor
- Haul distance
- Underfoot conditions
- Altitude
- Dump target size, height, and type

Example:

Conditions —

Machine	953D
Bucket size	1.85 m ³ (2.4 yd ³)
Material	Moist Loam
Bucket fill factor	1.15
Haul length	30 m (100 ft)
Dump target	Pile
Travel in forward speed	

Cycle Time Minutes

Load time	0.15
Maneuver time	0.20
Travel time (from curves)	0.40
Dump time	0.05
Total	0.80

Loads Per Hour —

$$\frac{60 \text{ min/hr}}{0.80 \text{ min/cycle}} = 75 \text{ cycles per hour}$$

@ 100% efficiency

Load Per Cycle —

$$1.85 \text{ m}^3 \times 1.15 \text{ BFF} = 2.13 \text{ Lm}^3 \times 0.81 \text{ LF} = 1.72 \text{ Bm}^3$$

$$(2.4 \text{ yd}^3 \times 1.15 \text{ BFF} = 2.76 \text{ LCY} \times 0.81 \text{ LF} = 2.24 \text{ BCY})$$

Hourly Production —

$$1.72 \text{ Bm}^3 \times 75 \text{ cycles/h} = 129 \text{ Bm}^3/\text{h}$$

$$(2.24 \text{ BCY} \times 75 \text{ cycles/hr} = 168 \text{ BCY/hr})$$

More accurate production estimates can be made by recording actual machine cycle times in the same or similar application. Then visually verify the approximate bucket fill factor.

Efficiency Considerations

Loader capacity should always be matched to peak production requirements of the job. Actual “on-the-job” loader productivity will be influenced by factors such as operator skill, personal delays, job layout and other delays. Experience and knowledge of local conditions will be the best indicators of actual job efficiency.

Operation	Working Hour	Efficiency Factor
Day	50 min/Hr	0.83

An Alternative Machine Selection Method

Another method of selecting the right Track Loader and bucket to meet production requirements is by use of the nomographs on the following pages. The method is quicker and easier than the preceding example because it does not require as many calculations, yet the accuracy is about the same within the normal limits of input data.

Be careful when entering and reading data from the nomographs because some scales increase from bottom to top, while others are the reverse. Do not be overly concerned with the precision as affected by pencil line width or reading to the hundredth of a m³ (yd³). Remember that bucket fill factor, material density, and cycle time are at best close estimates.

Example problem

A track loader must produce 200 Lm³ (262 LCY) per hour. Estimated cycle time is 0.5 minutes, working 50 minutes per hour. Bucket fill factor is 110% and the material density is 1600 kg/Lm³ (2700 lb/LCY).

Determine bucket size, machine model and hourly production in tons and yards.

Solution

At full efficiency, it will cycle 120 times per hour. Since only an average 50 minutes are available, only 100 cycles will be completed per hour.

Starting on Scale A at 100 cycles per hour draw a straight line intersecting 200 m³/hr (262 yd³/hr) on Scale B and continuing the line on to Scale C giving 2.0 m³ (2.62 yd³) required payload.

Follow steps 1 through 7 on the next two pages.

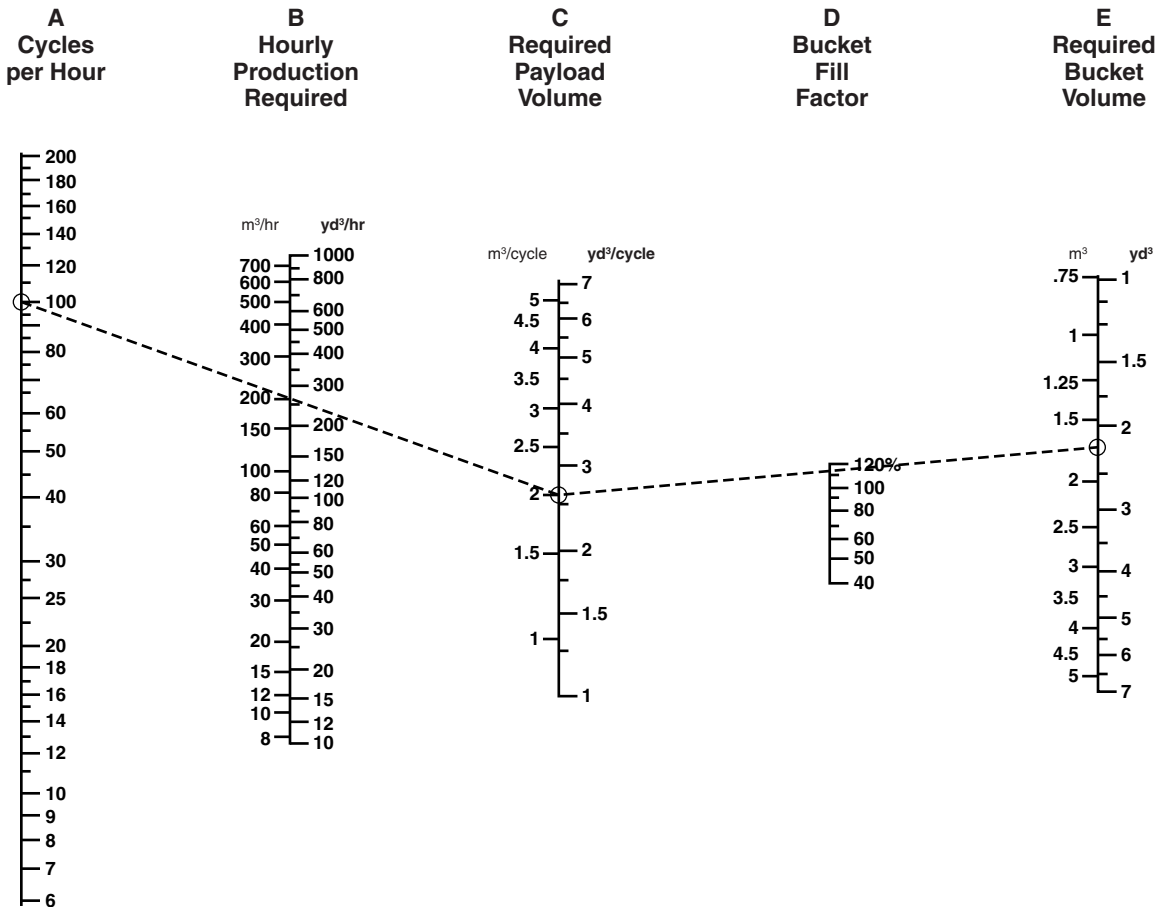
• • •

Track Loaders

Production and Machine Selection Nomograph

- To find required bucket payload and bucket size

- 1) Enter Scale A cycles per hour (100) and B hourly production 200 m³/hr (262 yd³/hr).
- 2) Connect A and B and extend to C to find required payload 2.0 m³ (2.62 yd³).
- 3) Connect C to bucket fill factor on Scale D (110%) and extend to E to find required bucket size 1.8 m³ (2.35 yd³).
- 4) Transfer Scale A and C readings to nomograph on following page.



Production and Machine Selection Nomograph

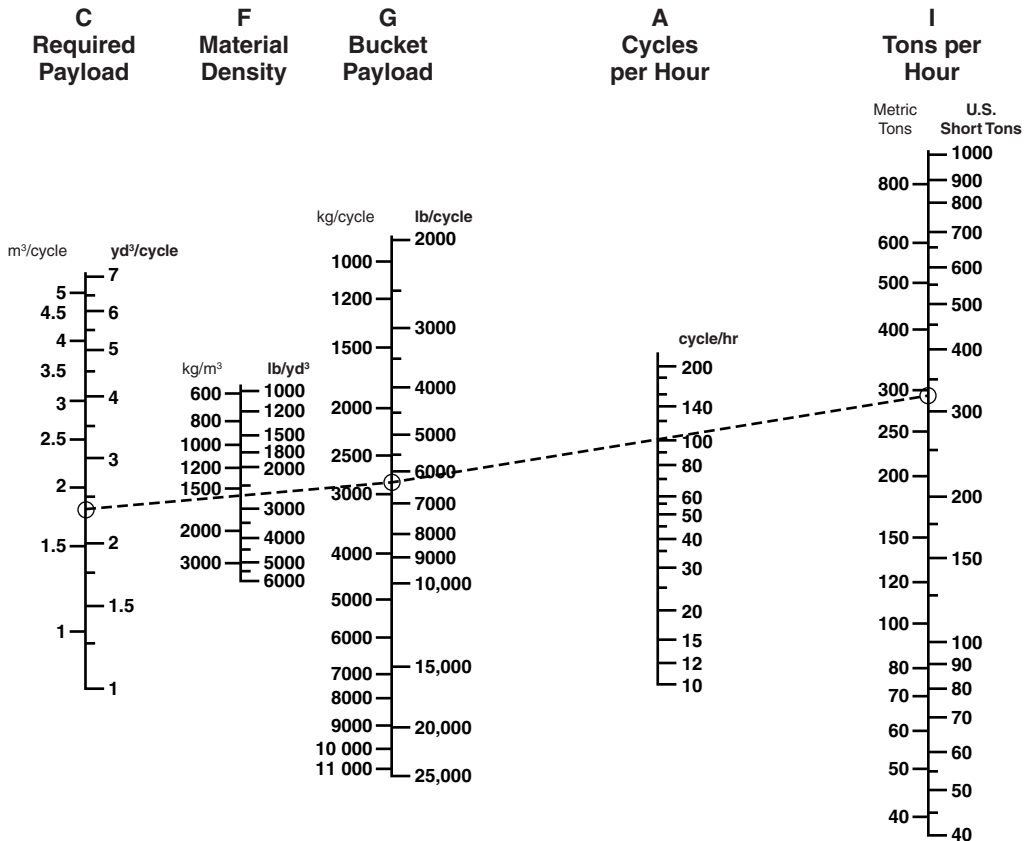
- To find payload weight for stability and output in tons per hour

Track Loaders

- 5) Connect C 1.8 m³ (2.35 yd³) to F 1600 kg/m³ (2700 lb/yd³) and extend to G to find payload weight 2880 kg (6345 lb).
- 6) Compare G bucket payload weight 2880 kg (6345 lb) with maximum operating capacities table in this section to see if the 1.85 m³ (2.4 yd³) bucket can handle the desired payload. Table indicates the

953D with a 1.85 m³ (2.4 yd³) bucket equipped with bolt-on cutting edge or teeth and segments has a greater operating capacity of 3343 kg (7370 lb), therefore stability is okay.

- 7) Extend Scale G reading 2880 kg (6345 lb) through Scale A (100) to Scale I to find tons per hour 288 metric ton/hr (317 U.S. ton/hr).



TRAVEL TIME CHARTS

Conditions:

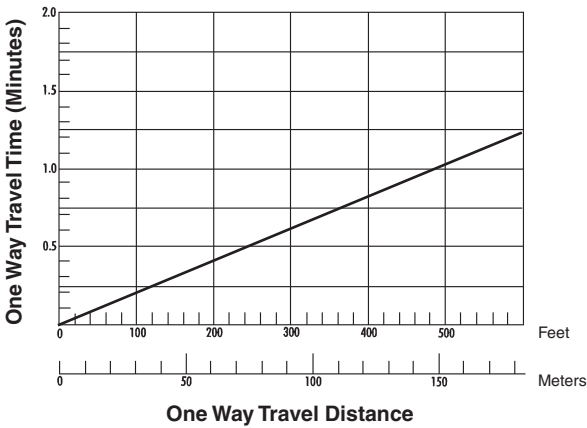
- No grades.
- Speeds loaded and empty essentially the same.
- Bucket position constant during travel.
- Travel encountered in maneuver time portion of cycle not included.
- Acceleration time accounted for in maneuver time.

Travel Time (in minutes) =

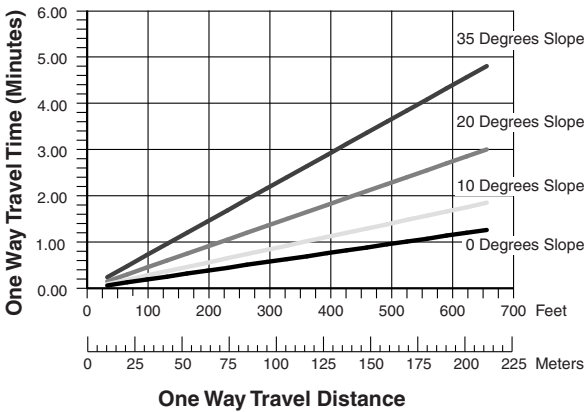
Metric $\text{—} \frac{\text{number of meters traveled}}{\text{speed (in km/h)} \times 16.67}$

English $\text{—} \frac{\text{number of feet traveled}}{\text{speed (in mph)} \times 88}$

939C



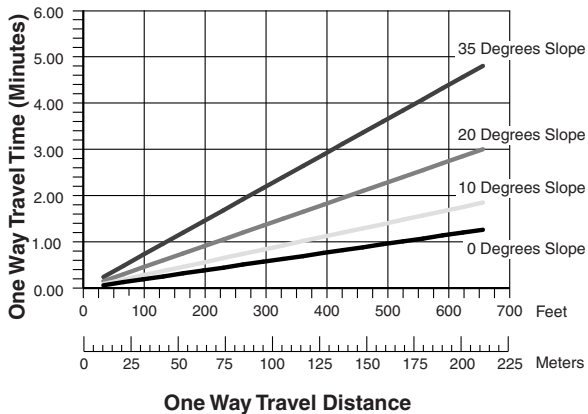
953D



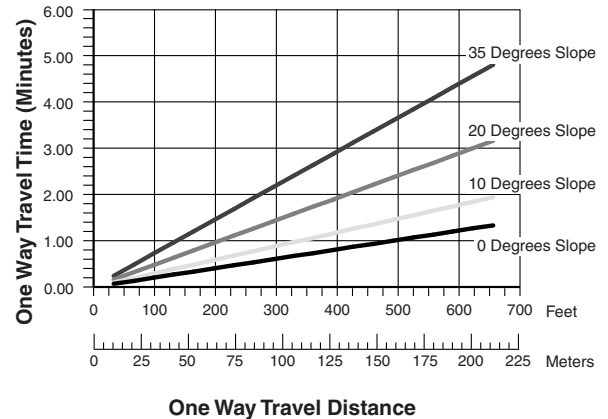
KEY

- 939C — Hydrostatic top speed both forward and reverse 10 km/h (6.2 mph).
- 953D — Hydrostatic top speed both forward and reverse 10 km/h (6.2 mph)

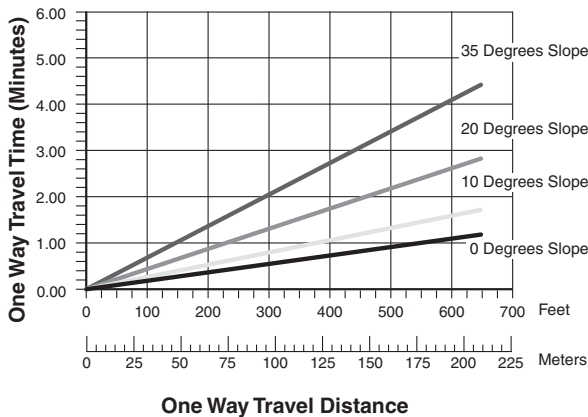
963D



973C



973D



TRAVEL TIME CHARTS

Conditions:

- No grades.
- Speeds loaded and empty essentially the same.
- Bucket position constant during travel.
- Travel encountered in maneuver portion of cycle not included.
- Acceleration time accounted for in maneuver time.

Travel Time (in minutes) =

$$\text{Metric} - \frac{\text{number of meters traveled}}{\text{speed (in km/h)} \times 16.67}$$

$$\text{English} - \frac{\text{number of feet traveled}}{\text{speed (in mph)} \times 88}$$

KEY

963D — Hydrostatic top speed both forward and reverse 10 km/h (6.2 mph)

973C — Hydrostatic top speed both forward and reverse 10 km/h (6.2 mph)

973D — Hydrostatic top speed both forward and reverse 11 km/h (6.83 mph)

Track Loaders

Production Estimating Table

- m³ or yd³/60 min. hour
- Estimated bucket payload in bank m³ or yd³

Bucket Size (m ³ or yd ³)		1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0
Cycle Time Hundredths of a minute	Cycles Per Hr	Unshaded area indicates average work range								
0.25	240	240	360	480	600	720	840	960		
0.30	200	200	300	400	500	600	700	800		
0.35	171	171	257	342	428	513	599	684	769	
0.40	150	150	225	300	375	450	525	600	675	750
0.45	133	133	200	268	332	400	466	530	600	665
0.50	120	120	180	240	300	360	420	480	540	600
0.55	109	109	164	218	272	328	382	436	490	545
0.60	100	100	150	200	250	300	350	400	450	600
0.65	92	92	138	184	230	276	322	368	416	460

Work Tools	939C	953D	963D	973C	973D
Quick Coupler	X	X	X	X	X
General Purpose (GP) bucket	X	X	X	X	X
GP bucket with trash rack		X	X	X	X
MP bucket with trash rack		X	X	X	X
Landfill bucket		X	X	X	X
Landfill Multi-purpose		X	X	X	X
Multi-purpose (MP) bucket	X	X	X	X	X
Trim blade		X	X	X	X
Slag bucket				X	X
Forks (for QC or bucket)		X	X	X	X
Material handling arm		X	X	X	X
Loader rake		X	X	X	X
Top-Clamp bucket		X		X	X
Side Dump bucket		X	X	X	X

SHOE OPTIONS



① **Double Grouser Shoes**

- **Extreme service shoes** are available which have more hardened wear material for longer wear life and higher impact applications.



② **Trapezoidal Center Hole Shoes**



③ **Single Grouser Shoes**

- **Wider shoes** are also available to reduce ground pressure in soft underfoot conditions.



④ **Chopper Shoes**

Other shoe options are available. Consult a Cat dealer for more information.

SYSTEMONE SHOES



Double Grouser Shoes

- Work best in applications that require less penetration and traction.
- Recommended for applications that require better turning capability and less ground disturbance.
- Feature two or three short grousers instead of one tall grouser.



Center Hole Shoes

- Work best in applications where packing causes the track to tighten. They are recommended for applications with large amounts of debris what tend to pack in the track.
- Reduces extricable packing between the shoe and the bushing since they allow the sprocket to punch out dirt and debris.

TELESCOPIC HANDLERS

CONTENTS

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Specifications	14-2
Performance Data	14-6
Shipping Dimensions	14-18
Work Tools	14-19
Compatibility	14-24

Features:

- **Intuitive control layout** enables efficient and comfortable operation.
- **Hydraulic system** enables the use of work tools requiring both intermittent and continuous auxiliary hydraulic flows.
- **Range of lift heights and load capacities** from 2500 kg (5500 lb) to 5443 kg (12,000 lb) capacity and 5.6 m (10'10") to 17 m (56'0") lift height.
- **Cat Telehandlers offer extended reach** to easily enable material to be placed over onsite obstacles.
- **Three steering modes and tight turning circles** allow simplified movement onsite and therefore increased productivity.
- **All machines in the telehandler line feature Tier 3 compliant Cat C4.4 engines** ranging in horsepower from 84.1 kW (64 hp) on the TH255 to 106 kW (142 hp) on the TH417. The higher horsepower engines utilize electronic engine management to optimize machine performance while maintaining excellent fuel efficiency.

- **Three transmissions options are available on telehandlers.** A hydrostatic transmission is available on the TH255 to maximize machine versatility while a powershift transmission is available on the TL machines to optimize productivity and a powersychro transmission is offered on the TH machines to provide a heavy duty transmission in demanding Agricultural applications.
- **Three types of quick couplers are offered on the various telehandler models.** The TH255 offers hydraulic and manual style couplers with both a universal skid steer loader style coupler and a universal telehandler style coupler. The TL and TH lines of telehandlers offer hydraulic and manual style IT interface couplers which provide excellent work tool compatibility with older models of telehandlers and other products (for example Backhoe Loaders and Small Wheel Loaders).
- **Three auxiliary hydraulic options** are available: one auxiliary hydraulic service, two auxiliary hydraulic services and continuous hydraulic flow. These options allow maximum work tool utilization.
- **Daily maintenance** consists of only a walk-around inspection, all major components and service points are located at ground level, providing excellent ease of service.
- **Sealed bearings** require no daily or weekly greasing on engine oil, filter changes and routine lubrication are only required every 250 hours.



MODEL	TH255		TH336		TH337	
Flywheel Power (Gross)	63 kW	84 hp	74.5 kW	100 hp	74.5 kW	100 hp
Operating Weight	4899 kg	10,800 lb	6473 kg	14,270 lb	7073 kg	15,593 lb
Engine Model	C4.4 DIT		C4.4 DITAAC		C4.4 DITAAC	
Rated Engine RPM	2200		2400		2400	
No. of Cylinders	4		4		4	
Bore	105 mm	4.13 in	105 mm	4.13 in	105 mm	4.13 in
Stroke	127 mm	4.99 in	127 mm	4.99 in	127 mm	4.99 in
Displacement	4.4 L	269 in³	4.4 L	269 in³	4.4 L	269 in³
Speeds Forward:			km/h	mph	km/h	mph
1st	—		7	4	7	4
2nd	—		12	7.5	12	7.5
3rd	—		21	13	21	13
4th	—		32	20	32	20
5th	—		40	25	40	25
Speeds Reverse:						
1st	—		7	4	7	4
2nd	—		12	7.5	12	7.5
3rd	—		21	13	21	13
Turning Circle Radius						
Over Tires	3.2 m	10'6"	3.58 m	11'9"	3.70 m	12'2"
Over Forks	—		4.74 m	15'6"	4.67 m	15'4"
Tires	12.00 x 16.5 Pneumatic		15.5/80 x 24 – 16PR		15.5/80 x 24 – 16PR	
Service Refill Cap:						
Fuel Tank @ 90% fill	91 L	24 U.S. gal	150 L	39.6 U.S. gal	150 L	39.6 U.S. gal
Hydraulic System	64 L	17 U.S. gal	90 L	23.7 U.S. gal	90 L	23.7 U.S. gal



MODEL	TH406		TH407		TH414	
Flywheel Power (Gross)	74.5 kW	100 hp	74.5 kW	100 hp	74.5 kW	100 hp
Operating Weight	7200 kg	15,870 lb	7700 kg	16,980 lb	9360 kg	20,635 lb
Engine Model	C4.4 DITAAC		C4.4 DITAAC		C4.4 DITAAC	
Rated Engine RPM	2200		2200		2200	
No. of Cylinders	4		4		4	
Bore	105 mm	4.13 in	105 mm	4.13 in	105 mm	4.13 in
Stroke	127 mm	4.99 in	127 mm	4.99 in	127 mm	4.99 in
Displacement	4.4 L	269 in³	4.4 L	269 in³	4.4 L	269 in³
Speeds Forward:	km/h	mph	km/h	mph	km/h	mph
1st	7	4	7	4	7	4
2nd	12	7.5	12	7.5	12	7.5
3rd	21	13	21	13	21	13
4th	32	20	32	20	32	20
5th	40	25	40	25	—	—
Speeds Reverse:						
1st	7	4	7	4	7	4
2nd	12	7.5	12	7.5	12	7.5
3rd	21	13	21	13	21	13
Turning Circle Radius						
Over Tires	3.58 m	11'9"	3.70 m	12'2"	3.90 m	12'8"
Over Forks	4.74 m	15'6"	4.67 m	15'4"	5.40 m	17'8"
Tires	15.5/80 x 24 – 16PR		15.5/80 x 24 – 16PR		15.5/80 x 24 – 16PR	
Service Refill Cap:						
Fuel Tank @ 90% fill	150 L	39.6 U.S. gal	150 L	39.6 U.S. gal	150 L	39.6 U.S. gal
Hydraulic Tank	—	—	—	—	90 L	23.7 U.S. gal
Hydraulic System	90 L	23.7 U.S. gal	90 L	23.7 U.S. gal	—	—

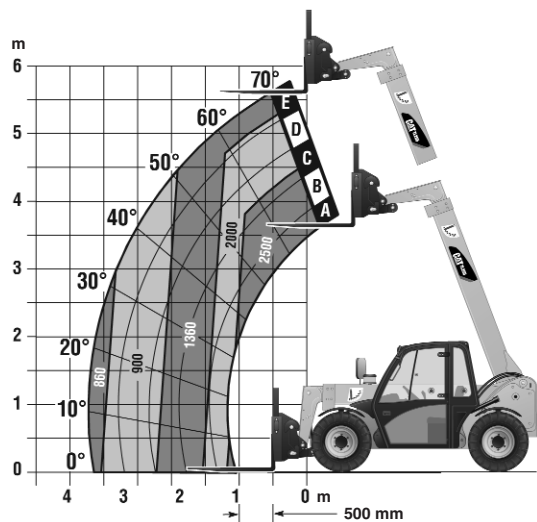


MODEL	TH417		TH514		TL642	
Flywheel Power (Gross)	74.5 kW	100 hp	74.5 kW	100 hp	74.5 kW	99 hp
Operating Weight	12 000 kg	26,455 lb	11 070 kg	24,405 lb	10 470 kg	23,080 lb
Engine Model	C4.4 DITAAC		C4.4 DITAAC		C4.4 EDIT	
Rated Engine RPM	2200		2200		2400	
No. of Cylinders	4		4		4	
Bore	105 mm	4.13 in	105 mm	4.13 in	105 mm	4.13 in
Stroke	127 mm	4.99 in	127 mm	4.99 in	127 mm	4.99 in
Displacement	4.4 L	269 in³	4.4 L	269 in³	4.4 L	269 in³
Speeds Forward:	km/h	mph	km/h	mph	km/h	mph
1st	7	4	7	4	6	3.4
2nd	12	7.5	12	7.5	10	6.1
3rd	21	13	21	13	22	13.7
4th	32	20	32	20	33	20.4
Speeds Reverse:						
1st	7	4	7	4	5	3.2
2nd	12	7.5	12	7.5	10	5.9
3rd	21	13	21	13	22	13.4
Turning Circle Radius						
Over Tires	3.80 m	12'6"	3.90 m	12'2"	3.7 m	12'0"
Over Forks	5.40 m	17'9"	5.40 m	17'9"	—	—
Tires	15.5/80 x 24 – 16PR		15.5/80 x 24 – 16PR		13.00 x 24 – 12PR	
Service Refill Cap:						
Fuel Tank @ 90% fill	150 L	39.6 U.S. gal	150 L	39.6 U.S. gal	136 L	36 U.S. gal
Hydraulic Tank	90 L	23.7 U.S. gal	90 L	23.7 U.S. gal	75.7 L	20 U.S. gal
Hydraulic System	—		—		113.5 L	30 U.S. gal

**MODEL****TL943****TL1055****TL1255**

Flywheel Power (Gross)	74.5 kW	99 hp	93.2 kW	125 hp	106 kW	142 hp
Operating Weight	11 814 kg	26,050 lb	15 740 kg	34,700 lb	16 057 kg	35,400 lb
Engine Model	C4.4 EDIT		C4.4 EDITAAC		C4.4 EDITAAC	
Rated Engine RPM	2400		2400		2400	
No. of Cylinders	4		4		4	
Bore	105 mm	4.13 in	105 mm	4.13 in	105 mm	4.13 in
Stroke	127 mm	4.99 in	127 mm	4.99 in	127 mm	4.99 in
Displacement	4.4 L	269 in³	4.4 L	269 in³	4.4 L	269 in³
Speeds Forward:	km/h	mph	km/h	mph	km/h	mph
1st	5	2.9	5	2.9	5	2.9
2nd	8	5.2	9	5.6	9	5.6
3rd	19	11.9	20	12.6	21	13
4th	28	17.6	29	18.1	30	18.9
Speeds Reverse:						
1st	5	2.9	5	2.9	5	2.9
2nd	8	5.1	9	5.6	9	5.6
3rd	18	11.5	20	12.6	20	12.6
Turning Circle Radius						
Over Tires	3.7 m	12'0"	4.3 m	14'0"	4.3 m	14'0"
Tires	13.00 x 24 – 12PR		14.00 x 24 – 12PR		17.50 x 25 – 15 PR	
Service Refill Cap:						
Fuel Tank @ 90% fill	136 L	36 U.S. gal	136 L	36 U.S. gal	136 L	36 U.S. gal
Hydraulic Tank	88.2 L	23.3 U.S. gal	43.8 L	38 U.S. gal	43.8 L	38 U.S. gal
Hydraulic System	151.4 L	40 U.S. gal	227.1 L	60 U.S. gal	227.1 L	60 U.S. gal

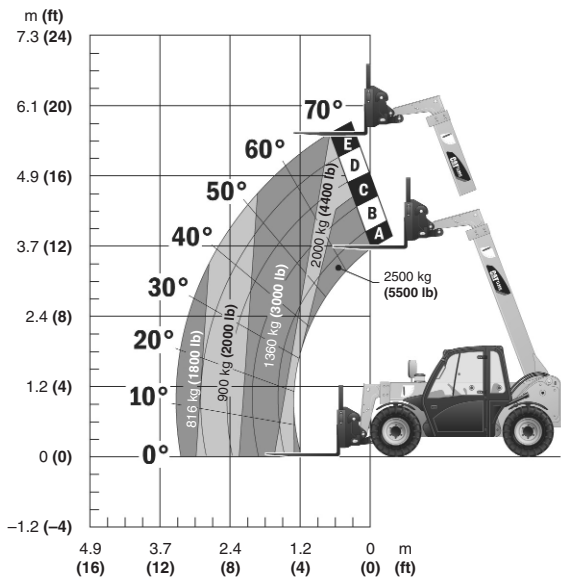
TH255
ROW Version



Numbers in chart measured in kilograms.

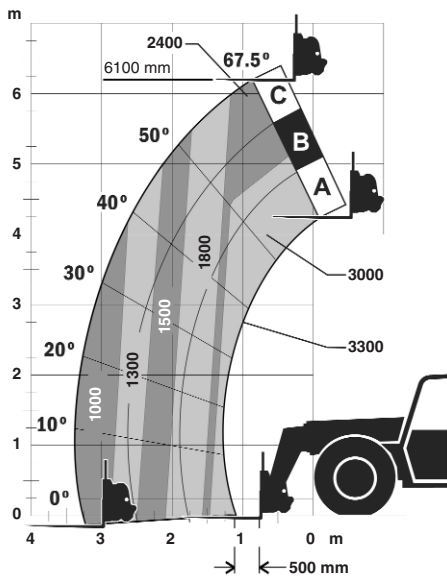
Maximum lift capacity	2500 kg	5500 lb
Maximum lift height	5.6 m	18'4"
Load at maximum height	2000 kg	4400 lb
Maximum forward reach	3.25 m	10'10"
Load at maximum reach	860 kg	1896 lb

TH255
North American Version



Maximum lift capacity	2500 kg	5500 lb
Maximum lift height	5.6 m	18'4"
Load at maximum height	2000 kg	4400 lb
Maximum forward reach	3.25 m	10'10"
Load at maximum reach	816 kg	1800 lb

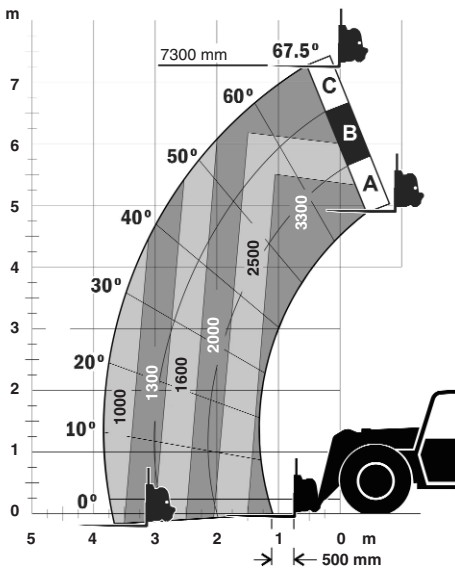
TH336



Numbers in chart measured in kilograms.

Maximum lift capacity	3300 kg	7275 lb
Maximum lift height	6.1 m	20'0"
Load at maximum height	2400 kg	5291 lb
Maximum forward reach	3.11 m	10'2"
Load at maximum reach	1000 kg	2204 lb

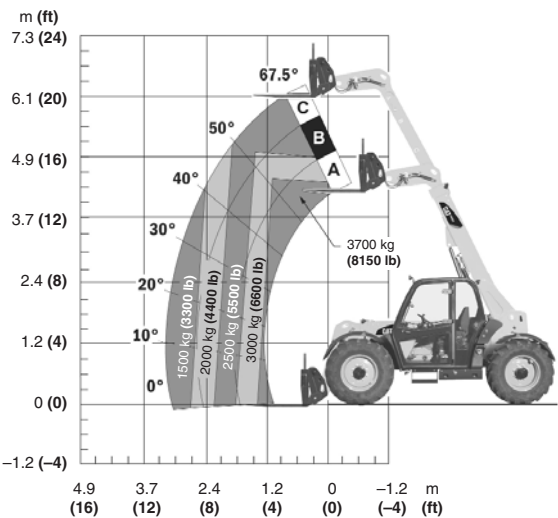
TH337



Numbers in chart measured in kilograms.

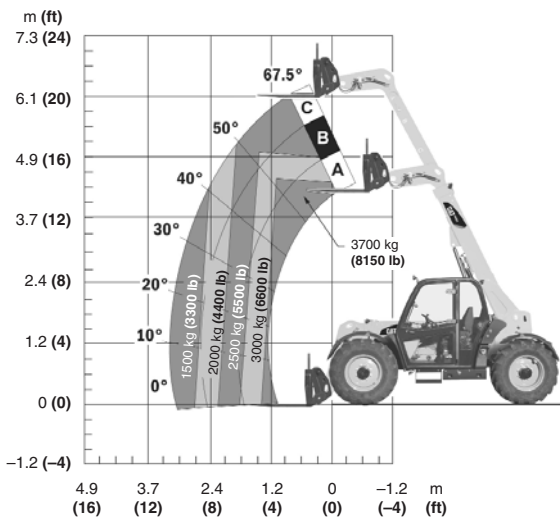
Maximum lift capacity	3300 kg	7275 lb
Maximum lift height	7.3 m	24'0"
Load at maximum height	2000 kg	4409 lb
Maximum forward reach	3.76 m	12'4"
Load at maximum reach	1000 kg	2204 lb

TH406
North American Version



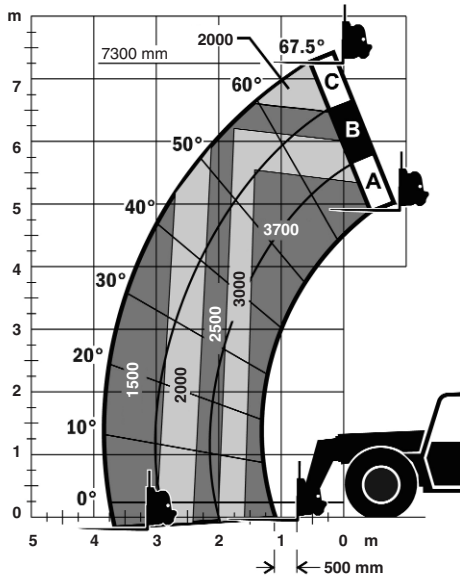
Maximum lift capacity	3700 kg	8150 lb
Maximum lift height	6.1 m	20'0"
Load at maximum height	2500 kg	5511 lb
Maximum forward reach	3.11 m	10'2"
Load at maximum reach	1500 kg	3300 lb

TH406
ROW Version

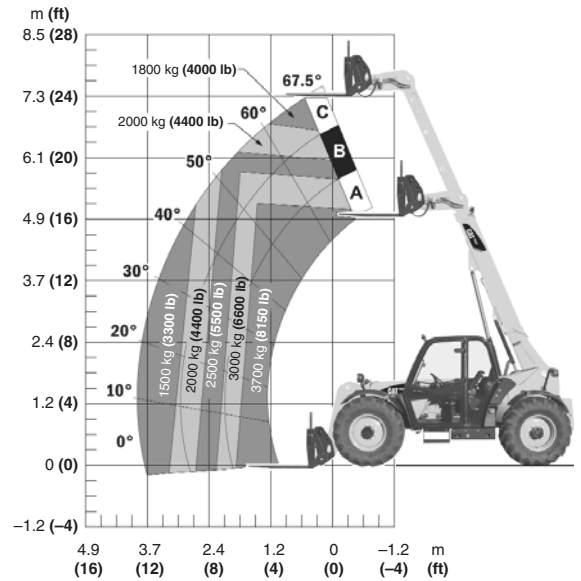


Maximum lift capacity	3700 kg	8150 lb
Maximum lift height	6.1 m	20'0"
Load at maximum height	2500 kg	5511 lb
Maximum forward reach	3.11 m	10'2"
Load at maximum reach	1500 kg	3300 lb

TH407
ROW Version



TH407
North American Version

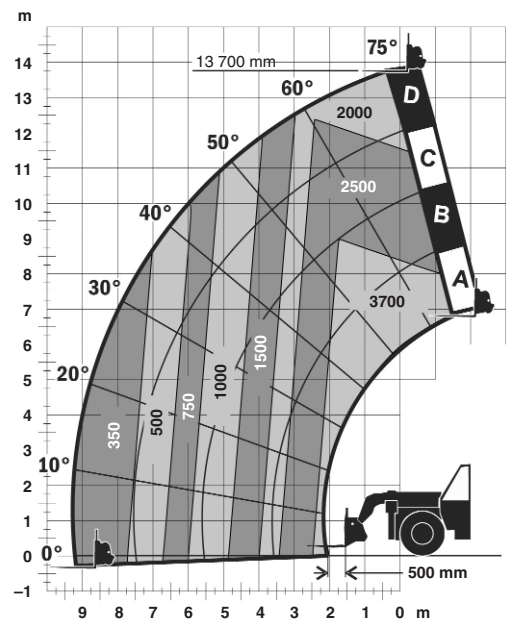


Numbers in chart measured in kilograms.

Maximum lift capacity	3700 kg	8150 lb
Maximum lift height	7.3 m	24'0"
Load at maximum height	2000 kg	4410 lb
Maximum forward reach	3.76 m	12'4"
Load at maximum reach	1500 kg	3300 lb

Maximum lift capacity	3700 kg	8150 lb
Maximum lift height	7.3 m	24'0"
Load at maximum height	1800 kg	4000 lb
Maximum forward reach	3.76 m	12'4"
Load at maximum reach	1500 kg	3300 lb

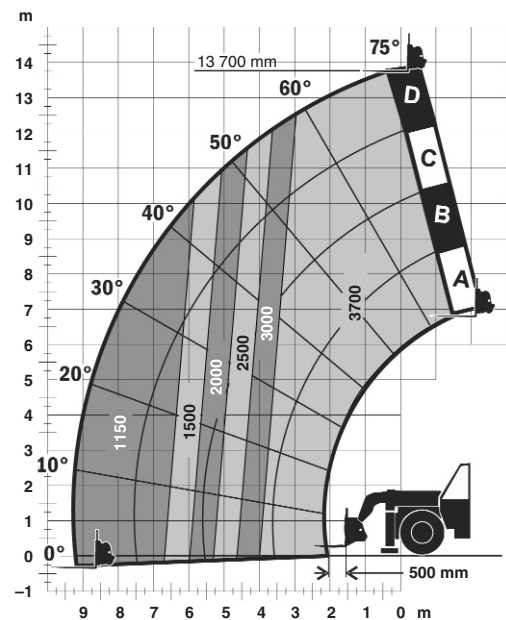
TH414
Stabilizers Up



Numbers in chart measured in kilograms.

Maximum lift capacity	3700 kg	8150 lb
Maximum lift height	13.7 m	44'11"
Load at maximum height	2000 kg	4410 lb
Maximum forward reach	9.23 m	30'3"
Load at maximum reach	350 kg	771 lb

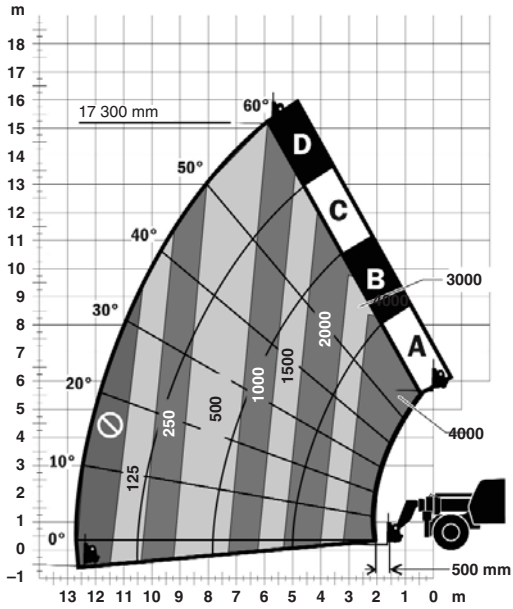
TH414
Stabilizers Down



Numbers in chart measured in kilograms.

Maximum lift capacity	3700 kg	8150 lb
Maximum lift height	13.7 m	44'11"
Load at maximum height	3700 kg	8150 lb
Maximum forward reach	9.23 m	30'3"
Load at maximum reach	1150 kg	2535 lb

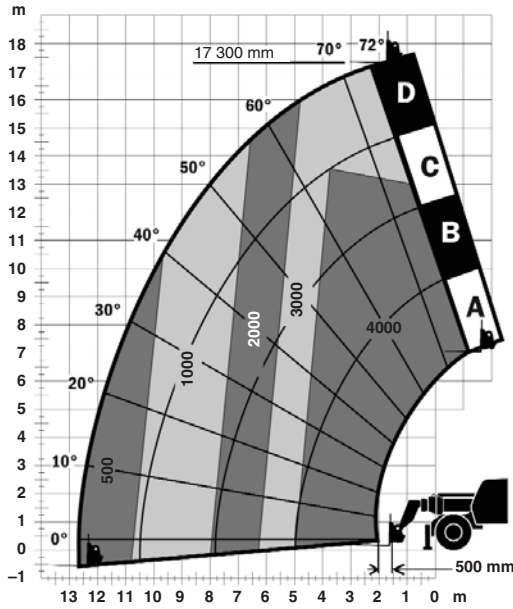
TH417
Stabilizers Up



Numbers in chart measured in kilograms.

Maximum lift capacity	4000 kg	8820 lb
Maximum lift height	17.0 m	55'9"
Load at maximum height	1000 kg	2200 lb
Maximum forward reach	12.7 m	41'8"
Load at maximum reach	0 kg	0 lb

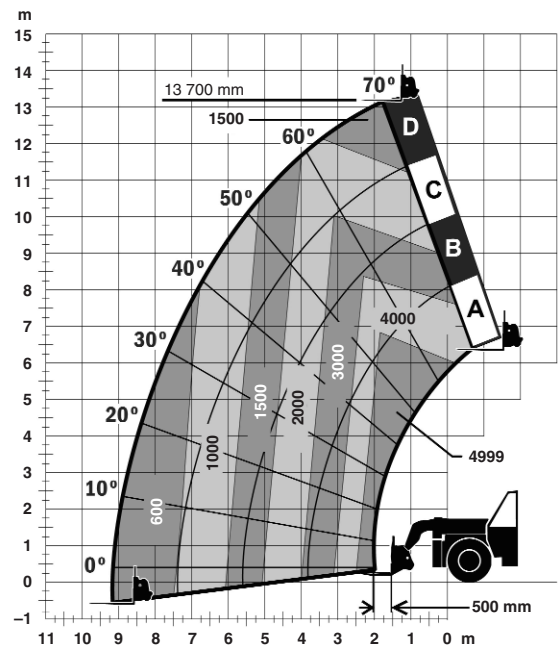
TH417
Stabilizers Down



Numbers in chart measured in kilograms.

Maximum lift capacity	4000 kg	8820 lb
Maximum lift height	17.0 m	55'9"
Load at maximum height	3000 kg	6610 lb
Maximum forward reach	12.7 m	41'8"
Load at maximum reach	500 kg	1100 lb

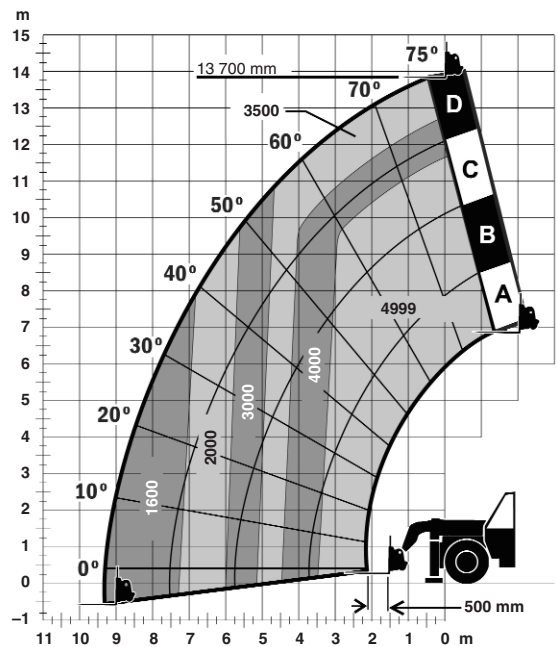
TH514
Stabilizers Up



Numbers in chart measured in kilograms.

Maximum lift capacity	4999 kg	11,020 lb
Maximum lift height	13.7 m	44'11"
Load at maximum height	1500 kg	3306 lb
Maximum forward reach	9.22 m	30'3"
Load at maximum reach	600 kg	1322 lb

TH514
Stabilizers Down

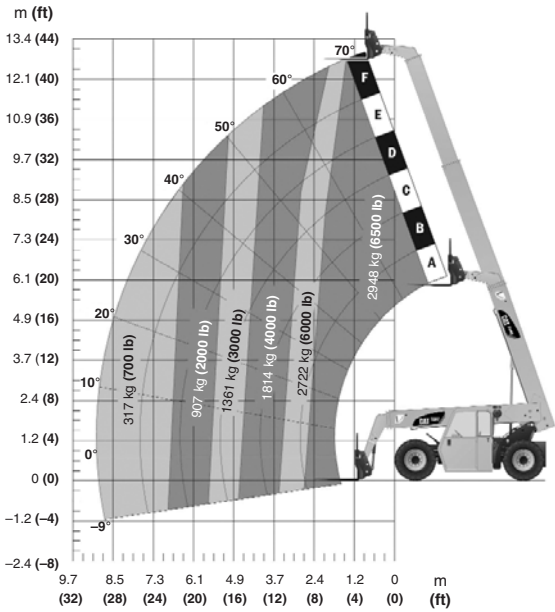


Numbers in chart measured in kilograms.

Maximum lift capacity	4999 kg	11,020 lb
Maximum lift height	13.7 m	44'11"
Load at maximum height	3500 kg	7716 lb
Maximum forward reach	9.22 m	30'3"
Load at maximum reach	1600 kg	3527 lb

TL642

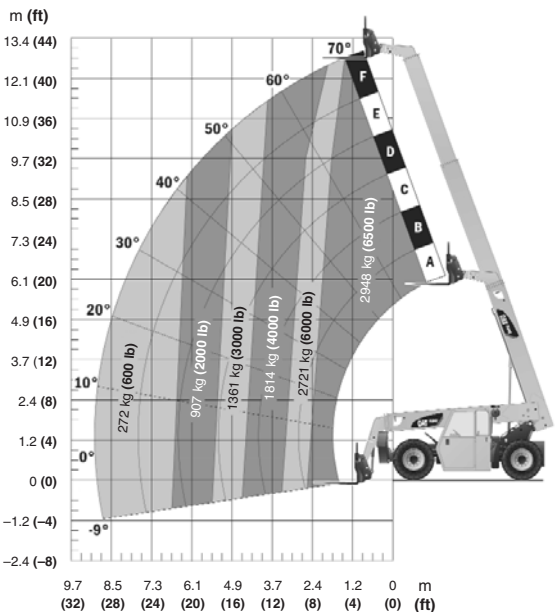
No Stabilizers



Maximum lift capacity	2948 kg	6500 lb
Maximum lift height	12.8 m	42'0"
Load at maximum height	2948 kg	6500 lb
Maximum forward reach	9.1 m	30'0"
Load at maximum reach	317 kg	700 lb

TL642

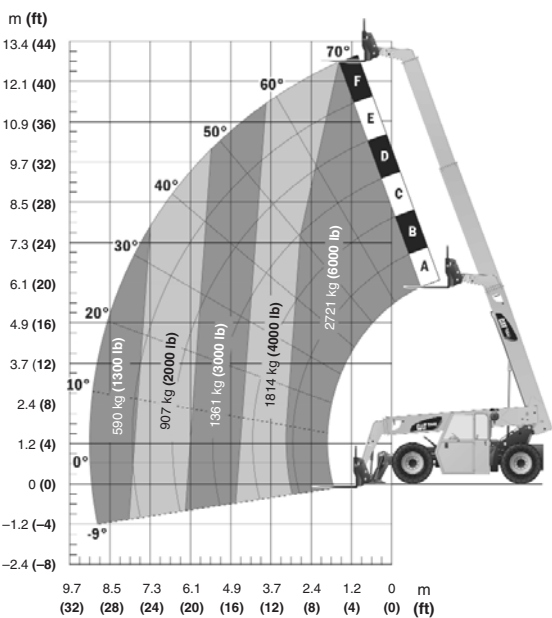
Stabilizers Up



Maximum lift capacity	2948 kg	6500 lb
Maximum lift height	12.8 m	42'0"
Load at maximum height	2948 kg	6500 lb
Maximum forward reach	9.1 m	30'0"
Load at maximum reach	272 kg	600 lb

TL642

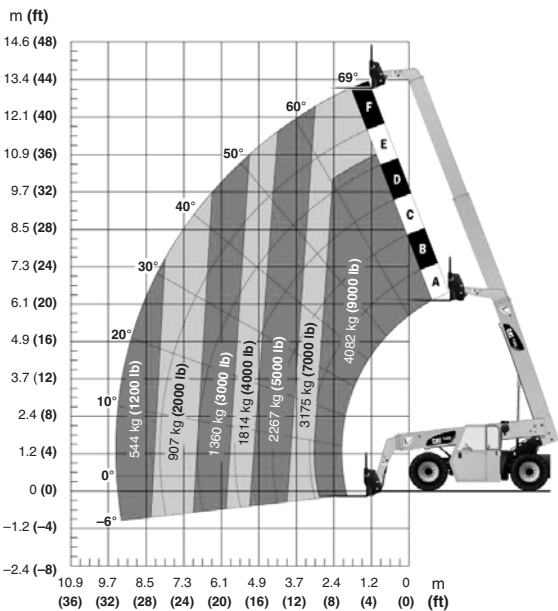
Stabilizers Down



Maximum lift capacity	2948 kg	6500 lb
Maximum lift height	12.8 m	42'0"
Load at maximum height	2948 kg	6500 lb
Maximum forward reach	9.1 m	30'0"
Load at maximum reach	771 kg	1700 lb

TL943

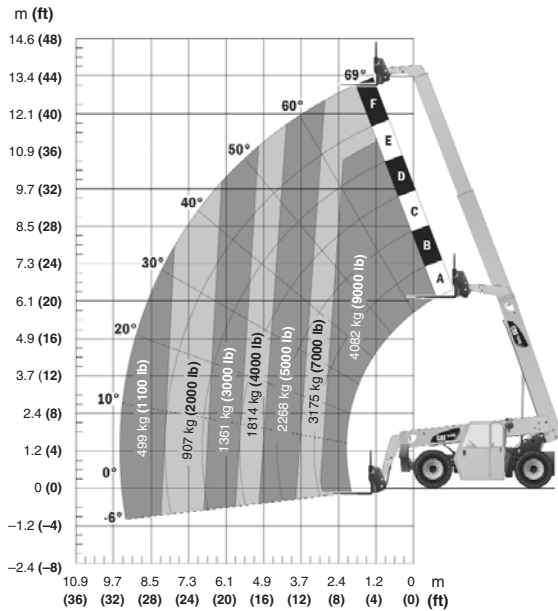
No Stabilizers



Maximum lift capacity	4082 kg	9000 lb
Maximum lift height	13.1 m	43'0"
Load at maximum height	3175 kg	7000 lb
Maximum forward reach	9.6 m	31'5"
Load at maximum reach	544 kg	1200 lb

TL943

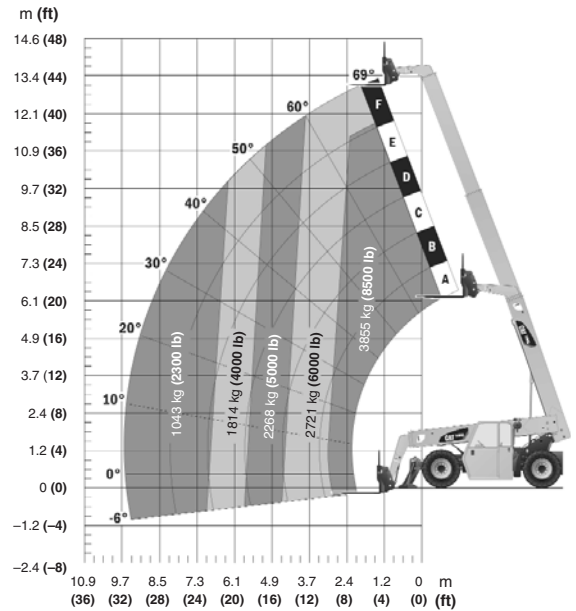
Stabilizers Up



Maximum lift capacity	4082 kg	9000 lb
Maximum lift height	13.1 m	43'0"
Load at maximum height	3175 kg	7000 lb
Maximum forward reach	9.6 m	31'5"
Load at maximum reach	499 kg	1100 lb

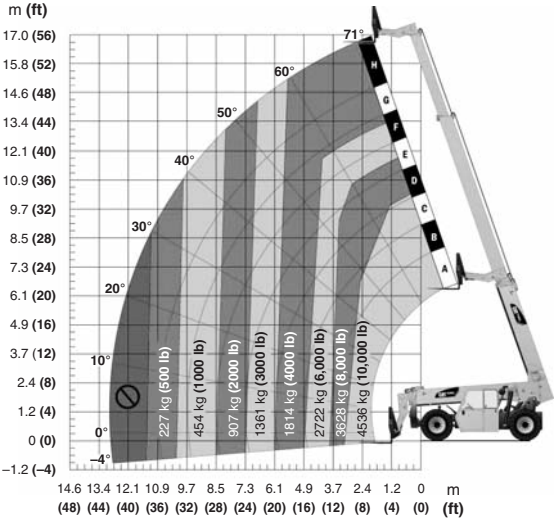
TL943

Stabilizers Down



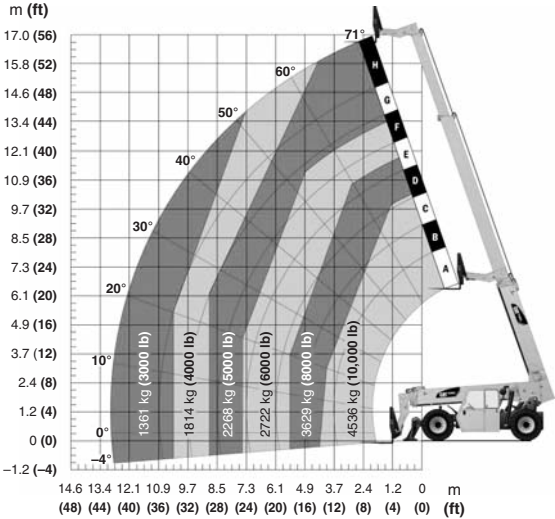
Maximum lift capacity	4082 kg	9000 lb
Maximum lift height	13.1 m	43'0"
Load at maximum height	3175 kg	7000 lb
Maximum forward reach	9.6 m	31'5"
Load at maximum reach	1225 kg	2700 lb

TL1055
Stabilizers Up



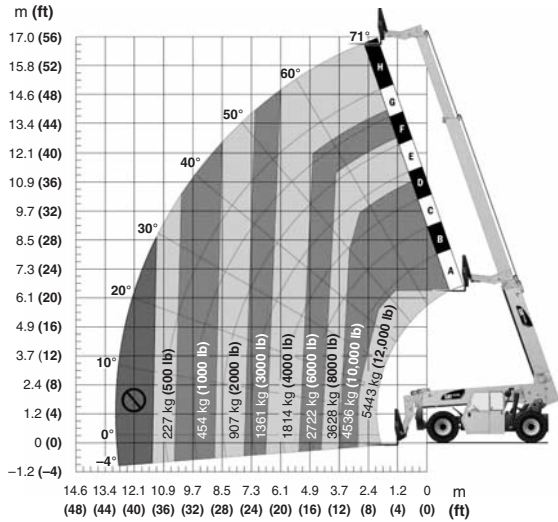
Maximum lift capacity	4536 kg	10,000 lb
Maximum lift height	16.8 m	55'0"
Load at maximum height	1814 kg	4000 lb
Maximum forward reach	13.0 m	42'6"
Load at maximum reach	0 kg	0 lb

TL1055
Stabilizers Down



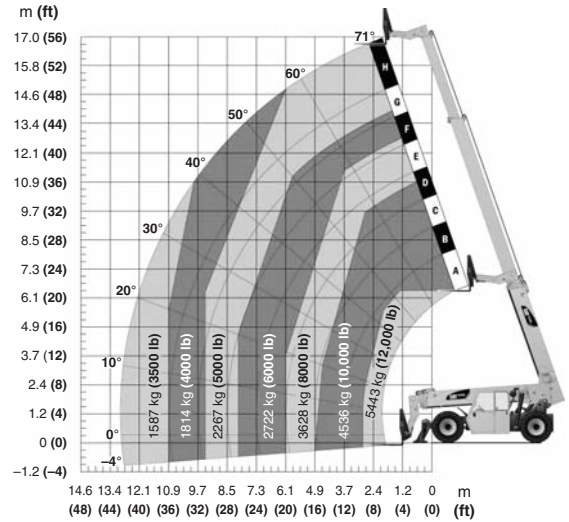
Maximum lift capacity	4536 kg	10,000 lb
Maximum lift height	16.8 m	55'1"
Load at maximum height	2268 kg	5000 lb
Maximum forward reach	13.0 m	42'6"
Load at maximum reach	1361 kg	3000 lb

TL1255
Stabilizers Up

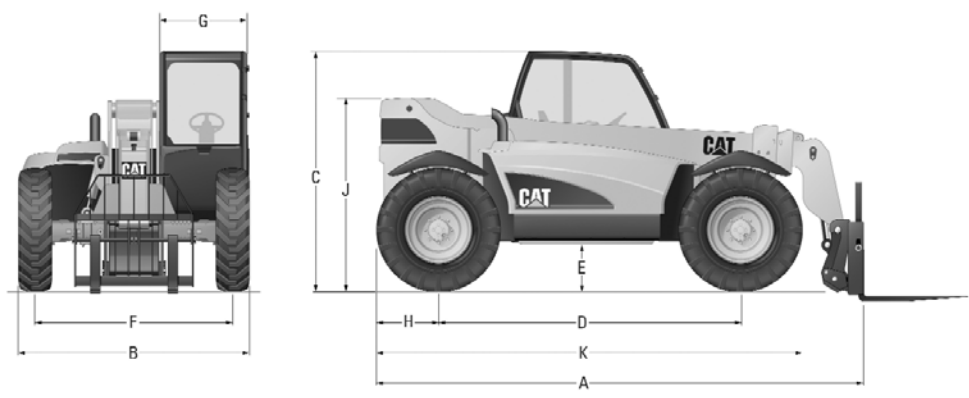


Maximum lift capacity	5443 kg	12,000 lb
Maximum lift height	16.6 m	54'5"
Load at maximum height	1814 kg	4000 lb
Maximum forward reach	13.0 m	42'6"
Load at maximum reach	0 kg	0 lb

TL1255
Stabilizers Down



Maximum lift capacity	5443 kg	12,000 lb
Maximum lift height	16.6 m	54'5"
Load at maximum height	2268 kg	5000 lb
Maximum forward reach	13.0 m	42'6"
Load at maximum reach	1588 kg	3500 lb



Dimensions (approx.)

Model	TH255		TH336		TH337		TH406	
	mm	ft	mm	ft	mm	ft	mm	ft
A) Length to fork face	3658	12'0"	4621	15'2"	4866	16'0"	4621	15'2"
B) Width	1816	5'10"	2400	7'10"	2400	7'10"	2400	7'9"
C) Height	1920	6'3"	2323	7'7"	2385	7'10"	2323	7'6"
D) Wheel base	2286	7'5"	2950	9'8"	3050	10'0"	2950	9'7"
E) Ground clearance	279	11"	430	1'5"	430	1'5"	430	1'5"
F) Wheel track	—		1988	6'6"	1988	6'6"	1988	6'6"
G) Cab width (inside)	864	2'10"	880	2'11"	880	2'11"	880	2'11"

Model	TH407		TH414		TH417		TH514	
	mm	ft	mm	ft	mm	ft	mm	ft
A) Length to fork face	5153	16'11"	6325	20'9"	6612	21'8"	6325	20'9"
B) Width	2400	7'9"	2440	7'11"	2440	8'0"	2480	8'2"
C) Height	2385	7'8"	2592	8'6"	2667	8'9"	2592	8'6"
D) Wheel base	3050	10'0"	3200	10'6"	3200	10'6"	3200	10'6"
E) Ground clearance	441	1'4"	469	1'6"	458	1'6"	458	1'6"
F) Wheel track	1988	6'6"	2030	6'8"	2078	6'10"	2030	6'8"
G) Cab width (inside)	880	2'11"	880	2'11"	880	2'11"	880	2'11"

Model	TL642		TL943		TL1055		TL1255	
	mm	ft	mm	ft	mm	ft	mm	ft
A) Length to fork face	5629	18'5"	6248	20'5"	6325	20'8"	6325	20'8"
B) Width	2426	8'0"	2426	8'0"	2565	8'4"	2565	8'4"
C) Height	2388	7'8"	2426	8'0"	2565	8'4"	2565	8'4"
D) Wheel base	3251	10'7"	3353	11'0"	3658	12'0"	3658	12'0"
E) Ground clearance	417	1'4"	483	1'7"	457	1'6"	483	1'7"
F) Wheel track	2108	6'9"	2108	6'9"	2159	7'1"	2159	7'1"
G) Cab width (inside)	940	3'1"	940	3'1"	940	3'1"	940	3'1"

All carriages are bar type with load backrest to support bulky loads.
Widespread carriages provide added stability for lifting larger loads.
Standard and widespread carriages are also available in rotating mode.

Carriage Type

Model	Standard		Standard — Framers		Rotate		Rotate — Framers		Side Shift	
TH255										
Weight w/1220 mm (48") forks	261 kg	575 lb	367 kg	810 lb	—		—		—	
Width	1219 mm	4'0"	1219 mm	4'0"	1219 mm	4'0"	—	—	—	—
Height	1118 mm	3'7"	1118 mm	3'7"	1168 mm	3'10"	—	—	—	—
Max. fork spread	1067 mm	3'5"	1092 mm	3'6"	1067 mm	3'5"	—	—	—	—
Floating fork movement	76 mm	3"	76 mm	3"	76 mm	3"	—	—	—	—
TH336 through TH417										
Weight w/1220 mm (48") fork	272 kg	600 lb	336 kg	740 kg	408 kg	900 lb	492 kg	1084 lb	422 kg	930 lb
Width	1224 mm	4'0"	1880 mm	6'2"	1224 mm	4'0"	1880 mm	6'2"	1230 mm	4'0"
Height	1039 mm	3'5"	1039 mm	3'5"	1216 mm	4'0"	1216 mm	4'0"	1135 mm	3'8"
Max. fork spread	1200 mm	3'11"	1856 mm	6'1"	1200 mm	3'11"	1856 mm	6'1"	1200 mm	3'11"
Floating fork movement	70 mm	3"	70 mm	3"	70 mm	3"	70 mm	3"	70 mm	3"
Rotation	—		—		11.5°		11.5°		—	
TH514										
Weight w/1220 mm (48") fork	303 kg	600 lb	336 kg	740 lb	408 kg	900 lb	492 kg	1084 lb	422 kg	930 lb
Width	1224 mm	4'0"	1880 mm	6'2"	1224 mm	4'0"	1880 mm	6'2"	1230 mm	4'0"
Height	1039 mm	3'5"	1039 mm	3'5"	1216 mm	4'0"	1216 mm	4'0"	1135 mm	3'8"
Max. fork spread	1200 mm	3'11"	1856 mm	6'1"	1200 mm	3'11"	1856 mm	6'1"	1200 mm	3'11"
Floating fork movement	70 mm	3"	70 mm	3"	70 mm	3"	70 mm	3"	70 mm	3"
Rotation	—		—		11.5°		11.5°		—	
TH580B										
Weight w/1220 mm (48") fork	303 kg	600 lb	336 kg	740 lb	408 kg	900 lb	492 kg	1084 lb	422 kg	930 lb
Width	1224 mm	4'0"	1880 mm	6'2"	1224 mm	4'0"	1880 mm	6'2"	1230 mm	4'0"
Height	1039 mm	3'5"	1039 mm	3'5"	1216 mm	4'0"	1216 mm	4'0"	1135 mm	3'8"
Max. fork spread	1200 mm	3'11"	1856 mm	6'1"	1200 mm	3'11"	1856 mm	6'1"	1200 mm	3'11"
Floating fork movement	70 mm	3"	70 mm	3"	70 mm	3"	70 mm	3"	70 mm	3"
Rotation	—		—		11.5°		11.5°		—	
Capacities:										
TH255	2500 kg	5500 lb	—		—		—		—	
TH406	3700 kg	8157 lb	—		—		—		—	
TH407	3700 kg	8157 lb	—		—		—		—	
TH360B	3000 kg	6600 lb	2830 kg	6240 lb	2780 kg	6120 lb	2780 kg	6120 lb	2690 kg	5930 lb
TH560B	5000 kg	11,000 lb	4850 kg	10,690 lb	4800 kg	10,580 lb	4700 kg	10,360 lb	4700 kg	10,360 lb
TH580B	5000 kg	11,000 lb	4900 kg	10,800 lb	4700 kg	10,360 lb	4600 kg	10,140 lb	4600 kg	10,140 lb

Model	Carriage Type					
	Standard		Standard — Framers		Rotate 1270 mm (50")	
TL642, TL943, TL1055, TL1255						
Weight* w/1220 mm (48") forks (51 mm × 51 mm/2" × 2")	295 kg	650 lb	363 kg	800 lb	454 kg	1000 lb
Width**	1422 mm	56"	1981 mm	78"	1422 mm	56"
Height**	1270 mm	50"	1067 mm	42"	1270 mm	50"
Max. fork spread (out to out)	1270 mm	50"	1829 mm	72"	1270 mm	50"
Floating fork movement	98 mm	3.9"	98 mm	3.9"	98 mm	3.9"
Rotation	—		—		±10°	

*Weights are for information purposes only. Refer to applicable load charts for specific data.

**Dimensions are approximate.

Model	Carriage Type					
	Rotate — Framers 1830 mm (72")		Side Shift ±102 mm (±4")		Swing	
TL642, TL943, TL1055, TL1255						
Weight* w/1220 mm (48") forks (51 mm × 51 mm/2" × 2")	522 kg	1150 lb	363 kg	800 lb	975 kg	2150 lb
Width**	1981 mm	78"	1245 mm	49"	1772 mm	69.75"
Height**	1067 mm	42"	1041 mm	41"	1194 mm	47"
Max. fork spread (out to out)	1829 mm	72"	1162 mm	45.75"	1854 mm	73"
Floating fork movement	98 mm	3.9"	51 mm	2"	76 mm	3"
Rotation	±10°		—		100°	

*Weights are for information purposes only. Refer to applicable load charts for specific data.

**Dimensions are approximate.

All carriages are bar type with load backrest to support bulky loads.
Widespread carriages provide added stability for lifting larger loads.
Standard and widespread carriages are also available in rotating mode.

Non-U.S. Models					
Fork Type					
Pallet			Block		
Model	Forks/Set	Size	Model	Forks/Set	Size
TH255	2	45 × 100 × 1070 mm 2" × 4" × 42"	TH336 through TH417	2	50 × 50 × 1220 mm 2" × 2" × 48"
	2	50 × 100 × 1525 mm 2" × 4" × 60"			
	2	50 × 100 × 1200 mm 2" × 4" × 47"			
	2	50 × 120 × 1200 mm 2" × 5" × 47"			
TH336, TH406, TH337, TH407, TH414, TH417, TH514	2	45 × 100 × 1070 mm 2" × 4" × 42"			
	2	50 × 100 × 1525 mm 2" × 4" × 60"			
	2	50 × 100 × 1200 mm 2" × 4" × 47"			
	2	50 × 120 × 1200 mm 2" × 5" × 47"			
TH514	2	60 × 100 × 1200 mm 2.36" × 4" × 47"			

North American Models					
Fork Type					
Pallet			Block		
Model	Forks/Set	Size	Model	Forks/Set	Size
TH255	2	51 × 102 × 1219 mm 2" × 4" × 48"	TH255	2	51 × 51 × 1219 mm 2" × 2" × 48"
	2	38 × 152 × 1524 mm 1.5" × 6" × 60"			
TH406 and TH407	2	50 × 100 × 1525 mm 2" × 4" × 60"	TH406 and TH407	2	51 × 51 × 1219 mm 2" × 2" × 48"
	2	50 × 120 × 1200 mm 2" × 4.7" × 47"			
TL642, TL943, TL1055, TL1255	2	60 × 102 × 1219 mm 2.36" × 4" × 48"	TL642 through TL1255	2	51 × 51 × 1219 mm 2" × 2" × 48"
	2	60 × 152 × 1524 mm 2.36" × 6" × 60"			
	2	51 × 152 × 1829 mm 2" × 6" × 72"			
	2	44 × 178 × 1524 mm 1.75" × 7" × 60"			

Work Tools

Truss Boom		
Length	4000 mm	13'0"
Weight	200 kg	441 lb
Capacity	500 kg	1100 lb
Lifting Hook		
Weight	98 kg	216 lb
Capacity	5000 kg	11,020 lb
1.0 m³ (1.3 yd³) GP Bucket		
Capacity	1.0 m³	1.3 yd³
Width	2406 mm	7'11"
Weight	544 kg	1200 lb
1.0 m³ (1.3 yd³) MP Bucket		
Capacity	1.0 m³	1.3 yd³
Width	2406 mm	7'1"
Weight	740 kg	1631 lb
1.5 m³ (2 yd³) Rehandling Bucket		
Capacity	1.5 m³	2 yd³
Width	2406 mm	7'1"
Weight	548 kg	1208 lb
LM Bucket		
1.3 m³ (1.7 yd³)		
Capacity	1.3 m³	1.7 yd³
Width	1829 mm	6'0"
Weight	348 kg	768 lb
2.0 m³ (2.6 yd³)		
Capacity	2.0 m³	2.6 yd³
Width	2500 mm	8'2"
Weight	566 kg	1248 lb
2.5 m³ (3.25 yd³)		
Capacity	2.5 m³	3.25 yd³
Width	2500 mm	8'2"
Weight	628 kg	1384 lb
3.0 m³ (3.9 yd³)		
Capacity	3.0 m³	3.9 yd³
Width	2700 mm	8'10"
Weight	705 kg	1553 lb

HD Manure Fork		
Capacity	1.9 m³	2.5 yd³
Width	2290 mm	7'6"
Weight	560 kg	1234 lb
Tine length	1060 mm	3'6"
No. of tines	9	
HD Manure Fork + Grab		
Capacity	1.9 m³	2.5 yd³
Width	2290 mm	7'6"
Weight	750 kg	1653 lb
Tine length	1060 mm	3'6"
No. of tines	9	
HD Manure Fork, Grab + Pusher		
Capacity	1.7 m³	2.26 yd³
Width	2290 mm	7'6"
Weight	978 kg	2155 lb
Tine length	1060 mm	3'6"
No. of tines	9	
Std. Duty Manure Fork + Grab		
Capacity	1.8 m³	2.34 yd³
Width	2290 mm	7'6"
Weight	560 kg	1234 lb
Tine length	1060 mm	3'6"
No. of tines	9	
Grapple Multi Bucket		
Capacity	0.85 m³	1.1 yd³
Width	2330 mm	7'8"
Weight	765 kg	1686 lb
Bale Handler		
Width	1220 mm	4'0"
Weight	411 kg	906 lb
Tine length	600 mm	2'0"
No. of tines	10	

	TH255	TH336	TH337	TH406	TH407	TH414	TH417	TH514	TL642	TL943	TL1055	TL1255
Truss Boom	N/A	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lifting Hook	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Rehandling Bucket 1.5 m ³ (2 yd ³)	N/A	Yes	Yes	Yes	Yes	Yes	N/A	Yes	Yes	Yes	Yes	Yes
Light Material Bucket:												
2.0 m ³ (2.6 yd ³)	Yes	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2.5 m ³ (3.25 yd ³)	N/A	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3.0 m ³ (3.9 yd ³)	N/A	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HD Manure Fork	N/A	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HD Manure Fork + Grab	N/A	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HD Manure Fork + Grab + Pusher	N/A	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LD Manure Fork + Grab	N/A	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grapple Multi Bucket	Yes	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bale Handler	N/A	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Standard Carriage	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Standard Carriage — (Framers)	N/A	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Rotate Carriage	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Rotate Carriage — (Framers)	N/A	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sideshift Carriage	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Material Handling Arm	N/A	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A
Pallet Fork — 60 mm (2.4") diameter:												
1070 mm (42") long	N/A	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1220 mm (48") long	N/A	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1525 mm (60") long	N/A	Yes	Yes	Yes	Yes	Yes	Yes	N/A	Yes	Yes	Yes	Yes
Extended shank												
Pallet Fork — 51 mm (2") diameter:												
1070 mm (42") long	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes	Yes	Yes	Yes
1220 mm (48") long	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes	Yes	Yes	Yes
1525 mm (60") long	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes	Yes	Yes	Yes
Extended shank												
Block Fork — 60 mm (2.4") diameter	N/A	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Block Fork — 51 mm (2") diameter	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes	Yes	Yes	Yes
General Purpose Bucket:												
1.0 m ³ (1.3 yd ³)	N/A	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
0.76 m ³ (1.0 yd ³)	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Material Handling Bucket:												
1.5 m ³ (1.96 yd ³)	N/A	Yes	Yes	Yes	Yes	Yes	N/A	N/A	Yes	Yes	Yes	Yes
Multi-Purpose Bucket:												
1.0 m ³ (1.3 yd ³)	N/A	Yes	Yes	Yes	Yes	Yes	N/A	N/A	Yes	Yes	Yes	Yes
0.76 m ³ (1.0 yd ³)	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

PAVING PRODUCTS

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Cold Planer Features:

- **Cat Engines with ACERT Technology.**
- **Up-cutting mandrels** provide cutting efficiency and improved bit life.
- **Short turning radii** for productivity and jobsite flexibility.
- **Front-discharge conveyor** facilitates haul unit movement in congested urban applications.
- **Optimum weight-to-horsepower balance** for delivering maximum available horsepower to the cutter.
- **Computerized Monitoring System (CMS)** provides three warning levels for abnormal operating conditions.
- **Load control system** keeps machine operating at peak efficiency.
- **Water spray system** for dust control and bit cooling.



MODEL	PM102		PM200		PM201	
Gross Power	168 kW	225 hp	429 kW	575 hp	485 kW	650 hp
Operating Weight	17 600 kg	38,810 lb	30 900 kg	68,135 lb	35 110 kg	77,420 lb
with Conical Rotor					39 165 kg	86,360 lb
with Breakaway Rotor					38 145 kg	84,105 lb
with Weld-on Rotor					38 050 kg	83,905 lb
Engine Model	C7 with ACERT Technology		C18 with ACERT Technology		C18 with ACERT Technology	
Rated Engine RPM	2200		1900		2100	
No. of Cylinders	6		6		6	
Bore	110 mm	4.3"	145 mm	5.7"	145 mm	5.7"
Stroke	127 mm	5.0"	183 mm	7.2"	183 mm	7.2"
Displacement	7.2 L	442 in³	18.1 L	1105 in³	18.1 L	1105 in³
Drive Systems: Rotor	Mechanical		Mechanical		Mechanical	
Ground	Hydrostatic with 4 track design		Hydrostatic with 4 track design		Hydrostatic with 4 track design	
Discharge Conveyor Width	600 mm	23.6"	800 mm	31.5"	915 mm	36"
Width of Standard Track Shoe	225 mm	8.8"	300 mm	12"	348 mm	14"
Track Length on Ground	720 mm	28.3"	1640 mm	64.5"	2045 mm	80.5"
Operating Dimensions:						
Height	3400 mm	11'2"	3950 mm	12'7"	5040 mm	16'6"
Width	2500 mm	8'2"	2900 mm	9'5"	2810 mm	9'2"
Length	10 700 mm	35'1"	13 940 mm	45'7"	15 100 mm	49'5"
Standard Mandrel (Width of Cut)	1000 mm	40"	2010 mm	79"	2100 mm	83"
No. of Teeth	97		178		—	
Depth of Cut (max.)	305 mm	12"	320 mm	12.6"	305 mm	12"
Speeds: Operating (max.)						
Track undercarriage	27 m/min	89 ft/min	38 m/min	125 ft/min	40 m/min	132 ft/min
Wheel undercarriage	46 m/min	151 ft/min	—		—	
Speeds: Travel (max.)						
Track undercarriage	4.1 km/h	2.5 mph	5.9 km/h	3.6 mph	6.0 km/h	3.7 mph
Wheel undercarriage	6.4 km/h	3.9 mph	—		—	
Inside Turning Radius: Right						
Track undercarriage	3450 mm	11'3"	2000 mm	6'5"	4660 mm	15'4"
Wheel undercarriage	2100 mm	6'8"	—		—	
Fuel Capacity	400 L	105 U.S. gal	1100 L	290 U.S. gal	946 L	250 U.S. gal
Water Capacity	1060 L	280 U.S. gal	3500 L	925 U.S. gal	3787 L	1000 U.S. gal

		Cutter/Drum Width — m ² /min (yd ² /min)									
Speed		1000 mm (3'4")		1220 mm (4'0")		1900 mm (6'3")		2010 mm (6'7")		2100 mm (6'11")	
m/min	ft/min	m ²	yd ²	m ²	yd ²	m ²	yd ²	m ²	yd ²	m ²	yd ²
3.0	10	3.0	3.7	3.7	4.4	5.8	6.9	6.1	7.3	6.4	7.7
4.6	15	4.6	5.5	5.6	6.6	8.7	10.4	9.3	11.0	9.7	11.5
6.1	20	6.1	7.3	7.5	8.8	11.6	13.9	12.3	14.6	12.8	15.4
7.6	25	7.6	9.2	9.3	11.1	14.5	17.4	15.4	18.3	16.1	19.2
9.1	30	9.1	11.0	11.1	13.3	17.4	20.8	18.4	22.0	19.2	23.1
10.7	35	10.7	12.8	13.1	15.5	20.3	24.3	21.6	25.6	22.6	26.9
12.2	40	12.2	14.7	15.0	17.8	23.2	27.8	24.6	29.3	25.7	30.7
13.7	45	13.7	16.5	16.8	20.0	26.1	31.2	27.7	33.0	28.9	34.6
15.2	50	15.2	18.3	18.7	22.2	29.0	34.7	30.7	36.6	32.1	38.4
16.8	55	16.8	20.2	20.6	24.4	31.9	38.2	33.9	40.2	35.4	42.3
18.3	60	18.3	22.0	22.5	26.7	34.9	41.7	37.0	43.9	38.7	46.1
Speed		2210 mm (7'3")		3050 mm (10'0")		3500 mm (11'6")		3810 mm (12'6")			
m/min	ft/min	m ²	yd ²	m ²	yd ²	m ²	yd ²	m ²	yd ²		
3.0	10	6.7	8.0	9.3	11.1	10.7	12.8	11.6	13.9		
4.6	15	10.0	12.1	13.9	16.7	16.1	19.2	17.4	20.8		
6.1	20	13.4	16.1	18.6	22.2	21.4	25.5	23.3	27.8		
7.6	25	16.7	20.1	23.2	27.8	26.8	31.9	29.1	34.7		
9.1	30	20.1	24.2	27.9	33.3	32.1	38.3	34.9	41.7		
10.7	35	23.4	28.2	32.5	38.9	37.5	44.7	40.7	48.6		
12.2	40	26.8	32.2	37.1	44.4	42.8	51.1	46.5	55.5		
13.7	45	30.1	36.2	41.8	50.0	48.2	57.5	52.3	62.5		
15.2	50	33.5	40.3	46.4	55.5	53.5	63.9	58.1	69.4		
16.8	55	36.8	44.3	51.1	61.1	58.9	70.3	63.9	76.4		
18.3	60	40.1	48.3	55.7	66.7	64.2	76.7	69.8	83.3		

NOTE: Above figures are based on a one-inch depth of cut. For greater depths of cut, multiply the production rate by cutting depth. Based on asphalt density of 68 kg/m³ (115 lb/yd³), one inch thick.

		Cutter/Drum Width — metric tons/min (U.S. tons/min)									
Speed		1000 mm (3'4")		1220 mm (4'0")		1900 mm (6'3")		2010 mm (6'7")		2100 mm (6'11")	
m/min	ft/min	Metric tons	U.S. tons	Metric tons	U.S. tons	Metric tons	U.S. tons	Metric tons	U.S. tons	Metric tons	U.S. tons
3.0	10	0.005	0.006	0.23	0.26	0.36	0.40	0.38	0.42	0.41	0.44
4.6	15	0.008	0.009	0.35	0.38	0.54	0.60	0.57	0.63	0.61	0.66
6.1	20	0.011	0.012	0.46	0.51	0.72	0.80	0.76	0.84	0.82	0.88
7.6	25	0.013	0.013	0.58	0.64	0.91	1.00	0.94	1.04	1.02	1.10
9.1	30	0.016	0.018	0.69	0.77	1.09	1.20	1.14	1.26	1.23	1.33
10.7	35	0.018	0.020	0.81	0.89	1.27	1.40	1.34	1.47	1.44	1.55
12.2	40	0.021	0.023	0.92	1.02	1.45	1.60	1.53	1.68	1.65	1.76
13.7	45	0.024	0.026	1.04	1.15	1.63	1.80	1.71	1.88	1.84	1.99
15.2	50	0.026	0.029	1.16	1.28	1.81	2.00	1.91	2.10	2.05	2.21
16.8	55	0.029	0.032	1.27	1.41	1.99	2.20	2.09	2.31	2.25	2.43
18.3	60	0.032	0.035	1.39	1.53	2.18	2.40	2.28	2.51	2.46	2.65

Speed		2210 mm (7'3")		3050 mm (10'0")		3500 mm (11'6")		3810 mm (12'6")	
m/min	ft/min	Metric tons	U.S. tons	Metric tons	U.S. tons	Metric tons	U.S. tons	Metric tons	U.S. tons
3.0	10	0.44	0.46	0.58	0.64	0.67	0.74	0.73	0.80
4.6	15	0.66	0.69	0.87	0.96	1.00	1.10	1.09	1.20
6.1	20	0.88	0.92	1.16	1.28	1.34	1.47	1.46	1.79
7.6	25	1.10	1.15	1.45	1.60	1.67	1.83	1.82	1.99
9.1	30	1.32	1.39	1.74	1.91	2.01	2.20	2.19	2.40
10.7	35	1.54	1.62	2.03	2.24	2.34	2.57	2.56	2.79
12.2	40	1.76	1.85	2.32	2.55	2.68	2.94	2.92	3.19
13.7	45	1.98	2.08	2.61	2.87	3.01	3.31	2.28	3.59
15.2	50	2.20	2.32	2.90	3.19	3.35	3.67	3.65	3.99
16.8	55	2.42	2.55	3.19	3.51	3.68	4.04	4.01	4.39
18.3	60	2.64	2.78	3.48	3.83	4.02	4.41	4.38	4.79

NOTE: Above figures are based on a one-inch depth of cut. For greater depths of cut, multiply the production rate by cutting depth. Based on asphalt density of 68 kg/m³ (115 lb/yd³), one inch thick.

MACHINE SELECTION

Prime considerations in selecting the proper cold planer model are:

- specifics of work to be done
- type of projects generally done by the contractor
 - City/Urban or Highway/Airport
- desired production capacities

PM102 Cold Planer

The Cat PM102 Cold Planer features compact dimensions and excellent maneuverability ideal for easy operation in urban applications. The machine performs controlled, full-depth removal of asphalt layers in a single pass and is also capable of concrete removal. The machine is available with a wheel or track undercarriage and features four steering modes for high maneuverability.

PM200 Cold Planer

The Cat® PM200 Cold Planer is a high-production, half-lane milling machine with excellent maneuverability and plenty of power to perform controlled full-depth removal of asphalt and concrete pavements in a single pass. The track-driven machine features four steering modes for high maneuverability.

PM201 Cold Planer

The Cat® PM201 Cold Planer is a high-production, half-lane milling machine with excellent maneuverability and plenty of power to perform controlled full-depth removal of asphalt and concrete pavements in a single pass. The track-driven machine features four steering modes for high maneuverability.

Cold Planer Characteristics (Highway/Airport)

Highway/Airport work requires high-volume cold planers. The PM200, PM201 and other high horsepower half-lane cold planers are being used more on Highway/Airport projects. Users like to have one machine that can work successfully on high production jobs then switch to city/urban applications. The PM201 has proven to be a true cross-over cold planer.

Cold Planer Characteristics (City/Urban)

All Cat cold planers are four-track, front discharge models. Front discharge cold planers make traffic control easier in congested quarters. The trucks travel forward in the same direction as the cold planer. The trucks move in and out of traffic faster increasing production.

COLD PLANING FUNDAMENTALS

Definition

Cold planing is automatically controlled cold milling to restore the pavement surface to a specified grade and slope; remove bumps, ruts, and other imperfections; and leave a textured surface which can be opened immediately to traffic or overlaid with new pavement materials.

Production and Tooth Wear

Because pavement materials vary, so do production and tooth wear. While predicting the exact production rate and tooth wear on a particular job is difficult, general guidelines are available.

Production depends on the milling rate (the speed at which the cold planer moves forward). The machine's forward speed is determined, primarily, by aggregate type, asphalt bond strength and depth of cut. When milling asphalt pavement, the cold planer's teeth essentially are breaking the bond between asphalt-coated aggregate, not actually fracturing the aggregate itself. A pavement made with a mix containing a high percentage of fine aggregate and a high asphalt content is more difficult to mill than a pavement with a high percentage of coarse aggregate.

A dense or fine mix usually requires more power at the cutting drum, limiting the cold planer's forward speed. Decreased speed lowers production, and the tough bond between the small aggregate particles causes increased cutting-tooth wear. Lower production and higher tooth wear result in increased unit costs.

Cutting depth affects power demand at the drum and helps determine the cold planer's forward speed. However, production increases, to a point, as the depth of cut increases. For example, changing from a 25 mm (1 in) cut to a 51 mm (2 in) cut slows the machine only slightly but doubles the amount of material produced.

As the cut increases beyond the machine's peak-production depth, the reduced forward speed begins to offset the production gains of the deeper cut. For example, production at a 152 mm (6 in) cutting depth and slow speed may be no greater than cutting at a 76 mm (3 in) depth and a much faster speed.

Low Density Asphalt

Depth		PM201	
mm	in	m/min	ft/min
51	2	40	130
101	4	32	105
127	5	21	70
178	7	12	40
254	10	6	20
305	12	5	15

High Density Asphalt

Depth		PM201	
mm	in	m/min	ft/min
51	2	32	105
101	4	26	85
127	5	18	60
178	7	9	30
254	10	5	15
305	12	4	12

As long as the cold planer maintains a productive forward speed, deeper cuts will yield greater production and tend to lower tooth cost. Tooth wear does not increase in direct proportion to production when the machine is working in an efficient range.

Tooth wear at various depths for a given material is affected by how long the tooth remains in the cut. Because the teeth are mounted on a circular drum, each tooth cuts through the pavement in an arc. The tooth arc at a 102 mm (4 in) cutting depth, however, is not four times longer than at a 25 mm (1 in) cutting depth, even though production may be four times greater. The cutting arc at 102 mm (4 in) is approximately twice as long as that at 25 mm (1 in). The peak cutting depth for a particular cold planer on a specific job is best determined by examining production, and subsequent costs, of a single deep cut versus multiple passes at a shallow depth.

TYPES OF CUTTING ROTORS

Weld on Holders

The holders that retain the cutting bits are welded to the rotor flight. Best used in applications that have little or no obstacles imbedded in the pavement.

Bolt on Holders

The holders are bolted to a spacer block that is welded to the rotor flight. No welding is required to replace holders that are broken by obstacles embedded in the pavement.

APPLICATIONS

Although new applications for cold planers are being discovered, most work can be classified in six general categories:

Leveling and Bonding

This application removes a layer of pavement to eliminate potholes, ruts, bumps and other surface imperfections. The cold planer leaves a level, textured surface ideal for bonding to a new, thin overlay of asphalt or concrete. The surface has an interlocking texture with double the bonding area of a conventional smooth pavement. The textured surface and overlay form a monolithic bond, eliminating the shear plane that causes pavement layers to move and separate. Thinner overlays can be used, making the technique more economical than traditional overlay methods.

Surface Refinishing

Rough pavement can also be cold planed to specified grade and slope, providing a new riding surface without adding new paving materials. This application is particularly useful when base and sub-base are in good shape, or when several layers have been added to the roadway over the years. Roads can be cold planed during cold, wet months and reopened immediately. New overlays can be added whenever weather permits. This lengthens the practical working season for many contractors. The cold planer can also be used to correct expansion joint faults and pavement cracks.

Surface Repair

This category generally requires deeper cutting than leveling. It consists of removing isolated distressed pavement sections down to subbase, if necessary, prior to adding new overlay materials. Since the cutter mandrel on Cat cold planers cuts forward and upward, there's no damaging impact to the underlying base.

Pavement Removal

Pavement buildup is a problem that plagues most older streets, roads and highways. As overlays are added, curbs and drains are buried — creating drainage problems. Overhead clearances are dangerously reduced ... and additional weight is added to overpasses and bridges. Cold planing is an economical method of curing all these problems.

Surface Texturing

Serious accidents increase when pavement becomes slick from wear. The textured surface produced by cold planing is highly skid-resistant and has dramatically reduced hydroplaning characteristics.

Pavement Mining

Cold milling has made it practical to actually "mine" deteriorated pavement materials from existing roads and streets. The cold planer produces an ideally-sized asphalt or concrete material which can be recycled in a variety of ways. Depending on type, age and condition of pavement, the largest cold planer can reclaim up to 900 tons of material per hour.

COLD PLANER USE BY PROJECT TYPE

Applications	Highway/Airport	City/Urban
Planing (Milling)	• To establish grade and slope. • Remove excess pavement.	• To establish proper grade and slope. • To establish new grade and slope.
Partial Removal	• For use with hot mix recycle. • Remove pavement irregularities. • Texture for skid resistance.	• To correct drainage and curb reveal. • To lower elevation at overpass. • For use with hot recycle. • Eliminate leveling course.
Full Depth Removal	• Total rebuild. RAP used for base or hot recycle. • Cold recycle. This requires additional surface treatment.	• Total rebuild. RAP used for base or hot recycle. • Cold recycle. Requires additional surface treatment.
Texturing	• For skid resistance and improved bond when overlay is applied.	• For skid resistance and improved bond when overlay is applied.
Leveling		• At intersections to remove bumps, shoving and improve drainage.
Special	• Joint and crack repair. • Cut rumble grooves on shoulders of bridge approaches.	• Intersection defect repair. • Pothole repair. • Railroad crossing repair. • Tight radius profiling around manhole covers, etc. • Pavement adjustments (transitions from existing pavements to new overlays).

RM300 and RM500:

The RM300 and the RM500 combine superior performance and reliability to achieve the most demanding job specifications while maximizing machine uptime. With many enhanced features and options, the RM300 and the RM500 are designed to work well in both full depth reclamation and soil stabilization applications.

RM300 Features:

- **Maximum Production** ... from Cat engines with ACERT Technology.
- **Highly Efficient** ... load-sensing propel system helps prevent overloading while allowing continuous work near rated horsepower.
- **Extremely Versatile** ... interchangeable rotors provide both reclamation and stabilization capabilities.
- **Consistent Blending** ... automatic depth control, mid-mounted mixing chamber and multi-speed rotor drive combine for optimum blending and increased production.

RM500 Features:

- **Maximum Production** ... from Cat engines with ACERT Technology.
- **Highly Maneuverable** ... separate hydraulic pump provides hydraulic flow to large displacement motors on each rear wheel.
- **Versatility** ... choice of three rotors for full depth reclamation or soil stabilization.
- **Reliability** ... field proven Cat components maximize machine availability.


RM300

RM500

MODEL	RM300		RM500	
Gross Power	261 kW	350 hp	403 kW	540 hp
Operating Weight with ROPS, cab and universal rotor	24 454 kg	53,911 lb	28 145 kg	62,060 lb
Engine Model	C11 with ACERT Technology		C15 with ACERT Technology	
Rated Engine RPM	1800		2000	
No. Cylinders	6		6	
Bore	130 mm	5.1"	137 mm	5.4"
Stroke	140 mm	5.5"	171 mm	6.7"
Displacement	11.1 L	680 in ³	15.1 L	923 in ³
Drive Systems: Rotor	3 Speed Chain		3 Speed Chain	
Propel	Hydrostatic/Planetary		Hydrostatic/Planetary	
Operating Dimensions: Height	3500 mm	11'6"	3480 mm	11'4"
Width	3000 mm	9'10"	2980 mm	9'7"
Length	10 000 mm	32'10"	9680 mm	31'8"
Width of Cut	2438 mm	8'0"	2438 mm	8'0"
Depth of Cut (Max.)	457 mm	18"	508 mm	20"
Rotor Speed	@ 1800 engine rpm		@ 2000 engine rpm	
	First	106 rpm	First	110 rpm
	Second	144 rpm	Second	152 rpm
	Third	216 rpm	Third	205 rpm
Minimum Turning Radius:				
Standard	3900 mm	12'10"	3700 mm	12'1"
Travel Speed (Max.): Working	4.3 km/h	2.7 mph	3.2 km/h	2.0 mph
Roading	9.7 km/h	6.0 mph	9.2 km/h	5.7 mph
Standard Tires: Front	28.1 × 26 18-ply Lug Type R-1		26.5 × 25 20-ply Lug Type R-1	
Rear	18.4 × 30 12-ply Lug Type R-1		23.1 × 26 26-ply Lug Type R-1	
Fuel Capacity	1056 L	279 U.S. gal	1506 L	279 U.S. gal
Cooling System	62.5 L	16.5 U.S. gal	81 L	21.4 U.S. gal
Crankcase	32 L	8.5 U.S. gal	34 L	8.9 U.S. gal

Rotor Options for RM300 and RM500

Rotor	Maximum Depth of Work	No. of Bits/Tools	Direction of Cut	Stabilization	Reclamation
Universal 406 mm (16")*	406 mm 16"	200	Up	X	X
Universal 457 mm (18")**	457 mm 18"	200	Up	X	X
Soil	508 mm 20"	238	Up	X	
Combination	508 mm 20"	114	Up	X	
Spade	457 mm 18"	58	Up	X	

*Designed to produce maximum breakout force, the Universal Rotor 406 mm (16") performs well in severe asphalt cuts.

**The Universal Rotor 457 mm (18") is designed to provide maximum mixing depth and has lower breakout force compared to the Universal Rotor 406 mm (16").

Rotor Options:

Some rotor options are not available in certain markets.

- **Soil Rotor** is designed primarily for use in soil stabilization.
- **Combination Rotor** is designed primarily for use in soil stabilization with a secondary application in light cuts of asphalt reclamation.
- **Universal Rotor** can be used for either reclamation or stabilization.
- **Spade Rotor** is designed for soil stabilization applications.

PRODUCTION ESTIMATING

The maximum cutting depth is 381 mm (15 in) for the RM300 and 457 mm (18 in) for the RM500. The RM300 can mix up to 457 mm (18 in). In addition, the cutting width of their rotors is 2.4 m (8 ft). The following formulas allow you to determine the production in square yards (yd²)/minute or cubic yards (yd³)/minute.

Production in square yards (yd²) per minute

$$\frac{9 \text{ ft}^2/\text{yd}^2}{8 \text{ ft Cutting width}} = \frac{\text{FPM of travel speed}}{1.125}$$

= 1.125 (This is a constant value for an eight foot wide rotor)

Gallons of additive (for units with pump and metering additive system)

$$\frac{\text{GPM}}{\text{yd}^2/\text{min}} = \text{gal/yd}^2$$

Or, if required additive amounts are known, you can determine necessary travel speed as shown:

$$\frac{\text{GPM}}{\text{gal/yd}^2} = \text{yd}^2/\text{min}; \text{yd}^2/\text{min} \times 1.125 = \text{ft}/\text{min}$$

Production in Cubic Yards (yd³) per minute

$$\frac{\text{FPM of travel speed}}{1.125} \times \frac{\text{Cutting or mixing depth in inches}}{36} = \frac{\text{yd}^3}{\text{min}}$$

Production in Tons per Minute

$$\text{yd}^3/\text{min} \times \frac{\text{Wt. of Material per yd in lbs}}{2000 \text{ lb/ton}} = \text{tons}/\text{min}$$

Abbreviations

FPM = Feet Per Minute

GPM = Gallons Per Minute

WEIGHT OF MATERIALS

Material		LOOSE		IN-PLACE	
		kg/m ³	lb/yd ³	kg/m ³	lb/yd ³
Clay	— Dry	1480	2500	1840	3100
	— Wet	1660	2800	2080	3500
Clay and Gravel	— Dry	1420	2400	1660	2800
	— Wet	1540	2600	1840	3100
Sand and Gravel	— Dry	1720	2900	1930	3250
	— Wet	2020	3400	2220	3750
Sand	— Dry	1420	2400	1600	2700
	— Damp	1690	2850	1900	3200
	— Wet	1840	3100	2080	3500
Earth	— Dry Packed	1510	2550	1900	3200
	— Wet Excavated	1600	2700	2020	3400
	— Top Soil	950	1600	1360	2300
	— Loam	1250	2100	1540	2600
Bituminous Concrete	— Windrowed Chunks (25% Voids)	1740	2925	—	—
	— Compacted	—	—	2310	3900

STABILIZATION/RECLAMATION PRODUCTION

The following charts list production in square meters per minute, square yards per minute, cubic meters per minute, and cubic yards per minute. The information is based on various travel speeds and cutting depths for the Cat RM500, RM300 and SS-250B equipped with a 2438 mm (8 ft) cutting rotor.

PRODUCTION RATES																		
Travel Speed m/min	m ² / min	m ³ /minute																
		Cutting Depth — mm																
		100	125	150	175	200	225	250	275	300	325	350	375	400	425	450	475	500
3	7.3	0.73	0.9	1.1	1.3	1.5	1.6	1.8	2.0	2.2	2.4	2.6	2.7	2.9	3.1	3.3	3.5	3.7
6	14.6	1.46	1.8	2.2	2.6	2.9	3.3	3.7	4.0	4.4	4.8	5.1	5.5	5.9	6.2	6.6	6.9	7.3
9	21.9	2.2	2.7	3.3	3.8	4.4	4.9	5.5	6.0	6.6	7.1	7.7	8.2	8.8	9.3	9.9	10.4	11.0
12	29.3	2.9	3.7	4.4	5.1	5.9	6.6	7.3	8.0	8.8	9.5	10.2	11.0	11.7	12.4	13.2	13.9	14.6
15	36.6	3.6	4.6	5.5	6.4	7.3	8.2	9.1	10.0	11.0	11.9	12.8	13.7	14.6	15.5	16.5	17.4	18.3
18	43.9	4.4	5.5	6.6	7.7	8.8	9.9	11.0	12.1	13.2	14.3	15.4	16.5	17.6	18.7	19.7	20.8	21.9
21	51.2	5.1	6.4	7.7	9.0	10.2	11.5	12.8	14.1	15.4	16.6	17.9	19.2	20.5	21.8	23.0	24.3	25.6
24	58.5	5.9	7.3	8.8	10.2	11.7	13.2	14.6	16.1	17.6	19.0	20.5	21.9	23.4	24.9	26.3	27.8	29.3
27	65.8	6.6	8.2	9.9	11.5	13.2	14.8	16.4	18.1	19.7	21.4	23.0	24.7	26.3	28.0	29.6	31.3	32.9

	PRODUCTION RATES																	
Travel Speed ft/min	yd ² / min	yd ³ /minute																
		Cutting Depth — inches																
		4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
10	8.9	0.98	1.2	1.5	1.7	2.0	2.2	2.5	2.7	3.0	3.2	3.5	3.7	4.0	4.2	4.5	4.7	4.9
20	17.8	1.96	2.5	3.0	3.4	4.0	4.4	4.9	5.5	5.9	6.4	6.9	7.4	7.9	8.4	8.9	9.4	9.9
30	26.7	2.9	3.7	4.5	5.2	5.9	6.7	7.4	8.2	8.9	9.6	10.4	11.1	11.9	12.6	13.4	14.0	14.8
40	35.6	3.9	4.9	5.9	6.9	7.9	8.9	9.9	10.9	11.9	12.8	13.9	14.8	15.8	16.8	17.8	18.7	19.8
50	44.5	4.9	6.2	7.4	8.6	9.9	11.1	12.4	13.6	14.8	16.0	17.3	18.5	19.8	21.0	22.3	23.4	24.7
60	53.4	5.9	7.4	8.9	10.3	11.9	13.3	14.8	16.4	17.8	19.2	20.8	22.2	23.7	25.2	26.7	28.1	29.7
70	62.3	6.8	8.6	10.4	12.0	13.8	15.6	17.3	19.1	20.8	22.4	24.3	25.9	27.7	29.5	31.2	32.8	34.6
80	71.2	7.8	9.9	11.9	13.7	15.8	17.8	19.8	21.8	23.7	25.6	27.7	29.6	31.6	33.7	35.6	37.5	39.6
90	80.1	8.8	11.1	13.4	15.5	17.8	20.0	22.4	24.5	26.7	28.8	31.2	33.3	35.6	37.9	40.1	42.1	44.5

Features:

- **Variable width screeds** available.
- **Hydrostatic pumps** provide infinitely variable speed ranges.
- **Direct hydrostatic drives** eliminate gear boxes, differentials, final drive chains etc.
- **Self-dumping hydraulic hoppers** are heavy-duty and high capacity.
- **Soldered and molded** electrical connections.
- **Feeder system** designed to eliminate power segregation and manual hand work.
- **Self diagnostics** on propel and feeder systems.



MODEL	AP300*		AP600D*		AP600D		AP1000D	
Gross Power	52 kW	70 hp	129.5 kW	176 hp	129 kW	174 hp	167 kW	224 hp
Rated Engine RPM	2200		2200		2200		2200	
No. Cylinders	4		6		6		6	
Displacement	4.4 L	269 in ³	6.6 L	403 in ³	6.6 L	403 in ³	7.24 L	441.7 in ³
Engine Model	3054C DINA		C6.6 with ACERT Technology		C6.6 with ACERT Technology		C7 with ACERT Technology	
Operating Weight:								
Tractor	6000 kg	13,228 lb	14 000 kg	30,865 lb	14 197 kg	31,299 lb	14 728 kg	32,470 lb
Speeds:								
Paving	0-85 m/min	0-279 ft/min	0-25 m/min	0-82 ft/min	0-61 m/min	0-200 ft/min	0-91 m/min	0-300 ft/min
Travel	0-16 km/h	0-26 mph	0-18 km/h	0-11 mph	0-18 km/h	0-11.2 mph	0-22 km/h	0-14 mph
Tires:								
Front (4)	455 × 260 Solid Rubber		13 × 22 Solid Rubber		13 × 22 Solid Rubber		16 × 22 Solid Rubber	
Rear (2)	365/80 R20		16 × 25		16 × 25		18.00 × 25 Sand Rib	
Dimensions:								
Standard Paving Width	1700 mm	5'7"	2500 mm	8'2"	2440 mm	8'0"	3000 mm	10'0"
Shipping Width (maximum)	1730 mm	5'8"	2500 mm**	8'2"***	2720 mm	8'11"	3330 mm	10'11"
Height (less exhaust)	2960 mm	9'9"	3019 mm	9'11"	2820 mm	9'3"	2820 mm	9'3"
Length (with push roller and screed)	4820 mm	15'10"	6160 mm	20'2"	6580 mm	21'7"	6740 mm	22'1"
Turning Radius	3000 mm	9'10"	1400 mm	4'8"	1400 mm	4'8"	2900 mm	9'6"
Wheelbase	1610 mm	5'3"	2290 mm	7'6"	2290 mm	7'6"	2560 mm	8'4"
Hopper Capacity	3.8 m ³	134 ft ³	6.5 m ³	230 ft ³	6.5 m ³	230 ft ³	6100 mm ³	215 ft ³
Auger Diameter	260 mm	10"	406 mm	16"	406 mm	16"	406 mm	16"
Available Screeds:								
AS3173	X		—		—		—	
Extend-A-Mat 10-20B	—		—		—		X	
AS2252C	—		—		X		—	
AS2301	—		—		—		X	
AS2302	—		—		—		X	
AS3251C	—		—		X		—	
AS4251	—		—		—		—	
AS4251C	—		X		—		—	
Service Refill Capacities:								
Cooling System	15 L	4 U.S. gal	30 L	8 U.S. gal	30 L	8 U.S. gal	36 L	9.5 U.S. gal
Fuel Tank	79.5 L	21 U.S. gal	291 L	77 U.S. gal	291 L	77 U.S. gal	446 L	118 U.S. gal
Hydraulic Oil Tank	150 L	40 U.S. gal	218 L	58 U.S. gal	218 L	58 U.S. gal	151 L	39.9 U.S. gal

*Model available in Europe, Africa, Middle East and Asia only.

**Shipping width with hoppers raised and without end gates.



MODEL	AP655D		AP655D**	
Gross Power	129 kW	174 hp	129.5 kW	176 hp
Rated Engine RPM	2200		2200	
No. Cylinders	6		6	
Displacement	6.6 L	403 in ³	6.6 L	403 in ³
Engine Model	C6.6 with ACERT Technology		C6.6 with ACERT Technology	
Operating Weight:				
Tractor				
with Mobil-trac™	15 320 kg	33,775 lb	19 165 kg	42,259 lb
with Steel Track	15 320 kg	33,775 lb	19 165 kg	42,259 lb
Speeds:				
Paving (Mobil-trac™)	0-70 m/min	0-230 ft/min	0-25 m/min	0-82 ft/min
(Steel Track)	0-78 m/min	0-255 ft/min	0-25 m/min	0-82 ft/min
Travel (Mobil-trac™)	0-14.5 km/hr	0-9 mph	0-14.8 km/h	0-9 mph
(Steel Track)	0-8 km/hr	0-5 mph	0-5.3 km/h	0-3 mph
Tracks Assemblies:				
Width (Mobil-trac™)	406 mm	16"	406 mm	16"
(Steel Track)	356 mm	14"	356 mm	14"
Length on Ground (Mobil-trac™)	3020 mm	9'11"	3020 mm	9'11"
(Steel Track)	3048 mm	10'0"	2249 mm	7'5"
Total Number of Track Pads (Steel Track)	92		92	
Dimensions:				
Standard Paving Width	2440 mm	8'0"	2550 mm	8'4"
Shipping Width (maximum)*	2440 mm	8'0"	2500 mm	8'2"
Height (less exhaust)	2820 mm	9'3"	2920 mm	9'7"
Length (screed, push roller):			6160 mm	20'3"
with AS3251C Screed	6800 mm	22'4"	—	—
Turning Radius	304 mm	12"	304 mm	12"
Hopper Capacity	6.5 m ³	230 ft ³	6.5 m ³	230 ft ³
Auger Diameter	406 mm	16"	406 mm	16"
Available Screeds:				
Extend-A-Mat 10-20B	—		—	
AS2252C	X		—	
AS2301	—		—	
AS2302	—		—	
AS3251C	X		—	
AS4251	—		—	
AS4251C	—		X	
Service Refill Capacities:				
Cooling System	30 L	8 U.S. gal	30 L	8 U.S. gal
Fuel Tank	291 L	77 U.S. gal	290 L	77 U.S. gal
Hydraulic Oil Tank	218 L	58 U.S. gal	218 L	58 U.S. gal

*Transport width with hoppers raised, without end gates and with screed.

**Model available to Europe, Africa, Middle East, Australia, and Asia only.



MODEL	AP755**		AP1055D	
Gross Power	149 kW	202 hp	167 kW	224 hp
Rated Engine RPM	2200		2200	
No. Cylinders	6		6	
Displacement	7.2 L	439 in ³	7.24 L	441.7 in ³
Engine Model	C7 with ACERT Technology		C7 with ACERT Technology	
Operating Weight:				
Tractor	17 260 kg	38,058 lb	—	—
with Mobil-trac™	—	—	17 601 kg	37,580 lb
with Steel Track	—	—	16 601 kg	36,600 lb
Speeds:				
Paving (Mobil-trac™)	—	—	0-67 m/min	0-220 ft/min
(Steel Track)	0-26 m/min	0-85 ft/min	0-78 m/min	0-255 ft/min
Travel (Mobil-trac™)	—	—	0-15 km/h	0-9 mph
(Steel Track)	0-6 km/h	0-4 mph	0-8 km/h	0-5 mph
Tracks Assemblies:				
Width (Mobil-trac™)	—	—	457 mm	18"
(Steel Track)	300 mm	12"	356 mm	14"
Length on Ground (Mobil-trac™)	—	—	3023 mm	9'11"
(Steel Track)	3125 mm	10'3"	3048 mm	10'0"
Dimensions:				
Standard Paving Width	2500 mm	8'2"	3000 mm	10'0"
Shipping Width (maximum)*	2500 mm	8'2"	3380 mm	11'1"
Height (less exhaust)	3000 mm	9'10"	2820 mm	9'3"
Length (screed, push roller):	6500 mm	21'4"	—	—
with 10-20B Extend-A-Mat Screed	—	—	6540 mm	21'6"
with AS2301 Screed	—	—	6540 mm	21'6"
Turning Radius	1000 mm	3'3"	914 mm	3'0"
Hopper Capacity	7 m ³	247 ft ³	6.1 m ³	215 ft ³
Auger Diameter	360 mm	14"	406 mm	16"
Available Screeds:				
Extend-A-Mat 10-20B	—	—	X	X
AS2301	—	—	X	X
AS2302	—	—	X	X
AS3251C	—	—	—	—
AS4251	X	X	—	—
AS4251C	—	—	—	—
Service Refill Capacities:				
Cooling System	54 L	14 U.S. gal	36 L	9.5 U.S. gal
Fuel Tank	295 L	78 U.S. gal	413 L	109 U.S. gal
Hydraulic Oil Tank	200 L	53 U.S. gal	149 L	39.4 U.S. gal

*Transport width with hoppers raised, without end gates and with screed.

**Model available to Europe, Africa, Middle East, Australia, and Asia only.

Features:

- **Variable width screeds** available for all Barber-Greene paver models.
- **Designed With the Crew In Mind ...** for simplified, more efficient operation and unmatched access to operational controls and service areas.
- **Simplified Drive System ...** variable pump/motor propel system that covers all machine speed ranges required to increase paver productivity.
- **Material Handling System ...** fully hydrostatic drive provides smooth efficient operation with the capability to handle today's varied paving requirements.
- **Service Accessibility ...** swing-out panels and decks provide generous access.
- **Complete Customer Support ...** unmatched in the paving industry.

- Specifications
- Barber-Greene
 - Rubber Tired Models



MODEL	BG600D		BG-260D	
Gross Power	129 kW	174 hp	167 kW	224 hp
Rated Engine RPM	2200		2200	
No. Cylinders	6		6	
Displacement	6.6 L	403 in³	7.24 L	441.7 in³
Engine Model	C6.6 with ACERT Technology		C7 with ACERT Technology	
Operating Weight:				
Tractor	14 197 kg	31,299 lb	14 728 kg	32,470 lb
Speeds: Paving	0-61 m/min	0-200 ft/min	0-91 m/min	0-300 ft/min
Travel	0-18 km/h	0-11.2 mph	0-22 km/h	0-14 mph
Tires:				
Front (4)	13 × 22 Solid Rubber		16 × 22 Solid Rubber	
Rear (2)			18.00 × 25 Sand Rib	
Dimensions:				
Standard Paving Width	2440 mm	8'0"	3000 mm	10'0"
Shipping Width (maximum)*	2720 mm	8'11"	3330 mm	10'11"
Height (less exhaust)	2820 mm	9'3"	2820 mm	9'3"
Length (screed, push roller)	6580 mm	21'7"	6740 mm	22'1"
Turning Radius	1400 mm	4'8"	2900 mm	9'6"
Wheelbase	2290 mm	7'6"	2560 mm	9'4"
Hopper Capacity	6.5 m³	230 ft³	6.1 m³	215 ft³
Auger Diameter	406 mm	16"	406 mm	16"
Available Screens:				
AS3251C		X		—
Extend-A-Mat 10-20B		—		X
AS2252C		X		—
AS2301		—		X
AS2302		—		X
Service Refill Capacities:				
Cooling System	30 L	8 U.S. gal	36 L	9.5 U.S. gal
Fuel Tank	291 L	77 U.S. gal	446 L	118 U.S. gal
Hydraulic Oil Tank	218 L	58 U.S. gal	149 L	39.4 U.S. gal

*Shipping width with hoppers raised and without end gates.

Specifications
 ● Barber-Greene
 ● Track Models

Asphalt Pavers



MODEL	BG655D		BG-2455D	
Gross Power	129 kW	174 hp	167 kW	224 hp
Rated Engine RPM	2200		2200	
No. Cylinders	6		6	
Displacement	6.6 L	403 in³	7.24 L	441.7 in³
Engine Model	C6.6 with ACERT Technology		C7 with ACERT Technology	
Operating Weight:				
Tractor				
with Mobil-trac™	15 320 kg	33,775 lb	17 601 kg	37,580 lb
with Steel Track	15 320 kg	33,775 lb	16 601 kg	36,600 lb
Speeds:				
Paving (Mobil-trac™)	0-70 m/min	0-230 ft/min	67 m/min	220 ft/min
(Steel Track)	0-78 m/min	0-255 ft/min	78 m/min	255 ft/min
Travel (Mobil-trac™)	0-14.5 km/h	0-9 mph	15 km/h	9 mph
(Steel Track)	0-8 km/h	0-5 mph	8 km/h	5 mph
Tracks Assemblies:				
Width (Mobil-trac™)	406 mm	16"	457 mm	18"
(Steel Track)	356 mm	14"	356 mm	14"
Length on Ground (Mobil-trac™)	3020 mm	9'11"	3023 mm	9'11"
(Steel Track)	3048 mm	10'0"	3048 mm	10'0"
Total Number of Track Pads (Steel Track)	92		—	
Dimensions:				
Standard Paving Width	2440 mm	8'0"	3000 mm	10'0"
Shipping Width (maximum)*	2440 mm	8'0"	3380 mm	11'1"
Height (less exhaust)	2820 mm	9'3"	2820 mm	9'3"
Length (screed, push roller):				
with AS2252C Screed	6650 mm	21'7"	6540 mm	21'6"
with AS3251C Screed	6800 mm	22'4"	6540 mm	21'6"
Turning Radius	—		914 mm	3'0"
Hopper Capacity	—		6.1 m³	215 ft³
Auger Diameter	—		406 mm	16"
Available Screeds:				
AS2252C	X		—	
Extend-A-Mat 10-20B	—		X	
AS3251C	X		—	
AS2301	—		X	
AS2302	—		X	
Service Refill Capacities:				
Cooling System	30 L	8 U.S. gal	36 L	9.5 U.S. gal
Fuel Tank	291 L	77 U.S. gal	413 L	109 U.S. gal
Hydraulic Oil Tank	218 L	58 U.S. gal	149 L	39.4 U.S. gal

*Transport width with hoppers raised, without end gates, and with Extend-A-Mat screed.

MODEL	Extend-A-Mat 10-20B		AS2252C		AS2301		AS2302	
Standard Paving Width	3050 mm	10'0"	2500 mm	8'2"	3050 mm	10'0"	3050 mm	10'0"
Paving Ranges:								
Hydraulically Extendible (maximum)	5940 mm	19'6"	4400 mm	14'5"	5500 mm	18'0"	5500 mm	18'0"
With Bolt-on Extensions (maximum)	7370 mm	24'2"	5600 mm	18'5"	7300 mm	24'0"	6705 mm	22'0"
With Cutoff Shoes (minimum)	2440 mm	8'0"	1880 mm	6'2"	2440 mm	8'0"	2440 mm	8'0"
Length:								
Without End Gates (front to rear)	1780 mm	5'10"	1300 mm	4'4"	1480 mm	4'10"	1320 mm	4'4"
With End Gates (front to rear)	2260 mm	7'5"	2060 mm	6'9"	1930 mm	6'4"	2057 mm	6'9"
Width:								
Without End Gates	3050 mm	10'0"	2740 mm	8'11"	3230 mm	10'7"	3276 mm	10'9"
With End Gates	3330 mm	10'11"	2760 mm	9'0"	3380 mm	11'1"	3302 mm	10'10"
Height	2260 mm	7'5"	1400 mm	4'7"	2310 mm	7'7"	2286 mm	7'6"
Weights:								
Diesel Heat Screed	3431 kg	7550 lb	—		3355 kg	7840 lb	—	
Electric Heat Screed	3269 kg	7200 lb	2721 kg	6000 lb	3541 kg	7800 lb	3084 kg	6800 lb

MODEL	AS3251C		AS4251*		AS4251C*	
Standard Paving Width	2440 mm	8'0"	2550 mm	8'4"	2550 mm	8'4"
Paving Ranges:						
Hydraulically Extendible (maximum)	4750 mm	15'6"	5000 mm	16'5"	5000 mm	16'5"
With Bolt-on Extensions (maximum)	6150 mm	20'2"	7840 mm	25'9"	8000 mm	26'3"
With Cutoff Shoes (minimum)	1830 mm	6'0"	—		—	
Tamper System	—		X		X	
Vibration System	—		X		X	
Length:						
Without End Gates (front to rear)	1780 mm	5'10"	1580 mm	5'6"	1580 mm	5'6"
With End Gates (front to rear)	2080 mm	6'10"	2260 mm	7'5"	2260 mm	7'5"
Width:						
Without End Gates	2460 mm	8'0"	2550 mm	8'2"	2550 mm	8'2"
With End Gates	2700 mm	8'10"	2730 mm	8'11"	2730 mm	8'11"
Height	2150 mm	7'1"	1520 mm	5'0"	1520 mm	5'0"
Weights:						
Diesel Heat Screed	—		4000 kg	8820 lb	3840 kg	8467 lb
Electric Heat Screed	2925 kg	6450 lb	4000 kg	8820 lb	3840 kg	8467 lb

*Model available to Europe, Africa, Middle East, Australia, and Asia only.

ASPHALT PAVING CHARTS

These charts will assist you when trying to match plant output with paving speeds. Keep in mind when using these charts, it will be at 100% efficiency. If you know efficiency, multiply T.P. hour $\times$ efficiency. (Example: 75% efficiency at 300 T.P.H. – $300 \times 0.75 = 225$ T.P.H.)

Production in tons/hr with 1" compacted mat

Speed	Paving Widths						
ft/min	6'0"	7'0"	8'0"	9'0"	10'0"	11'0"	12'0"
10	22	26	29	33	37	40	44
20	44	51	58	66	73	80	88
30	66	77	87	99	110	120	131
40	88	102	116	131	146	161	175
50	110	129	145	164	183	201	219

Production in tons/hr with 2" compacted mat

Speed	Paving Widths						
ft/min	6'0"	7'0"	8'0"	9'0"	10'0"	11'0"	12'0"
10	44	52	58	66	74	80	88
20	88	176	116	132	146	160	176
30	132	154	174	198	220	240	262
40	176	204	232	262	292	322	350
50	220	258	290	328	366	402	438

Production in tons/hr with 3" compacted mat

Speed	Paving Widths						
ft/min	6'0"	7'0"	8'0"	9'0"	10'0"	11'0"	12'0"
10	66	78	87	99	111	120	132
20	132	153	174	198	219	240	284
30	198	231	261	297	330	360	393
40	264	306	348	393	438	483	525
50	330	387	435	492	549	603	657

Production in tons/hr with 4" compacted mat

Speed	Paving Widths						
ft/min	6'0"	7'0"	8'0"	9'0"	10'0"	11'0"	12'0"
10	88	104	116	132	148	160	176
20	176	204	232	264	292	320	352
30	264	308	348	396	440	480	524
40	352	408	464	524	584	644	700
50	440	516	580	656	732	804	876

Slope Conversion Table

Percent	Inches per foot	Inches per 12 foot	Percent	Inches per foot	Inches per 12 foot
0.17%		¼	5.21%	⅝	7½
0.35%		½	5.38%		7¾
0.52%	⅙	¾	5.56%		8
0.70%		1	5.73%	⅞	8¼
0.87%		1¼	5.90%		8½
1.04%	⅛	1½	6.08%		8¾
1.22%		1¾	6.25%	¾	9
1.39%		2	6.42%		9¼
1.56%	⅓	2¼	6.60%		9½
1.74%		2½	6.77%	⅚	9¾
1.91%		2¾	6.94%		10
2.08%	¼	3	7.12%		10¼
2.26%		3¼	7.29%	⅗	10½
2.43%		3½	7.47%		10¾
2.60%	⅕	3¾	7.64%		11
2.78%		4	7.81%	⅙	11¼
2.95%		4¼	7.99%		11½
3.13%	⅜	4½	8.16%		11¾
3.30%		4¾	8.33%	1	12
3.47%		5	8.51%		12¼
3.65%	⅗	5¼	8.68%		12½
3.82%		5½	8.85%	⅙	12¾
3.99%		5¾	9.03%		13
4.17%	½	6	9.20%		13¼
4.34%		6¼	9.38%	⅞	13½
4.51%		6½	9.55%		13¾
4.69%	⅙	6¾	9.72%		14
4.86%		7	9.90%	⅞	14¼
5.04%		7¼	10.07%		14½

Formula:

Percent = $\frac{\text{Inches per foot} \times 100}{12}$

Inches in decimals of a foot

⅙ = .0052	1 = .0833
⅓ = .0078	2 = .1667
⅙ = .0104	3 = .2500
⅓ = .0156	4 = .3333
¼ = .0208	5 = .4167
⅕ = .0260	6 = .5000
⅓ = .0313	7 = .5833
½ = .0417	8 = .6667
⅕ = .0521	9 = .7500
¾ = .0625	10 = .8333
⅗ = .0729	11 = .9167

General Compactor Features:

- **Routine maintenance** simplified by grouped service points and easy access to service areas.
- **Operator stations** designed for maximum comfort, easy control, and optimal visibility.
- **Direct hydrostatic drive to front (drums or wheels) and rear (drums or wheels)** provides dependable, responsive, propulsion effort and maximum gradeability. (Does not include pneumatic tire compactors.)

Vibratory Compactor Features:**Single Drum**

- **Hydraulic flow divider valve (CS323C/CP323C) or dual pump system** delivers positive tractive effort to both drum and rear wheels, regardless of underfooting. This increases the machine's ability to maneuver in a wide variety of soil types and conditions and improves gross gradeability.
- **Limited slip high traction differential** is standard on all units for best traction of rear tires.
- **Optional heavy-duty front-mounted blade** with reversible cutting edge is available to allow backfilling and leveling during compaction.
- **ROPS (Roll Over Protective Structure)** standard on all units. Enclosed cabs with EROPS rating available as an option (except for CS323C/CP323C).
- **Adjustable jaw-type cleaner bar** keeps drums clean between pads during forward and reverse movement.

Double Drum and Combi

- **Vibration automatically ceases before machine comes to a stop** to help produce a smooth, flawless mat surface.
- **Close side clearances** allow compactors to work close to curbs, walls and other obstructions.
- **Large, rust-proof water tanks and pressure spray system** provide hours of reliable operation between fill-ups.
- **Emulsion system** available for combi compactor rear tires to prevent materials sticking to tires.
- **ROPS (Roll Over Protective Structure)** available on all models. Enclosed cabs with EROPS rating available on some models.

Pneumatic Tire Compactor Features:

- **All wheel oscillation.** Front and rear tires provide even wheel loads regardless of evenness underfoot. PF models have front oscillation only.
- **High drive propel system.** Completely hydrostatic with drive motors and brakes located in mainframe away from contamination and damage.
- **Ballast compartments** are easily accessible for quick loading and are located to provide balanced wheel/weight ratio.
- **Single-lever hand control** of forward and reverse movement makes smooth rolling easy.

NOTE: All models and options are not available in all markets.



MODEL	CS323C ¹		CS423E ^{2,3}		CS433E ^{1,2,3}	
Gross Power	62 kW	83 hp	62 kW	83 hp	75 kW	100 hp
Rated Engine RPM	2200		2200		2200	
No. Cylinders	4		4		4	
Displacement	4.4 L	269 in ³	4.4 L	269 in ³	4.4 L	269 in ³
Engine Model	3054C		3054C		3054C	
Speeds	1 forward/1 reverse		2 forward/2 reverse		2 forward/2 reverse	
Max. Speed (For./Rev.)	8.9 km/h	5.5 mph	11.5 km/h	7.1 mph	11.5 km/h	7.1 mph
Working Speed	8.9 km/h	5.5 mph	5.5 km/h	3.4 mph	5.5 km/h	3.4 mph
Operating Weight ⁴	4390 kg	9680 lb	6745 kg	14,875 lb	6745 kg	14,875 lb
Shipping Weight ⁴	4231 kg	9505 lb	6665 kg	14,700 lb	6665 kg	14,700 lb
Drive	Drum/Rear Wheel		Drum/Rear Wheel		Drum/Rear Wheel	
Steering:						
Inside Radius	2625 mm	8'7"	3050 mm	10'0"	3050 mm	10'0"
Outside Radius	3895 mm	12'9"	4730 mm	15'6"	4730 mm	15'6"
Steering Angle	±38°		±37°		±37°	
Vibratory System:						
Ecc. Weight Drive	Hydraulic		Hydraulic		Hydraulic	
Frequency	35 Hz	2100 vpm	31.9 Hz	1915 vpm	31.9 Hz	1915 vpm
Amplitude:	1		2		2	
High Amplitude	1.30 mm	0.05"	1.67 mm	0.066"	1.67 mm	0.066"
Low Amplitude	—		0.84 mm	0.033"	0.84 mm	0.033"
Centrifugal Force:						
Maximum	66.8 kN	15,000 lb	133.5 kN	30,000 lb	133.5 kN	30,000 lb
Minimum	—		66.8 kN	15,000 lb	66.8 kN	15,000 lb
General Dimensions:						
Overall Width w/Blade	1575 mm	5'2"	—		2100 mm	6'11"
Overall Width w/o Blade	1393 mm	4'6"	1800 mm	5'11"	1800 mm	5'11"
Drum Width	1270 mm	4'2"	1680 mm	5'6"	1680 mm	5'6"
Drum Diameter	1016 mm	3'4"	1220 mm	4'0"	1220 mm	4'0"
Tires	11.2 × 24–6 ply		14.9 × 24–6 ply		14.9 × 24–6 ply	
Overall Height	2514 mm	8'2"	2930 mm	9'7"	2930 mm	9'7"
Wheel to Drum	2240 mm	7'4"	2600 mm	8'6"	2600 mm	8'6"
Overall Length	4095 mm	13'5"	4960 mm	16'3"	4960 mm	16'3"
Curb Clearance	335 mm	13.2"	375 mm	14.8"	375 mm	14.8"
Service Refill Capacities:						
Fuel Tank	144 L	38 U.S. gal	153 L	40.4 U.S. gal	153 L	40.4 U.S. gal
Crankcase	6.8 L	1.8 U.S. gal	6.8 L	1.8 U.S. gal	6.8 L	1.8 U.S. gal
Hydraulic Fluid	49.2 L	13 U.S. gal	60 L	16 U.S. gal	60 L	16 U.S. gal

¹Leveling blade available.

²Padfoot shell kit available.

³Variable frequency vibration available.

⁴With ROPS/FOPS canopy.

Specifications
• Single Drum, Smooth

Vibratory Compactors



MODEL	CS54 ^{2,3}		CS56 ^{1,2,3,4}		CS64 ^{1,2,3,4}	
Gross Power	97 kW	129 hp	116 kW	156 hp	116 kW	156 hp
Rated Engine RPM	2200		2200		2200	
No. Cylinders	4		6		6	
Displacement	4.4 L	269 in ³	6.6 L	403 in ³	6.6 L	403 in ³
Engine Model	C4.4 with ACERT Technology		C6.6 with ACERT Technology		C6.6 with ACERT Technology	
Speeds	2 forward/2 reverse		2 forward/2 reverse		2 forward/2 reverse	
Max. Speed (For./Rev.)	11.1 km/h	6.9 mph	11.4 km/h	7 mph	11.4 km/h	7 mph
Working Speed	5.8 km/h	3.6 mph	5.7 km/h	3.5 mph	5.7 km/h	3.5 mph
Operating Weight ⁴	10 485 kg	23,120 lb	11 414 kg	25,164 lb	14 238 kg	31,389 lb
Shipping Weight	10 405 kg	22,945 lb	11 334 kg	24,989 lb	14 158 kg	31,213 lb
Drive	Drum/Rear Wheel		Drum/Rear Wheel		Drum/Rear Wheel	
Steering:						
Inside Radius	3680 mm	12'1"	3680 mm	12'1"	3680 mm	12'1"
Outside Radius	5810 mm	19'1"	5810 mm	19'1"	5810 mm	19'1"
Steering Angle	±34°		±34°		±34°	
Vibratory System:						
Ecc. Weight Drive	Hydraulic		Hydraulic		Hydraulic	
Frequency	31 Hz	1860 vpm	31.9 Hz	1914 vpm	31.9 Hz	1914 vpm
Amplitude:	2		2		2	
High Amplitude	1.80 mm	0.071"	1.80 mm	0.07"	1.80 mm	0.07"
Low Amplitude	0.85 mm	0.033"	0.90 mm	0.035"	0.90 mm	0.035"
Centrifugal Force:						
Maximum	234 kN	52,600 lb	282 kN	63,300 lb	282 kN	63,300 lb
Minimum	133 kN	30,000 lb	141 kN	31,600 lb	141 kN	31,600 lb
General Dimensions:						
Overall Width w/Blade	—		2500 mm	8'3"	2500 mm	8'3"
Overall Width w/o Blade	2286 mm	7'6"	2290 mm	7'6"	2370 mm	7'9"
Drum Width	2130 mm	7'0"	2130 mm	7'0"	2130 mm	7'0"
Drum Diameter	1534 mm	5'0"	1524 mm	5'0"	1534 mm	5'0"
Tires	23.1 × 26–8 ply flotation		23.1 × 26–8 ply flotation		23.1 × 26–8 ply flotation	
Overall Height ⁵	3070 mm	10'1"	3070 mm	10'1"	3070 mm	10'1"
Wheel to Drum	2900 mm	9'6"	2900 mm	9'6"	2900 mm	9'6"
Overall Length	5.57 m	18'3"	5.86 m	19'3"	5.97 m	19'7"
Curb Clearance	516 mm	20.3"	490 mm	19.3"	490 mm	19.3"
Service Refill Capacities:						
Fuel Tank	200 L	53 U.S. gal	345 L	91 U.S. gal	345 L	91 U.S. gal
Crankcase	8.5 L	2.25 U.S. gal	17.4 L	4.6 U.S. gal	17.4 L	4.6 U.S. gal
Hydraulic Fluid	60 L	16 U.S. gal	90 L	23.8 U.S. gal	90 L	23.8 U.S. gal

¹Leveling blade available.

²Padfoot shell kit available.

³Variable frequency vibration available.

⁴AccuGrade compaction available.

⁵With ROPS/FOPS canopy.

Vibratory Compactors

Specifications

● Single Drum, Smooth



MODEL	CS74 ^{1,2,3,4}		CS76 ^{1,3,4}		CS76 XT ^{1,3,4}	
Gross Power	116 kW	156 hp	130 kW	174 hp	130 kW	174 hp
Rated Engine RPM	2200		2200		2200	
No. Cylinders	6		6		6	
Displacement	6.6 L	403 in ³	6.6 L	403 in ³	6.6 L	403 in ³
Engine Model	C6.6 with ACERT Technology		C6.6 with ACERT Technology		C6.6 with ACERT Technology	
Speeds	2 forward/2 reverse		2 forward/2 reverse		2 forward/2 reverse	
Max. Speed (For./Rev.)	11.4 km/h	7 mph	11.4 km/h	7 mph	11.4 km/h	7 mph
Working Speed	5.7 km/h	3.5 mph	5.7 km/h	3.5 mph	5.7 km/h	3.5 mph
Operating Weight ²	15 455 kg	34,072 lb	16 758 kg	36,945 lb	18 611 kg	41,030 lb
Shipping Weight	15 375 kg	33,902 lb	16 678 kg	36,775 lb	18 531 kg	40,854 lb
Drive	Drum/Rear Wheel		Drum/Rear Wheel		Drum/Rear Wheel	
Steering:						
Inside Radius	3680 mm	12'1"	3680 mm	12'1"	3680 mm	12'1"
Outside Radius	5810 mm	19'1"	5810 mm	19'1"	5810 mm	19'1"
Steering Angle	±34°		±34°		±34°	
Vibratory System:						
Ecc. Weight Drive	Hydraulic		Hydraulic		Hydraulic	
Frequency	30 Hz	1800 vpm	30 Hz	1800 vpm	30 Hz	1800 vpm
Amplitude:	2		2		2	
High Amplitude	1.8 mm	0.070"	1.8 mm	0.070"	1.8 mm	0.070"
Low Amplitude	0.9 mm	0.035"	0.9 mm	0.035"	0.9 mm	0.035"
Centrifugal Force:						
Maximum	332 kN	74,600 lb	332 kN	74,600 lb	332 kN	74,600 lb
Minimum	166 kN	37,300 lb	166 kN	37,300 lb	166 kN	37,300 lb
General Dimensions:						
Overall Width w/o Blade	2370 mm	7'9"	2340 mm	7'8"	2370 mm	7'9"
Drum Width	2130 mm	7'0"	2130 mm	7'0"	2130 mm	7'0"
Drum Diameter	1534 mm	5'0"	1534 mm	5'0"	1534 mm	5'0"
Tires	23.1 × 26–8 ply flotation		23.1 × 26–12 ply flotation		23.1 × 26–12 ply flotation	
Overall Height ⁵	3070 mm	10'1"	3070 mm	10'1"	3070 mm	10'1"
Wheel to Drum	2900 mm	9'6"	2900 mm	9'6"	2900 mm	9'6"
Overall Length	5970 mm	19'7"	6130 mm	20'1"	6130 mm	20'1"
Curb Clearance	490 mm	19.3"	490 mm	19.3"	490 mm	19.3"
Service Refill Capacities:						
Fuel Tank	345 L	91 U.S. gal	345 L	91 U.S. gal	345 L	91 U.S. gal
Crankcase	17.4 L	4.6 U.S. gal	17.4 L	4.6 U.S. gal	17.4 L	4.6 U.S. gal
Hydraulic Fluid	90 L	23.8 U.S. gal	90 L	23.8 U.S. gal	90 L	23.8 U.S. gal

¹Variable frequency vibration available.

²Leveling blade available.

³Padfoot shell kit available.

⁴AccuGrade compaction available.

⁵With ROPS/FOPS canopy.

Specifications
● Single Drum, Padded

Vibratory Compactors



MODEL	CP323C ¹		CP433E ^{1,2}		CP542 ^{2,4}	
Gross Power	62 kW	83 hp	75 kW	100 hp	97 kW	129 hp
Rated Engine RPM	2200		2200		2200	
No. Cylinders	4		4		4	
Displacement	4.4 L	269 in ³	4.4 L	269 in ³	4.4 L	269 in ³
Engine Model	3054C		3054C		C4.4 with ACERT Technology	
Speeds	1 forward/1 reverse		2 forward/2 reverse		2 forward/2 reverse	
Max. Speed (For./Rev.)	8.9 km/h	5.5 mph	11.5 km/h	7.1 mph	11.1 km/h	6.9 mph
Working Speed	8.9 km/h	5.5 mph	5.5 km/h	3.4 mph	5.8 km/h	3.6 mph
Operating Weight ³	4620 kg	10,190 lb	7145 kg	15,750 lb	11 320 kg	24,960 lb
Shipping Weight ³	4540 kg	10,015 lb	7065 kg	15,600 lb	11 240 kg	24,785 lb
Drive	Drum/Rear Wheel		Drum/Rear Wheel		Drum/Rear Wheel	
Steering:						
Inside Radius	2625 mm	8'7"	3050 mm	10'0"	3680 mm	12'1"
Outside Radius	3895 mm	12'9"	4730 mm	15'6"	5810 mm	19'1"
Steering Angle	±38°		±37°		±34°	
Vibratory System:						
Ecc. Weight Drive	Hydraulic		Hydraulic		Hydraulic	
Frequency	35 Hz	2100 vpm	31.9 Hz	1914 vpm	31.9 Hz	1915 vpm
Amplitude:	1		2		2	
High Amplitude	1.30 mm	0.05"	1.55 mm	0.061"	1.80 mm	0.070"
Low Amplitude	—		0.78 mm	0.031"	0.90 mm	0.035"
Centrifugal Force:						
Maximum	66.8 kN	15,000 lb	133.5 kN	30,000 lb	266 kN	60,000 lb
Minimum	—		66.8 kN	15,000 lb	133 kN	30,000 lb
General Dimensions:						
Overall Width w/Blade	1575 mm	5'2"	2100 mm	6'11"	—	
Overall Width w/o Blade	1393 mm	4'6"	1800 mm	5'11"	2286 mm	7'6"
Drum Width	1270 mm	4'2"	1680 mm	5'6"	2130 mm	7'0"
Drum Diameter over Pads	1016 mm	3'4"	1227 mm	4'0"	1549 mm	5'1"
Tires	11.2 × 24–6 ply traction		14.9 × 24–8 ply traction		23.1 × 26–8 ply traction	
Overall Height ³	2514 mm	8'2"	2930 mm	9'7"	3070 mm	10'1"
Wheel to Drum	2240 mm	7'4"	2600 mm	8'6"	2900 mm	9'6"
Overall Length	4120 mm	13'6"	4960 mm	16'3"	5570 mm	18'3"
Curb Clearance	335 mm	13.2"	375 mm	15"	521 mm	20.5"
Service Refill Capacities:						
Fuel Tank	144 L	38 U.S. gal	153 L	40 U.S. gal	200 L	53 U.S. gal
Crankcase	6.8 L	1.8 U.S. gal	6.8 L	1.8 U.S. gal	8.5 L	2.25 U.S. gal
Hydraulic Fluid	49.2 L	13 U.S. gal	60 L	16 U.S. gal	60 L	16 U.S. gal

¹Leveling blade available.

²Variable frequency vibration available.

³With ROPS/FOPS canopy.

⁴Not available to the NACD market.

Vibratory Compactors

Specifications

• Single Drum, Padded



MODEL	CP56 ^{1,2}		CP64 ^{1,2}		CP74 ^{1,2}		CP76 ²	
Gross Power	116 kW	156 hp	116 kW	156 hp	116 kW	156 hp	130 kW	174 hp
Rated Engine RPM	2200		2200		2200		2200	
No. Cylinders	6		6		6		6	
Displacement	6.6 L	403 in ³	6.6 L	403 in ³	6.6 L	403 in ³	6.6 L	403 in ³
Engine Model	C6.6 with ACERT Technology		C6.6 with ACERT Technology		C6.6 with ACERT Technology		C6.6 with ACERT Technology	
Speeds	2 forward/2 reverse		2 forward/2 reverse		2 forward/2 reverse		2 forward/2 reverse	
Max. Speed (For./Rev.)	11.4 km/h	7 mph	11.4 km/h	7 mph	11.4 km/h	7 mph	11.4 km/h	7 mph
Working Speed	5.7 km/h	3.5 mph	5.7 km/h	3.5 mph	5.7 km/h	3.5 mph	5.7 km/h	3.5 mph
Operating Weight ³	11 361 kg	25,047 lb	14 311 kg	31,550 lb	15 333 kg	33,804 lb	16 896 kg	37,249 lb
Shipping Weight ³	11 281 kg	24,875 lb	14 231 kg	31,379 lb	15 253 kg	33,633 lb	16 816 kg	37,073 lb
Drive	Drum/Rear Wheel		Drum/Rear Wheel		Drum/Rear Wheel		Drum/Rear Wheel	
Steering:								
Inside Radius	3680 mm	12'1"	3680 mm	12'1"	3680 mm	12'1"	3680 mm	12'1"
Outside Radius	5810 mm	19'1"	5810 mm	19'1"	5810 mm	19'1"	5810 mm	19'1"
Steering Angle	±34°		±34°		±34°		±34°	
Vibratory System:								
Ecc. Weight Drive	Hydraulic		Hydraulic		Hydraulic		Hydraulic	
Frequency	31.9 Hz	1914 vpm	31.9 Hz	1914 vpm	30 Hz	1800 vpm	30 Hz	1800 vpm
Amplitude:	2		2		2		2	
High Amplitude	1.80 mm	0.070"	1.80 mm	0.070"	1.80 mm	0.070"	1.80 mm	0.070"
Low Amplitude	0.90 mm	0.035"	0.90 mm	0.035"	0.90 mm	0.035"	0.90 mm	0.035"
Centrifugal Force:								
Maximum	282 kN	63,300 lb	282 kN	63,300 lb	332 kN	74,600 lb	332 kN	74,600 lb
Minimum	141 kN	31,600 lb	141 kN	31,600 lb	166 kN	37,300 lb	166 kN	37,300 lb
General Dimensions:								
Overall Width w/Blade	2500 mm	8'2"	2500 mm	8'2"	2500 mm	8'2"	—	
Overall Width w/o Blade	2290 mm	7'6"	2370 mm	7'9"	2370 mm	7'9"	2370 mm	7'9"
Drum Width	2130 mm	7'0"	2130 mm	7'0"	2130 mm	7'0"	2130 mm	7'0"
Drum Diameter over Pads	1549 mm	5'1"	1549 mm	5'1"	1549 mm	5'1"	1549 mm	5'1"
Tires	23.1 × 26–8 ply traction		23.1 × 26–8 ply traction		23.1 × 26 8–ply traction		23.1 × 26–12 ply traction	
Overall Height ³	3070 mm	10'1"	3070 mm	10'1"	3070 mm	10'1"	3070 mm	10'1"
Wheel to Drum	2900 mm	9'6"	2900 mm	9'6"	2900 mm	9'6"	2900 mm	9'6"
Overall Length	5860 mm	19'3"	5970 mm	19'7"	5970 mm	19'7"	6130 mm	20'1"
Curb Clearance	510 mm	20.1"	510 mm	20.1"	510 mm	20.1"	510 mm	20.1"
Service Refill Capacities:								
Fuel Tank	345 L	91 U.S. gal	345 L	91 U.S. gal	345 L	91 U.S. gal	345 L	91 U.S. gal
Crankcase	17.4 L	4.6 U.S. gal	17.4 L	4.6 U.S. gal	17.4 L	4.6 U.S. gal	17.4 L	4.6 U.S. gal
Hydraulic Fluid	90 L	23.8 U.S. gal	90 L	23.8 U.S. gal	90 L	23.8 U.S. gal	90 L	23.8 U.S. gal

¹Leveling blade available.

²Variable frequency vibration available.

³With ROPS/FOPS canopy.

Specifications
• Double Drum and Combi

Vibratory Compactors



MODEL	CB14		CB14 XW		CB14 Full Flush	
Gross Power	16.1 kW	21.6 hp	16.1 kW	21.6 hp	16.1 kW	21.6 hp
Rated Engine RPM	2400		2400		2400	
No. Cylinders	3		3		3	
Displacement	1131 cm ³	60.8 in ³	1131 cm ³	60.8 in ³	1131 cm ³	60.8 in ³
Engine Model	C1.1		C1.1		C1.1	
Speeds	Variable		Variable		Variable	
Max. Speed (For./Rev.)	8.5 km/h	5 mph	8.5 km/h	5 mph	8.5 km/h	5 mph
Working Speed	0-8.5 km/h	0-5 mph	0-8.5 km/h	0-5 mph	0-8.5 km/h	0-5 mph
Operating Weight ¹	1620 kg	3571 lb	1840 kg	4057 lb	1600 kg	3527 lb
Drive	Hydraulic		Hydraulic		Hydraulic	
Steering:						
Inside Radius:	2650 mm	8'8"	2600 mm	8'6"	—	—
Left Side	—	—	—	—	2650 mm	8'8"
Right Side	—	—	—	—	2600 mm	8'6"
Outside Radius:	3050 mm	10'0"	3080 mm	10'1"	—	—
Left Side	—	—	—	—	3100 mm	10'2"
Right Side	—	—	—	—	3050 mm	10'0"
Steering Angle	±32°		±32°		±32°	
Vibratory System:						
Ecc. Weight Drive	Hydraulic		Hydraulic		Hydraulic	
Frequency (Max.)	53.3 Hz	3200 vpm	53.3 Hz	3200 vpm	53.3 Hz	3200 vpm
Amplitude:						
High Amplitude	0.40 mm	0.016"	0.40 mm	0.016"	0.40 mm	0.016"
Centrifugal Force:						
High Amplitude	10.3 kN	2318 lb	11.4 kN	2565 lb	10.3 kN	2318 lb
General Dimensions:						
Overall Width	884 mm	34"	1084 mm	42"	960 mm	37"
Drum Width	800 mm	31"	1000 mm	39"	900 mm	35"
Drum Diameter	575 mm	22.5"	575 mm	22.5"	575 mm	22.5"
Overall Height (ROPS)	2400 mm	7'10"	2400 mm	7'10"	2400 mm	7'10"
Wheelbase	1300 mm	4'3"	1300 mm	4'3"	1300 mm	4'3"
Overall Length	2050 mm	6'8"	2050 mm	6'8"	2050 mm	6'8"
Curb Clearance	370 mm	14.5"	370 mm	14.5"	370 mm	14.5"
Ground Clearance	250 mm	10"	250 mm	10"	250 mm	10"
Service Refill Capacities:						
Fuel Tank	30 L	7.9 U.S. gal	30 L	7.9 U.S. gal	30 L	7.9 U.S. gal
Sprinkler Water	150 L	39.6 U.S. gal	150 L	39.6 U.S. gal	150 L	39.6 U.S. gal

¹With ROPS.

Vibratory Compactors

Specifications

• Double Drum and Combi



MODEL	CB22		CB24		CB32		CC24	
Gross Power	24.6 kW	33 hp	24.6 kW	33 hp	24.6 kW	33 hp	24.6 kW	33 hp
Rated Engine RPM	2800		2800		2800		2800	
No. Cylinders	3		3		3		3	
Displacement	1.5 L	92 in³	1.5 L	92 in³	1.5 L	92 in³	1.5 L	92 in³
Engine Model	C1.5		C1.5		C1.5		C1.5	
Max. Speed (For./Rev.)	10.5 km/h	6.5 mph	10.5 km/h	6.5 mph	10.5 km/h	6.5 mph	10.5 km/h	6.5 mph
Operating Weight¹	2500 kg	5512 lb	2700 kg	5952 lb	3230 kg	7121 lb	2400 kg	5291 lb
Shipping Weight¹	2421 kg	5337 lb	2620 kg	5777 lb	3150 kg	6946 lb	2320 kg	5116 lb
Drive	Hydraulic		Hydraulic		Hydraulic		Hydraulic	
Steering:								
Inside Radius	2640 mm	104"	2540 mm	100"	2490 mm	98"	2540 mm	100"
Outside Radius	3640 mm	132"	3740 mm	147"	3790 mm	149"	3740 mm	147"
Steering Angle	±35°		±35°		±35°		±35°	
Vibratory System:								
Ecc. Weight Drive	Hydraulic		Hydraulic		Hydraulic		Hydraulic	
Frequency	55 Hz	3300 vpm	55 Hz	3300 vpm	55 Hz	3300 vpm	55 Hz	3300 vpm
Amplitude:	1		1		1		1	
High Amplitude	0.50 mm	0.020"	0.50 mm	0.020"	0.30 mm	0.012"	0.50 mm	0.020"
Centrifugal Force:								
High Amplitude	27.6 kg	6210 lb	31.3 kg	7043 lb	31.3 kg	7043 lb	31.3 kg	7043 lb
General Dimensions:								
Overall Width	1098 mm	43"	1298 mm	51"	1398 mm	55"	1298 mm	51"
Drum Width	1000 mm	39"	1200 mm	47"	1300 mm	51"	1200 mm	47"
Drum Diameter	700 mm	27.6"	700 mm	27.6"	700 mm	27.6"	700 mm	27.6"
Tires	—		—		—		9.5 × 65-15, 6 ply	
Overall Height (ROPS)	2680 mm	106"	2680 mm	106"	2680 mm	106"	2673 mm	105"
Wheelbase	1800 mm	71"	1800 mm	71"	1800 mm	71"	1827 mm	72"
Overall Length	2500 mm	98"	2500 mm	98"	2500 mm	98"	2500 mm	98"
Curb Clearance	520 mm	20"	520 mm	20"	520 mm	20"	520 mm	20"
Ground Clearance	262 mm	10"	262 mm	10"	262 mm	10"	262 mm	10"
Service Refill Capacities:								
Fuel Tank	56 L	14.7 U.S. gal	56 L	14.7 U.S. gal	56 L	14.7 U.S. gal	56 L	14.7 U.S. gal
Crankcase	6 L	1.5 U.S. gal	6 L	1.5 U.S. gal	6 L	1.5 U.S. gal	6 L	1.5 U.S. gal
Hydraulic Tank	36.6 L	9.6 U.S. gal	36.6 L	9.6 U.S. gal	36.6 L	9.6 U.S. gal	36.6 L	9.6 U.S. gal
Sprinkler Water	240 L	83.3 U.S. gal	240 L	83.3 U.S. gal	240 L	83.3 U.S. gal	240 L	83.3 U.S. gal

¹With ROPS.

Specifications
• Double Drum and Combi

Vibratory Compactors



MODEL	CB34		CB34 XW		CC34 ²		CB434D	
Gross Power	34.1 kW	46 hp	34.1 kW	46 hp	34.1 kW	46 hp	62 kW	83 hp
Rated Engine RPM	2400		2400		2400		2200	
No. Cylinders	4		4		4		4	
Displacement	2216 cm³	87 in³	2216 cm³	87 in³	2216 cm³	87 in³	—	
Engine Model	C2.2		C2.2		C2.2		3054C	
Speeds	—		—		—		1 forward/1 reverse	
Max. Speed (For./Rev.)	12.5 km/h	8 mph	12.5 km/h	8 mph	12.5 km/h	8 mph	11.6 km/h	7 mph
Working Speed	—		—		—		0-11.6 km/h	0-7 mph
Operating Weight¹	3940 kg	8688 lb	4200 lb	9259 lb	3670 kg	8091 lb	7500 kg	16,535 lb
Shipping Weight¹	3861 kg	8512 lb	4120 lb	9083 lb	3590 lb	7915 lb	7420 kg	16,360 lb
Drive	Hydraulic		Hydraulic		Hydraulic		Hydraulic	
Steering:								
Inside Radius	3000 mm	118"	2950 mm	116"	3000 mm	118"	3500 mm	11'6"
Outside Radius	4300 mm	169"	4350 mm	171"	4300 mm	169"	5000 mm	16'5"
Steering Angle	±35°		±35°		±35°		±35°	
Vibratory System:								
Ecc. Weight Drive	Hydraulic		Hydraulic		Hydraulic		Hydraulic	
Frequency	69/ 61 Hz	4140/ 3660 vpm	53/ 48 Hz	3180/ 2880 vpm	69/ 61 Hz	4140/ 3660 vpm	53 Hz	3200 vpm
Amplitude:	—		—		—		5	
High Amplitude	0.37 mm	0.015"	0.50 mm	0.020"	0.37 mm	0.015"	0.68 mm	0.027"
Low Amplitude	—		—		—		0.25 mm	0.010"
Centrifugal Force:								
High Amplitude	33.1 kN	7448 lb	29.5 kN	6638 lb	33.1 kN	7448 lb	78 kN	17,550 lb
Low Amplitude	—		—		—		29 kN	6525 lb
General Dimensions:								
Overall Width	1390 mm	55"	1490 mm	58"	1390 mm	55"	1670 mm	5'6"
Drum Width	1300 mm	51"	1400 mm	55"	1300 mm	51"	1500 mm	4'11"
Drum Diameter	800 mm	31"	800 mm	31"	800 mm	31"	1100 mm	3'7"
Tires	—		—		6 ply		—	
Overall Height (ROPS)	2560 mm	100"	2560 mm	100"	2560 mm	100"	3010 mm	9'11"
Wheelbase	2320 mm	91"	2320 mm	91"	2320 mm	91"	3100 mm	10'2"
Overall Length	3120 mm	123"	3120 mm	123"	3120 mm	123"	4200 mm	13'9"
Curb Clearance	602 mm	23.5"	602 mm	23.5"	602 mm	23.5"	720 mm	28"
Ground Clearance	284 mm	11"	284 mm	11"	284 mm	11"	255 mm	10"
Service Refill Capacities:								
Fuel Tank	57 L	15 U.S. gal	57 L	15 U.S. gal	57 L	15 U.S. gal	132 L	35 U.S. gal
Crankcase	10.6 L	2.8 U.S. gal	10.6 L	2.8 U.S. gal	10.6 L	2.8 U.S. gal	9 L	2.4 U.S. gal
Hydraulic Tank	48 L	12.7 U.S. gal	48 L	12.7 U.S. gal	48 L	12.7 U.S. gal	50 L	13.2 U.S. gal
Sprinkler Water	300 L	79 U.S. gal	300 L	79 U.S. gal	300 L	79 U.S. gal	800 L	211 U.S. gal

¹With ROPS.

²Combi Asphalt Compactor with steel front drum and rubber tires at the rear.

Vibratory Compactors

Specifications

• Double Drum and Combi



MODEL	CB434D XW		CB54		CB54 XW		CB64	
Gross Power	62 kW	83 hp	102 kW	137 hp	102 kW	137 hp	102 kW	137 hp
Rated Engine RPM	2200		2200		2200		2200	
No. Cylinders	4		4		4		4	
Displacement	—		4.4 L 269 in ³		4.4 L 269 in ³		4.4 L 269 in ³	
Engine Model	3054C		C4.4 with ACERT Technology		C4.4 with ACERT Technology		C4.4 with ACERT Technology	
Speeds	1 forward/1 reverse		2 forward/2 reverse		2 forward/2 reverse		2 forward/2 reverse	
Max. Speed (For./Rev.)	11.6 km/h	7 mph	13 km/h	8 mph	13 km/h	8 mph	13 km/h	8 mph
Working Speed	0-11.6 km/h	0-7 mph	0-13 km/h	0-8 mph	0-13 km/h	0-8 mph	0-13 km/h	0-8 mph
Operating Weight ¹	7700 kg	16,975 lb	10 804 kg	23,818 lb	11 898 kg	26,230 lb	12 980 kg	28,616 lb
Shipping Weight ¹	7620 kg	16,800 lb	10 724 kg	23,643 lb	11 818 kg	26,055 lb	12 901 kg	28,441 lb
Drive	Hydraulic		Hydraulic		Hydraulic		Hydraulic	
Steering:								
Inside Radius	3400 mm	11'2"	4150 mm	13'7"	4000 mm	13'1"	3940 mm	12'11"
Outside Radius	5100 mm	16'9"	5850 mm	19'2"	6000 mm	19'8"	6070 mm	19'11"
Steering Angle	±40°		±40°		±40°		±40°	
Vibratory System:								
Ecc. Weight Drive	Hydraulic		Hydraulic		Hydraulic		Hydraulic	
Frequency	53 Hz	3200 vpm	42 Hz	2520 vpm	42 Hz	2520 vpm	42 Hz	2520 vpm
Amplitude ² :								
High Amplitude	0.60 mm	0.024"	1.06 mm	0.042"	0.86 mm	0.034"	1.03 mm	0.041"
Low Amplitude	0.22 mm	0.009"	0.33 mm	0.013"	0.30 mm	0.012"	—	—
Centrifugal Force:								
High Amplitude	78 kN	17,550 lb	110 kN	24,929 lb	110 kN	24,929 lb	138.2 kN	31,100 lb
Low Amplitude	29 kN	6525 lb	35 kN	7922 lb	35 kN	7922 lb	82.6 kN	18,570 lb
General Dimensions:								
Overall Width	1870 mm	6'1"	1905 mm	6'3"	2205 mm	7'3"	2335 mm	7'8"
Drum Width	1700 mm	5'7"	1700 mm	5'7"	2000 mm	6'7"	2130 mm	7'0"
Drum Diameter	1100 mm	3'7"	1300 mm	4'3"	1300 mm	4'3"	1300 mm	4'3"
Overall Height (ROPS)	3010 mm	9'11"	3050 mm	10'1"	3050 mm	10'1"	3050 mm	10'1"
Wheelbase	3100 mm	10'2"	3640 mm	11'11"	3640 mm	11'11"	3640 mm	11'11"
Overall Length	4200 mm	13'9"	4934 mm	16'2"	4934 mm	16'2"	4934 mm	16'2"
Curb Clearance	720 mm	28"	868 mm	34.2"	868 mm	34.2"	868 mm	34.2"
Ground Clearance	255 mm	10"	217 mm	8.5"	217 mm	8.5"	217 mm	8.5"
Service Refill Capacities:								
Fuel Tank	132 L	35 U.S. gal	191 L	50 U.S. gal	191 L	50 U.S. gal	191 L	50 U.S. gal
Crankcase	9 L	2.4 U.S. gal	9 L	2.4 U.S. gal	9 L	2.4 U.S. gal	9 L	2.4 U.S. gal
Hydraulic Tank	50 L	13.2 U.S. gal	58.7 L	15.5 U.S. gal	58.7 L	15.5 U.S. gal	58.7 L	15.5 U.S. gal
Sprinkler Water	800 L	211 U.S. gal	1100 L	291 U.S. gal	1100 L	291 U.S. gal	1100 L	291 U.S. gal

¹With ROPS/FOPS.

²Numbers reflect 5 Amplitude vibratory system. Other vibratory system options available.

**PS150C¹****PS360C³**

MODEL	PS150C¹		PS360C³	
Gross Power	75 kW	100 hp	98 kW	130 hp
Rated Engine RPM	2200		2200	
No. Cylinders	4		4	
Displacement	4.4 L	269 in ³	4.4 L	269 in ³
Engine Model	3054C		3054C ATAAC	
Speeds	2 forward/2 reverse		2 forward/2 reverse	
Max. Speed (For./Rev.)	25.6 km/h	15.9 mph	18 km/h	11 mph
Working Speed	11 km/h	6.8 mph	8 km/h	5 mph
Wheel Configuration	5 front/4 rear		3 front/4 rear	
Tires	8.50/90 × 15-6 ply		14/70 × 20-20 ply	
Operating Weight Empty (no ballast) ²	4885 kg	10,775 lb	8580 kg	18,915 lb
Operating Weight Full (max. ballast) ²	12 940 kg	28,535 lb	18 500 kg	40,785 lb
Maximum Weight per Wheel	1440 kg	3180 lb	2645 kg	5830 lb
Shipping Weight	4805 kg	10,580 lb	8500 kg	18,740 lb
Drive	Hydraulic		Hydraulic	
Steering:				
Inside Radius	4648 mm	15'3"	3470 mm	11'5"
Outside Radius	6453 mm	21'2"	6700 mm	22'0"
General Dimensions:				
Overall Width	1740 mm	5'8"	2280 mm	7'6"
Rolling Width	1740 mm	5'8"	2280 mm	7'6"
Tire Width	191 mm	7.5"	368 mm	14.5"
Tire Overlap	13 mm	0.5"	58 mm	2.25"
Overall Height (ROPS)	3000 mm	9'10"	3200 mm	10'6"
Wheelbase	3340 mm	10'11"	3650 mm	12'0"
Overall Length	4290 mm	14'1"	4870 mm	16'0"
Ground Clearance	267 mm	10.5"	252 mm	10"
Service Refill Capacities:				
Fuel Tank	173 L	45.6 U.S. gal	200 L	52 U.S. gal
Crankcase	7.3 L	1.9 U.S. gal	7.3 L	1.9 U.S. gal
Hydraulic Fluid	54.9 L	14.5 U.S. gal	90 L	23.7 U.S. gal
Sprinkler Water	394 L	104 U.S. gal	394 L	104 U.S. gal

¹11-wheel configuration available.²With ROPS.³Combined ballast available for an operating weight of 25 022 kg (55,115 lb) for PS360C.

Pneumatic Tires — Bias Ply and Radial

Model	Tire Size	Ply Rating	Tire Inflation Pressure			
			Minimum Pressure		Maximum Pressure	
			kPa	psi	kPa	psi
PS150C	8.5 × 15	6	275	40	344	50
	7.5 × 15	12	344	50	757	110
	7.5 × 15	14	344	50	862	125
	7.5R15	Radial	296	43	480	70
PS360C	14/70 × 20	20	241	35	757	110

Ballast Configurations

Model	Load	Ballast Configuration					
		Empty	Water Only	Steel Only	Wet Sand Only	Steel and Water	Steel and Wet Sand
PS150C	Wheel Load	545 kg 1200 lb	970 kg 2145 lb	* *	1440 kg 3180 lb	* *	* *
	Machine Weight	4885 kg 10,775 lb	8710 kg 19,205 lb	* *	12 940 kg 28,535 lb	* *	* *
PS150C (11-wheel)	Wheel Load	450 kg 993 lb	798 kg 1760 lb	* *	1183 kg 2608 lb	* *	* *
	Machine Weight	4955 kg 10,925 lb	8780 kg 19,355 lb	* *	13 010 kg 28,685 lb	* *	* *
PS150C (Heavy Weight Option)	Wheel Load	457 kg 1008 lb	805 kg 1775 lb	* *	1189 kg 2621 lb	* *	* *
	Machine Weight	5025 kg 11,078 lb	8850 kg 19,511 lb	* *	13 080 kg 28,836 lb	* *	* *
PS360C	Wheel Load	1215 kg 2675 lb	1930 kg 4250 lb	2285 kg 5040 lb	2645 kg 5830 lb	2855 kg 6300 lb	3570 kg 7870 lb
	Machine Weight	8500 kg 18,740 lb	13 500 kg 29,760 lb	15 995 kg 35,265 lb	18 500 kg 40,785 lb	20 000 kg 44,090 lb	25 000 kg 55,115 lb

*Configuration not available.

Maximum Ground Pressures

Model	Ply Rating	Empty	Water Only	Steel Only	Wet Sand Only	Steel and Water	Steel and Wet Sand
PS150C	6	469 kPa 68 psi	689 kPa 100 psi	* *	655 kPa 95 psi	* *	* *
	12	469 kPa 68 psi	724 kPa 105 psi	* *	758 kPa 110 psi	* *	* *
	14	469 kPa 68 psi	1041 kPa 151 psi	* *	972 kPa 141 psi	* *	* *
PS360C	12	655 kPa 95 psi	620 kPa 90 psi	676 kPa 98 psi	662 kPa 96 psi	710 kPa 103 psi	703 kPa 102 psi
	20	896 kPa 130 psi	862 kPa 125 psi	965 kPa 140 psi	917 kPa 133 psi	979 kPa 142 psi	931 kPa 135 psi

*Configuration not available.
**Data not available.

NOTES:

1. Each tire type has a unique pressure distribution which varies with both tire inflation pressure and wheel load. The distribution of pressure along both transverse and longitudinal profiles is rarely uniform.
2. The measurements in this table represent the peak pressures measured in a transverse profile at each of the ballast conditions at maximum tire inflation pressure.
3. For most applications, it can be assumed that normal operation of the pneumatic compactor will result in the ground being subjected to pressures near the maximum during at least one machine pass.

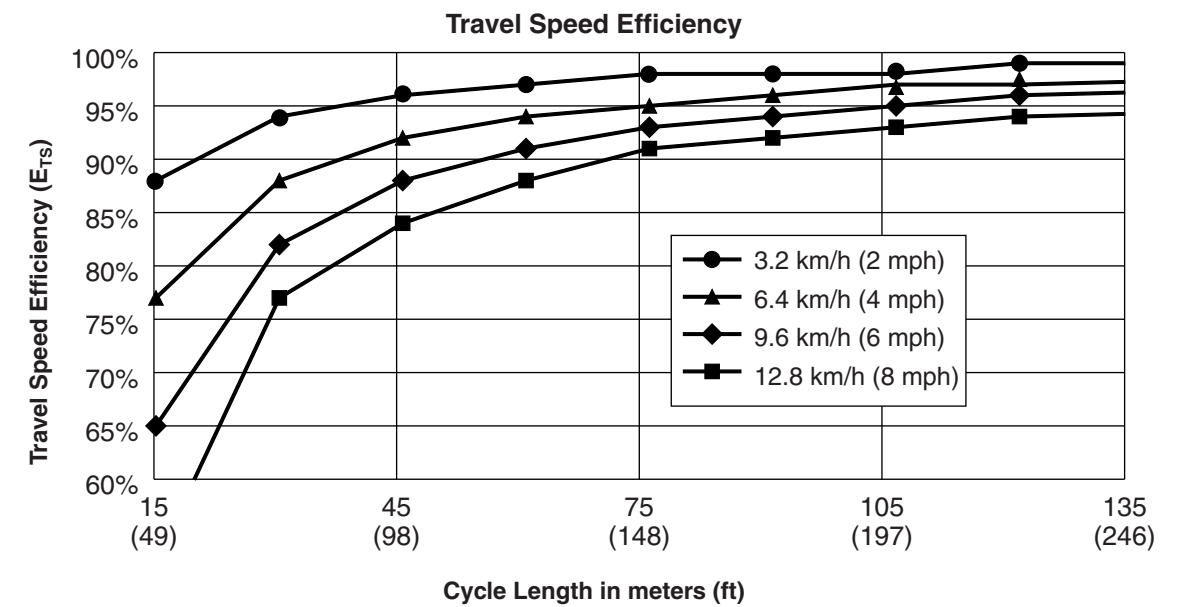
The tables in this section give production estimates for the following assumed conditions:

Nominal machine travel speed: 6.4 km/h (4.0 mph)

Overlap of rolling width: 15.2 cm (6.0 inches)

Table values give **representative** production rates for three common construction conditions: trenches, roads, and wide areas (> 15 m, or 50 ft).

Model	Drum Width		Lift Thickness		Passes Required	Production Estimates			
	cm	in	cm	in			3.7 m (12 ft) Trench	9.15 m (30 ft) Road Base	Wide Areas
CS323C	127	50	10.2	4	6	m³/hr yds³/hr	80 104	111 145	122 159
CS423E, CS433E	167.6	66	10.2	4	4	m³/hr yds³/hr	159 209	249 326	249 326
CS54, CS56	213.4	84	15.2	6	6	m³/hr yds³/hr	239 313	299 391	324 424
CS64	213.4	84	15.2	6	5	m³/hr yds³/hr	— —	373 489	405 530
CS74	213.4	84	15.2	6	4	m³/hr yds³/hr	— —	448 587	486 636
CS76	213.4	84	15.2	12	6	m³/hr yds³/hr	— —	598 782	648 848
CS76 XT	213.4	84	15.2	12	4	m³/hr yds³/hr	— —	896 1174	972 1272
CP323C	127	50	15.2	6	6	m³/hr yds³/hr	120 156	133 174	183 239
CP433E	167.6	66	15.2	6	6	m³/hr yds³/hr	159 209	199 261	249 326
CP54, CP56	213.4	84	30.5	12	6	m³/hr yds³/hr	478 626	478 626	647 847
CP76	213.4	84	30.5	12	6	m³/hr yds³/hr	— —	598 782	648 848



Adjusting the Production Estimate

If the assumed conditions are not close to the actual construction conditions, the production estimates should be corrected. The production estimate from the table can be adjusted for 'actual' construction conditions by applying adjustment factors:

$$Q (\text{actual}) = Q (\text{assumed}) \times F_s \times F_t \times F_p$$

Where: Q (actual) = adjusted productivity

Q (assumed) = productivity from table
based on assumed conditions

F_s = adjustment for machine speed

F_t = adjustment for layer thickness

F_p = adjustment for no. of passes

The adjustment factors are determined by comparing the 'actual' conditions to the 'assumed' ones:

F_s = actual speed/assumed speed

F_t = actual thickness/assumed thickness

F_p = assumed passes/actual passes

Metric example

Actual Conditions — An 9.15-meter (full road width) base aggregate job is being completed with a compacted thickness of 15 cm. A CS433E is being used, operating at 4.0 km/h, and making 6 passes to achieve the desired compaction. The roller is overlapping its passes 6 inches.

For a 9.15-meter road base the table gives a CS433E productivity of 249 m³/hr. Since the speed, thickness, and passes are *different* from the assumed conditions, we should adjust this estimate:

	Assumed	Actual
Speed	6.4 km/h	4.0 km/h
Thickness	10.2 cm	15 cm
Passes	4 passes	6 passes

$$F_s = 4.0 \text{ km/h} / 6.4 \text{ km/h} = 0.6$$

$$F_t = 15 \text{ cm} / 10.2 \text{ cm} = 1.5$$

$$F_p = 4 \text{ passes} / 6 \text{ passes} = 0.7$$

The estimated production is adjusted using these factors:

$$Q (\text{actual}) = 249 \text{ m}^3/\text{hr} \times 0.6 \times 1.7 \times 0.7 \\ = 178 \text{ m}^3/\text{hr} (233 \text{ yds}^3/\text{hr})$$

English example

Actual Conditions — An wide area commercial site development job is being compacted in lifts of 8 inches. A CP56 is being used, operating at 4.0 mph, and making 4 passes to achieve the target density.

First, the table gives a CP56 productivity of 847 yds³/hr. Since lift thickness and passes required are *different* from the assumed conditions, we should adjust this estimate:

	Assumed	Actual
Speed	4.0 mph	4.0 mph
Thickness	12 inches	8 inches
Passes	6 passes	4 passes

F_s = no correction necessary

$$F_t = 8 \text{ inches} / 12 \text{ inches} = 0.7$$

$$F_p = 6 \text{ passes} / 4 \text{ passes} = 1.5$$

The estimated production is adjusted using these factors:

$$Q (\text{actual}) = 847 \text{ yds}^3/\text{hr} \times 0.7 \times 1.5 \\ = 890 \text{ yds}^3/\text{hr} (680 \text{ m}^3/\text{hr})$$

Notes on Productivity:

- For jobs that are relatively narrow, especially road construction jobs, it is important to understand that certain widths of construction will be more productive than others for a given compactor. A productive construction width will make the most use of each side by side pass required by the compactor in order to cover the width.
- Production estimates should be adjusted further if the length of the compaction cycles are shorter than 75 m (250 ft). Refer to the Travel Speed Efficiency chart to determine efficiency E_{TS} . For example, a compactor traveling at 6.4 km/h (4 mph) operating at cycle lengths of 150 ft has an E_{TS} of 0.91. Multiply Q (actual) by E_{TS} .

The table in this section gives production estimates for the following assumed conditions:

Compacted Layer Thickness	51 mm	2 in
Max. Propelling Speed	8 km/h	5 mph
Passes per Machine Width	4	
Compacted Material Density	2486 kg/cm ³	155 lb/ft³
Overlap of Rolling Width	152 mm	6 in
Overhang at Lane Edge	76 mm	3 in
Cycle Time (2 passes)	120 seconds	

Table values give **representative** production rates for common construction widths. If the actual width falls between two assumed widths, use the higher number to estimate production. Minor adjustments can normally be made in the rolling method to reach this higher production: reduce overlap or overhang, increase speed, or increase the cycle time.

Model	Units	PAVING WIDTH						
		1.8 m 6 ft	2.4 m 8 ft	3.0 m 10 ft	3.7 m 12 ft	4.3 m 14 ft	4.9 m 16 ft	5.5 m 18 ft
CB14	Tonnes/hr	138.4	143.5	146.8	149.0	—	—	—
	tons/hr	152.5	158.2	161.8	164.3	—	—	—
CB14 XW (1000 mm/39")	Tonnes/hr	138.4	143.5	146.8	176.1	—	—	—
	tons/hr	152.5	158.2	161.8	194.1	—	—	—
CB14 XW (900 mm/35" and Full Flush)	Tonnes/hr	138.4	184.5	179.4	176.1	—	—	—
	tons/hr	152.5	203.4	197.7	194.1	—	—	—
CB22	Tonnes/hr	138.4	184.5	179.4	176.1	173.9	198.7	193.7
	tons/hr	152.5	203.4	197.7	194.1	191.6	219.0	213.6
CB24 and CC24	Tonnes/hr	193.7	184.5	230.6	215.3	205.5	234.8	223.5
	tons/hr	213.6	203.4	254.2	237.3	226.5	258.9	246.4
CB32	Tonnes/hr	193.7	184.5	230.6	215.3	251.1	234.8	264.2
	tons/hr	213.6	203.4	254.2	237.3	276.8	258.9	291.2
CB34 and CC34	Tonnes/hr	193.7	184.5	230.6	215.3	251.1	234.8	264.2
	tons/hr	213.6	203.4	254.2	237.3	276.8	258.9	291.2
CB34 XW*	Tonnes/hr	—	—	—	—	—	—	—
	tons/hr	—	—	—	—	—	—	—
CB434D	Tonnes/hr	193.7	258.3	230.6	276.8	251.1	287.0	264.2
	tons/hr	213.6	284.7	254.2	305.1	276.8	316.4	291.2
CB434D XW	Tonnes/hr	193.7	258.3	322.9	276.8	322.9	287.0	322.9
	tons/hr	213.6	284.7	355.9	305.1	355.9	316.4	355.9
CB54	Tonnes/hr	193.7	258.3	322.9	276.8	322.9	287.0	322.9
	tons/hr	213.6	284.7	355.9	305.1	355.9	316.4	355.9
CB54 XW	Tonnes/hr	322.9	258.3	322.9	387.5	322.9	369.0	415.1
	tons/hr	355.9	284.7	355.9	427.1	355.9	406.8	457.6
CB64	Tonnes/hr	322.9	258.3	322.9	387.5	322.9	369.0	415.1
	tons/hr	355.9	284.7	355.9	427.1	355.9	406.8	457.6

*Production estimates not available at this time.

Example

Actual Conditions — A 3.7 m (12 ft) lane is being paved with a compacted asphalt thickness of 10 cm (4 in). A CB54 is being used, operating at 5.5 km/h (3.4 mph), and making 4 passes to achieve the target density. The roller is overlapping its passes 15 cm (6 in) and is overhanging the edges by 7.5 cm (3 in).

First, the table gives a CB54 productivity of 276.8 Tonnes/hr (305.1 tons/hr) for a 3.7 m (12 ft) paving width. Since the actual speed, thickness, and passes are *different* from the assumed conditions, the estimate should be adjusted:

	Assumed		Actual	
Speed	4.5 km/h	2.8 mph	5.5 km/h	3.4 mph
Thickness	5 cm	2 in	10 cm	4 in
Passes		2		4

$$F_s = 5.5 \text{ km/h (3.4 mph)} / 4.5 \text{ km/h (2.8 mph)} = 1.2$$

$$F_t = 10 \text{ cm (4 in)} / 5 \text{ cm (2 in)} = 2.0$$

$$F_p = 2 \text{ passes} / 4 \text{ passes} = 0.5$$

The actual, or adjusted, production estimate can then be determined from the following:

$$Q \text{ (actual)} = 276.8 \text{ Tonnes/hr (305.1 tons/hr)} \times 1.2 \times 2.0 \times 0.5 = 332.1 \text{ Tonnes/hr (366.1 tons/hr)}$$

Notes on Productivity:

- Higher speed usually results in lower density achieved per pass.
- Productivity on uphill slopes may be reduced.
- Tabulated production estimates assume that 1 pass is used for re-positioning the machine at the beginning of the next run.

The tables in this section give production estimates for the following assumed conditions:

	Hot Mix Asphalt		Soil and Aggregate		Cold In-Place Recycled Asphalt	
Compacted Layer Thickness	51 mm	2 in	152 mm	6 in	203 mm	8 in
Max. Propelling Speed	8 km/h	5 mph	8 km/h	5 mph	4.8 km/h	3 mph
Passes per Machine Width	4		4		6	
Compacted Material Density	2486 kg/cm ³	155 lb/ft³	2085 kg/cm ³	130 lb/ft³	2246 kg/cm ³	140 lb/ft³
Overlap of Rolling Width	152 mm	6 in	152 mm	6 in	152 mm	6 in
Overhang at Lane Edge	76 mm	3 in	76 mm	3 in	76 mm	3 in
Cycle Time (2 passes)	120 seconds		120 seconds		120 seconds	

Table values give **representative** production rates for common construction widths. If the actual width falls between two assumed widths, use the higher number to estimate production. Minor adjustments can normally be made in the rolling method to reach this higher production: reduce overlap or overhang, increase speed, or increase the cycle time.

Hot Mix Asphalt		PAVING WIDTH						
Model	Units	1.8 m 6 ft	2.4 m 8 ft	3.0 m 10 ft	3.7 m 12 ft	4.3 m 14 ft	4.9 m 16 ft	5.5 m 18 ft
PS150C	Tonnes/hr tons/hr	195.2 215.1	260.2 286.8	325.3 358.6	270.2 297.9	315.3 347.5	275.5 303.7	310.0 341.7
PS360C	Tonnes/hr tons/hr	351.3 387.2	260.2 286.8	325.3 358.6	390.3 430.3	455.4 502.0	360.3 397.2	405.3 446.8

Soil and Aggregate

PS150C	Tonnes/hr tons/hr	490.1 540.2	653.4 720.3	816.8 900.4	678.6 748.0	791.7 872.7	691.9 762.7	778.4 858.0
PS360C	Tonnes/hr tons/hr	882.2 972.4	653.4 720.3	816.8 900.4	980.2 1080.4	1143.5 1260.5	904.8 997.3	1017.9 1122.0

Cold In-Place Recycled Asphalt

PS150C	Tonnes/hr tons/hr	288.0 317.5	384.0 423.3	480.0 529.2	394.1 434.5	459.8 506.9	399.4 440.3	449.3 495.3
PS360C	Tonnes/hr tons/hr	534.9 589.6	384.0 423.3	480.0 529.2	576.1 635.0	672.1 740.8	525.5 579.3	591.2 651.7

Example

Actual Conditions — An 7.3 m (23'11") (full road width) base aggregate job is being completed with a compacted thickness of 200 mm (8 in). A PS150C is being used, operating at 6.5 km/h (4 mph), and making 6 passes achieve the desired compaction. The roller is overlapping its passes 152 mm (6 in).

First, the table does not show production for 7.3 m (23'11") so use the greatest width on the table: 5.5 m (18'1"). The table gives a PS150C productivity of 778.4 Tonnes/hr (858.0 tons/hr) for this paving width. We can expect that the actual productivity for 7.3 m (23'11") will be slightly higher than that. Since the speed, thickness, and passes are *different* from the assumed conditions, we should adjust this estimate:

	Assumed		Actual	
Speed	8 km/h	5 mph	6.5 km/h	4 mph
Thickness	152 mm	6 in	200 mm	8 in
Passes	4		6	

$$F_s = 6.5 \text{ km/h} / 8 \text{ km/h} (4 \text{ mph} / 5 \text{ mph}) = 0.8$$

$$F_t = 200 \text{ mm} / 152 \text{ mm} (8 \text{ in} / 6 \text{ in}) = 1.3$$

$$F_p = 4 \text{ passes} / 6 \text{ passes} = 0.7$$

The estimated production is adjusted using these factors:

$$\begin{aligned} Q (\text{actual}) &= 778.4 \text{ Tonnes/hr} (858.0 \text{ tons/hr}) \times \\ &0.8 \times 1.3 \times 0.7 = 567 \text{ Tonnes/hr} \\ &(625 \text{ ton/hr}) \end{aligned}$$

Notes on Productivity:

- Ballast weight and tire pressure can significantly affect performance of a pneumatic tire compactor. Refer to machine specifications to choose the best configuration.
- Productivity on uphill grades and very thick layers (>127 mm, or 5 in) may be reduced due to a necessary reduction in speed.
- The 11-tire configuration for the PS150C is designed only for chip-and-seal applications. It is not recommended in other applications.

UNDERGROUND MINING EQUIPMENT

Loaders and Haulers for Hard Rock Mining

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Features, all models:

- Rugged design for underground application.
- Engineered for productivity, reliability, safety and machine rebuildability.
- Extensive use of steel castings and forgings.
- Cat heavy duty diesel engines and power trains.
- Computerized machine function monitoring.
- Four wheel enclosed wet disc brakes.
- Remote control options on loaders.
- Payload control system option on loaders.
- Ride control system optional on loaders.
- Fully enclosed air conditioned operator stations available.
- Operator Stations are ROPS/FOPS certified.

Product Line:

- Five models of Load-Haul-Dump (LHD) machines, with rated bucket payloads ranging from 6800 kg (14,991 lb) to 20 000 kg (44,100 lb).
- Three models of articulated dump trucks, with payload capacities of 30 000 kg (66,140 lb) to 55 000 kg (121,247 lb).
- Three models of articulated ejector trucks, with payload capacities of 27 000 kg (59,500 lb) to 50 000 kg (110,231 lb).



MODEL	R1300G		R1600G	
Bucket Size Minimum	2.4 m ³	3.1 yd ³	4.2 m ³	5.5 yd ³
Bucket Size Maximum	3.4 m ³	4.4 yd ³	5.9 m ³	7.7 yd ³
Tramming Capacity	6800 kg	14,991 lb	10 200 kg	22,487 lb
Length (Tramming)	8613 mm	28'3"	9711 mm	31'10"
Width Bucket(Standard)	2318 mm	7'6"	2723 mm	8'11"
Width over Tires	1900 mm	6'2"	2400 mm	7'10"
Height (Overall)	2120 mm	6'11"	2400 mm	7'10"
Operating Weight	20 875 kg	46,021 lb	29 800 kg	65,698 lb
Engine Power	123 kW	165 hp	201 kW	270 hp
Engine Model	3306 DITA		3176C EUI ATAAC	
Tire Size	17.5x25 20 Ply STMS L5S		18x25 28 Ply STMS L5S	
Outer Clearance Radius	5741 mm	18'10"	6638 mm	21'9"
Inner Clearance Radius	2914 mm	9'7"	3291 mm	10'7"
Articulation Angle	±42.5°		±42.5°	
Oscillation Angle	±10°		±10°	
Bucket Raise Time	5.0 Sec.		7.6 Sec.	
Bucket Lower Time	2.3 Sec.		2.0 Sec.	
Bucket Tip Time	2.0 Sec.		1.6 Sec.	
Bucket Total Time	9.3 Sec.		11.2 Sec.	
Travel Speeds	km/h	mph	km/h	mph
Forward 1	5.0	3.1	4.9	3.1
2	9.0	5.6	8.7	5.4
3	17.0	10.6	15.2	9.4
4	24.0	14.9	22.1	13.7
Reverse 1	5.0	3.1	5.7	3.5
2	9.0	5.0	9.9	6.1
3	15.0	9.3	17.1	10.6
4	23.0	14.3	23.8	14.8
Maximum Bucket Pin Height	2918 mm	9'7"	3752 mm	12'4"
Maximum Bucket Dump Angle	43°		45°	
Break Out Force SAE	12 480 kg	27,518 lb	19 280 kg	42,505 lb
Static Tipping (Load)	20 351 kg	44,866 lb	28 100 kg	61,950 lb
Service Brake	Inboard oil cooled fluid applied fully enclosed wet disc brakes on all wheels.		Caterpillar oil cooled, fluid applied spring release fully enclosed wet disc brakes on all wheels.	
Park Brake	SAFR™ Spring Applied Fluid Released wet disc brakes on all wheels.		Spring applied hydraulic released, all wheels.	
Fuel Capacity	295 L	77.9 U.S. gal	400 L	106 U.S. gal



MODEL	R1700G		R2900G		R2900G XTRA	
Bucket Size Minimum	4.6 m³	6 yd³	7.2 m	9.4 yd³	8.9 m	11.6 yd³
Bucket Size Maximum	8.8 m³	11.4 yd³	8.9 m³	11.6 yd³	11.6 m³	15.2 yd³
Tramming Capacity	14 000 kg*	30,870 lb*	17 200 kg	37,920 lb	20 000 kg	44,092 lb
Length (Tramming)	10 589 mm	34'9"	10 949 mm	35'11"	11 083 mm	37'10"
Width Bucket (Standard)	2894 mm	9'6"	3176 mm	10'5"	3472 mm	11'5"
Width over Tires	2650 mm	8'8"	2898 mm	9'5"	3142 mm	10'3"
Height (Overall)	2557 mm	8'5"	2886 mm	9'5"	2988 mm	9'8"
Operating Weight	38 500 kg	84,880 lb	50 209 kg	110,692 lb	55 575 kg	122,522 lb
Engine Power	241/263 kW	323/353 hp	321/333 kW	430/447 hp	321/333 kW	430/447 hp
Engine Model	C11 ACERT ATAAC		C15 ACERT ATAAC		C15 ACERT ATAAC	
Tire Size	26.5x25 32 Ply STMS L5S		29.5x29 34 Ply STMS L5S		35x65 R33	
Outer Clearance Radius	6878 mm	22'7"	7323 mm	24'0"	7511 mm	24'6"
Inner Clearance Radius	3229 mm	10'7"	3383 mm	11'1"	3289 mm	10'10"
Articulation Angle	±44°		±42.5°		±42.5°	
Oscillation Angle	±8°		±8°		±8°	
Bucket Raise Time	6.8 Sec.		9.2 Sec.		9.2 Sec.	
Bucket Lower Time	2.4 Sec.		3.1 Sec.		3.1 Sec.	
Bucket Tip Time	2.9 Sec.		3.4 Sec.		3.4 Sec.	
Bucket Total Time	12.1 Sec.		15.7 Sec.		15.7 Sec.	
Travel Speeds	km/h	mph	km/h	mph	km/h	mph
Forward 1	4.7	2.9	5.0	3.1	5.0	3.1
2	8.3	5.2	8.8	5.5	8.8	5.5
3	14.3	8.9	15.2	9.4	15.2	9.4
4	24.1	15.0	25.3	15.7	25.3	15.7
Reverse 1	5.4	3.3	6.2	3.9	6.2	3.9
2	9.4	5.8	10.9	6.8	10.9	6.8
3	16.4	10.2	18.6	11.6	18.6	11.6
4	25.3	15.7	26.4	16.4	26.4	16.4
Maximum Bucket Pin Height	4104 mm	13'6"	4539 mm	14'9"	4541 mm	14'9"
Maximum Bucket Dump Angle	46°		42°		42°	
Break Out Force SAE	20 100 kg	44,321 lb	27 346 kg	60,298 lb	27 346 kg	60,298 lb
Static Tipping (Load)	35 434 kg	78,119 lb	39 923 kg	88,015 lb	56 205 kg	123,911 lb
Service Brake	Spring Applied Fluid Released (SAFR™) fully enclosed wet disc brakes at all wheels. Front and rear circuits.		Spring Applied Fluid Released (SAFR™) fully enclosed wet disc brakes at all wheels. Front and rear circuits.		Spring Applied Fluid Released (SAFR™) fully enclosed wet disc brakes at all wheels. Front and rear circuits.	
Park Brake	SAFR™ Inboard spring applied fluid released, enclosed wet disc @ all wheels. Front and rear circuits.		SAFR™ Spring Applied Fluid Released wet discs on all wheels.		SAFR™ Spring Applied Fluid Released wet discs on all wheels.	
Fuel Capacity	550 L	145 U.S. gal	854 L	225.6 U.S. gal	1425 L	376.4 U.S. gal
Dump Clearance	2443 mm	8'0"	2868 mm	9'5"	2726 mm	8'11"

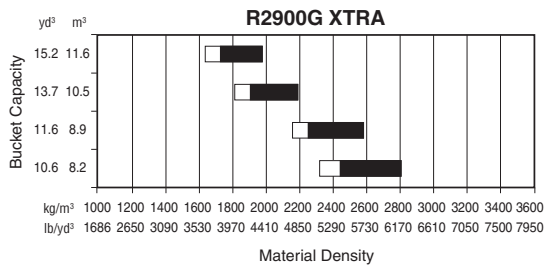
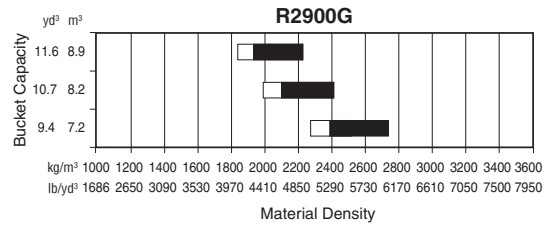
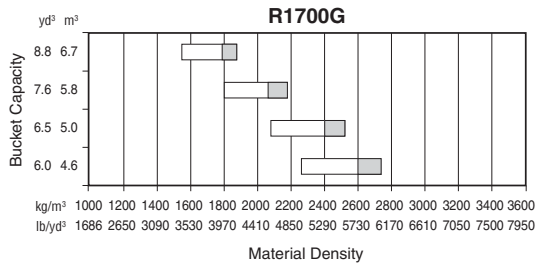
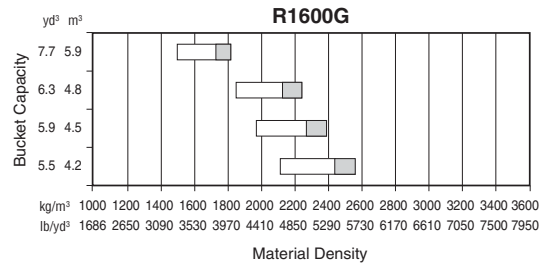
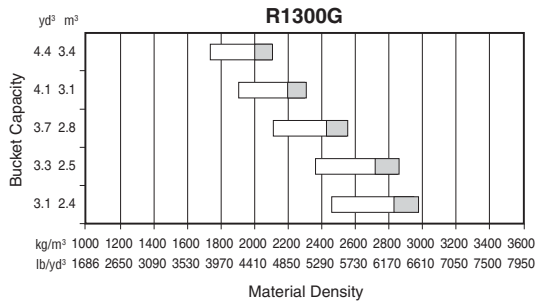
*14 000 kg (30,870 lb) tramming only, 12 500 kg (27,558 lb) truck loading.

NOTE: R1700G and R2900G XTRA: For Load, Haul, Carry only @ rated load. Not truck loading @ rated load.

Model	R1300G		R1600G		R1700G	
Rated payload	6800 kg	14,991 lb	10 200 kg	22,487 lb	14 000 kg	30,865 lb
Bucket capacity	3.1 m ³	4.1 yd³	4.8 m ³	6.3 yd³	5.7 m ³	7.5 yd³
Overall width	2318 mm	7'7"	2723 mm	8'11"	2894 mm	9'6"
Overall height	2120 mm	6'11"	2400 mm	7'10"	2557 mm	8'5"
Length (tramming)	8613 mm	28'3"	9711 mm	31'10"	10 589 mm	34'9"
Operating weight	20 875 kg	46,021 lb	29 800 kg	65,698 lb	38 500 kg	84,893 lb
Loaded weight	27 675 kg	61,013 lb	40 000 kg	88,185 lb	52 500 kg	115,743 lb
Ground clearance	328 mm	12.9"	344 mm	13.5"	429 mm	16.9"
Axle oscillation	±10°		±10°		±8°	

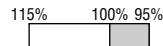
Model	R2900G		R2900G XTRA	
Rated payload	17 200 kg	37,920 lb	20 000 kg	44,092 lb
Bucket capacity	7.2 m ³	9.4 yd³	8.9 m ³	11.6 yd³
Overall width	3176 mm	10'5"	3472 mm	11'5"
Overall height	2886 mm	9'6"	2988 mm	9'8"
Length (tramming)	10 949 mm	35'11"	11 083 mm	36'4"
Operating weight	50 209 kg	110,692 lb	55 575 kg	122,522 lb
Loaded weight	67 409 kg	148,612 lb	75 575 kg	166,614 lb
Ground clearance	465 mm	18.3"	466 mm	18.4"
Axle oscillation	±8°		±8°	

Model	Bucket Type	SAE Capacity	
		m³	yd³
R1300G	Standard	2.4	3.1
	Standard	2.8	3.7
	Standard	3.1	4.1
	Standard	3.4	4.4
	Ejector	2.5	3.3
R1600G	Standard	4.2	5.5
	Standard	4.8	6.3
	Standard	5.6	7.3
	High Penetration	4.2	5.5
	High Penetration	4.8	6.3
	High Penetration	5.9	7.7
	Ejector	4.8	6.3
R1700G	Standard	4.6	6.0
	Standard	5.0	6.5
	Standard	5.7	7.5
	Standard	6.6	8.6
	Standard	7.3	9.5
	High Penetration	5.0	6.5
	High Penetration	5.7	7.5
	High Penetration	6.6	8.6
	High Penetration	7.3	9.5
	Light Material	8.8	11.4
	Ejector	5.6	7.3
R2900G and R2900G XTRA	Standard	7.2	9.4
	Standard	8.3	10.9
	Standard	8.9	11.6
	High Penetration	7.2	9.4
	High Penetration	8.3	10.9
	High Penetration	8.9	11.6
	Light Material	10.5	13.7
	Light Material	11.6	15.2



KEY

Bucket Fill Factor



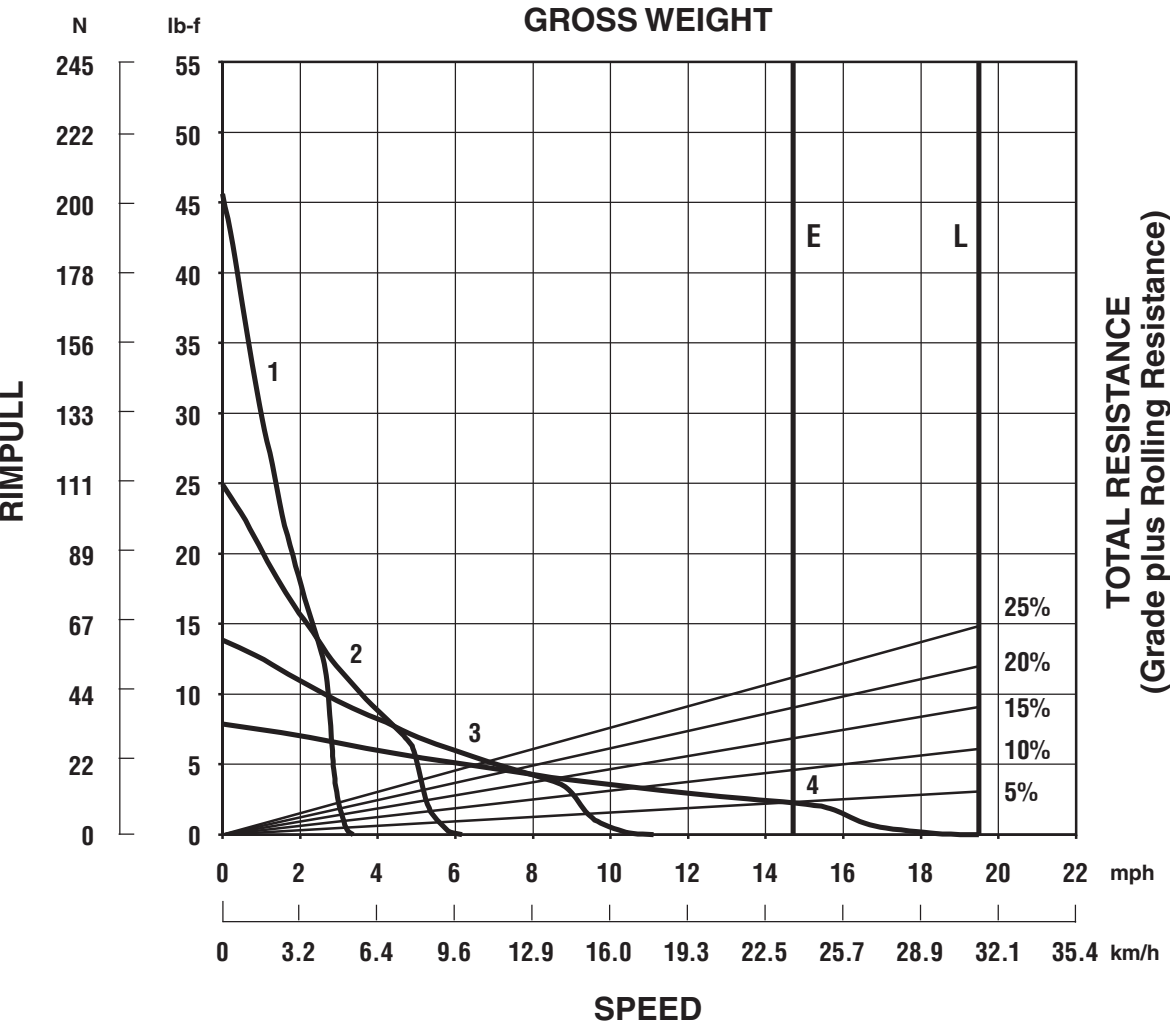
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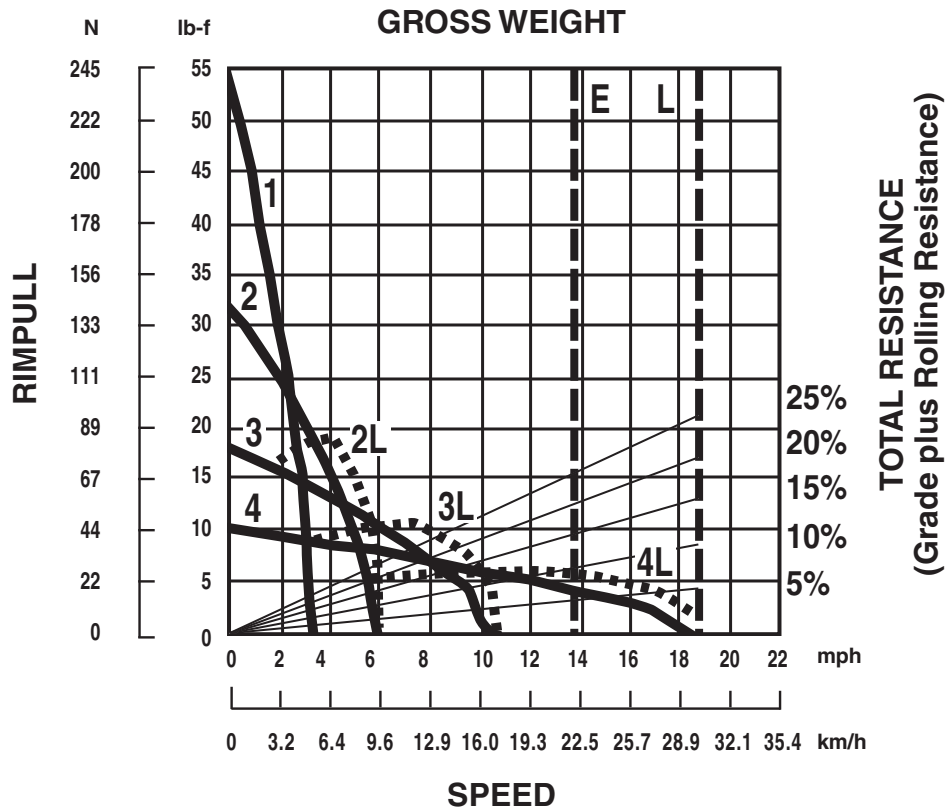
Bucket Fill Factor

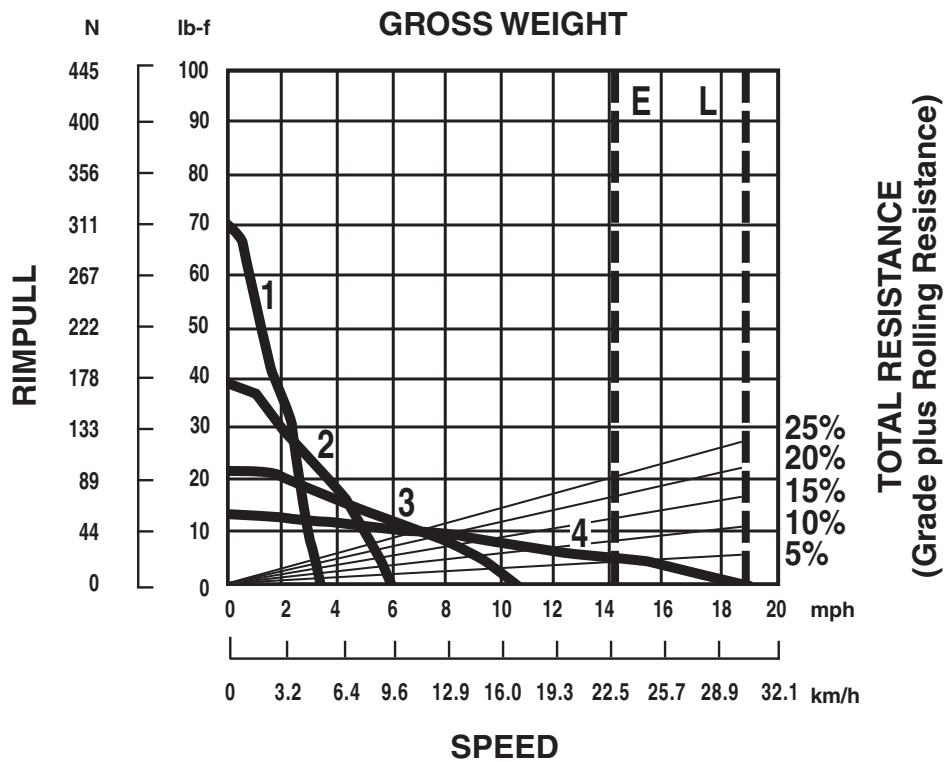


Turning Dimensions

Model	R1300G		R1600G		R1700G		R2900G		R2900G XTRA	
Turn radius (outside)	5741 mm	18'10"	6638 mm	21'9"	6878 mm	22'7"	7323 mm	24'0"	7511 mm	24'8"
Turn radius (inside)	2914 mm	9'7"	3291 mm	10'10"	3229 mm	10'7"	3383 mm	11'1"	3289 mm	10'8"
Articulation angle	±42.5°		±42.5°		±44°		±42.5°		±42.5°	





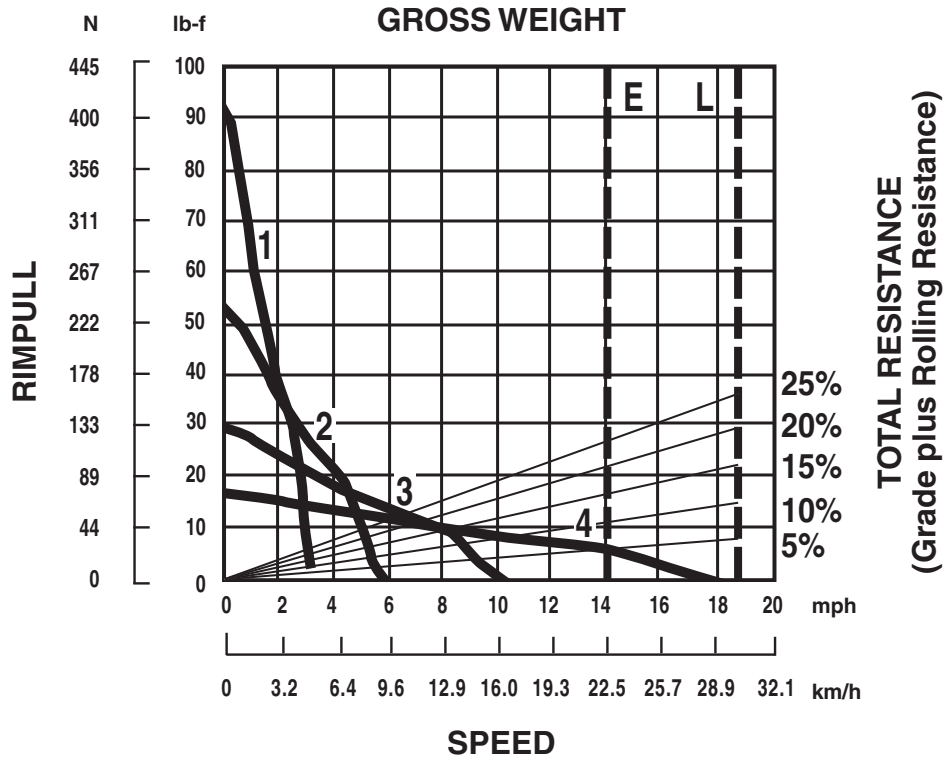


KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear

KEY

- E — Empty 38 500 kg (84,878 lb)
- L — Loaded 51 000 kg (112,436 lb)

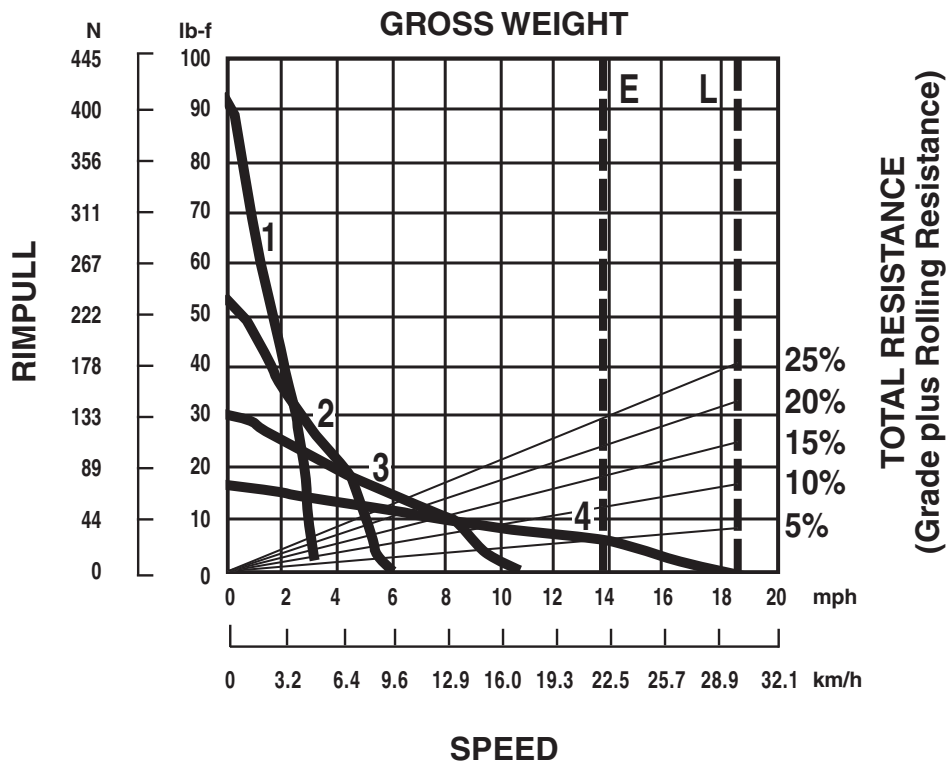


KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear

KEY

- E — Empty 50 209 kg (110,711 lb)
- L — Loaded 67 409 kg (148,637 lb)





MODEL	AD30		AD45B		AD55B	
Engine Power	304 kW	408 hp	438 kW	587 hp	579/600 kW	776/805 hp
Engine Model	C15 ACERT ATAAC		C18 DI ATAAC		C27 ACERT	
Tare Weight	28 870 kg	63,658 lb	39 359 kg	86,772 lb	50 000 kg	110,231 lb
Max. Capacity (Dump)	30 000 kg	66,150 lb	45 000 kg	99,208 lb	55 000 kg	121,254 lb
Capacity M3 (SAE) 2:1 Heaped	14.4 m ³	18.8 yd ³	21.3 m ³	27.9 yd ³	26.9 m ³	35.2 yd ³
Distribution Loaded Front	44.2%		45.6%		50.4%	
Distribution Loaded Rear	55.8%		54.4%		49.6%	
Outside Clearance Radius (Standard Dump Body)	8571 mm	28'1"	9291 mm	30'6"	10 005 mm	32'10"
Inside Clearance Radius (Standard Dump Body)	5030 mm	16'6"	5310 mm	17'5"	5540 mm	18'2"
Height	2600 mm	8'6"	2817 mm	9'6"	3278 mm	10'11"
Length	10 153 mm	33'4"	11 194 mm	36'9"	12 064 mm	39'8"
Loading Height	2385 mm	7'10"	2925 mm	9'7"	3045 mm	10'0"
Width	2690 mm	8'10"	3000 mm	9'10"	3346 mm	11'0"
Oscillation Angle	±10°		±10°		±10°	
Articulation Angle	±42.5°		±42.5°		±42.5°	
Tray Height Raised (Dump)	5602 mm	18'5"	6357 mm	20'10"	6969 mm	22'1"
Dump Time	10.5 Sec.		16 Sec.		12 Sec.	
Travel Speeds	km/h	mph	km/h	mph	km/h	mph
Forward 1	6.8	4.2	8.0	4.9	6.6	4.1
2	12.3	7.6	10.9	6.8	9.3	5.8
3	22.3	13.8	15.1	9.4	12.5	7.5
4	40.8	25.4	20.6	12.8	19.8	10.4
5	—	—	28.1	17.4	22.7	14.1
6	—	—	38.1	23.7	30.7	19.1
7	—	—	52.0	32.3	41.5	25.8
Reverse 1	7.8	4.8	7.5	4.6	8.7	5.4
2	—	—	10.1	6.3	—	—
Tire Size	26.5xR25 VSNT E4		29.5x29 2 ★★ Radials		35x65 R33	
Service Brake	Cat oil cooled hydraulic applied wet disc all wheels.		Cat oil cooled hydraulic applied wet disc all wheels.		Integrated braking system — oil cooled multiple disc brakes combine service, secondary, parking brake and retarder functions in the same system.	
Park Brake	SAFR™ Spring Applied Fluid Released wet disc brakes on all wheels.		Spring applied hydraulic released all wheels.			
Fuel Capacity	500 L	132.1 U.S. gal	764 L	201.8 U.S. gal	960 L	253 U.S. gal

Articulated Trucks

Model	AD30		AD45B		AD55B	
Heaped capacity*	14.4 m ³	18.8 yd³	21.3 m ³	27.9 yd³	26.9 m ³	35.2 yd³
Overall width	2690 mm	8'10"	3000 mm	9'10"	3346 mm	11'0"
Overall height	2600 mm	8'5"	3036 mm	9'11"	3278 mm	10'11"
Overall length	10 153 mm	33'4"	11 194 mm	36'6"	12 064 mm	39'8"
Empty weight	30 000 kg	66,140 lb	40 500 kg	89,303 lb	50 000 kg	110,231 lb
Loaded weight	60 000 kg	132,280 lb	85 500 kg	188,528 lb	105 000 kg	231,485 lb
Ground clearance	400 mm	15.7"	441 mm	17.0"	393 mm	15.0"
Frame oscillation	±10°		±10°		±10°	

*2:1 per SAE.

Body Selection

Model	SAE Body Capacity	
AD30 Dump	11.3 m ³	14.8 yd³
	14.4 m ³	18.8 yd³
	17.5 m ³	22.9 yd³
AD30 Ejector	15.2 m ³	19.9 yd³
AD45B Dump	21.3 m ³	27.9 yd³
	25.1 m ³	32.8 yd³
AD45B Ejector	22.9 m ³	30.0 yd³
AD55B	26.9 m ³	35.2 yd³
AD55B Ejector	26.9 m ³	35.2 yd³

Turning Dimensions

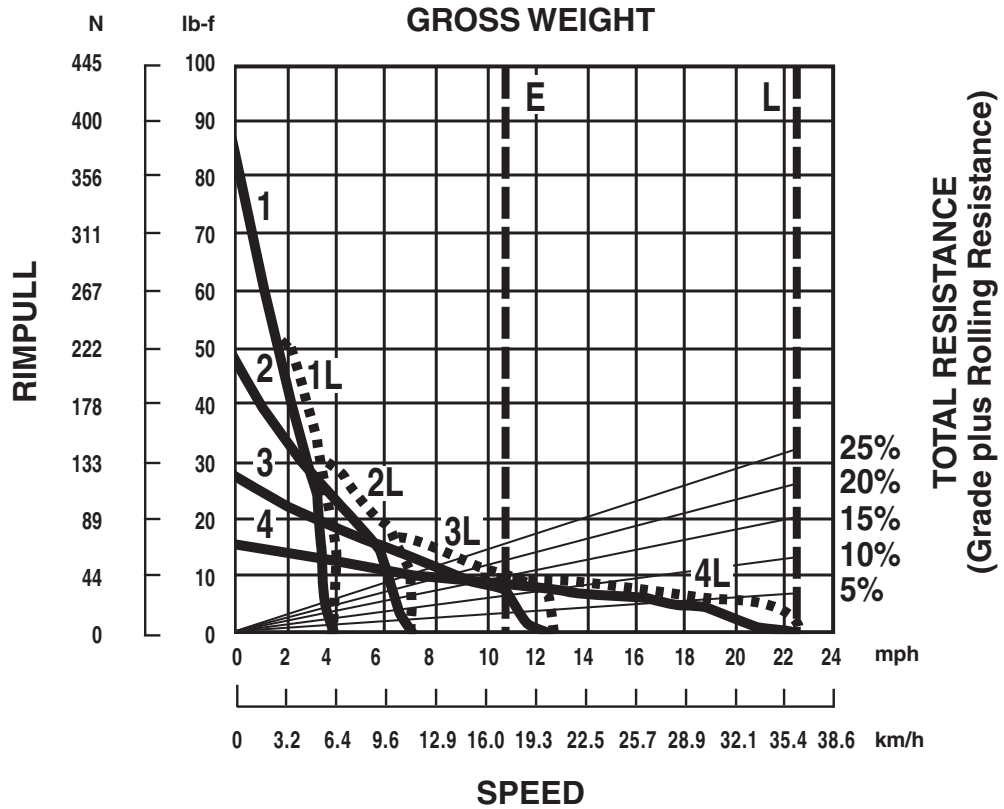
Articulated Trucks

Model	AD30		AD45B		AD55B*	
Turn radius (outside)	8571 mm	28'1"	9291 mm	30'6"	10 005 mm	32'10"
Turn radius (inside)	5030 mm	16'5"	5310 mm	17'5"	5540 mm	18'2"
Articulation angle	±42.5°		±42.5°		±42.5°	

*Standard dump body.

Ejector

Model	AD30		AD45B		AD55B	
Turn radius (outside)	8571 mm	28'1"	9291 mm	30'6"	10 005 mm	32'10"
Turn radius (inside)	4935 mm	16'2"	5210 mm	17'1"	5540 mm	18'2"
Articulation angle	±42.5°		±42.5°		±42.5°	

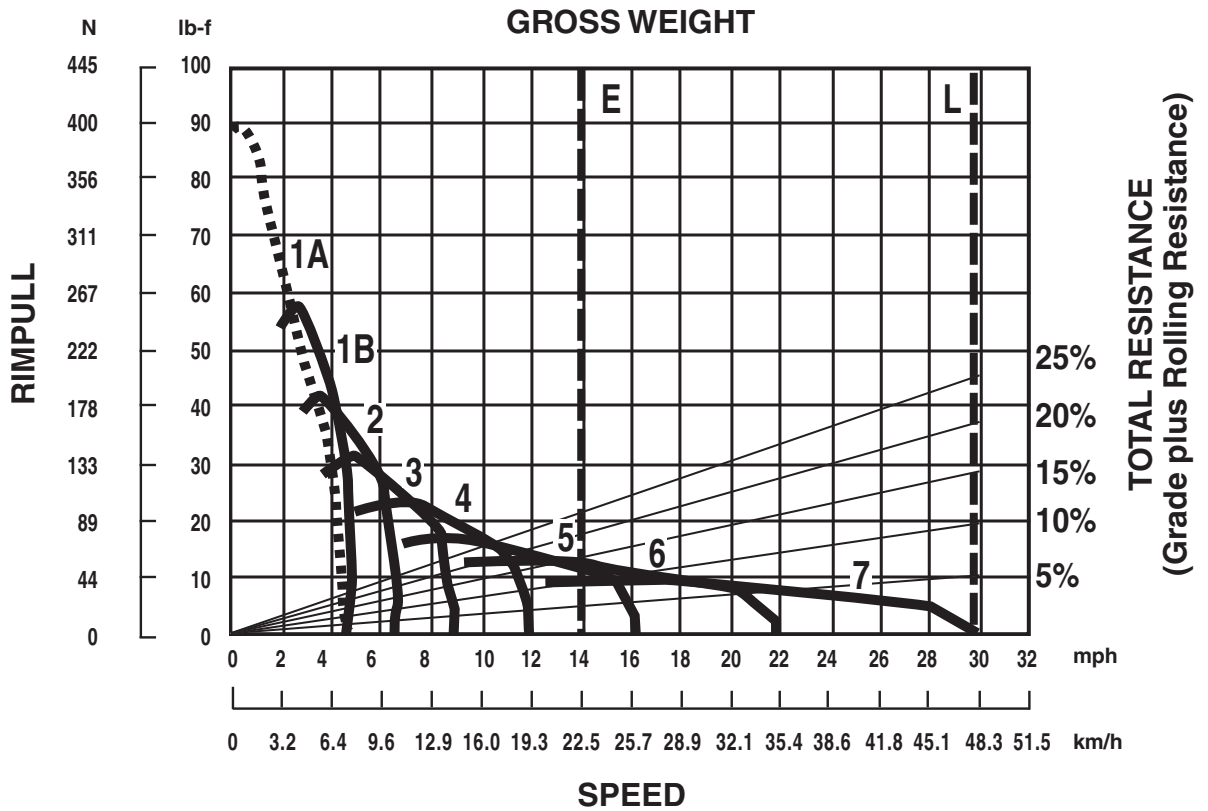


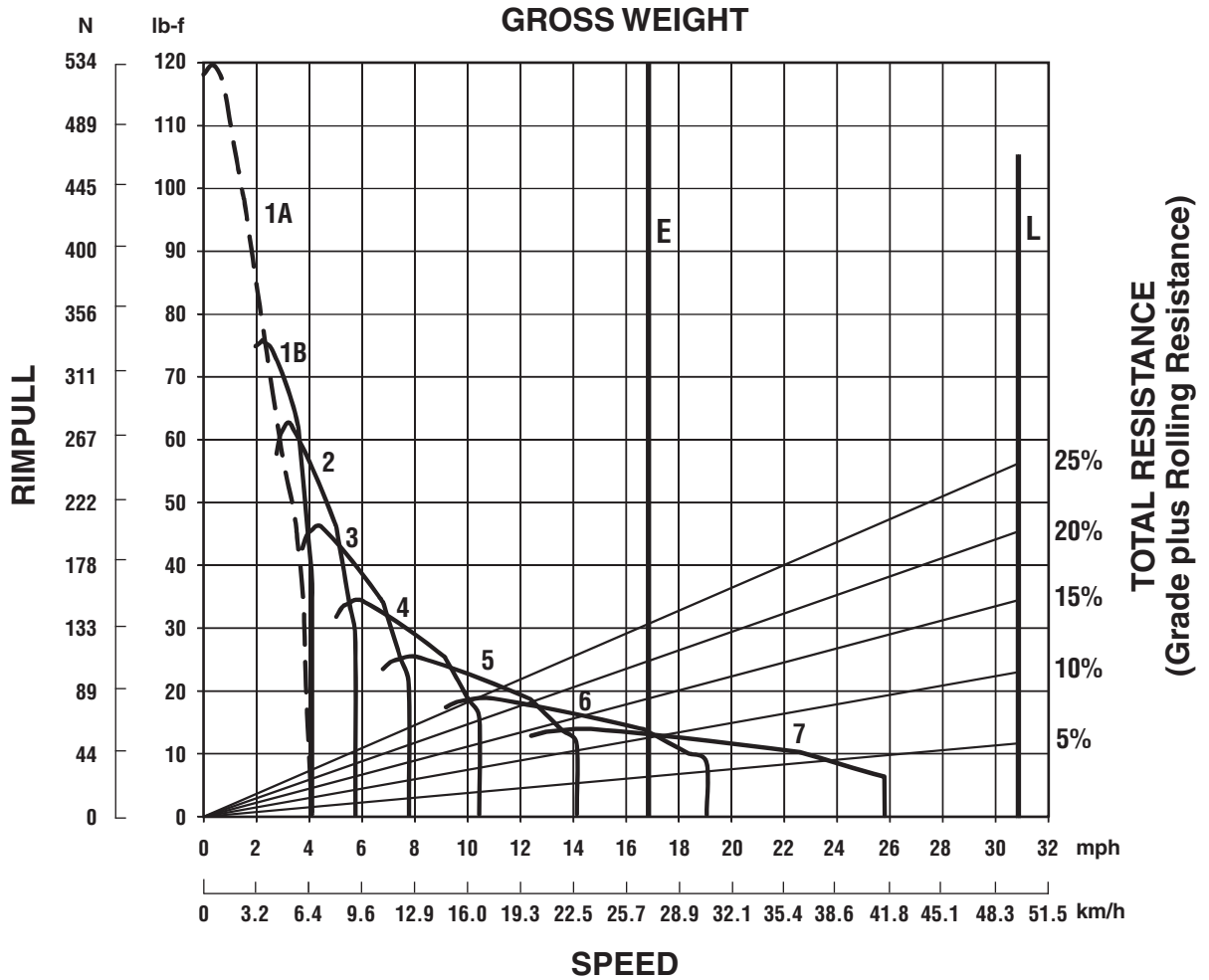
KEY

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear

KEY

- E — Empty 28 870 kg (63,647 lb)
- L — Loaded 60 000 kg (132,277 lb)



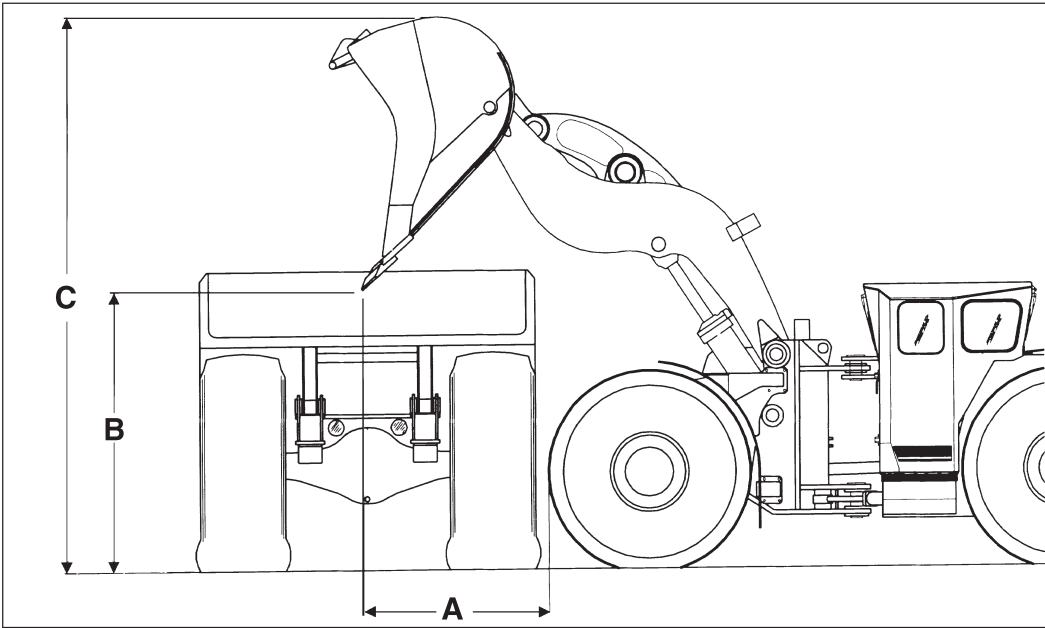


KEY

- 1A — 1st Gear Torque Converter Drive
- 1B — 1st Gear Direct Drive
- 2 — 2nd Gear Direct Drive
- 3 — 3rd Gear Direct Drive
- 4 — 4th Gear Direct Drive
- 5 — 5th Gear Direct Drive
- 6 — 6th Gear Direct Drive
- 7 — 7th Gear Direct Drive

KEY

- E — Empty 50 000 kg (110,000 lb)
- L — Loaded 105 000 kg (231,000 lb)



Loader	Target	A		B		C	
R1300G	AD30	1583 mm	5'2"	1560 mm	5'1"	3531 mm	11'7"
R1600G	AD30	1408 mm	4'7"	2207 mm	7'3"	4497 mm	14'9"
R1600G	AD45B	1500 mm	4'11"	2207 mm	7'3"	4497 mm	14'9"
R1700G	AD30	1837 mm	6'0"	2320 mm	7'7"	4899 mm	16'0"
R1700G	AD45B	1741 mm	5'9"	2443 mm	8'0"	4902 mm	16'1"
R1700G	AD55B	1685 mm	5'6"	2444 mm	8'0"	4899 mm	16'0"
R2900G	AD45B	1656 mm	5'5"	2868 mm	9'5"	5427 mm	17'9"
R2900G	AD55B	1725 mm	5'8"	2868 mm	9'5"	5427 mm	17'9"

NOTE: R1700G rated payload 14 000 kg (**30,870 lb**) is for tramming only. Truck loading capacity is 12 500 kg (**27,563 lb**).
R2900G XTRA rated payload 20 000 kg (**44,100 lb**) is for tramming only. Truck loading capacity is 17 200 kg (**37,926 lb**).

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HYDRAULIC HAMMERS

H35D S-H65D S Hammer Features:

- **One Piece Body** results in reduced hammer components, which minimizes service time required.
- **Tubular Accumulator** eliminates accumulator retention screws, which improves hammer efficiency while simplifying maintenance.
- **Distributor** provides high oil volume for greater blow frequency.
- **Pressure Adjusting Valve (PAV)** assures that all blows are delivered at a constant blow energy.
- **Long Heavy Piston** delivers maximum impact energy and minimizes recoil forces to carrier.
- **Replaceable Piston Sleeve** reduces the cost to repair in event of catastrophic failure, simplifies serviceability.
- **Shock Isolation** feature significantly reduces shock loads transferred to the machine during hammer operation, improve operator comfort and extend life of critical machine components.
- **Round Tool Retaining Pin with Locking Mechanism** means no loose parts when changing tool.
- **Single Piece Upper & Lower Tool Bushing with Integral Tool Stop** simplifies product maintenance by allowing field replacement of all tool wear components.
- **Dust Seal** helps prevent foreign material from entering the housing, which reduces the wear on the power cell and other major components.
- **Sound Suppressed** version is standard for all D series small hammer models.

H70-H100 Hammer Features:

- **Low Pressure Accumulator** provides the energy for the piston power stroke.
- **Custom Side Plates** designed for Cat carrier geometry. Protects power cell. Allows for complete folding of the boom on side-shift backhoes.
- **High Pressure Accumulator** dampens pressure peaks and pulsation, thus protecting carrier hydraulic system. Recovers rebound energy in hard material for greater impact power.
- **Distributor** has high oil volume for ultra high blow frequency.
- **Pressure Adjusting Valve** assures that all blows are delivered at a constant blow energy.
- **Long Heavy Piston** delivers maximum impact energy and minimizes recoil forces to carrier.
- **Long Front End** ensures proper piston — tool alignment.
- **Slip Fit Thrust Ring** dissipates harmful shock loads in abusive applications and is rotatable for additional life.
- **Slip Fit Upper Tool Bushing** is rotatable for additional life and provides positive tool alignment.
- **Slip Fit Lower Tool Bushing** provides positive tool alignment, is field replaceable and rotatable. Grease retention grooves provide extended lubrication and wear indication.
- **Dust Seal** helps prevent foreign material from entering the housing, which reduces the wear on the power cell and other major components.
- **Sound Suppressed** versions available for all models.

H115 S-H180D S Hammer Features:

- **Shock Mount** isolates forces to protect the carrier.
- **Integrally Mounted Accumulator** dampens pressure peaks inside the hammer to protect the carrier hydraulic system, assist the piston in the power stroke, and allows checking/replacing nitrogen without removing the hammer.
- **Pressure Control Valve** allows hammer to strike with maximum fixed energy per blow.
- **Main Valve** directs the firing cycle and blocks the return port to protect the carrier hydraulics from pressure peaks.
- **Check Valve** maintains oil pressure in the accumulator when hammer is repositioned. This helps improve breaking efficiency (reduced waiting time).
- **Tie Rods** are heat torqued for easier tightening without torsion stresses.
- **Long Heavy Piston** minimizes recoil forces to protect hammer components and carrier structures.
- **Slip Fit Thrust Ring** dissipates shock loads in abusive applications and is rotatable for longer life.
- **Plastic Wear Plates** on all four sides guide the power cell within the housing.
- **Blank Fire Protection** aided by auto-shutoff stops operation when no material is present to be broken. It increases hammer reliability and durability by eliminating high stress resulting from blank firing. (Available only in D-series models.)
- **Slip Fit Upper Tool Bushing** is rotatable for longer life and is replaceable. Guides the tool to optimize in-line piston/tool contact.
- **Slip Fit Sealed Lower Tool Bushing** provides positive tool alignment, is field replaceable and rotatable. It has grease retention grooves for extended lubrication and wear indication.
- **Sound Suppression** consists of housing dampening material, plugs and covers.
- **Autolube** available for all hammers.

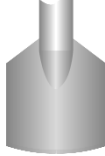
Hammer Applications:

- **Sewer and Water** — The hammer can be used on pockets of rock that slow down production. Also good for breaking up old concrete pipes, manholes, etc.
- **Road Construction** — An essential tool during improvements and upgrading. The hammer works well on removing existing curbs, traffic islands, ramps, or sections of concrete. With correct tool, it can cut asphalt.
- **Bridge Renewal** — Hammers are used to remove old bridge surfaces, railing supports, abutments, retaining walls, etc.
- **Demolition** — The hammer-equipped excavator is often a key helper in industrial demolition. It can break up fallen wall and floor sections as well as foundations, or other brick and concrete structures.
- **Mining and Aggregate** — Hammers can break oversized material to avoid secondary blasting, and size riprap. Hammers can be installed near crushers to prepare material for crushing.
- **Trenching/Primary Excavation** — In soft or layered materials, the hydraulic hammer with amoil or chisel point is an effective tool in excavation.
- **Direct Quarrying** — In many types of limestone, direct quarrying with hydraulic hammers can prove cost effective, especially where blasting is prohibited or restricted.

A hammer need not be full time attachment for these applications. It can be replaced by a bucket in a short time, allowing the machine to be used for digging, loading, lifting, or other tasks.

Consult your Cat dealer for advice on correct sizing, installation and tool selection.

NOTE: Internal components of hammers are machined to close tolerances and require clean oil with full lubricating properties. When operating in high ambient temperatures or extreme temperature applications (e.g. foundries), higher viscosities are recommended to extend hammer life and improve performance. Hammers tend to shear multigrade mineral oil so that oil viscosity decreases. Contamination, water in oil, and decreased viscosity lead to earlier oil deterioration and the need for more frequent oil changes than normally recommended for the excavator. Extra care should be taken to avoid the entry of dust or dirt when installing or removing a hammer in the field.

Standard Tools			Special Tools												
Chisel	Moil	Blunt	Spade		Compacting Plate		Hard Rock Chisel		Soft Rock Chisel		Pyramidal		Super Blunt		
C	M	B	S		CP		C (HRC)		C (SRC)		P		B (SB)		
															
			H35D S	H45D S	H55D S	H65D S	H70 H70 S	H90C H90C S	H100 H100 S	H115 S	H120C S	H130 S	H140D S	H160D S	H180D S
1. Roadbuilding/Construction															
Breaking of road surface			C,M,S	C,M,S	C,M,S	C,M,S	C,M,S	C,M,S	C,M,P,S	C,M,P	C,M,P	C,M,P	C,M,P	C,M,P	C,M,P
Breaking uneven bedrock to lay a road								C,M	C,M,P	C,M,P	C,M,P	C,M,P	C,M,P	C,M,P	C,M,P
Primary breaking to prepare road bed												C,M,P	C,M,P	C,M,P	
Asphalt cutting to shape or area			C,S	C,S	C,S	C,S	C,S	C,S							
Trench excavation for drainage							C,M	C,M	C,M	C,M,P	C,M,P	C,M,P	C,M,P	C,M,P	C,M,P
Demolition of bridges			C,M	C,M	C,M	C,M	C,M	C,M	B,C,M,P	B,C,M,P	B,C,M,P	B,C,M,P	B,C,M,P	B,C,M,P	B,C,M,P
Heavily reinforced bridge pillars												B	B	B	
Compacting soils			CP	CP	CP	CP	CP								
Making holes (for traffic signs, lamp posts)			M	M	M	M	M	M	M	M	M	M	M	M	M
Breaking of frozen ground			C,M,S	C,M,S	C,M,S	C,M,S	C,M,S	C,M,S	C,M,P,S	C,M,P	C,M,P	C,M,P	C,M,P	C,M,P	C,M,P
2. Demolition/housing development															
Demolition of concrete walls, roofs, floors			C,M	C,M	C,M	C,M	C,M	C,M	B,C,M,P	B,C,M,P	B,C,M,P	B,C,M,P	B,C,M,P	B,C,M,P	B,C,M,P
Demolition of light, reinforced concrete foundation [<0.5 m (19.7")]			M	M	M	M	M	M	B,M,P	B,M,P	B,M,P				
Brick walls			C,M	C,M	C,M	C,M	C,M	C,M	B,C,M,P	B,C,M,P	B,C,M,P	B,C,M,P	B,C,M,P	B,C,M,P	B,C,M,P
Rock trenches for mains/water supply/utilities							C,M	C,M	C,M	C,M,P	C,M,P	C,M,P	C,M,P	C,M,P	C,M,P
Rock excavation for foundation								C,M	C,M	C,M,P	C,M,P	C,M,P	C,M,P	C,M,P	C,M,P
Mass excavation of rock for industrial building bases											C,M,P	C,M,P	C,M,P	C,M,P	C,M,P
Massive reinforced concrete foundations												M,P	M,P	M,P	
Separating rebar from concrete (for recycling)			C,M	C,M	C,M	C,M	C,M	C,M	B,C,M,P	B,C,M,P	B,C,M,P	B,C,M,P	B,C,M,P	B,C,M,P	B,C,M,P

Standard Tools

Special Tools

Chisel	Moil	Blunt	Spade	Compacting Plate	Hard Rock Chisel	Soft Rock Chisel	Pyramidal	Super Blunt
C	M	B	S	CP	C (HRC)	C (SRC)	P	B (SB)
								
			H35D S H45D S	H55D S H65D S H70 H70 S	H90C H90C S H100 H100 S	H115 S H120C S	H130 S H140D S	H160D S H180D S
3. Quarrying/open cast mining								
Secondary boulder breaking						B	B	B
Primary breaking of rock							C,M,P	C,M,P
Breaking oversizes on a crusher/ feeder/feed chute					C,M	C,M	B,C,M,P	B,C,M,P
4. Underground applications								
Scaling				C	C	C		
5. Metallurgical applications								
Breaking of slag in casting ladles					C,M	C,M	C,M,P	
Breaking of slag in converter openings						C,M	C,M,P	C,M,P
Cleaning of castings					C,M	C,M	C,M,P	
Breaking of massive steel slag								C,M,P
Breaking of aluminum electrolyze slag						C,M,P	C,M,P	C,M,P
Breaking of refractory linings in furnaces			C,M	C,M	C,M	C,M	C,M	
6. Other applications								
Demolition/Rock breaking under water						C,M,P	C,M,P	C,M,P

Model	H35D S		H45D S		H55D S		H65D S	
Working weight ¹	103 kg	227 lb	145 kg	320 lb	199 kg*/ 240 kg**	438 lb*/ 529 lb**	271 kg*/ 295 kg**	598 lb*/ 650 lb**
Impact frequency ²	800-2900 bpm		900-2500 bpm		1022-2300 bpm		700-2000 bpm	
Hammer operating pressure ³	16 500 kPa	2393 psi	16 500 kPa	2393 psi	17 000 kPa	2465 psi	17 000 kPa	2465 psi
Carrier relief pressure ⁴	24 000 kPa	3480 psi	23 000 kPa	3335 psi	23 000 kPa	3335 psi	24 000 kPa	3480 psi
Acceptable oil flow	12-35 L/min	3-9 gpm	25-55 L/min	7-15 gpm	40-85 L/min	11-22 gpm	40-105 L/min	11-28 gpm
Maximum back pressure	3000 kPa	435 psi	3000 kPa	435 psi	2000 kPa	290 psi	2000 kPa	290 psi
Line size (minimum)								
ID pressure	12.9 mm	0.51"	12 mm	0.47"	15 mm	0.59"	15 mm	0.59"
ID return	12.9 mm	0.51"	12 mm	0.47"	15 mm	0.59"	15 mm	0.59"
Carrier weight class	1.1-2.4 t	2430- 5300 lb	1.5-3.2 t	3310- 7060 lb	2.5-4.5 t	5500- 9900 lb	3-6.5 t	6610- 14,300 lb

*Pin-On Version.

**Flat Top Version.

Model	H70/H70 S		H90C/H90C S		H100/H100 S	
Working weight ¹	430/435 kg	948/959 lb	590/600 kg	1298/1320 lb	820/830 kg	1804/1826 lb
Impact frequency ²	600-1850 bpm		500-1450 bpm		430-1300 bpm	
Hammer operating pressure ³	14 000 kPa	2031 psi	13 500 kPa	1960 psi	14 500 kPa	2100 psi
Carrier relief pressure ⁴	21 000 kPa	3045 psi	21 000 kPa	3045 psi	21 000 kPa	3045 psi
Acceptable oil flow	50-150 L/min	13-39 gpm	60-150 L/min	16-39 gpm	60-120 L/min	16-31 gpm
Maximum back pressure	3000 kPa	435 psi	2000 kPa	290 psi	1000 kPa	145 psi
Line size (minimum)						
ID pressure	25 mm	1"	25 mm	1"	25 mm	1"
ID return	25 mm	1"	25 mm	1"	25 mm	1"
Carrier weight class	5-8 t	11,000- 17,600 lb	7-12 t	15,400- 26,400 lb	8-14 t	17,600- 30,800 lb

¹ Includes power cell, side plates/housing, average mounting bracket, where required, and standard tool.

² Approximate value, actual impact frequency depends on oil flow, oil viscosity, temperature, and hardness of material to be broken.

³ Approximate value, operating pressure depends on oil flow, oil viscosity, temperature, material to be broken, and back pressure. Operating pressure is the result of correct low pressure adjustment.

⁴ Approximate value, exact value depends on installation parameters.

Oil temperature working range for all models: -20° C to +80° C (-4° F to +176° F).

Oil viscosity at operating oil temperature: 15 to 1000 cSt.

Model	H115 S		H120C S		H130 S	
Working weight ¹	1000 kg	2200 lb	1300 kg	2870 lb	1700 kg	3740 lb
Impact frequency ²	370-800 bpm		350-620 bpm		320-600 bpm	
Hammer operating pressure ³	14 000 kPa	2031 psi	14 000 kPa	2031 psi	14 000 kPa	2031 psi
Carrier relief pressure ⁴	21 000 kPa	3045 psi	21 000 kPa	3045 psi	21 000 kPa	3045 psi
Acceptable oil flow	70-130 L/min	18-34 gpm	100-170 L/min	26-45 gpm	120-220 L/min	31-57 gpm
Maximum back pressure	1000 kPa	145 psi	1000 kPa	145 psi	1000 kPa	145 psi
Line size (minimum)						
ID pressure	25 mm	1"	25 mm	1"	25 mm	1"
ID return	25 mm	1"	25 mm	1"	32 mm	1.25"
Carrier weight class	12-20 t	26,400-44,000 lb	17-26 t	37,400-57,200 lb	19-32 t	41,800-70,400 lb

Model	H140D S		H160D S		H180D S	
Working weight ¹	2350 kg	5170 lb	3150 kg	6946 lb	3900 kg	8600 lb
Impact frequency ²	350-600 bpm		380-560 bpm		400-505 bpm	
Hammer operating pressure ³	16 000 kPa	2321 psi	16 000 kPa	2321 psi	16 000 kPa	2321 psi
Carrier relief pressure ⁴	21 000 kPa	3045 psi	21 000 kPa	3045 psi	21 000 kPa	3045 psi
Acceptable oil flow	160-230 L/min	42-60 gpm	220-310 L/min	58-82 gpm	250-330 L/min	67-88 gpm
Maximum back pressure	1000 kPa	145 psi	1000 kPa	145 psi	1000 kPa	145 psi
Line size (minimum)						
ID pressure	25 mm	1"	25 mm	1"	32 mm	1.25"
ID return	32 mm	1.25"	32 mm	1.25"	36 mm	1.42"
Carrier weight class	25-40 t	55,000-88,000 lb	32-55 t	70,400-121,000 lb	40-75 t	132,000-166,000 lb

¹ Includes power cell, side plates/housing, average mounting bracket, where required, and standard tool.

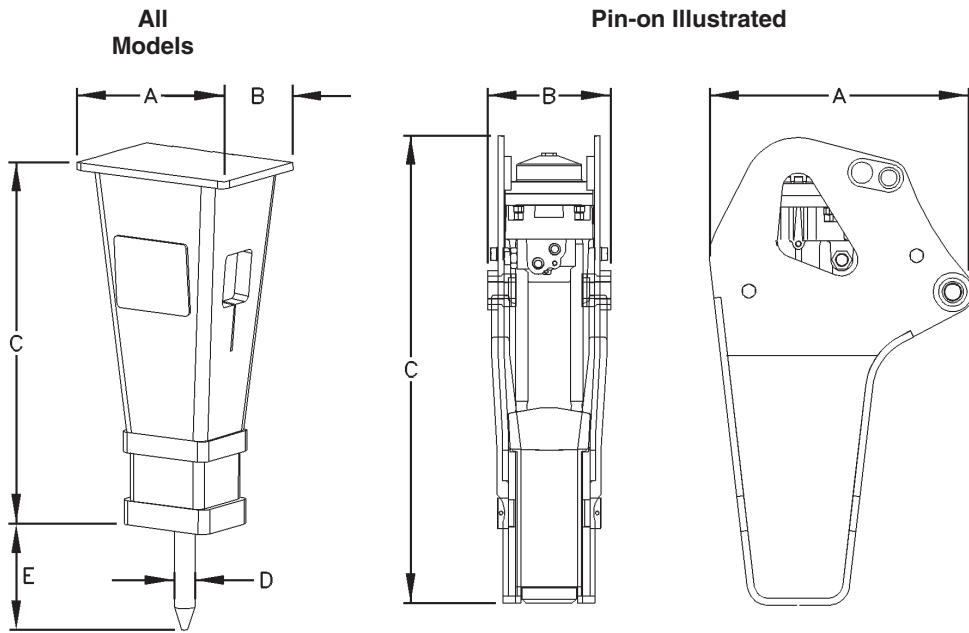
² Approximate value, actual impact frequency depends on oil flow, oil viscosity, temperature, and hardness of material to be broken.

³ Approximate value, operating pressure depends on oil flow, oil viscosity, temperature, material to be broken, and back pressure. Operating pressure is the result of correct low pressure adjustment.

⁴ Approximate value, exact value depends on installation parameters.

Oil temperature working range for all models: -20° C to +80° C (-4° F to +176° F).

Oil viscosity at operating oil temperature: 15 to 1000 cSt.



Model	A		B		C		D		E	
	mm	in	mm	in	mm	in	mm	in	mm	in
H180D S	730	28.7	730	28.7	2478	97.4	174	7.0	542	21.0
H160D S	730	28.7	730	28.7	2369	93.3	160	6.3	589	23.2
H140D S	585	23.0	540	21.3	2167	85.3	140	5.5	454	17.9
H130 S	585	23.0	540	21.3	1885	74.1	130	5.1	397	15.6
H120C S	585	23.0	540	21.3	1783	70.1	115	4.5	357	14.1
H115 S	585	23.0	540	21.3	1625	63.9	106	4.2	390	15.4
H100	585	23.0	540	21.3	1397	54.9	95	3.7	459	18.1
H100 S	585	23.0	540	21.3	1394	54.8	95	3.7	459	18.1
H90C	510	20.1	380	15.0	1286	50.6	84	3.3	417	16.4
H90C S	520	20.5	400	15.7	1294	50.9	84	3.3	417	16.4
H90C (pin-on)	749	29.4	348	13.7	1325	52.1	84	3.3	417	16.4
H70	470	18.5	380	15.0	1134	44.6	70	2.8	402	15.8
H70 S	520	20.5	400	15.7	1150	45.3	70	2.8	390	15.3
H70 (pin-on)	690	27.1	348	13.7	1228	48.3	70	2.8	355	14.0
H65D S	535	21.0	415	12.0	895	35.0	65	2.6	330	13.0
H65D S (pin-on)	454	17.9	300	11.8	1055	41.5	65	2.6	330	13.0
H55D S	450	18.0	325	13.0	820	32.0	56	2.2	299	11.8
H55D S (pin-on)	429	16.9	300	11.8	997	39.3	56	2.2	299	11.8
H45D S	330	13.0	280	11.0	713	28.1	48	1.9	233	9.2
H35D S	320	12.6	280	11.0	621	24.4	40	1.6	221	8.7

Principles of Selection

Key to the successful sale of a hammer is proper hammer selection.

Background Information

Collection of background information is the first step. The following information will assist in being sure the customer receives the correct hammer and that he has a positive hammer experience. The following issues should be examined.....

1. If any, what brand and model hammer was previously used and how did the hammer perform?
2. What % of time will the hammer be used on the machine?
3. Will the hammer be used in primary breaking or secondary breaking? (mainly an issue for large hammers)
4. What machine will the hammer be used on and what are the hydraulic flow and pressures of this machine?
5. What is the type of material to be broken and production required from the hammer? (best to obtain this from the end user but a table is available at the end of this section)

Hammer Selection Process

1. Using Cat carrier matching matrix on next page identify 2 or 3 possible hammers for your application (for competitive carriers use carrier weight class as reference).
2. Compare machine/carrier flow and pressures to those of the hammer candidates to validate compatibility. Eliminate hammers outside carrier specs.
3. If hammer is to be used in primary breaking consider larger of hammer candidates.
4. Check productivity guidance tables at the back of this section. Identify hammer most compatible with requirements.
5. Determine if the application requires special hammer modifications, i.e. steel mill, underwater, tunneling, etc.

Other Issues

Once the hammer has been chosen, other elements need to be considered to have a successful hammer experience.

1. Select the correct hammer tool for the application (see tool application chart in this section).
2. Check to be sure the correct hammer bracket and hoses are specified. Be sure correct carrier oil is specified for hammer use (particularly important in high ambient areas).
3. Consider supplemental carrier cooling in areas of high ambient temperature.

Actual operating pressure and back pressure **MUST** be checked when the hammer is fitted to the carrier (just as important if the hammer goes on a competitive carrier or is installed by the contractor at his shop).

Guarding Recommendation

Hammers used in hazardous applications like demolition, quarrying, and scaling, can create a need for special operator guarding due to flying objects. When using a hammer, additional protective devices such as a front screen, Falling Object Guarding System (FOGS, includes top and front guarding), thick polycarbonate windshields or a combination of these is recommended by Caterpillar. Contact your Cat dealer for operator guarding options on your machine.

Model		H35D S	H45D S	H55D S (Flat Top)	H55D S (Pin-On)	H65D S (Flat Top)	H65D S (Pin-On)	H70/H70 S	H90C/ H90C S	H100/ H100 S
Minimum Carrier	kg lb	1100 2430	1500 3310	2500 5500	2500 5500	4500 9900	3000 6610	5000 11,000	7000 15,400	8000 17,600
Maximum Carrier	kg lb	2400 5300	3200 7060	6000 13,200	5200 11,500	9000 19,800	6500 14,300	8000 17,600	12 000 26,400	14 000 30,800
Mini Excavators										
301.6C		●	●							
301.8C		●	●							
302.5C			●	●#	●					
303C CR				●	●		●#			
303.5C CR				●	●		●			
304C CR				●	●	●	●			
305C CR				●	●	●	●			
Skid Steer Loaders										
216B					●		●			
226B					●		●			
232B					●		●			
236B					●		●			
242B					●		●			
246C					●		●			
248B					●		●			
252B					●		●			
256C					●		●			
262C					●		●			
268B					●		●			
272C					●		●			
Multi Terrain Loaders										
247B					●		●			
257B					●		●			
267B					●		●			
277C					●		●			
279C					●		●			
287C					●		●			
289C					●		●			
297C					●		●			
299C					●		●			
Backhoe Loaders										
416E						●*		●	●	
420E						●*		●	●	
422E						●*		●	●	
428E						●*		●	●	
430E						●*		●	●	
432E						●*		●	●	
434E						●*		●	●	
442E						●*		●	●	
444E						●*		●	●	

#Installation of add-on optional, counterweight to machine is required.

*Special machine configuration required.

Caterpillar recommends the use of a suitable shield/guard system to insure operator has adequate protection from flying debris.

These matches are for general reference purposes for Cat machines only. When special boom and quick coupler arrangements are in use, these matches may not apply. When matching hammers to competitive carriers, selection should be made by carrier weight. Refer to the carrier weight range at the top of the table in order to determine the correct match.

Model		H65D S (Flat Top)	H70/H70 S	H90C/H90C S	H100/H100 S	H115 S	H120C S	H130 S	H140D S	H160D S	H180D S
Minimum Carrier	kg lb	3000 6610	5000 11,000	7000 15,400	8000 17,600	12 000 26,400	17 000 37,400	19 000 41,800	25 000 55,000	32 000 70,400	40 000 88,200
Maximum Carrier	kg lb	6500 14,300	8000 17,600	12 000 26,400	14 000 30,800	20 000 44,000	26 000 57,200	32 000 70,400	40 000 88,000	55 000 121,000	75 000 165,000
Hydraulic Excavators											
307D		●*	●	●							
308D CR		●*	●	●							
311D				●	●						
312D				●	●	●					
314D CR					●	●					
315D					●	●	●				
319D						●	●	●			
320D						●	●	●			
M313D					●	●					
M315D					●	●	●				
M316D					●	●	●				
M318D						●	●	●			
M322D						●	●	●			
321D CR							●	●			
323D							●	●			
324D							●	●	●		
328D CR								●	●		
329D							●	●	●		
336D								●	●	●	
345D										●	●
365C											●

#Installation of add-on optional, counterweight to machine is required.

*Special machine configuration required.

Caterpillar recommends the use of a suitable shield/guard system to insure operator has adequate protection from flying debris.

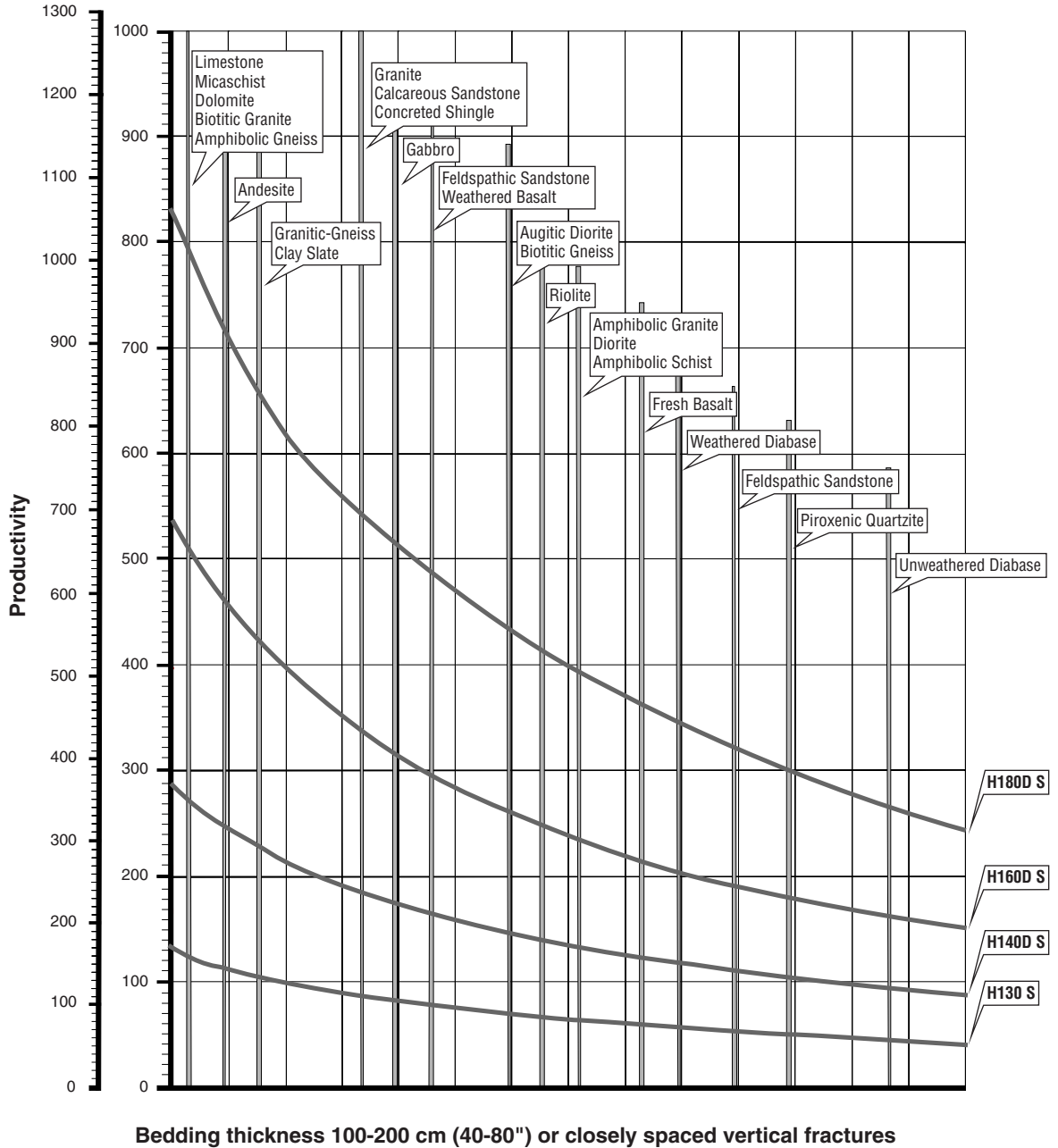
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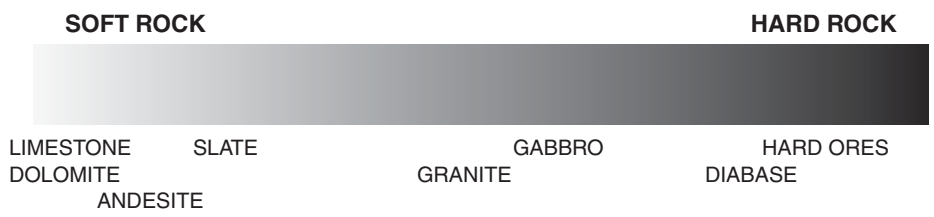
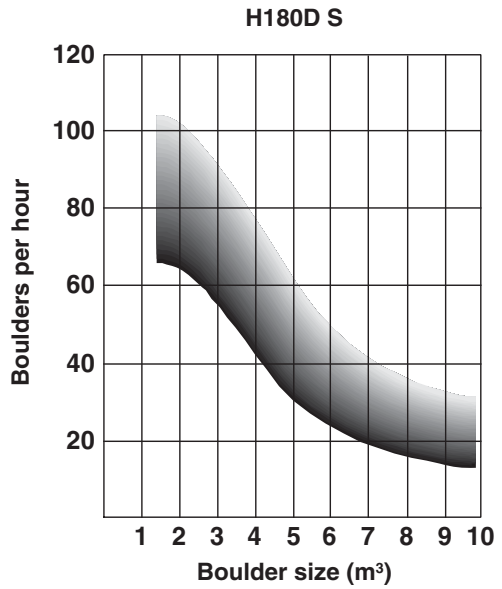
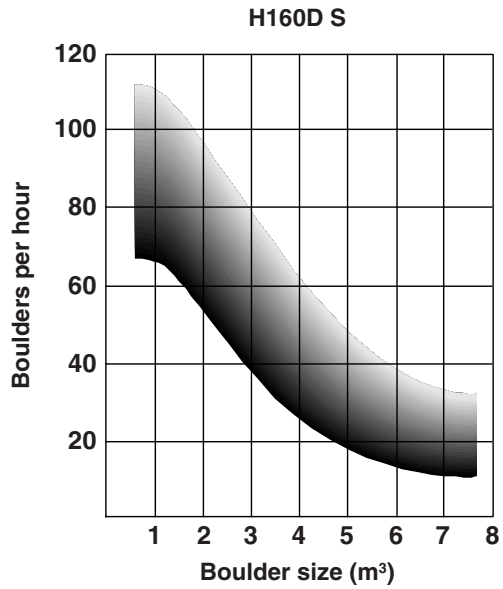
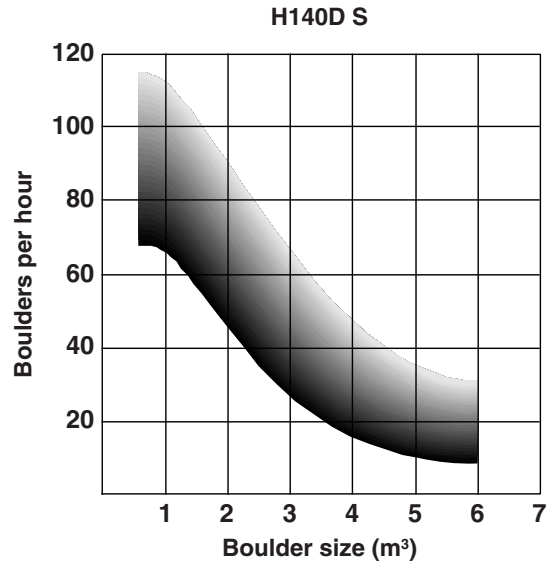
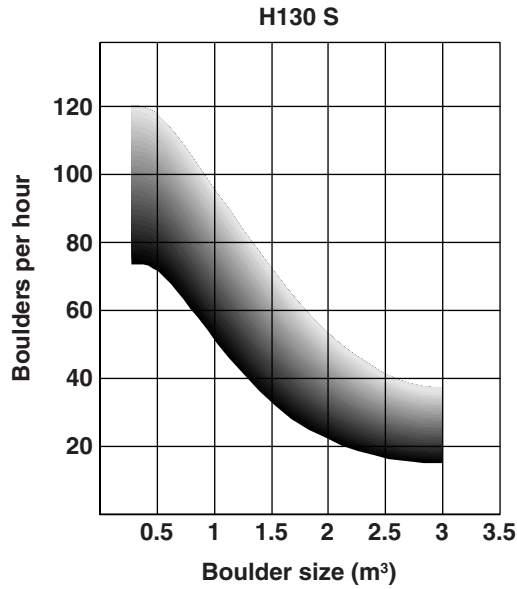
Hammer Models	Non-Reinforced Concrete		Reinforced Concrete		Sedimentary Rock		Volcanic Rock	
H35D S	6-12 m ³	8-16 yd³	—	—	—	—	—	—
H45D S	8-18 m ³	10-23 yd³	—	—	—	—	—	—
H55D S	14-23 m ³	18-30 yd³	—	—	—	—	—	—
H65D S	34-69 m ³	45-90 yd³	—	—	—	—	—	—
H70/H70 S	65-107 m ³	85-140 yd³	19-46 m ³	25-60 yd³	—	—	—	—
H90C/H90C S	69-122 m ³	90-160 yd³	38-61 m ³	50-80 yd³	—	—	—	—
H100/H100 S	96-214 m ³	125-280 yd³	99-134 m ³	130-175 yd³	84-191 m ³	110-250 yd³	42-99 m ³	55-130 yd³
H115 S	115-287 m ³	150-375 yd³	107-184 m ³	140-240 yd³	126-229 m ³	165-300 yd³	57-115 m ³	75-150 yd³
H120C S	153-344 m ³	200-450 yd³	122-229 m ³	160-300 yd³	153-260 m ³	200-340 yd³	84-153 m ³	110-200 yd³
H130 S	210-375 m ³	275-490 yd³	153-268 m ³	200-350 yd³	191-306 m ³	250-400 yd³	103-210 m ³	135-275 yd³
H140D S	—	—	191-497 m ³	250-650 yd³	229-535 m ³	300-700 yd³	115-268 m ³	150-350 yd³
H160D S	—	—	229-650 m ³	300-850 yd³	268-688 m ³	350-900 yd³	153-459 m ³	200-600 yd³
H180D S	—	—	295-1301 m ³	385-1705 yd³	337-1345 m ³	440-1760 yd³	210-757 m ³	275-990 yd³

Production rates listed are based on 8-hr shift

The above figures are for general estimation purposes only and must not be used to guarantee any production figure to the customer. The actual working results may vary according to the quality and structure of the material to be broken, required degree of material size reduction, installation, condition of the carrier, conditions at the worksite, haulage of the broken material, skills of the operator etc.

The figures are for comparison and evaluation purposes only. Results will vary depending on operator, carrier and job conditions.





MOBILE SCRAP AND DEMOLITION SHEARS

Features:

- Straight lower jaw design.
- 360 degree left and right rotation.
- High force to weight ratio.
- Long wearing alloy steel blades.
- Cutting edges mounted on the side of the shear jaws and are visible to the operator.
- Shears can be mounted on boom or stick.
- Robust rotation system with up to two hydraulic motors on largest shears.

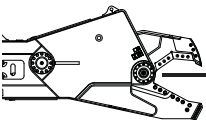
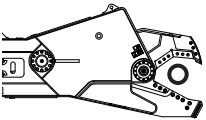
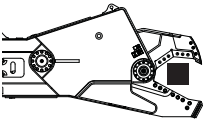
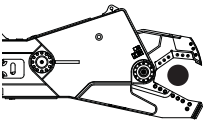
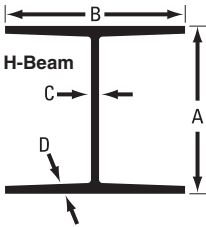
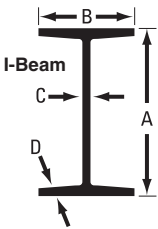
Applications:

Cat Mobile Scrap and Demolition Shears are designed to cut and reduce the size of metal items commonly found in scrap yards, buildings, and other structures.

The profiles on the next page approximate shear cutting capacity. The cutting capacities listed on the next page were achieved by cutting the specified steel profiles with a shear operating pressure at 35 000 kPa (5075 psi) and knives in slightly used condition. Lower operating pressures, dull knife edges, and harder steels will obviously reduce cutting capability.

Guarding Recommendation

Shears used in hazardous applications like demolition, and scrap and material handling can create a need for special operator guarding due to flying or falling objects. When using a shear, additional protective devices such as a front screen, Falling Object Guarding System (FOGS, includes top and front guarding), thick polycarbonate windshields or a combination of these is recommended by Caterpillar. Contact your Cat dealer for operator guarding options on your machine.



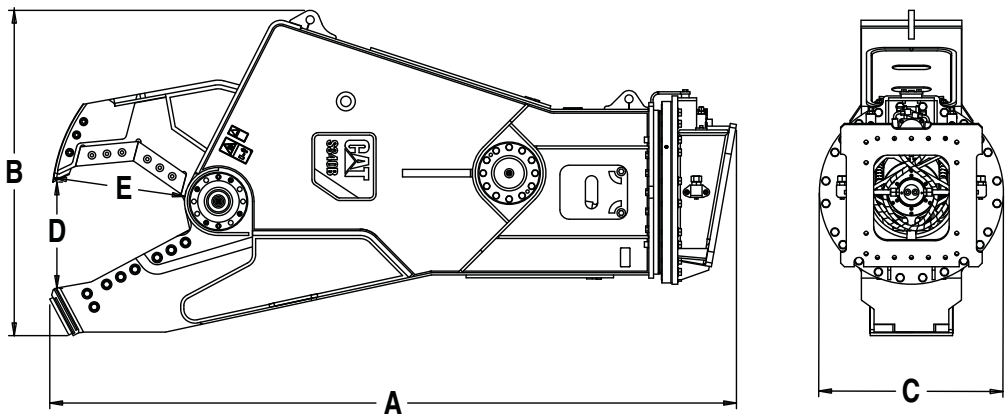
Model		S385B	S365B	S340B	S325B	S320B	S305	
		I-Beams						
A	Height	mm (in)	635 (25)	612 (24.1)	457.2 (18)	407 (16)	358 (14.1)	207 (8.1)
B	Flange width	mm (in)	329 (13)	229 (9)	191 (7.5)	178 (7.0)	172 (6.8)	112 (4.4)
C	Web thickness	mm (in)	18 (0.7)	12 (0.5)	9.017 (0.4)	7.7 (0.3)	7.8 (0.3)	5.8 (0.2)
D	Flange thickness	mm (in)	31 (1.2)	20 (0.8)	15.24 (0.6)	12.7 (0.5)	12.7 (0.5)	8.4 (0.3)
Weight		kg/m (ft-lb)	241 (162)	125 (84)	74.4 (50)	59.5 (40)	56.5 (38)	22.3 (15)
		Wide I-Beams		H-Beams				
A	Height	mm (in)	476 (18.7)	472 (18.6)	311 (12.2)	256 (10.1)	204 (8)	107 (4.2)
B	Flange width	mm (in)	284 (11.2)	284 (11.2)	306 (12)	255 (10)	206 (8.1)	103 (4.1)
C	Web thickness	mm (in)	24 (0.9)	13 (0.5)	10.9 (0.4)	9.4 (0.4)	7.9 (0.3)	7.11 (0.3)
D	Flange thickness	mm (in)	15 (0.6)	22 (0.9)	10.9 (0.4)	9.4 (0.4)	7.9 (0.3)	8.8 (0.3)
Weight		kg/m (ft-lb)	158 (106)	144 (97)	107 (71.9)	80 (53.8)	52 (34.9)	19.4 (13)

Round							
Diameter	mm (in)	125 (5)	120 (4.75)	115 (4.5)	100 (4)	90 (3.5)	50.8 (2)

Square							
Width	mm (in)	120 (4.75)	100 (4)	90 (3.5)	90 (3.5)	65 (2.5)	40 (1.5)

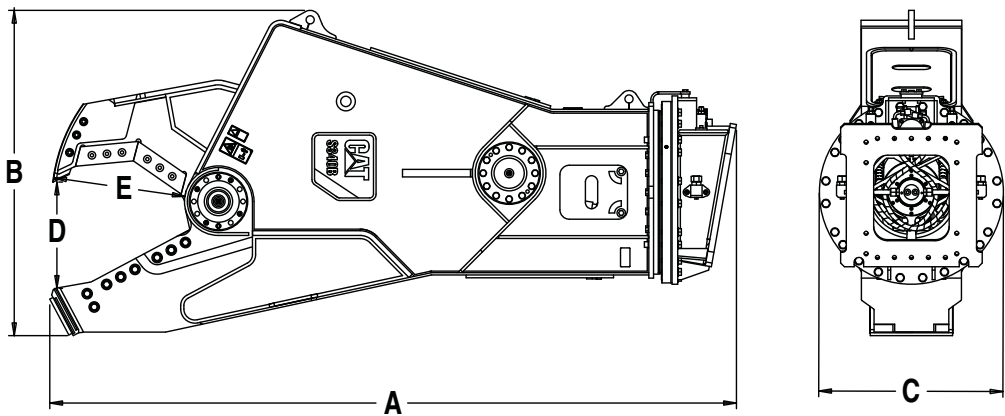
Pipe (Schedule 40)							
Diameter	mm (in)	508 (20)	458 (18)	406 (16)	356 (14)	325 (12.8)	220 (8.6)
Wall thickness	mm (in)	15 (0.6)	15 (0.6)	13 (0.5)	11 (0.4)	10 (0.4)	8 (0.3)

Piercing							
Thickness	mm (in)	33 (1.38)	27 (1.25)	22 (0.88)	19 (0.75)	16 (0.63)	10 (0.38)



Model		S385B	S365B	S340B	S325B	S320B	S305
Weight*, boom-mount	kg	8320	6870	4695	3390	2570	608
	(lb)	(18,345)	(15,145)	(10,351)	(7474)	(5666)	(1340)
Weight*, stick-mount	kg	7975	6700	4386	2996	2165	580
	(lb)	(17,580)	(14,770)	(9670)	(6604)	(4774)	(1280)
Dimensions							
A Length	mm (in)	4260 (168)	3840 (151)	3638 (143)	3177 (125)	2792 (110)	1709 (67.3)
B Height	mm (in)	2121 (84)	1900 (75)	1723 (68)	1525 (60)	1340 (53)	660 (26)
C Width	mm (in)	1400 (55)	1180 (46)	975 (38)	792 (31)	792 (31)	390 (15)
Jaw width, fixed	mm (in)	466 (18)	466 (18)	396 (16)	342 (13)	304 (12)	230 (9)
Jaw width, moving	mm (in)	150 (6)	150 (6)	120 (5)	100 (4)	90 (3)	60 (2)
D Jaw opening	mm (in)	879 (35)	845 (33)	563 (22)	528 (21)	409 (16)	240 (9.4)
E Jaw Depth	mm (in)	903 (35)	840 (33)	703 (28)	571 (22)	459 (18)	290 (11.4)

*Weight includes mounting bracket.



Model		S385B	S365B	S340B	S325B	S320B	S305
Shear Forces							
Throat*	kN (st)	12 402 (1394)	10 249 (1152)	6818 (766)	5562 (625)	3706 (417)	1812 (204)
Apex	kN (st)	4413 (496)	3576 (402)	2751 (309)	2221 (250)	1583 (178)	653 (73)
Tip	kN (st)	2455 (276)	1975 (222)	1558 (175)	1274 (143)	892 (100)	385 (43)
Shear arm torque	kN·m (ft·lb)	2779 (2,050,000)	2083 (1,536,000)	1374 (1,013,700)	931 (686,900)	534 (394,100)	140 (103,600)
Cycle time, open	seconds	5	5	5	5	4	3.5
Cycle time, close	seconds	3	3	3	3	3	2.5
Hydraulic Requirements, Cutting Circuit							
Maximum relief pressure	kPa (psi)	35 000 (5075)	35 000 (5075)	35 000 (5075)	35 000 (5075)	35 000 (5075)	25 000 (3625)
Maximum recommended flow	L/min (gpm)	690 (182)	530 (140)	300 (79)	200 (53)	150 (40)	60 (16)
Hydraulic Requirements, Rotation Circuit							
Maximum relief pressure	kPa (psi)	14 000 (2030)	14 000 (2030)	14 000 (2030)	14 000 (2030)	14 000 (2030)	10 000 (1450)
Maximum recommended flow	L/min (gpm)	80 (21)	80 (21)	40 (11)	40 (11)	40 (11)	20 (5)

*Measured at innermost cutting point of the jaw.

Matching Guide

Matches are based on counterweight and grouser width on standard machines.
Wheeled excavator matches are calculated with all four stabilizers down.

Stick-Mount

Cat Excavator	Boom	Stick		S385B	S365B	S340B	S325B	S320B	S305
		m	(ft/in)						
385C L	GP	5.5 4.4 3.4 2.92	(18'1") (14'5") (11'2") (9'7")	X X X X	X X X X				
385C L – DEM		40						X	
365C L	Reach	4.15 3.6 2.84	(13'7") (11'10") (9'4")		X X X				
365C L – DEM		33						X	
345D L – VG	Reach	3.9 3.35	(12'10") (11'0")			X X			
345D – FIX	Reach	3.9 3.3	(12'10") (11'0")			X X	X X		
345C – DEM		28 26	(91'9") (85'0")					X X	
336D L/330D L	Reach	3.9 3.2	(12'10") (10'6")				X X	X X	
329D L/325D L	Reach	3.2 2.65	(10'6") (8'8")				X X X	X X X	
328D LCR	Reach	3.76 3.2 2.65	(12'4") (10'6") (8'8")				X X X	X X X	
324D L	Reach	3.6 2.95 2.5	(11'10") (9'8") (8'2")				X X X	X X X	
321D LCR	Reach	2.92 2.5	(9'6") (8'2")					X X	
320D L	Reach	2.92 2.5	(9'6") (8'2")					X X	
320D LRR	Reach	2.92 2.5	(9'6") (8'2")					X X	
	Reach-HD	2.92 2.5	(9'6") (8'3")					X X	
319D L	Reach	2.7 2.25	(8'10") (7'5")					X X	
M322D	One-Piece	2.5 2.2	(8'2") (7'3")					X X	
M318D	One-Piece	2.8 2.5 2.2	(9'2") (8'2") (7'3")					X X X	
M316D	One-Piece	2.4 2.1	(7'10") (6'11")					X X	
M315D	One-Piece	2.4 2.1	(7'10") (6'11")					X X	
308D CR	One-Piece	2.2 1.7	(7'3") (5'6")						X X
307D	One-Piece	2.2 1.7	(7'3") (5'6")						X X

Please reference bulletin GEJH0016 for matching information when utilizing a pin-grabber or dedicated coupler.

DEM = Demolition machine

VG = Variable wide gauge undercarriage

FIX = Fixed undercarriage

Matching Guide

Matches are based on counterweight and grouser width on standard machines.
Wheeled excavator matches are calculated with all four stabilizers down.

Boom-Mount

Cat Excavator	Boom	S385B	S365B	S340B	S325B	S320B	S305
365C L	Reach	X					
345D L – VG	Reach	X	X				
345D – FIX	Reach	X	X				
336D L/330D L	Reach		X	X			
329D L/325D L	Reach			X			
328D L CR	Reach			X			
324D L	Reach			X			
321D L CR	Reach				X		
320D L	Reach				X		
320D LRR	Reach				X		
	Reach-HD				X		
319D L	Reach				X	X	
315D L	Reach				X	X	
314D CR	Reach					X	
312D L	Reach					X	
311D LRR	Reach					X	
M322D	One-Piece			X			
M318D	One-Piece			X	X		
M316D	One-Piece			X	X		
M315D	One-Piece				X	X	
M313D	One-Piece				X	X	
305C CR	One-Piece						X
304C CR	One-Piece						X
303.5C CR	One-Piece						X
Cat Skid Steer Loader		S385B	S365B	S340B	S325B	S320B	S305
236							X
242							X
246							X
247							X
248							X
252							X
257							X
262							X
267							X
268							X
277							X
287							X

Please reference bulletin GEJH0016 for matching information when utilizing a pin-grabber or dedicated coupler.

VG = Variable wide gauge undercarriage

FIX = Fixed undercarriage

MULTI-PROCESSORS

Features:

- **Wide selection** of interchangeable jaws.
- **Lifting eye placement** and adjustable stop bolts allow quick jaw changes.
- **Single, large diameter** cross mounted cylinder provides exceptional cutting and crushing force.
- **Jaws are manufactured** of high quality tool steel with outstanding tensile strength.
- **Non impact** tools that work at a relatively low noise level.

Applications:

The Cat Multi-Processors can be used to accomplish most tasks on a demolition job. One common housing with a wide selection of interchangeable jaws allows the tool to cut, crush or pulverize the toughest of materials. Highly reinforced concrete, structural steel beams, pipes, cable, steel plate and storage tanks.

Matching Guide

Stick Mounted/Reach Boom

Multi-Processors Model	Cat Excavator
MP15	315C, 318C, 319C, 319D 320C, 320D, 321C CR, 320D RR, 323D, 324D M315C, M316C, M318C, M322C, M315D, M316D, M318D, M322D 325C UHD, 330C UHD, 345C UHD, 365C UHD, 385C UHD
MP20	320C, 320D, 320D RR, 323D, 324D, 325D, 330D 325C UHD, 330C UHD, 345C UHD, 365C UHD, 385C UHD
MP30	330D 345C 365C UHD, 385C UHD
MP40	365C, 385C

These matches are for general reference purpose for Cat machines only.

Please always check the stability of the machine-tool configuration.

The stability depends on application, tool used and your machine configuration. For questions please contact your Cat dealer.

When choosing between various multi-processor models that can be installed onto the same machine configuration, consider work tool application, productivity requirements, and durability.

CATERPILLAR MULTI-PROCESSOR INTERCHANGEABLE JAWS

Concrete Cutter Jaws (CC)

- For precise demolition/cutting of heavily reinforced concrete structures.
- Cuts structural steel and pipe.
- Equipped with replaceable concrete crusher teeth and reversible steel cutting knives.

Shear Jaws (S)

- For demolition of steel structures.
- Cuts angle and channel iron, beams, pipe, rebar, cable and tires.
- Knives are reversible.

Tank Shear Jaws (TS)

- Quickly cuts steel plate on barges, railway cars, grain, water, oil, and fuel tanks. Dual knives on the moving and static jaws produce smooth, straight edges.
- All knives are reversible.
- Available for MP20 and MP30 only.

Crusher Jaws (CR)

- For demolition of moderately reinforced concrete structures. Capable of crushing concrete and cutting rebar.
- Replaceable crusher teeth and reversible knives.

Primary Pulverizer Jaws (PP)

- Combines capability to demolish and recycle moderately reinforced concrete structures. Pulverizes concrete, cuts rebar and separates rebar from concrete. (Not available for MP40.)
- Replaceable crusher teeth and reversible knives.

Secondary Pulverizer Jaws (PS)

- Recycles demolished concrete by pulverizing concrete, separating concrete and rebar, and cutting rebar as needed.

All jaw sets can be interchanged quickly with the lifting eyes and the adjustable stop-bolts on jaws and body.

Guarding Recommendation

Multi-Processors used in hazardous applications like demolition, and scrap and material handling can create a need for special operator guarding due to flying or falling objects. When using a Multi-Processor, additional protective devices such as a front screen, Falling Object Guarding System (FOGS, includes top and front guarding), thick polycarbonate windshields or a combination of these is recommended by Caterpillar. Contact your Cat dealer for operator guarding options on your machine.

Specifications (All dimensions are approximate.)

Model	MP15		MP20		MP30		MP40	
Weight total — housing, jaw and bracket	2020 kg	4450 lb	2660 kg	5864 lb	3850 kg	8190 lb	6370 kg	14,045 lb
Weight of the jaw	640 kg	1410 lb	930 kg	2050 lb	1260 kg	2780 lb	2230 kg	4915 lb
Dimensions:								
Length	2200 mm	86.6"	2400 mm	94.5"	2800 mm	110.2"	3500 mm	137.8"
Height	1510 mm	59.4"	1750 mm	68.8"	1980 mm	78"	2340 mm	92.1"
Width	800 mm	31.5"	800 mm	31.5"	1010 mm	39.8"	1180 mm	46.5"
Jaw width (fixed)	300 mm	11.8"	360 mm	14.2"	380 mm	15"	460 mm	18.1"
Jaw width (moving)	100 mm	3.9"	130 mm	5.1"	130 mm	5.1"	160 mm	6.3"
Jaw opening	670 mm	26.4"	820 mm	32.2"	975 mm	38.4"	1280 mm	50.4"
Jaw depth	670 mm	26.4"	790 mm	31.1"	890 mm	35"	1100 mm	43.3"
Cutter length	400 mm	15.8"	460 mm	18.1"	520 mm	20.5"	600 mm	23.6"
Maximum crushing/shear force:								
Tooth — jaw tip	700 kN	79 st	950 kN	107 st	1250 kN	140 st	1500 kN	168 st
Front cutter tip	1000 kN	112 st	1400 kN	157 st	1850 kN	208 st	2200 kN	247 st
Primary blade center	2200 kN	247 st	3000 kN	337 st	4100 kN	460 st	4400 kN	494 st
Maximum oil flow:								
Hydraulic cylinder	150 L/min	40 gpm	200 L/min	53 gpm	300 L/min	79 gpm	400 L/min	106 gpm
Cycle time								
(open, close, open)		5 sec		6 sec		6.5 sec		7.5 sec
Rotation	40 L/min	11 gpm	40 L/min	11 gpm	40 L/min	11 gpm	80 L/min	22 gpm
Maximum working pressure:								
Hydraulic cylinder	35 000 kPa	5075 psi	35 000 kPa	5075 psi	35 000 kPa	5075 psi	35 000 kPa	5075 psi
Rotation	14 000 kPa	2030 psi	14 000 kPa	2030 psi	14 000 kPa	2030 psi	14 000 kPa	2030 psi

Specifications (All dimensions are approximate.)

Model	MP15		MP20		MP30		MP40	
Weight total — housing, jaw and bracket	1950 kg	4300 lb	2570 kg	5665 lb	3890 kg	8575 lb	6430 kg	14,175 lb
Weight of the jaw	570 kg	1255 lb	840 kg	1850 lb	1300 kg	2865 lb	2200 kg	4850 lb
Dimensions:								
Length	2100 mm	82.7"	2250 mm	88.6"	2700 mm	106.3"	3400 mm	133.9"
Height	1310 mm	51.6"	1510 mm	59.4"	1680 mm	66.1"	1980 mm	78"
Width	800 mm	31.5"	800 mm	31.5"	1010 mm	39.8"	1180 mm	46.5"
Jaw width (fixed)	300 mm	11.8"	320 mm	12.6"	370 mm	14.6"	460 mm	18.1"
Jaw width (moving)	80 mm	3.1"	100 mm	3.9"	120 mm	4.7"	150 mm	5.9"
Jaw opening	390 mm	15.4"	420 mm	16.5"	470 mm	18.5"	630 mm	24.8"
Jaw depth	480 mm	18.9"	580 mm	22.8"	710 mm	28"	880 mm	34.6"
Cutter length	400 mm	15.7"	520 mm	20.5"	600 mm	23.6"	760 mm	29.9"
Maximum shear force:								
At tip	900 kN	101 st	1200 kN	135 st	1600 kN	180 st	1900 kN	213 st
Primary blade center	2100 kN	236 st	2900 kN	326 st	3750 kN	421 st	4750 kN	534 st
At throat	4200 kN	472 st	5800 kN	652 st	7100 kN	798 st	8950 kN	1006 st
Maximum oil flow:								
Hydraulic cylinder	150 L/min	40 gpm	200 L/min	53 gpm	300 L/min	79 gpm	400 L/min	106 gpm
Cycle time (open, close, open)	5 sec		6 sec		6.5 sec		7.5 sec	
Rotation	40 L/min	11 gpm	40 L/min	11 gpm	40 L/min	11 gpm	80 L/min	22 gpm
Maximum working pressure:								
Hydraulic cylinder	35 000 kPa	5075 psi	35 000 kPa	5075 psi	35 000 kPa	5075 psi	35 000 kPa	5075 psi
Rotation	14 000 kPa	2030 psi	14 000 kPa	2030 psi	14 000 kPa	2030 psi	14 000 kPa	2030 psi

Specifications (All dimensions are approximate.)

Model	MP20		MP30	
Weight total — housing, jaw and bracket	2740 kg	6040 lb	4380 kg	9655 lb
Weight of the jaw	1010 kg	2225 lb	1790 kg	3945 lb
Dimensions:				
Length	2400 mm	94.5"	2800 mm	110.2"
Height	1750 mm	68.9"	2100 mm	82.7"
Width	800 mm	31.5"	1180 mm	46.5"
Jaw width (fixed)	290 mm	11.4"	340 mm	13.4"
Jaw width (moving)	120 mm	4.7"	150 mm	5.9"
Jaw opening	440 mm	17.3"	510 mm	20.1"
Jaw depth	460 mm	18.1"	580 mm	22.8"
Cutter length	460 mm	18.1"	580 mm	22.8"
Maximum shear force:				
At tip	1400 kN	157 st	1900 kN	213 st
At jaw center	2200 kN	247 st	4000 kN	449 st
At throat	4400 kN	494 st	6350 kN	714 st
Cutting capacity plate steel	25 mm	1"	30 mm	1.2"
Maximum oil flow:				
Hydraulic cylinder	200 L/min	53 gpm	200 L/min	53 gpm
Cycle time (open, close, open)	6 sec		6.5 sec	
Rotation	40 L/min	11 gpm	40 L/min	11 gpm
Maximum working pressure:				
Hydraulic cylinder	35 000 kPa	5075 psi	35 000 kPa	5075 psi
Rotation	14 000 kPa	2030 psi	14 000 kPa	2030 psi

Specifications (All dimensions are approximate.)

Model	MP15		MP20		MP30		MP40	
Weight total — housing, jaw and bracket	2010 kg	4430 lb	2660 kg	5865 lb	3860 kg	8510 lb	6370 kg	14,045 lb
Weight of the jaw	630 kg	1390 lb	930 kg	2050 lb	1270 kg	2800 lb	2230 kg	4915 lb
Dimensions:								
Length	2200 mm	86.6"	2350 mm	92.5"	2770 mm	102"	3500 mm	137.8"
Height	1310 mm	51.6"	1750 mm	68.9"	1980 mm	78"	2380 mm	93.7"
Width	800 mm	31.5"	800 mm	31.5"	1010 mm	39.8"	1180 mm	46.5"
Jaw width (fixed)	300 mm	11.8"	360 mm	14.2"	380 mm	15"	460 mm	18.1"
Jaw width (moving)	100 mm	3.9"	130 mm	5.1"	130 mm	5.1"	160 mm	6.3"
Jaw opening	710 mm	28"	850 mm	33.5"	1050 mm	41.3"	1320 mm	52"
Jaw depth	700 mm	27.6"	770 mm	30.3"	920 mm	36.2"	1100 mm	43.3"
Cutter length	200 mm	7.9"	260 mm	10.2"	260 mm	10.2"	250 mm	9.8"
Maximum crushing/shear force:								
Tooth — jaw tip	700 kN	79 st	950 kN	107 st	1250 kN	140 st	1500 kN	168 st
At 2 nd tooth	950 kN	107 st	1350 kN	152 st	1750 kN	197 st	2200 kN	247 st
Primary blade center	2100 kN	236 st	2900 kN	326 st	3800 kN	427 st	4650 kN	523 st
Maximum oil flow:								
Hydraulic cylinder	150 L/min	40 gpm	200 L/min	53 gpm	300 L/min	79 gpm	400 L/min	106 gpm
Cycle time (open, close, open)	5 sec		6 sec		6.5 sec		7.5 sec	
Rotation	40 L/min	11 gpm	40 L/min	11 gpm	40 L/min	11 gpm	80 L/min	22 gpm
Maximum working pressure:								
Hydraulic cylinder	35 000 kPa	5075 psi	35 000 kPa	5075 psi	35 000 kPa	5075 psi	35 000 kPa	5075 psi
Rotation	14 000 kPa	2030 psi	14 000 kPa	2030 psi	14 000 kPa	2030 psi	14 000 kPa	2030 psi

Specifications (All dimensions are approximate.)

Model	MP15		MP20		MP30	
Weight total — housing, jaw and bracket	2200 kg	4895 lb	2900 kg	6390 lb	4180 kg	9215 lb
Weight of the jaw	840 kg	1850 lb	1170 kg	2580 lb	1590 kg	3505 lb
Dimensions:						
Length	2220 mm	87.4"	2325 mm	91.5"	2800 mm	110.2"
Height	1590 mm	62.6"	1775 mm	69.9"	1980 mm	78"
Width	800 mm	31.5"	800 mm	31.5"	1010 mm	39.8"
Jaw width (fixed)	480 mm	18.9"	540 mm	21.3"	610 mm	24"
Jaw width (moving)	280 mm	11"	340 mm	13.4"	370 mm	14.6"
Jaw opening	700 mm	27.6"	800 mm	31.5"	960 mm	37.8"
Jaw depth	700 mm	27.6"	800 mm	31.5"	940 mm	37"
Cutter length	200 mm	7.9"	200 mm	7.9"	250 mm	9.8"
Maximum crushing/shear force:						
Tooth — jaw tip	650 kN	73 st	950 kN	107 st	1250 kN	140 st
At 2 nd tooth	900 kN	101 st	1300 kN	146 st	1550 kN	174 st
Primary blade center	2100 kN	236 st	2750 kN	309 st	3950 kN	444 st
Maximum oil flow:						
Hydraulic cylinder	150 L/min	40 gpm	200 L/min	53 gpm	300 L/min	79 gpm
Cycle time (open, close, open)	5 sec		6 sec		6.5 sec	
Rotation	40 L/min	11 gpm	40 L/min	11 gpm	40 L/min	11 gpm
Maximum working pressure:						
Hydraulic cylinder	35 000 kPa	5075 psi	35 000 kPa	5075 psi	35 000 kPa	5075 psi
Rotation	14 000 kPa	2030 psi	14 000 kPa	2030 psi	14 000 kPa	2030 psi

Specifications (All dimensions are approximate.)

Model	MP15		MP20		MP30		MP40	
Weight total — housing, jaw and bracket	2100 kg	4630 lb	2770 kg	6105 lb	4080 kg	8995 lb	6730 kg	14,835 lb
Weight of the jaw	720 kg	1585 lb	1040 kg	2290 lb	1490 kg	3285 lb	2590 kg	5710 lb
Dimensions:								
Length	2250 mm	88.6"	2450 mm	96.5"	2950 mm	116.1"	3650 mm	143.7"
Height	1650 mm	65"	1900 mm	74.8"	2200 mm	86.6"	2550 mm	100.4"
Width	800 mm	31.5"	800 mm	31.5"	1010 mm	39.8"	1180 mm	46.5"
Jaw width (fixed)	440 mm	17.3"	500 mm	19.7"	580 mm	22.8"	700 mm	27.6"
Jaw width (moving)	310 mm	12.2"	360 mm	14.2"	420 mm	16.5"	480 mm	18.9"
Jaw opening	730 mm	28.7"	890 mm	35"	1100 mm	43.3"	1400 mm	55.1"
Jaw depth	670 mm	26.4"	800 mm	31.5"	970 mm	38.2"	1170 mm	46"
Cutter length	200 mm	7.9"	200 mm	7.9"	200 mm	7.9"	250 mm	9.8"
Maximum crushing/shear force:								
Tooth — jaw tip	750 kN	84 st	1000 kN	112 st	1250 kN	141 st	1500 kN	168 st
At 2 nd tooth	1000 kN	112 st	1300 kN	146 st	1550 kN	174 st	1900 kN	213 st
Primary blade center	2200 kN	247 st	3000 kN	337 st	4800 kN	539 st	5500 kN	618 st
Maximum oil flow:								
Hydraulic cylinder	150 L/min	40 gpm	200 L/min	53 gpm	300 L/min	79 gpm	400 L/min	106 gpm
Cycle time (open, close, open)	5 sec		6 sec		6.5 sec		7.5 sec	
Rotation	40 L/min	11 gpm	40 L/min	11 gpm	40 L/min	11 gpm	80 L/min	22 gpm
Maximum working pressure:								
Hydraulic cylinder	35 000 kPa	5075 psi	35 000 kPa	5075 psi	35 000 kPa	5075 psi	35 000 kPa	5075 psi
Rotation	14 000 kPa	2030 psi	14 000 kPa	2030 psi	14 000 kPa	2030 psi	14 000 kPa	2030 psi

Cutting Capacity

Model	MP15		MP20		MP30		MP40	
Narrow I-beams:								
Height	300 mm	11.8"	400 mm	15.7"	500 mm	19.7"	600 mm	23.6"
Flange width	150 mm	5.9"	180 mm	7.1"	200 mm	7.9"	600 mm	8.7"
Flange thickness	10.7 mm	0.42"	13.5 mm	0.53"	16 mm	0.63"	19 mm	0.75"
Web thickness	7.1 mm	0.28"	8.6 mm	0.34"	10.2 mm	0.4"	12 mm	0.47"
Wide I-beams:								
Height	190 mm	7.5"	250 mm	9.8"	310 mm	12.2"	390 mm	15.4"
Flange width	200 mm	7.9"	260 mm	10.2"	300 mm	11.8"	300 mm	11.8"
Flange thickness	10 mm	0.39"	12.5 mm	0.49"	15.5 mm	0.61"	19 mm	0.75"
Web thickness	6.5 mm	0.26"	7.5 mm	0.3"	9 mm	0.35"	11 mm	0.43"
Solid-round	65 mm	2.6"	80 mm	3.3"	90 mm	3.5"	100 mm	3.9"
Solid-square	60 mm	2.4"	70 mm	2.8"	80 mm	3.1"	90 mm	3.5"

The above profiles provide an indication of the shear's cutting capability. The exact cutting dimensions depend on excavator size, the conditions of the cutters and jaws and the tensile strength of the steel.

CONTRACTOR’S GRAPPLES

Features:

- Fits multiple linkages simply by changing the pin group.
- Designed with less curve allowing material to flow easily out of the grapple, simplifying material loading and unloading.
- Large wear areas made entirely of AR400 steel.
- Matches the entire range of small, medium and large excavators.
- Two-over-three tines interlock to securely grasp and retain more material when sorting and loading.
- Sized to match Cat machines making them able to better realize the machine’s maximum performance; both break out and lift capacity.
- One grapple can be used with or without a coupler with no modifications.

Applications:

Contractor’s Grapples are built to handle demolition of brick and wood structures, land clearing, sorting and loading of rock, scrap, pipe, waste material and demolition debris.

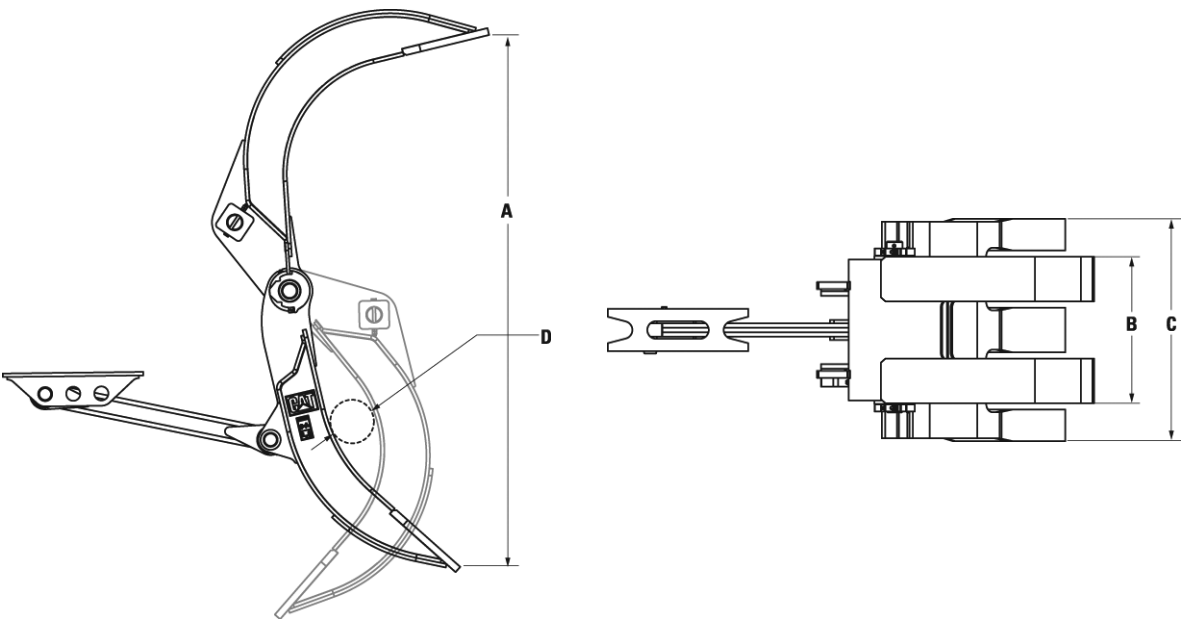
Guarding Recommendation

Contractor’s Grapples used in hazardous applications like demolition, and scrap and material handling can create a need for special operator guarding due to flying or falling objects. When using a Contractor’s Grapple, additional protective devices such as a front screen, Falling Object Guarding System (FOGS, includes top and front guarding), thick polycarbonate windshields or a combination of these is recommended by Caterpillar. Contact your Cat dealer for operator guarding options on your machine.

Matching Guide

Contractor’s Grapples

Model	Cat Excavator
G107B	307 CR
G112B	312C
G115B	315C
G120B	320D 322C 324D 325D
G125B	320D 322C 324D 325D
G130B	320D 322C 324D 325D 330D
G145B	345C
G165B	345C 350 365C
G185B	385C



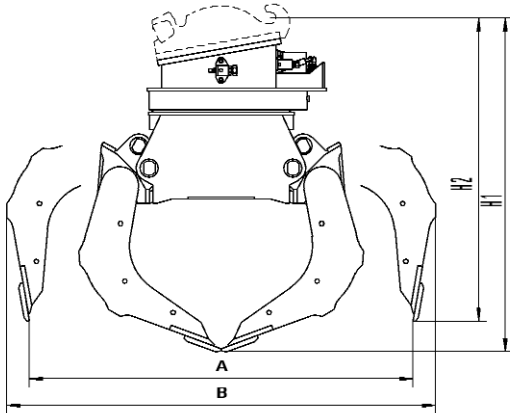
Specifications (All dimensions are approximate.)

Model	G107B		G112B		G115B		G120B		G125B	
Weight	360 kg	794 lb	857 kg	1885 lb	1286 kg	2830 lb	1523 kg	3350 lb	1932 kg	4250 lb
A Jaw Opening	1765 mm	69.5"	2195 mm	86.4"	2555 mm	100.6"	2687 mm	105.8"	3128 mm	123.1"
B Upper Tine Width	435 mm	17.1"	550 mm	21.7"	610 mm	24"	617 mm	24.3"	704 mm	27.7"
C Lower Tine Width	735 mm	28.9"	900 mm	35.4"	1020 mm	40.2"	1031 mm	40.6"	1150 mm	45.3"
D Minimum Opening	134 mm	5.3"	186 mm	7.3"	191 mm	7.5"	199 mm	7.8"	245 mm	9.6"
Inner Wrapper Thickness	8 mm	0.3"	12 mm	0.5"	12 mm	0.5"	16 mm	0.6"	16 mm	0.6"
Outer Wrapper Thickness	8 mm	0.3"	12 mm	0.5"	12 mm	0.5"	12 mm	0.5"	16 mm	0.6"
Wear Tip Thickness	12 mm	0.5"	20 mm	0.8"	25 mm	1"	30 mm	1.2"	40 mm	1.6"
Outer Wear Plate Thickness	12 mm	0.5"	16 mm	0.6"	25 mm	1"	20 mm	0.8"	20 mm	0.8"

Model	G130B		G145B		G165B		G185B	
Weight	2332 kg	5130 lb	3050 kg	6724 lb	4055 kg	8940 lb	4800 kg	10,582 lb
A Jaw Opening	3223 mm	126.9"	3433 mm	135.2"	3860 mm	152"	4076 mm	160.5"
B Upper Tine Width	832 mm	32.8"	865 mm	34.1"	937 mm	36.9"	985 mm	38.8"
C Lower Tine Width	1262 mm	49.7"	1335 mm	52.6"	1406 mm	55.4"	1535 mm	60.4"
D Minimum Opening	319 mm	12.6"	271 mm	10.7"	283 mm	11.1"	337 mm	13.3"
Inner Wrapper Thickness	20 mm	0.8"	20 mm	0.8"	25 mm	1"	25 mm	1"
Outer Wrapper Thickness	20 mm	0.8"	20 mm	0.8"	25 mm	1"	25 mm	1"
Wear Tip Thickness	40 mm	1.6"	40 mm	1.6"	40 mm	1.6"	40 mm	1.6"
Outer Wear Plate Thickness	20 mm	0.8"	25 mm	1"	30 mm	1.2"	30 mm	1.2"

Features:

- 360 degree slewing ring.
- Fully protected cylinders.
- Horizontal, weld-on steel bars reinforced vertical ribs.
- Bolt-on replaceable wear plates (optional).



Matching Guide

Sorting and Demolition Grapples

Model	Cat Excavator
G315	324D
	325D
G320	324D
	325D
	330D
G330	325D
	330D
	345C

Specifications (All dimensions are approximate.)

Model	G315		G320		G330	
Capacity	800 L	1.04 yd³	900 L	1.17 yd³	1000 L	1.3 yd³
Weight*	2030 kg	4476 lb	2250 kg	4961 lb	2950 kg	6505 lb
Dimensions:						
A Length	1505 mm	59"	1505 mm	59"	1515 mm	60"
B Length	2025 mm	80"	2025 mm	80"	2025 mm	80"
Length	2265 mm	89"	2265 mm	89"	2270 mm	89"
Width	1115 mm	44"	1395 mm	55"	1480 mm	58"
H1 Height	1760 mm	69"	1760 mm	69"	1835 mm	69"
H2 Height	1600 mm	63"	1600 mm	63"	1600 mm	63"
Closing force	60 kN	6.7 tons	60 kN	6.7 tons	60 kN	6.7 tons
Hydraulic for open/close:						
Maximum pressure	350 bar	5076 psi	350 bar	5076 psi	350 bar	5076 psi
Maximum flow	100 L/min	26.4 gpm	100 L/min	26.4 gpm	100 L/min	26.4 gpm
Connection	-16		-16		-16	
Hydraulic for rotation:						
Maximum pressure	140 bar	2030 psi	140 bar	2030 psi	140 bar	2030 psi
Optimum flow	40 L/min	10.6 gpm	40 L/min	10.6 gpm	40 L/min	10.6 gpm
Connection	-8		-8		-8	
Excavator — class	17.2-22.7 mt	19-25 st	22.7-31.8 mt	25-35 st	27.2-40.8 mt	30-45 st

*Weights include standard Quick Coupler mounting brackets.

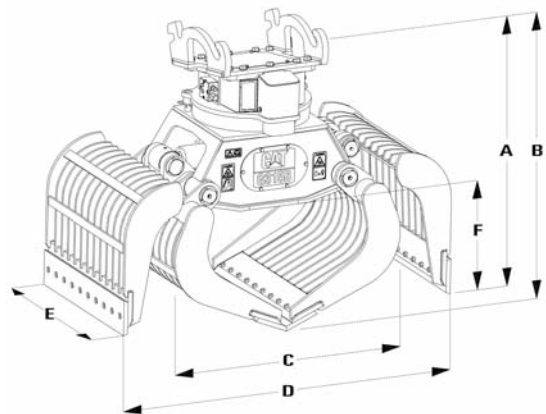
Features:

- Maintenance free rotator. 360 degrees rotation.
- One fully protected cylinder.
- Standard drill pattern for bolt-on mounting brackets.
- Hydraulic connections positioned at the sides for optimal hydraulic lines protection.
- Standard bolt-on cutting edges.
- High quality bushings with lubrication grooves, hardened pins and dust seals.
- Large inspection covers.
- Two shell types available: Demolition and Recycling.

Matching Guide

Multi-Grapples Europe, Africa, Middle East

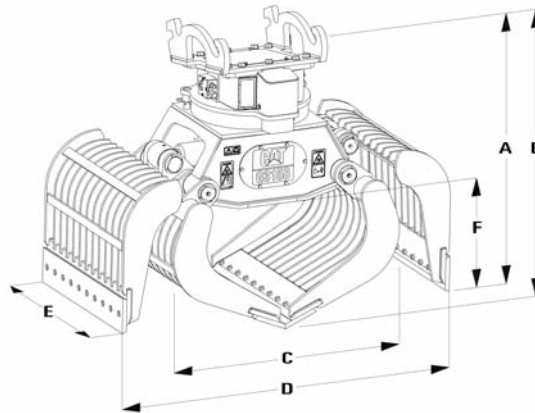
Model	Cat Excavator
G310B	M313D, M315C, M315D, M316C, M316D 311C, 312C, 314C, 315C
G315B	M313D, M315D, M316D, M318C, M318D, M322D 315C, 318C, 319C, 319D, 320C, 320D, 320D RR, 321C CR
G320B	320C, 320D RR, 323D, 324D, 325D



Specifications (All dimensions are approximate.)

Model	G310B (Demolition)		G310B (Recycling)		G315B (Demolition)	
Capacity	375 L	0.49 yd³	400 L	1.0 yd³	550 L	1.3 yd³
Weight*	1035 kg	2282 lb	1045 kg	2304 lb	1385 kg	3054 lb
Dimensions:						
A Length	1350 mm	53"	1350 mm	53"	1455 mm	57"
B Length	1440 mm	57"	1440 mm	57"	1550 mm	61"
C Length	1245 mm	49"	1225 mm	48"	1375 mm	54"
D Length	1800 mm	71"	1800 mm	71"	2000 mm	79"
E Width	850 mm	33"	850 mm	33"	1000 mm	39"
F Height	520 mm	20"	520 mm	20"	570 mm	22"
Closing force	36 kN	8100 lb	36 kN	8100 lb	52 kN	11,700 lb
Hydraulic for open/close:						
Maximum pressure	350 bar	5076 psi	350 bar	5076 psi	350 bar	5076 psi
Maximum flow	60 L/min	15.9 gpm	60 L/min	15.9 gpm	90 L/min	23.8 gpm
Connection	-12		-12		-12	
Hydraulic for rotation:						
Maximum pressure	140 bar	2030 psi	140 bar	2030 psi	140 bar	2030 psi
Optimum flow	40 L/min	10.6 gpm	40 L/min	10.6 gpm	40 L/min	10.6 gpm
Connection	-8		-8		-8	
Excavator — class	9.1-14.5 mt	10-16 st	9.1-14.5 mt	10-16 st	13.6-20.0 mt	15-22 st

*Weights include standard Quick Coupler mounting brackets.

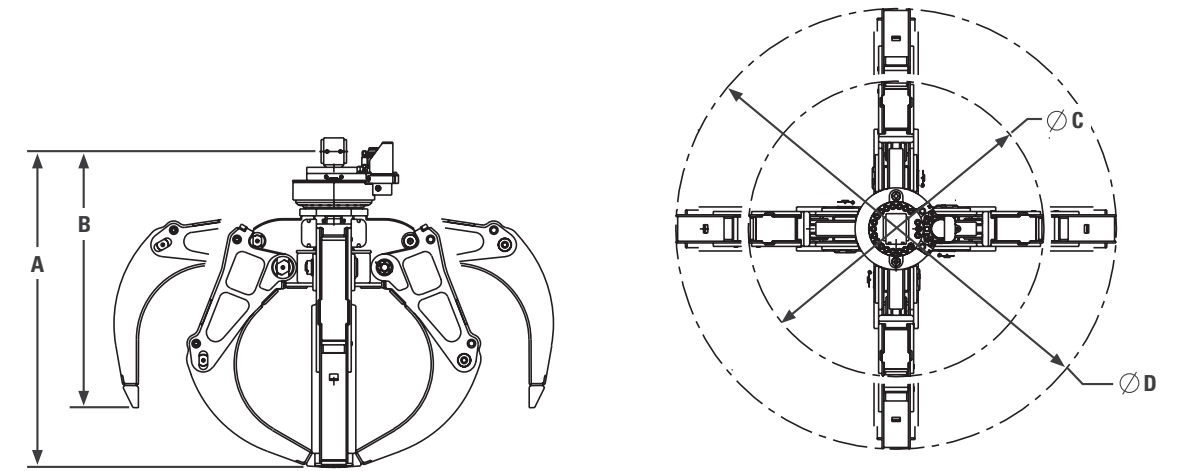
**Specifications** (All dimensions are approximate.)

Model	G315B (Recycling)		G320B (Demolition)		G320B (Recycling)		G325B (Demolition)	
Capacity	600 L	0.78 yd³	750 L	1.11 yd³	800 L	1.05 yd³	900 L	1.18 yd³
Weight*	1395 kg	3076 lb	1970 kg	4344 lb	1960 kg	4322 lb	2370 kg	5225 lb
Dimensions:								
A Length	1455 mm	57"	1630 mm	64"	1630 mm	64"	1630 mm	64"
B Length	1550 mm	61"	1725 mm	68"	1725 mm	68"	1725 mm	68"
C Length	1360 mm	54"	1540 mm	61"	1505 mm	59"	1540 mm	61"
D Length	2000 mm	79"	2200 mm	87"	2200 mm	87"	2200 mm	87"
E Width	1000 mm	39"	1100 mm	43"	1100 mm	43"	1350 mm	53"
F Height	570 mm	22"	625 mm	25"	625 mm	25"	625 mm	25"
Closing force	52 kN	11,700 lb	66 kN	14,850 lb	66 kN	14,850 lb	66 kN	14,850 lb
Hydraulic for open/close:								
Maximum pressure	350 bar	5076 psi	350 bar	5076 psi	350 bar	5076 psi	350 bar	5076 psi
Maximum flow	90 L/min	23.8 gpm	120 L/min	31.7 gpm	120 L/min	31.7 gpm	120 L/min	31.7 gpm
Connection	-12		-16		-16		-16	
Hydraulic for rotation:								
Maximum pressure	140 bar	2030 psi	140 bar	2030 psi	140 bar	2030 psi	140 bar	2030 psi
Optimum flow	40 L/min	10.6 gpm	40 L/min	10.6 gpm	40 L/min	10.6 gpm	40 L/min	10.6 gpm
Connection	-8		-8		-8		-8	
Excavator — class	13.6-20.0 mt	15-22 st	18.1-26.3 mt	20-29 st	18.1-26.3 mt	20-29 st	25-38 mt	27.5-41.8 st

*Weights include standard Quick Coupler mounting brackets.

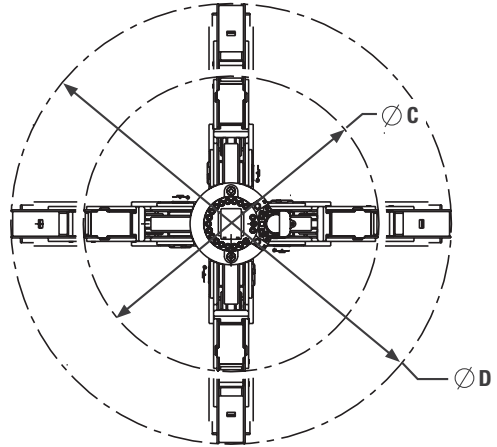
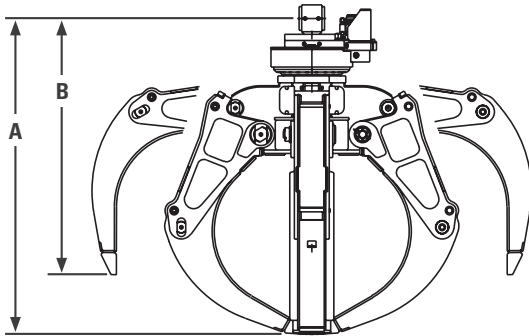
Features:

- Continuous, bi-directional 360° hydraulic rotation.
 - Heavy-duty, fully protected cylinders.
- Tines constructed of high-strength wear-resistant steel.



Model		GSH15B	GSH20B			GSH22B	
Part number		293-3202	292-6768	292-7730	292-7743	259-9691	259-9704
Industry capacity class	L (yd³)	600 (0.75)	600 (0.75)	800 (1.00)	1000 (1.25)	1000 (1.50)	1500 (2.00)
Operating weight	kg (lb)	1215 (2679)	1575 (3472)	1615 (3560)	1660 (3660)	2390 (5269)	2410 (5313)
Maximum lift capacity	kg (lb)	4000 (8818)	8000 (17,637)	8000 (17,637)	8000 (17,637)	12 000 (26,455)	12 000 (26,455)
Dimensions							
A Height — tines closed*	mm (in)	1740 (68.50)	1720 (67.72)	1860 (73.23)	2010 (79.13)	2175 (85.63)	2265 (89.17)
B Height — tines open*	mm (in)	1385 (54.53)	1440 (56.69)	1510 (59.45)	1590 (62.60)	1830 (72.05)	1880 (72.36)
C Diameter — tines closed	mm (in)	1540 (60.63)	1735 (68.31)	1735 (68.31)	1735 (68.31)	2050 (80.71)	2050 (80.71)
D Diameter — tines open	mm (in)	2415 (95.08)	2390 (94.09)	2595 (101.97)	2855 (102.40)	2950 (116.14)	3050 (120.08)

*Includes hydraulic rotator, excludes machine link.



Model		GSH15B	GSH20B			GSH22B	
Part number		293-3202	292-6768	292-7730	292-7743	259-9691	259-9704
Dimensions							
Ground clearance — tines open	mm (in)	640 (25.20)	645 (25.40)	715 (28.15)	790 (31.10)	900 (35.43)	955 (37.60)
Pin diameter	mm (in)	70 (2.76)	80 (3.15)	80 (3.15)	80 (3.15)	90 (3.54)	90 (3.54)
Width of crosshead	mm (in)	114 (4.49)	150 (5.91)	150 (5.91)	150 (5.91)	200 (7.87)	200 (7.87)
Overall width	mm (in)	1810 (71.26)	1800 (70.87)	1930 (75.98)	2125 (83.66)	2230 (87.80)	2320 (91.34)
Maximum opening	mm (in)	2121 (83.50)	2064 (81.26)	2305 (90.75)	2552 (100.47)	2522 (99.29)	2675 (105.31)
Hydraulic Open/Close							
Maximum pressure	bar (psi)	350 (5076)	350 (5076)	350 (5076)	350 (5076)	350 (5076)	350 (5076)
Optimum flow	L/min (gpm)	100 (26.42)	150 (39.63)	150 (39.63)	150 (39.63)	200 (52.83)	200 (52.83)
Hydraulic Rotation							
Maximum pressure	bar (psi)	180 (2610)	200 (2900)	200 (2900)	200 (2900)	200 (2900)	200 (2900)
Optimum pressure	bar (psi)	140 (2030)	160 (2320)	160 (2320)	160 (2320)	160 (2320)	160 (2320)
Optimum flow	L/min (gpm)	20 (5.28)	20 (5.28)	20 (5.28)	20 (5.28)	20 (5.28)	20 (5.28)

Matching Guide

	Boom Length		Stick Length		GSH15B 0.57 m³ (0.75 yd³)	GSH20B			GSH22B	
	m	(ft/in)	m	(ft/in)		0.57 m³ (0.75 yd³)	0.76 m³ (1.00 yd³)	0.96 m³ (1.25 yd³)	1.15 m³ (1.50 yd³)	1.53 m³ (2.00 yd³)
M318C MH	6.2	(20'3")	4.9	(16'1")	X					
M318D MH	6.2	(20'3")	4.9	(16'1")	X					
M322C MH	6.8	(22'3")	4.9	(16'1")	X	+	+	+		
			5.9	(19'4")	–	–	X			
M322D MH	6.8	(22'4")	4.9	(16'1")	X	+	+	+		
			5.9	(19'4")	–	–	X			
M325C MH	8.9	(29'0")	6.0	(19'8")		–	X	+		
			7.4	(24'4")		X				
M325C L MH	8.9	(29'0")	6.0	(19'8")		–	X	+		
			7.4	(24'4")		–	X			
M325D MH	8.9	(29'0")	6.0	(19'8")		–	X	+		
			7.4	(24'4")		X				
M325D L MH	8.9	(29'0")	6.0	(19'8")		–	–	X	+	
			7.4	(24'4")		–	X			
320C MH	6.7	(21'10")	5.5	(17'11")	X					
325C MH	8.4	(27'5")	5.5	(17'11")		–	X			
	8.85	(29'0")	6.0	(19'8")		X				
325D MH	8.85	(29'0")	6.0	(19'8")		–	X			
			7.4	(24'4")		X				
330C MH	9.1	(29'10")	6.0	(19'8")		–	X			
330D MH	9.2	(30'2")	6.1	(20'0")		–	–	–	X	
			7.6	(24'11")		–	–	X		
W345C MH	9.9	(32'6")	7.4	(24'4")					–	X
			9.1	(29'10")					–	X
345C MH	9.9	(32'6")	7.4	(24'4")					–	X
			9.1	(29'10")					X	

X

Primary match for good stability in average scrap handling situations. Considers a material density in the 1200 kg/m³ (2000 lb/yd³) range.

+

Secondary match for **less** dense material.

–

Secondary match for **more** dense material.

Guarding Recommendation

Orange Peel Grapples used in hazardous applications like scrap and material handling can create a need for special operator guarding due to flying objects. When using an Orange Peel Grapple, additional protective devices such as a front screen, Falling

Object Guarding System (FOGS, includes top and front guarding), thick polycarbonate windshields or a combination of these is recommended by Caterpillar. Contact your Cat dealer for operator guarding options on your machine.

Features:

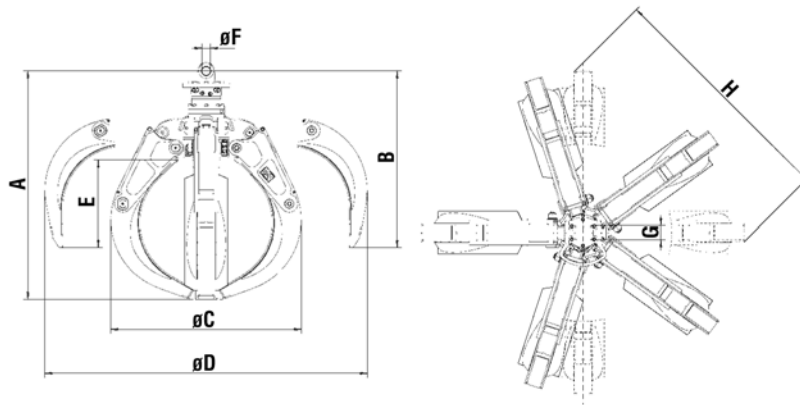
- Suitable for a wide range of applications.
- Maximum component protection; lower operating cost.
- Low profile.
- High stability.
- Protected hydraulics.
- Connection lines protection guard.
- Tines constructed of high-strength wear resistant steel.
- Continuous, bi-directional 360° hydraulic rotator.
- Pressure limiting valve for opening and closing.
- Heavy-duty, cushioned cylinders with swing bearings on both sides.
- Maintenance covers for easy access to all maintenance points.
- Weld-on replaceable tips.
- High commonality of parts between 5 and 4 tine configurations.
- Hardened steel-alloy pins.
- High closing force.
- Excellent material penetration.
- Superior lifting capacity.

Selection by Application

Grapple Application		4 Tines				5 Tines			
		O	S	C	N	O	S	C	N
Handling Scrap, Iron and Steel	Small-sized pieces (shredded)	x				x			
	Large-sized pieces up to 1000 × 1000 mm (39" × 39") (steel scrap, wrought iron, white goods, motor blocks)								
	Heavy/long-sized pieces (I-beams, pipes, plates)			x				x	
	Car bodies			x				x	
Handling Nonferrous Scrap Metals	Small-sized pieces (beverage cans, electric devices)	x				x			
	Large-sized pieces (car radiators, batteries)								
	Wires and cables (copper, lead)								
Other Nonferrous Materials	Waste								
	Rocks, concrete blocks			x				x	

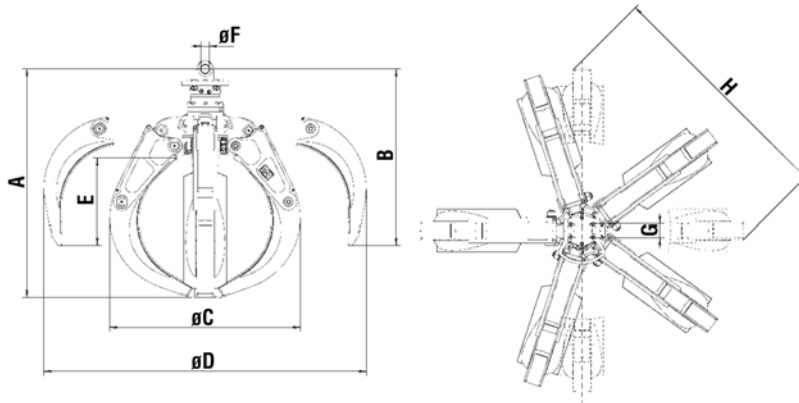
 Very good
  Good
  Not Recommended

O Open **S** Semi-closed **C** Closed **N** Narrow

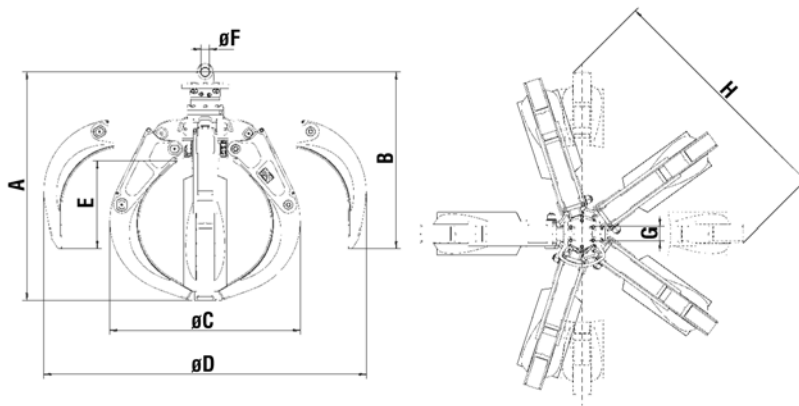


Specifications (All dimensions and weights are approximate.)

Model	GSH15B		GSH15B		GSH15B		GSH15B	
Type	400		500		600		800	
Recommended carrier weight:								
Excavator	15-21 mt	16.5-23.1 st	15-21 mt	16.5-23.1 st	15-21 mt	16.5-23.1 st	15-21 mt	16.5-23.1 st
Material Handler	18-25 mt	19.8-27.6 st	18-25 mt	19.8-27.6 st	18-25 mt	19.8-27.6 st	18-25 mt	19.8-27.6 st
Capacity	0.4 m ³	1.0 yd ³	0.5 m ³	1.0 yd ³	0.6 m ³	0.75 yd ³	0.8 m ³	1.0 yd ³
5 Tines								
Operating weight:								
open	1375 kg	3027 lb	1380 kg	3043 lb	1395 kg	3076 lb	1465 kg	3230 lb
semi-closed	1445 kg	3186 lb	1455 kg	3208 lb	1475 kg	3252 lb	1545 kg	3407 lb
closed	1530 kg	3374 lb	1540 kg	3411 lb	1575 kg	3473 lb	1655 kg	3655 lb
narrow	—	—	—	—	1450 kg	3386 lb	1515 kg	3341 lb
4 Tines								
Operating weight:								
open	1155 kg	2538 lb	1160 kg	2558 lb	1175 kg	2591 lb	1210 kg	2668 lb
semi-closed	1225 kg	2701 lb	1235 kg	2723 lb	1250 kg	2756 lb	1300 kg	2867 lb
closed	1355 kg	2988 lb	1375 kg	3032 lb	1410 kg	3109 lb	1495 kg	3296 lb
narrow	—	—	—	—	1215 kg	2679 lb	1260 kg	2778 lb
Dimensions:								
A	1670 mm	66"	1700 mm	67"	1760 mm	69"	1890 mm	74"
B	1350 mm	53"	1370 mm	54"	1400 mm	55"	1460 mm	57"
C	1500 mm	59"	1500 mm	59"	1500 mm	59"	1500 mm	59"
D	2190 mm	86"	2250 mm	89"	2340 mm	92"	2550 mm	100"
E	600 mm	24"	620 mm	24"	650 mm	26"	710 mm	28"
F	70 mm	3"	70 mm	3"	70 mm	3"	70 mm	3"
G	114 mm	4"	114 mm	4"	114 mm	4"	114 mm	4"
H	1440 mm	57"	1480 mm	58"	1540 mm	57"	1670 mm	66"
I	2085 mm	82"	2145 mm	84"	2230 mm	88"	2430 mm	96"
H (4 tines)	1700 mm	67"	1740 mm	69"	1810 mm	71"	1970 mm	78"
Hydraulic open/close:								
Maximum pressure	350 bar	5075 psi	350 bar	5075 psi	350 bar	5075 psi	350 bar	5075 psi
Optimum flow	100 L/min	26 gpm	100 L/min	26 gpm	100 L/min	26 gpm	100 L/min	26 gpm
Hydraulic rotation:								
Maximum pressure	140 bar	2030 psi	140 bar	2030 psi	140 bar	2030 psi	140 bar	2030 psi
Optimum flow	20 L/min	5 gpm	20 L/min	5 gpm	20 L/min	5 gpm	20 L/min	5 gpm

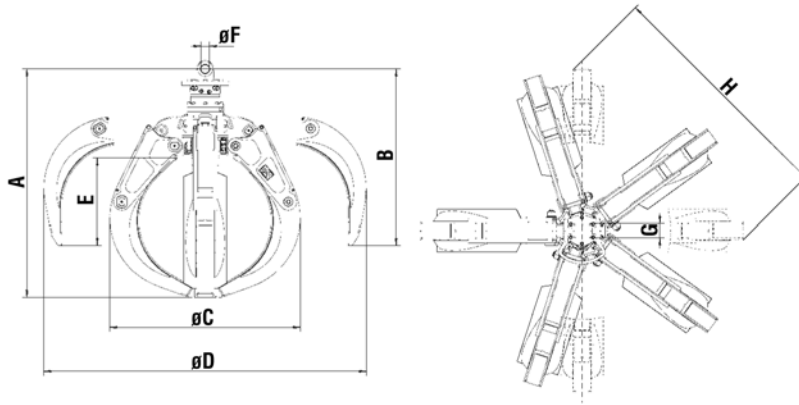

Specifications (All dimensions and weights are approximate.)

Model	GSH20B		GSH20B		GSH20B	
Type	600		800		1000	
Recommended carrier weight:						
Excavator	20-30 mt	22-33.1 st	20-30 mt	22-33.1 st	20-30 mt	22-33.1 st
Material Handler	25-35 mt	27.6-49.6 st	25-35 mt	27.6-49.6 st	25-35 mt	27.6-49.6 st
Capacity	0.6 m³	0.75 yd³	0.8 m³	1.0 yd³	1.0 m³	1.25 yd³
5 Tines						
Operating weight:						
open	1820 kg	4013 lb	1855 kg	4090 lb	1900 kg	4190 lb
semi-closed	1905 kg	4201 lb	1955 kg	4311 lb	2020 kg	4454 lb
closed	1985 kg	4377 lb	2055 kg	4531 lb	2145 kg	4730 lb
narrow	1870 kg	4123 lb	1920 kg	4234 lb	1975 kg	4355 lb
4 Tines						
Operating weight:						
open	1545 kg	3407 lb	1570 kg	3462 lb	1605 kg	3539 lb
semi-closed	1615 kg	3561 lb	1655 kg	3649 lb	1705 kg	3760 lb
closed	1745 kg	3848 lb	1820 kg	4013 lb	1910 kg	4212 lb
narrow	1575 kg	3473 lb	1615 kg	3561 lb	1660 kg	3660 lb
Dimensions:						
A	1720 mm	68"	1860 mm	73"	2010 mm	79"
B	1440 mm	57"	1510 mm	59"	1590 mm	63"
C	1735 mm	68"	1735 mm	68"	1735 mm	68"
D	2390 mm	94"	2595 mm	102"	2855 mm	112"
E	645 mm	25"	715 mm	28"	790 mm	31"
F	80 mm	3"	80 mm	3"	80 mm	3"
G	150 mm	6"	150 mm	6"	150 mm	6"
H	1530 mm	60"	1640 mm	65"	1800 mm	71"
I	2210 mm	87"	2395 mm	94"	2635 mm	104"
H (4 tines)	1800 mm	71"	1930 mm	76"	2125 mm	84"
Hydraulic open/close:						
Maximum pressure	350 bar	5075 psi	350 bar	5075 psi	350 bar	5075 psi
Optimum flow	150 L/min	40 gpm	150 L/min	40 gpm	150 L/min	40 gpm
Hydraulic rotation:						
Maximum pressure	200 bar	2900 psi	200 bar	2900 psi	200 bar	2900 psi
Optimum flow	20 L/min	5 gpm	20 L/min	5 gpm	20 L/min	5 gpm



Specifications (All dimensions and weights are approximate.)

Model	GSH22B		GSH22B		GSH22B	
Type	600		800		1000	
Recommended carrier weight:						
Excavator	22-50 mt	24.3-55.1 st	22-50 mt	24.3-55.1 st	22-50 mt	24.3-55.1 st
Material Handler	35-60 mt	38.6-66.1 st	35-60 mt	38.6-66.1 st	35-60 mt	38.6-66.1 st
Capacity	0.6 m³	0.75 yd³	0.8 m³	1.0 yd³	1.0 m³	1.25 yd³
5 Tines						
Operating weight:						
open	2660 kg	5865 lb	2715 kg	4796 lb	2740 kg	6042 lb
semi-closed	2770 kg	6108 lb	2855 kg	6295 lb	2890 kg	6372 lb
closed	2860 kg	6306 lb	2980 kg	6571 lb	3030 kg	6681 lb
narrow	—	—	—	—	2855 kg	6295 lb
4 Tines						
Operating weight:						
open	2255 kg	4972 lb	2295 kg	5060 lb	2315 kg	5105 lb
semi-closed	2350 kg	5182 lb	2415 kg	5325 lb	2440 kg	5380 lb
closed	2530 kg	5696 lb	2650 kg	5843 lb	2700 kg	5954 lb
narrow	—	—	—	—	2390 kg	5270 lb
Dimensions:						
A	1970 mm	70"	2100 mm	83"	2175 mm	86"
B	1710 mm	67"	1785 mm	70"	1830 mm	72"
C	2050 mm	81"	2050 mm	81"	2050 mm	81"
D	2640 mm	104"	2840 mm	112"	2950 mm	116"
E	780 mm	31"	860 mm	34"	900 mm	35"
F	90 mm	4"	90 mm	4"	90 mm	4"
G	200 mm	8"	200 mm	8"	200 mm	8"
H	1530 mm	60"	1840 mm	72"	1900 mm	75"
I	2450 mm	96"	2635 mm	104"	2730 mm	107"
H (4 tines)	2010 mm	79"	2160 mm	85"	2230 mm	88"
Hydraulic open/close:						
Maximum pressure	350 bar	5075 psi	350 bar	5075 psi	350 bar	5075 psi
Optimum flow	200 L/min	53 gpm	200 L/min	53 gpm	200 L/min	53 gpm
Hydraulic rotation:						
Maximum pressure	200 bar	2900 psi	200 bar	2900 psi	200 bar	2900 psi
Optimum flow	20 L/min	5 gpm	20 L/min	5 gpm	20 L/min	5 gpm

**Specifications** (All dimensions and weights are approximate.)

Model	GSH22B		GSH22B	
Type	1250		1500	
Recommended carrier weight:				
Excavator	22-50 mt	24.3-55.1 st	22-50 mt	24.3-55.1 st
Material Handler	35-60 mt	38.6-66.1 st	35-60 mt	38.6-66.1 st
Capacity	1.25 m ³	1.65 yd ³	1.5 m ³	2.0 yd ³
5 Tines				
Operating weight:				
open	2780 kg	6130 lb	—	—
semi-closed	2945 kg	6494 lb	—	—
closed	3095 kg	6813 lb	—	—
narrow	—	—	2880 kg	6350 lb
4 Tines				
Operating weight:				
open	2350 kg	5182 lb	—	—
semi-closed	2485 kg	5479 lb	—	—
closed	2760 kg	6086 lb	—	—
narrow	—	—	2410 kg	5314 lb
Dimensions:				
A	2245 mm	88"	2265 mm	89"
B	1870 mm	74"	1880 mm	74"
C	2085 mm	82"	2050 mm	80"
D	3060 mm	120"	3050 mm	120"
E	940 mm	37"	955 mm	38"
F	90 mm	4"	90 mm	4"
G	200 mm	8"	200 mm	8"
H	1980 mm	78"	1980 mm	78"
I	2830 mm	111"	2820 mm	111"
H (4 tines)	2320 mm	91"	2320 mm	91"
Hydraulic open/close:				
Maximum pressure	350 bar	5075 psi	350 bar	5075 psi
Optimum flow	200 L/min	53 gpm	200 L/min	53 gpm
Hydraulic rotation:				
Maximum pressure	200 bar	2900 psi	200 bar	2900 psi
Optimum flow	20 L/min	5 gpm	20 L/min	5 gpm

Work Tools Matching Guide

Choosing the proper Orange Peel Grapple can increase productivity and lower your cost per ton.

Matching information not available. Please see marketing literature for current matching information.

Features:

- Multi-functional operation, the crusher combines several demolition operations in one piece of equipment. Breaking out concrete from fixed structures, pulverizing concrete and cutting reinforcement rods and small steel profiles.
- High force-to-weight ratio, the crusher’s special cylinder position allows it to maintain the same power with significantly lower weight.
- Enhanced performance, the standard speed valve enables cutting/crushing with great force and in even shorter cycle times.
- Optimized serviceability, the teeth and blades are replaceable and the hydraulics is easy accessible through bolted hatches.

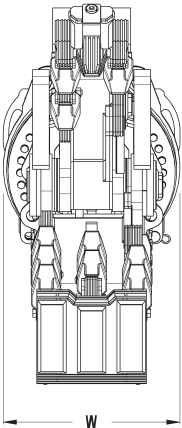
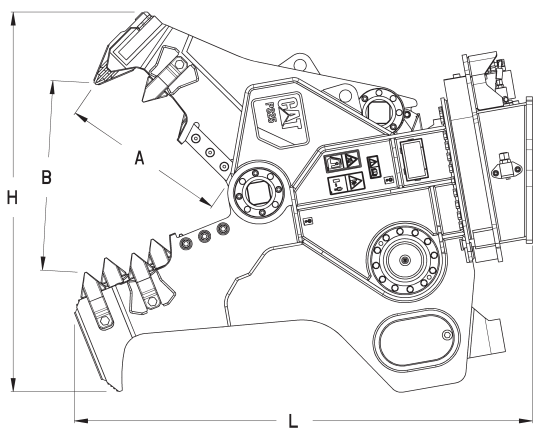
Guarding Recommendation

Multi-Functional Concrete Crushers used in hazardous applications like breaking out concrete from fixed structures, pulverizing concrete and cutting, can create a need for special operator guarding due to flying objects. When using a Multi-Functional Concrete Crusher, additional protective devices such as a front screen, Falling Object Guarding System (FOGS, includes top and front guarding), thick polycarbonate windshields or a combination of these is recommended by Caterpillar. Contact your Cat dealer for operator guarding options on your machine.

Matching Guide

Multi-Functional Concrete Crushers

Model	Cat Excavator
P315	315C/D, 318C, 319C/D, 320B/C/D, 322B/C, 323D, 324D, 325B/C, 325UHD C/D, 330UHD B/C/D, 345UHD B/C, 385UHD B/C
P325	320D, 322B/C, 324D, 325B/C/D, 329D, 330B/C/D, 336D, 325UHD C/D, 330UHD B/C/D, 345UHD C, 365UHD B/C, 385UHD B/C
P335	325B/C/D, 329D, 330B/C/D, 336D, 345B/C, 365UHD BII/C, 385 UHD B/C
P360	345B/C, 365B/C, 385B/C



Specifications and Dimensions

Model	P315		P325		P335		P360	
Recommended carrier weight, stick mounted	15-25		25-35		35-60		60-85	
Weight* (approximate)	1890 kg	4170 lb	2550 kg	5620 lb	3550 kg	7825 lb	5230 kg	11,530 lb
Closing force:								
at tooth tip	90 mt	99 st	125 mt	138 st	160 mt	176 st	210 mt	231 st
at primary cutter	190 mt	210 st	295 mt	325 st	355 mt	391 st	455 mt	501 st
Dimensions:								
Length	1927 mm	76"	2060 mm	81"	2398 mm	130"	2737 mm	108"
Height	1543 mm	61"	1710 mm	67"	1897 mm	75"	2312 mm	91"
Width	793 mm	31"	793 mm	31"	750 mm	30"	1180 mm	46"
Jaw depth	657 mm	26"	753 mm	30"	877 mm	35"	933 mm	37"
Jaw opening	731 mm	29"	855 mm	34"	983 mm	39"	1201 mm	47"
Cutter length	200 mm	8"	260 mm	10"	350 mm	14"	350 mm	14"
Maximum pressure:								
Crushing circuit	350 bar	5076 psi	350 bar	5076 psi	350 bar	5076 psi	350 bar	5076 psi
Rotation	140 bar	2030 psi	140 bar	2030 psi	140 bar	2030 psi	140 bar	2030 psi
Optimum flow:								
Crushing circuit	150 L/min	40 gpm	200 L/min	53 gpm	300 L/min	79 gpm	400 L/min	105 gpm
Rotation	40 L/min	11 gpm	40 L/min	11 gpm	40 L/min	11 gpm	80 L/min	21 gpm
Time to close	2 sec		2 sec		2.5 sec		3 sec	
Time to open	3 sec		4 sec		4 sec		4 sec	
Crushing capacity:								
Concrete thickness**	550 mm	22"	650 mm	26"	800 mm	31"	950 mm	37"

*Weight excludes mounting bracket.

**The concrete thickness as published provides an indication of crushing ability. The exact crushing ability depends on proper excavator adjustment, on the tip and amount of rebar, and on the condition of the concrete, jaws and crushers.

ENGINES

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 Cat_Power@Cat.com

Web Site/Dealer Locator
 www. Cat-engines.com

For more information contact your local Cat dealer, or visit the Cat engine and generator set website on www.cat-engines.com.

	TYPE	NO. OF MODELS	RANGE
	INDUSTRIAL Diesel	33	8.2 to 4920 kW 10.2 to 6598 hp EPA Certified
	Gaseous Fueled	13	56 to 3762 kW 75 to 5045 hp EPA Certified
	GENERATOR SETS		50 Hz kVA w/fan Prime 275-2825 Standby 300-3100 60 Hz kW w/fan Prime 12-2825 Standby 13-3100
	Diesel High Speed Area		
	Gaseous Fueled		50 Hz kVA w/o fan Continuous 80-4825 60 Hz kW w/o fan Continuous 72-3480
	OLYMPIAN GENERATOR SETS*		50 Hz kVA w/fan Prime 6.8-72 Standby 7.5-80 60 Hz kW w/fan Prime 12-54 Standby 13-60
	Diesel		
	Gaseous Fueled		50 Hz kVA w/o fan Standby 13-30 60 Hz kW w/o fan Continuous 25-300
	MARINE		
	Propulsion	24	93 to 5420 kW 125 to 7268 hp
	Generator Sets	14	50 Hz kVA 10.0 to 5200 Prime 60 Hz kW 12.0 to 4840 Prime

*Olympian Generator Sets are manufactured exclusively for Cat dealers.

DESIGN DATA**Diesel Engines**

Bearings — Precision-type steel-backed aluminum alloy with lead-tin overlay copper bonded to bearing surface. High load carrying ability and exceptional fatigue strength.

Block — Cast from high tensile strength grey iron. Internal ribbing provides added strength.

Cooling — Built-in, gear driven centrifugal pump (belt driven for 3116 and 3208) circulates jacket water through engine at all times. Water temperature is thermostatically controlled. Heat exchangers and radiators are available.

Crankshaft — Forged steel, dynamically balanced, heat treated and superfinished.

Cylinder Liners — Internal surface induction hardened (1.7 L, 3300, 3400, 3500 and 3600 Families) for excellent wear life. Full-length watercooled for efficient heat transfer.

Fuel System — Adjustment free for reduced engine maintenance, individual fuel injection pumps have built-in calibration — no adjustment required after fuel nozzle replacement (1.7 L, 1.9 L, 3406E, 3456, 3500 and 3600 families have unit injectors). 3126, 3408E and 3412E use the Cat HEUI system.

Governor — Hydra-mechanical (Woodward 3161 on 3500 and 3600 Families) for reliability, good response and smooth, stable load changes. Electronically controlled engines use Caterpillar proprietary software and hardware.

Lubrication — Positive displacement gear pump maintains continuous flow of lubricant under pressure to all moving parts. Full-flow filtration is provided by replaceable cellulose filters. Watercooled oil cooler maintains proper oil temperature.

Pistons — Three-ring design (two-ring on 3208) reduces friction, provides excellent oil control, and increases engine efficiency.

Starting — Electric and air starting systems are offered for most models.

Valves — Hardened steel alloy. Valves rotate 3° each time they lift to seat in a new position and allow even heat distribution (except for 3116).

Gaseous Fueled Engines

Combustion System — The piston design and compression ratios available provide the ability to utilize a wide variety of gaseous fuels as well as provide low emission output (below 2.0 grams/bhp-hr No_x).

Fuel System — Heavy-duty, industrial-type carburetors designed to maintain optimum air-fuel ratio at all loads and speeds.

Ignition System — Cat Gaseous Fueled Engines employ a low tension magneto, together with an ignition transformer (one at each cylinder), to provide up to 34 kV to spark plugs. The Cat Electronic Ignition system is also available on certain engines.

RATING EXPLANATIONS

All engine ratings listed include such standard accessories as air cleaner and fuel, lube, and jacket water pumps. Power required for auxiliaries such as cooling fans, air compressors, charging alternators, special pumps, etc., must be deducted to arrive at the net power available to drive the load (except as noted). Other ratings are available for specific application and customer requirements, i.e., locomotive, oil field, fire pump, irrigation, etc. Consult your Cat dealer.

Rating Conditions

Performance is based on SAE J1995 standard conditions of 100 kPa (29.61 in Hg) and 25° C (77° F). Performance also applies at ISO 3046/1 (except for Spark Ignited Engines), DIN 6271 and BS 5514 standard conditions of 100 kPa (29.61 in Hg), 27° C (81° F) and 60% relative humidity.

Fuel consumption is based on fuel oil having an LHV of 42 780 kJ/kg (18,390 Btu/lb) and weighing 838.9 g/liter (7.001 lb/U.S. gal). All ratings are based on distillate fuel.

Altitude and Temperature Capabilities

Industrial Diesel Engines — Most intermittent and continuous ratings are applicable to at least 1320 m (5000 ft) elevation without derating. Consult factory for specific applications.

Gaseous Fueled Engines — Ratings for turbocharged and aftercooled engines are generally applicable to 1500 m (5000 ft). Naturally aspirated engines are applicable to 150 m (500 ft).

Diesel Truck Engines — Refer to specification sheets for altitude capability of individual truck engine ratings.

Basic Specifications

Model	Displacement		Config.	Bore x Stroke		Fuel System	Power Range				
							Marine		Diesel Industrial		Elec. Power Gen.
	L	in ³		mm	in		kW	hp	kW	hp	
C0.5	0.5	30.9	I2	67x72	2.6x2.8	PC			8.2-10.2	11.0-13.7	See our listings for Generator Sets and Power Modules for complete information.
C0.7	0.7	46.5	I3	67x72	2.6x2.8	PC			12.2-15.3	16.3-20.5	
C1.1	1.1	69	I3	77x81	3.0x3.2	PC			13.7-21.0	18.4-28.2	
C1.5	1.5	91	I3	84x90	3.3x3.5	PC			20.7-30.0	27.8-40.2	
C1.6	1.5	92	I4	77x81	3.0x3.2	PC			24.6 & 26.5	33.0 & 35.5	
C1.7	1.66	101	I2	84x100	3.3x3.9	PC			24.7 & 26	33.2 & 34.8	
C2.2	2.2	135	I4	84x100	3.3x3.9	PC			27.5-49.2	36.9-66.0	
C3.4	3.3	201	I4	94x120	3.7x4.72	Mech			47-62	63-83	
3054C	4.4	269	I4	105x127	4.1x5.0	Mech			50-97	67-130	
3054E	4.4	269	I4	105x127	4.1x5.0	Elect			64-97	86-130	
C4.4	4.4	269	I4	105x127	4.1x5.0	Mech			54-83	72-111.3	
C4.4 ACERT	4.4	269	I4	105x127	4.1x5.0	Elect			61.5-106	82.5-142	
C6.6 ACERT	6.6	402.8	I6	105x127	4.1x5.0	Elect			89-205	119.4-274.9	
3056	6	365	I6	100x127	3.94x5.0	MUI	93-153	125-205			
3126B	7.24	442	I6	110x127	4.33x5.0	HEUI					
C7	7.24	442	I6	110x127	4.33x5.0	HEUI	187-276	250-270			
C11 ACERT	11.1	677	I6	130x140	5.12x5.51	EUI			242-336	325-450	
C12	12	732	I6	130x150	5.1x5.9	EUI	254-448	340-600			
C12 ACERT	12	732	I6	130x150	5.1x5.9	EUI	492-526	660-705			
3406	14.6	893	I6	137x165	5.4x6.5						
3406C	14.6	893	I6	137x165	5.4x6.5				201-392	270-525	
C15 ACERT	14.6	891	I6	137x165	5.4x6.5	EUI	597-636	800-853			
C16	15.8	964	I6	140x171	5.5x6.75	EUI					
3408	18	1099	V8	137x152	5.4x6.0						
C18	18.1	1106	I6	145x183	5.7x7.2	HEUI	339-747	454-1001			
C18 ACERT	18.1	1106	I6	145x183	5.7x7.2	HEUI	339-847	454-1136	429-597	575-800	
3412	27	1649	V12	137x152	5.4x6.0						
C27 ACERT	27	1648	V12	137.7x152.4	5.42x5.99	MEUI			597-858	800-1150	
C32	32.1	1959	V12	145x162	5.7x6.4	EUI	1156-1232	1550-1652			
C32 ACERT	32.1	1959	V12	145x162	5.71x6.38		492-1342	660-1800	708-1007	950-1350	
3508	34.5	2105	V8	170x190	6.7x7.5	MUI	526-857	705-1150	507-746	680-1000	
3508B	34.5	2105	V8	170x190	6.7x7.5	EUI	578-1118	775-1500	746-820	1000-1100	
3508C	34.5	2107	V8	170x190	6.7x7.5	EUI	578-820	775-1100			
3512	51.8	3158	V12	170x190	6.7x7.5	MUI	900-1305	1207-1750	761-1119	1020-1500	
3512B	51.8	3158	V12	170x190	6.7x7.5	EUI	820-1678	1100-2250	1119-1231	1500-1650	
3512B HD	58.6	3576	V12	170x215	6.7x8.5	MUI	1118-1500	1500-2012			
3512C	51.8	3161	V12	170x190	6.69x7.48	EUI	1119-1230	1500-1650			
3512C HD	58.6	3574	V12	170x215	6.69x8.46	EUI	1350-1902	1810-2551			
3516	69	4210	V16	170x190	6.7x7.5	MUI	1195-1640	1603-2200	1011-1492	1355-2000	
3516B	69	4210	V16	170x190	6.7x7.5	EUI	1230-2237	1650-3000	1492-1566	2000-2100	
3516B HD	78	4766	V16	170x215	6.7x8.5	EUI	1398-2000	1875-2682			
3516C	69	4211	V16	170x190	6.69x7.48	EUI	1492-1641	2000-2200			
3516C HD	78	4765	V16	170x215	6.69x8.46	EUI	1825-2525	2448-3386			
C280-6	111	6773	I6	280x300	11.0x11.8	EUI	1730-2030	2320-2722			
3606	110.8	6774	I6	280x300	11x11.8	MUI			1490-1850	1998-2481	
C280-8	148	9031	I8	280x300	11.0 x 11.8	EUI	2300-2710	3084-3634			
3608	148	9031	I8	280x300	11x11.8	MUI			1980-2460	2655-3300	
C280-12	222	13,546	V12	280x300	11.0x11.8	EUI	3460-4060	4640-5444			
3612	221.7	13,527	V12	280x300	11x11.8	MUI			2980-3700	3996-4962	
C280-16	296	18,062	V16	280x300	11.0x11.8	EUI	4600-5420	6169-7268			
3616	295.6	18,036	V16	280x300	11x11.8	MUI			3960-4920	5310-6598	

Mech — Mechanical pump and line
MUI — Mechanical Unit Injection
EUI — Electronic Unit Injection
*See Truck Listing for EUR02 Ratings.

PC — Precombustion Chamber
Elect — Electronic

See our listings for Oil and Gas Engines for complete information.

See our listings for Railway Power for complete information.

Basic Specifications

MaK Model	Output range		Config.	Speed	Displacement		Bore x Stroke		Fuel System	Electric Power Gen.
	kW	mhp		rpm	L	in ³	mm	in		
6 M 20 C	1020	1390	inline	900	57	3478	200x300	7.9x11.8	UP	
	1140	1550	inline	1000	57	3478	200x300	7.9x11.8	UP	
8 M 20 C	1360	1850	inline	900	75	4576	200x300	7.9x11.8	UP	
	1520	2070	inline	1000	75	4576	200x300	7.9x11.8	UP	
9 M 20 C	1530	2080	inline	900	85	5187	200x300	7.9x11.8	UP	
	1710	2325	inline	1000	85	5187	200x300	7.9x11.8	UP	
6 M 25 C	1800	2450	inline	720	123	7506	255x400	10x15.75	UP	
	1900	2585	inline	720	123	7506	255x400	10x15.75	UP	
	1850	2525	inline	750	123	7506	255x400	10x15.75	UP	
	2000	2720	inline	750	123	7506	255x400	10x15.75	UP	
8 M 25 C	2320	3155	inline	720	163	9946	255x400	10x15.75	UP	
	2540	3455	inline	720	163	9946	255x400	10x15.75	UP	
	2400	3265	inline	750	163	9946	255x400	10x15.75	UP	
	2660	3620	inline	750	163	9946	255x400	10x15.75	UP	
9 M 25 C	2610	3550	inline	720	184	11,228	255x400	10x15.75	UP	
	2850	3875	inline	720	184	11,228	255x400	10x15.75	UP	
	2700	3670	inline	750	184	11,228	255x400	10x15.75	UP	
	3000	4080	inline	750	184	11,228	255x400	10x15.75	UP	
6 M 32 C	2880	3915	inline	600	232	14,158	320x480	12.6x18.9	UP	
	3000	4080	inline	600	232	14,158	320x480	12.6x18.9	UP	
8 M 32 C	3840	5220	inline	600	309	18,856	320x480	12.6x18.9	UP	
	4000	5440	inline	600	309	18,856	320x480	12.6x18.9	UP	
9 M 32 C	4320	5875	inline	600	347	21,175	320x480	12.6x18.9	UP	
	4500	6120	inline	600	347	21,175	320x480	12.6x18.9	UP	
12 M 32 C	5760	7835	vee	720	405	24,715	320x420	12.6x16.5	UP	
	6000	8160	vee	750	405	24,715	320x420	12.6x16.5	UP	
16 M 32 C	7680	10,445	vee	720	541	33,014	320x420	12.6x16.5	UP	
	8000	10,880	vee	750	541	33,014	320x420	12.6x16.5	UP	
6 M 43 C	5400	7345	inline	500	531	32,404	430x610	16.93x24	UP	
	5400	7345	inline	514	531	32,404	430x610	16.93x24	UP	
	6000	8160	inline	500	531	32,404	430x610	16.93x24	UP	
	6000	8160	inline	514	531	32,404	430x610	16.93x24	UP	
7 M 43 C	6300	8570	inline	500	620	37,835	430x610	16.93x24	UP	
	6300	8570	inline	514	620	37,835	430x610	16.93x24	UP	
	7000	9520	inline	500	620	37,835	430x610	16.93x24	UP	
	7000	9520	inline	514	620	37,835	430x610	16.93x24	UP	
8 M 43 C	7200	9790	inline	500	709	43,266	430x610	16.93x24	UP	
	7200	9790	inline	514	709	43,266	430x610	16.93x24	UP	
	8000	10,880	inline	500	709	43,266	430x610	16.93x24	UP	
	8000	10,880	inline	514	709	43,266	430x610	16.93x24	UP	
9 M 43 C	8100	11,015	inline	500	797	48,636	430x610	16.93x24	UP	
	8100	11,015	inline	514	797	48,636	430x610	16.93x24	UP	
	9000	12,240	inline	500	797	48,636	430x610	16.93x24	UP	
	9000	12,240	inline	514	797	48,636	430x610	16.93x24	UP	
12 M 43 C	10 800	14,690	vee	500	1063	64,868	430x610	16.93x24	UP	
	10 800	14,690	vee	514	1063	64,868	430x610	16.93x24	UP	
	12 000	16,320	vee	500	1063	64,868	430x610	16.93x24	UP	
	12 000	16,320	vee	514	1063	64,868	430x610	16.93x24	UP	
16 M 43 C	14 400	19,585	vee	500	1417	86,471	430x610	16.93x24	UP	
	14 400	19,585	vee	514	1417	86,471	430x610	16.93x24	UP	
	16 000	21,760	vee	500	1417	86,471	430x610	16.93x24	UP	
	16 000	21,760	vee	514	1417	86,471	430x610	16.93x24	UP	

See our listings for Generator Sets for complete information.

UP — Unit Pump

Off-Highway Engine Ratings

C7 ACERT Ratings

Advertised hp	Maximum hp	Peak Torque lb-ft	Advertised Speed
190	207	520	2500
210 AT	216	520	2500
210	210	520	2500
210	210	605	2500
230	230	540	2400
230	230	660	2400
250	250	660	2400
250	250	800	2400
275	275	800	2400
275	275	860	2400
300	300	800	2400
300	300	860	2400
330	330	860	2400

AT — Automatic Transmission

C9 ACERT Ratings

Advertised hp	Maximum hp	Peak Torque lb-ft	Advertised Speed
275	275	860	2100
330	330	1150	2100
335	350	1050	2100
350	350	1100	2100
400	400	1100	2100

C11 ACERT Ratings

Advertised hp	Maximum hp	Peak Torque lb-ft	Advertised Speed
305	315	1050	2100
335	350	1250	2100
350	365	1350	2100

C13 ACERT Ratings

Advertised hp	Maximum hp	Peak Torque lb-ft	Advertised Speed
335	420	1550	2100
410	425	1450	2100
410	425	1550	2100
430	445	1550	2100
430	445	1650	2100
470	485	1550	2100
525	525	1650	2100
410	425	1450/1550	2100

C15 ACERT Ratings

Advertised hp	Maximum hp	Peak Torque lb-ft	Advertised Speed
435	450	1550	2100
435	450	1650	2100
475	490	1650	2100
475	490	1850	2100
500	515	1850	2100
550	550	1850	2100
435/500	515	1550/1650	2100
500	515	1650	2100
500	515	1850	2100
550	550	1850	2100

Olympian Generator Sets

Outside North America Diesel Ratings

Model	60 Hz			50 Hz		
	rpm	Standby	Prime	rpm	Standby	Prime
		ekW			kVA	
3-Phase Output*						
GEP9.5-2	—	—	—	1500	9.5	8.5
GEP13.5-4	1800	13	12	1500	13.8	12.5
GEP18.4	1800	17	15.5	1500	18	16.5
GEP22.4	1800	20	18	1500	22	20
GEP30-2	—	—	—	1500	30	27
GEP33-2	—	—	—	1500	33	30
GEP44-5	1800	40	36	1500	44	40
GEP50-5	1800	45	40	1500	50	45
GEP55-2	—	—	—	1500	55	50
GEP65-5	1800	60	55	1500	65	60
GEP88-2	—	—	—	1500	88	80
GEP110-2	1800	100	90.4	1500	110	100
GEP150-2	—	—	—	1500	150	135
GEP165-2	—	—	—	1500	165	150
GEP200-2	1800	175	157.5	1500	200	180
GEH220-2	1800	200	180	1500	220	200
GEH250-2	—	—	—	1500	250	230
GEH275-2	—	—	—	1500	275	250
GEP400-4	—	—	—	1500	400	350
GEP450-4	—	—	—	1500	450	400
GEP500-2	—	—	—	1500	500	450
GEP550-2	—	—	—	1500	550	500
GEP605-2	—	—	—	1500	605	550
GEP650-2	—	—	—	1500	650	591
GEP660-1	—	—	—	1500	660	600
GEP700-1	—	—	—	1500	700	635
GEP750-1	1800	600	540	—	—	—
GEP1650-1	—	—	—	1500	1650	—
GEP1875-1	—	—	—	1500	1875	—
GEP2000-1	—	—	—	1500	2000	—
GEP2200-1	—	—	—	1500	2200	—

*Ratings at 0.8 pf and 43° C (100° F).

Rating Definitions:

Standby — (for GEL 3000/3600 rpm models and GEP models with suffix “E”): These ratings are applicable for supplying continuous power (at variable load) in the event of a utility power failure. No overload is permitted on these ratings. The alternators on these models are peak continuous rated (as defined in ISO 8523-3) at 25° C (77° F).

Prime — (for GEL 1500/1800 rpm models and all other GEP models): These ratings are applicable for supplying continuous electrical power (at variable load) in lieu of commercially purchased power. There is no limitation to the annual hours of operation and GEP models can supply 10% overload power for 1 hour in 12 hours.

Olympian Generator Sets
Outside North America Diesel Ratings

Model	60 Hz			50 Hz		
	rpm	Standby	Prime	rpm	Standby	Prime
		ekW			kVA	
Single Phase Output*						
GEP7.5SP2	—	—	—	1500	7.5	6.8
GEP11SP4	1800	11	10	1500	11	10
GEP14SP4	1800	17	15.5	1500	14	13
GEP16SP4	1800	20	18	1500	16.5	15
GEP26SP2	—	—	—	1500	26	24
GEP35SP5	1800	40	36	1500	35	32
GEP44SP2	—	—	—	1500	44	40
GEP50SP5	1800	55	50	1500	50	45
GEP64SP2	—	—	—	1500	64	58
GEP80SP2	1800	90	82	1500	80	72
GEP105SP1	1800	112.5	100	1500	105	96

*Ratings at 1.0 pf and 32° C (90° F).

Rating Definitions:

Standby — (for GEL 3000/3600 rpm models and GEP models with suffix “E”): These ratings are applicable for supplying continuous power (at variable load) in the event of a utility power failure. No overload is permitted on these ratings. The alternators on these models are peak continuous rated (as defined in ISO 8523-3) at 25° C (77° F).

Prime — (for GEL 1500/1800 rpm models and all other GEP models): These ratings are applicable for supplying continuous electrical power (at variable load) in lieu of commercially purchased power. There is no limitation to the annual hours of operation and GEP models can supply 10% overload power for 1 hour in 12 hours.

Olympian Generator Sets
Diesel Power Module Rating

50 Hz			
Model	rpm	Standby	Prime
		kVA	
3-Phase Output			
XQE20	1500	—	20
XQE30	1500	—	30
XQE60	1500	—	60
XQE80	1500	—	80
XQE100	1500	—	100
XQE150	1500	—	150
XQE200	1500	—	200
XQE250	1500	—	250
60 Hz			
Model	rpm	Standby	Prime
		ekW	
XQ20	1500	20	18
XQ30	1500	30	27
XQ45	1500	45	41
XQ60	1500	60	54
XQ80	1500	80	70
XQ100	1500	100	90
XQ230	1800	230	210
XQ300	1800	300	275
XQ400	1500	400	365
XQ600	1800	600	545
XQ1000	1800	1000	910
XQ2000	1800	2000	1825

Rating Definitions:

Standby — Applicable for supplying continuous electrical power (at variable load) in the event of a utility power failure. No overload is permitted on these ratings.

Prime — These ratings are applicable for supplying continuous electrical power (at variable load) in lieu of commercially purchased power. There is no limitation to the annual hours of operation and this model can supply 10 percent overload power for 1 hour in 12 hours.

- Olympian Generator Sets
- North America Gas Ratings
- Outside North America Gas Ratings

Engines

Olympian Generator Sets

North America Gas Ratings (Standard)

60 Hz			
Model	rpm	Standby	
		ekW	
		LP	Natural
Single Phase & 3-Phase Output			
G25LTA	1800	25	25
G55LTA	1800	55	55
G70LTA	1800	70	70
G80LTA	2650	80	80
G100LTA	2300	100	100
G130LTA	3000	130	130
G150LTA	3600	150	150

North America Gas Ratings (Customizable)

60 Hz			
Model	rpm	Standby	
		ekW	
		LP	Natural
3-Phase Output			
G70LG	1800	70	70
G80LG	2300	80	80
G100LG	2300	100	100
G130LG	3000	130	130
G150LG	3600	150	150
G175LG	1800	175	175
G200LG	1800	200	200
G230LG	2300	230	230
G250LG	2300	250	250
G275LG	2300	275	275
G300LG	2300	300	300
Single Phase Output			
G70LG	1800	70	70
G80LG	2300	80	80
G100LG	2300	100	100
G130LG	3000	130	130
G150LG	3600	150	150
G175LG	1800	175	175
G200LG	1800	200	200

Outside North America Gas Ratings

60 Hz					
Model	rpm	Standby		Prime	
		ekW		ekW	
		LP	Natural	LP	Natural
3-Phase Output*					
GEUG16-1	1800	16	15	13.5	13.5
GEUHG30-1	3600	25	25	—	—
GEPG450-2	1500	—	—	—	—
GEPG620-2	1500	—	—	—	—
Single Phase Output**					
GEUG13S1	1800	16	15	13.5	13
GEUHG24S1	3600	25	25	—	—
50 Hz					
Model	rpm	Standby		Prime	
		kVA		kVA	
		LP	Natural	LP	Natural
3-Phase Output*					
GEUG16-1	1500	16.5	15	14	12.5
GEUHG30-1	3000	30	30	—	—
GEPG450-2	1500	—	450	—	—
GEPG620-2	1500	—	620	—	—
Single Phase Output**					
GEUG13S1	1500	13	11.8	11	10
GEUHG24S1	3000	24	24	—	—

*Ratings at 0.8 pf and 43° C (100° F).

**Ratings at 1.0 pf and 32° C (90° F).

Rating Definitions:

Standby — These ratings are applicable for supplying continuous electrical power (at variable load) in the event of a utility power failure. No overload is permitted on these ratings. Natural gas ratings have been established on natural gas with net calorific value of approximately 36.8 mJ/m³ (988 Btu/ft³).

Prime — These ratings are applicable for supplying continuous electrical power (at variable load) in lieu of commercially purchased power. There is no limitation to the annual hours of operation and this model can supply 10 percent overload power for 1 hour in 12 hours.

Cat Generator Sets

Gas Ratings

Model	60 Hz	
	Standby	Continuous
	ekW	
1800 rpm		
G3306	—	72
G3306	—	75
G3306	—	85
G3306	—	100
G3406	—	132
G3306	—	135
G3406	—	137
G3306	—	140
G3406	150	150
G3412	—	177
G3406	240	190
G3412	—	191
G3406	260	—
G3406	275	—
G3412	350	—
G3412C	375	—
G3412	410	350
G3412	435	—
G3412	445	—
G3412C	450	375
G3412	460	—
G3412	470	—
G3412	480	—
G3412	495	—
G3412	515	—
G3516	1040	—
G3516B	—	1300
G3516B	—	1400
G3516C	—	1660
G3520C	—	1900
G3520C	—	2055

Rating Definitions:

Standby — These ratings are applicable for supplying continuous electrical power (at variable load) in the event of a utility power failure. No overload is permitted on these ratings. Natural gas ratings have been established on natural gas with net calorific Low Heat Value (LHV) of approximately 36.2 MJ/m³ (**920 Btu/ft³**).

Continuous — Output available without varying load for an unlimited time. Continuous power in accordance with ISO 8528, ISO 3046/1, AS2789, DIN6271, and BS5514. Natural gas ratings have been established on natural gas with net calorific Low Heat Value (LHV) of approximately 36.2 MJ/m³ (**920 Btu/ft³**).

60 Hz		
Model	Standby	Continuous
	ekW	
1200 rpm		
G3508	—	360
G3508	—	370
G3508	—	375
G3508	—	380
G3508	—	385
G3508	—	390
G3508	—	400
G3512	—	555
G3512	—	560
G3512	—	570
G3512	—	585
G3512	—	600
G3516	—	695
G3516	—	735
G3516	—	750
G3516	—	755
G3516	—	770
G3516	—	795
G3516	—	815
G3516	—	820
G3520C	—	1600
900 rpm		
G3606	—	1155
G3606	—	1235
G3608	—	1540
G3608	—	1640
G3612	—	2310
G3612	—	2335
G3612	—	2465
G3612	—	2595
G3612	—	2615
G3616	—	3080
G3616	—	3105
G3616	—	3408
G3616	—	3480

Cat Generator Sets

Gas Ratings

50 Hz		
Model	Continuous	
	kVA	ekW
1500 rpm		
G3306	80	64
G3306	83	66
G3306	87	70
G3306	106	85
G3406	129	103
G3406	133	106
G3306	138	110
G3306	156	125
G3406	156	125
G3406	200	160
G3412	204	163
G3412	215	172
G3412	350	280
G3412	450	360
G3508	600	480
G3508	619	495
G3508	631	505
G3508	638	510
G3512	906	725
G3512	931	745
G3512	956	765
G3512	963	770
G3516	1218	974
G3516	1256	1005
G3516	1287	1030
G3516B	1356	1085
G3516B	1380	1104
G3516B	1388	1110
G3516B	1431	1145
G3516B	1456	1165
G3516C	1944	1555
G3516C	1986	1589
G3516E	2000	1600
G3520C	2438	1950
G3520C	2458	1966
G3520C	2500	2000
G3520E	2500	2000

50 Hz		
Model	Continuous	
	kVA	ekW
1000 rpm		
G3606	1606	1285
G3606	1712	1370
G3608	2143	1714
G3608	2281	1825
G3612	3212	2570
G3612	3425	2740
G3612	3593	2874
G3612	3625	2900
G3616	4281	3425
G3616	4562	3650
G3616	4825	3860

Rating Definitions:

Standby — These ratings are applicable for supplying continuous electrical power (at variable load) in the event of a utility power failure. No overload is permitted on these ratings. Natural gas ratings have been established on natural gas with net calorific Low Heat Value (LHV) of approximately 36.2 mJ/m³ (**920 Btu/ft³**).

Continuous — Output available without varying load for an unlimited time. Continuous power in accordance with ISO 8528, ISO 3046/1, AS2789, DIN6271, and BS5514. Natural gas ratings have been established on natural gas with net calorific Low Heat Value (LHV) of approximately 36.2 mJ/m³ (**920 Btu/ft³**).

MaK Marine Generator Sets
Medium Speed Ratings

MaK Model	Output range	Output range	Output range	Frequency	Speed	Bore	Stroke
	kW	ekW	kVA	Hz	rpm	mm	mm
6 M 20 C	1020/1140	970/1080	1210/1355	60/50	900/1000	200	300
8 M 20 C	1360/1520	1290/1445	1615/1805	60/50	900/1000	200	300
9 M 20 C	1530/1710	1450/1625	1820/2030	60/50	900/1000	200	300
6 M 25 C	1800/1900	1710/1800	2140/2250	60	720	255	400
	1850/2000	1760/1900	2200/2380	50	750	255	400
8 M 25 C	2320/2540	2200/2400	2750/3000	60	720	255	400
	2400/2660	2280/2530	2850/3160	50	750	255	400
9 M 25 C	2610/2850	2480/2700	3100/3370	60	720	255	400
	2700/3000	2570/2850	3210/3560	50	750	255	400
6 M 32 C	2880/3000	2765/2880	3456/3600*	60/50	600	320	480
8 M 32 C	3840/4000	3686/3840	4608/4800*	60/50	600	320	480
9 M 32 C	4320/4500	4147/4320	5184/5400*	60/50	600	320	480
12 M 32 C	5760/6000	5530/5760	6912/7200*	60/50	720/750	320	420
16 M 32 C	7680/8000	7373/7680	9216/9600*	60/50	720/750	320	420

Generator efficiency: 0.95, cos φ 0.8.

*Generator efficiency: 0.96, cos φ 0.8.

ekW — Electrical Kilowatts = kVA × 0.8 pf

Cat Generator Sets

Diesel Ratings

60 Hz			
Model	rpm	Standby	Prime
		ekW	
3-Phase Output*			
D13-4	1800	13	12
D20-6	1800	20	18
D25-8	1800	25	22.8
D30-10	1800	30	27
D40-6	1800	40	36
D50-6	1800	50	45
D60-6	1800	60	54.6
D80-6	1800	80	72
D100-6	1800	100	90
D125-6	1800	125	114
D150-8	1800	150	135
D175-2	1800	175	157.5
Single Phase Output**			
D13-4S	1800	13	11.8
D17-2S	1800	17	16
D20-6S	1800	20	18
D25-8S	1800	25	22.5
D30-8S	1800	30	27
D40-6S	1800	40	36
D50-6S	1800	50	45
D60-8S	1800	60	55
D80-2S	1800	80	72
D100-6S	1800	100	90

*All ratings at 0.8 pf.

**All ratings at 1.0 pf.

60 Hz			
Model	Standby	Prime	Continuous
	ekW		
1800 rpm			
C9 ACERT	200	180	—
C9 ACERT	250	225	—
C9 ACERT	300	275	—
C15 ACERT	350	320	—
C15 ACERT	400	365	—
C15 ACERT	450	410	—
C15 ACERT	500	455	—
C15 ACERT*	550	—	—
C18 ACERT	550	500	—
C18 ACERT	600	545	—
C27 ACERT	650	591	—
C27 ACERT	700	635	—
C27 ACERT	750	680	—
C27 ACERT	800	725	—
C32 ACERT	900	810	740
C32 ACERT	1000	910	830
3512	1100	1000	890
3512	1250	1135	1010
3512B	1400	1275	1230
3512C	1500	1360	1230
3516	1750	1600	1450
3516C	1750	—	1650
3516C	2000	1825	1640
3516B	2250	—	—
3516C-HD	2500	2250	2050
C175-16	3000	2725	2500
C175-16	3100	2825	2600

*ESP — Emergency Standby.

Rating Definitions:

Emergency Standby Power (ESP) — Output available with varying load for the duration of an emergency outage. Average power output is 70% of the standby power rating. Typical operation is 50 hours per year, with maximum expected usage of 200 hours per year. Standby power in accordance with ISO8528. Fuel stop power in accordance with ISO3046. Standby ambients shown indicate ambient temperature at 100% load which results in a coolant top tank temperature just below the shutdown temperature.

Standby Power Rating — Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby power rating. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

Standby power in accordance with ISO8528. Fuel stop power in accordance with ISO3046. Standby ambients shown indicate ambient temperature at 100% load which results in a coolant top tank temperature just below the shutdown temperature.

Prime Power Rating — Output available with varying load for an unlimited time. Average power output is 70% of the prime power rating. Typical peak demand is 100% of prime rated kW with 10% overload capability for emergency use for a maximum of 1 hour in 12. Overload operation cannot exceed 25 hours per year. Prime power in accordance with ISO3046.

Prime ambients shown indicate ambient temperature at 100% load which results in a coolant top tank temperature just below the alarm temperature.

Continuous Power Rating — Output available with non-varying load for an unlimited time. Average power output is 70-100% of the continuous power rating. Typical peak demand is 100% of continuous rated kW for 100% of operating hours. Continuous power in accordance with ISO3046.

Continuous ambients shown indicate ambient temperature at 100% load which results in a coolant top tank temperature below the alarm temperature.

Meets or Exceeds International Specifications: AS1359, CSA, IEC60034-1, ISO3046, ISO8528, NEMA MG 1-22, NEMA MG 1-33, UL508A, 72/23/EEC, 98/37/EC, 2004/108/EC.

Fuel rates are based on fuel oil of 35° API [16° C (60° F)] gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29° C (85° F) and weighing 838.9 g/liter (7.001 lb/U.S. gal.). Additional ratings may be available for specific customer requirements, contact your Caterpillar representative for details. For information regarding Low Sulfur fuel and Biodiesel capability, please consult your Cat dealer.

Cat Generator Sets

Diesel Ratings

60 Hz			
Model	Standby	Prime	Continuous
	ekW		
1200 rpm			
3508B	—	600	520
3512B	—	1015	890
3516	—	1250	1100
3516B	—	1285	1145
3516B	—	1450	1325
900 rpm			
6CM20	—	—	980
8CM20	—	—	1300
9CM20	—	—	1470
3606	2000	1820	1650
3608	2660	2420	2200
3612	4000	3640	3300
3616	5320	4840	4400
720 rpm			
3606	1680	1525	1375
6CM25	—	—	1730
3608	2200	2020	1830
8CM25	—	—	2230
9CM25	—	—	2500
3612	3360	3050	2750
3616	4440	4040	3660
12CM32	—	—	5590
16CM32	—	—	7450
600 rpm			
6CM32	—	—	2765
8CM32	—	—	3725
9CM32	—	—	4190
514 rpm			
6CM43	—	—	5240
7CM43	—	—	6110
8CM43	—	—	6980
9CM43	—	—	7860
12CM43	—	—	10 475
16CM43	—	—	13 970

Rating Definitions:

Emergency Standby Power (ESP) — Output available with varying load for the duration of an emergency outage. Average power output is 70% of the standby power rating. Typical operation is 50 hours per year, with maximum expected usage of 200 hours per year. Standby power in accordance with ISO8528. Fuel stop power in accordance with ISO3046. Standby ambients shown indicate ambient temperature at 100% load which results in a coolant top tank temperature just below the shutdown temperature.

Standby Power Rating — Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby power rating. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

Standby power in accordance with ISO8528. Fuel stop power in accordance with ISO3046. Standby ambients shown indicate ambient temperature at 100% load which results in a coolant top tank temperature just below the shutdown temperature.

Prime Power Rating — Output available with varying load for an unlimited time. Average power output is 70% of the prime power rating. Typical peak demand is 100% of prime rated kW with 10% overload capability for emergency use for a maximum of 1 hour in 12. Overload operation cannot exceed 25 hours per year. Prime power in accordance with ISO3046.

Prime ambients shown indicate ambient temperature at 100% load which results in a coolant top tank temperature just below the alarm temperature.

Continuous Power Rating — Output available with non-varying load for an unlimited time. Average power output is 70-100% of the continuous power rating. Typical peak demand is 100% of continuous rated kW for 100% of operating hours. Continuous power in accordance with ISO3046.

Continuous ambients shown indicate ambient temperature at 100% load which results in a coolant top tank temperature below the alarm temperature.

Meets or Exceeds International Specifications: AS1359, CSA, IEC60034-1, ISO3046, ISO8528, NEMA MG 1-22, NEMA MG 1-33, UL508A, 72/23/EEC, 98/37/EC, 2004/108/EC.

Fuel rates are based on fuel oil of 35° API [16° C (60° F)] gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29° C (85° F) and weighing 838.9 g/liter (7.001 lb/U.S. gal.). Additional ratings may be available for specific customer requirements, contact your Caterpillar representative for details. For information regarding Low Sulfur fuel and Biodiesel capability, please consult your Cat dealer.

Cat Generator Sets

Diesel Ratings

50 Hz			
Model	Standby	Prime	Continuous
	kVA		
1500 rpm			
3406C	300	275	—
3406C	350	320	—
3406C	400	365	—
C15 ACERT	400	365	—
C15 ACERT	450	410	—
C15 ACERT	500	455	—
C15 ACERT	550	—	—
C18 ACERT	550	500	—
C18 ACERT	600	545	—
C18 ACERT	650	591	—
C18 ACERT	700	635	—
3412C	750	680	—
3412C	800	725	—
3412C	900	810	—
C32 ACERT	1000	910	830
C32 ACERT	1100	1000	910
3512B	1250	1135	1010
3512	1250	1150	1000
3512B	1400	1275	1206
3512B	1400	1275	1230
3512B	1500	1360	1320
3512B	1600	1500	—
3512B-HD	1750	1600	1500
3512B-HD	1875	1700	—
3516	2000	1825	1600
3516	2000	1825	1640
3516B	2250	2000	1750
3516B-HD	2500	2275	2000
C175-16	3000	2725	2500
C175-16	3100	2825	2600

Rating Definitions:

Emergency Standby Power (ESP) — Output available with varying load for the duration of an emergency outage. Average power output is 70% of the standby power rating. Typical operation is 50 hours per year, with maximum expected usage of 200 hours per year. Standby power in accordance with ISO8528. Fuel stop power in accordance with ISO3046. Standby ambients shown indicate ambient temperature at 100% load which results in a coolant top tank temperature just below the shutdown temperature.

Standby Power Rating — Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby power rating. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

Standby power in accordance with ISO8528. Fuel stop power in accordance with ISO3046. Standby ambients shown indicate ambient temperature at 100% load which results in a coolant top tank temperature just below the shutdown temperature.

Prime Power Rating — Output available with varying load for an unlimited time. Average power output is 70% of the prime power rating. Typical peak demand is 100% of prime rated kW with 10% overload capability for emergency use for a maximum of 1 hour in 12. Overload operation cannot exceed 25 hours per year. Prime power in accordance with ISO3046.

Prime ambients shown indicate ambient temperature at 100% load which results in a coolant top tank temperature just below the alarm temperature.

Continuous Power Rating — Output available with non-varying load for an unlimited time. Average power output is 70-100% of the continuous power rating. Typical peak demand is 100% of continuous rated kW for 100% of operating hours. Continuous power in accordance with ISO3046.

Continuous ambients shown indicate ambient temperature at 100% load which results in a coolant top tank temperature below the alarm temperature.

Meets or Exceeds International Specifications: AS1359, CSA, IEC60034-1, ISO3046, ISO8528, NEMA MG 1-22, NEMA MG 1-33, UL508A, 72/23/EEC, 98/37/EC, 2004/108/EC.

Fuel rates are based on fuel oil of 35° API [16° C (60° F)] gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29° C (85° F) and weighing 838.9 g/liter (7.001 lb/U.S. gal.). Additional ratings may be available for specific customer requirements, contact your Caterpillar representative for details. For information regarding Low Sulfur fuel and Biodiesel capability, please consult your Cat dealer.

Cat Generator Sets

Diesel Ratings

50 Hz			
Model	Standby	Prime	Continuous
	kVA		
1000 rpm			
3508B	—	738	638
3512	—	1050	969
3512B	—	1100	1013
3516	—	1400	1225
3516B	—	1475	1288
6CM20	—	—	1368
8CM20	—	—	1825
9CM20	—	—	2025
3606	2688	2425	2200
3608	3575	3250	2938
3612	5375	4850	4400
3616	7150	6500	5875
750 rpm			
3606	2163	1963	1775
6CM25	—	—	2225
8CM25	—	—	2875
3608	2863	2600	2363
9CM25	—	—	3238
3612	4325	3925	3550
3616	5725	5200	4725
12CM32	—	—	6988
16CM32	—	—	9313
600 rpm			
6CM32	—	—	3456
8CM32	—	—	4656
9CM32	—	—	5238
500 rpm			
6CM43	—	—	6550
7CM43	—	—	7638
8CM43	—	—	8725
9CM43	—	—	9825
12CM43	—	—	13 094
16CM43	—	—	17 463

Rating Definitions:

Emergency Standby Power (ESP) — Output available with varying load for the duration of an emergency outage. Average power output is 70% of the standby power rating. Typical operation is 50 hours per year, with maximum expected usage of 200 hours per year. Standby power in accordance with ISO8528. Fuel stop power in accordance with ISO3046. Standby ambients shown indicate ambient temperature at 100% load which results in a coolant top tank temperature just below the shutdown temperature.

Standby Power Rating — Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby power rating. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

Standby power in accordance with ISO8528. Fuel stop power in accordance with ISO3046. Standby ambients shown indicate ambient temperature at 100% load which results in a coolant top tank temperature just below the shutdown temperature.

Prime Power Rating — Output available with varying load for an unlimited time. Average power output is 70% of the prime power rating. Typical peak demand is 100% of prime rated kW with 10% overload capability for emergency use for a maximum of 1 hour in 12. Overload operation cannot exceed 25 hours per year. Prime power in accordance with ISO3046.

Prime ambients shown indicate ambient temperature at 100% load which results in a coolant top tank temperature just below the alarm temperature.

Continuous Power Rating — Output available with non-varying load for an unlimited time. Average power output is 70-100% of the continuous power rating. Typical peak demand is 100% of continuous rated kW for 100% of operating hours. Continuous power in accordance with ISO3046.

Continuous ambients shown indicate ambient temperature at 100% load which results in a coolant top tank temperature below the alarm temperature.

Meets or Exceeds International Specifications: AS1359, CSA, IEC60034-1, ISO3046, ISO8528, NEMA MG 1-22, NEMA MG 1-33, UL508A, 72/23/EEC, 98/37/EC, 2004/108/EC.

Fuel rates are based on fuel oil of 35° API [16° C (60° F)] gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29° C (85° F) and weighing 838.9 g/liter (7.001 lb/U.S. gal.). Additional ratings may be available for specific customer requirements, contact your Caterpillar representative for details. For information regarding Low Sulfur fuel and Biodiesel capability, please consult your Cat dealer.

Cat Marine Engines

Propulsion Ratings

Engine Model	Engine Model	bkW Rating Range	mhp Rating Range
C280-16	DITA	4600-5420	6169-7268
C280-12	DITA	3460-4060	4640-5444
C280-8	DITA	2300-2710	3084-3634
C280-6	DITA	1730-2030	2320-2722
3516C	DITA	2350-2525	3151-3386
3516B HP	DITA	2000-2237	2682-3000
3516B HD	DITA	1398-2000	1875-2682
3516B	DITA	1230-1640	1650-2200
3516	DITA	1195-1640	1603-2200
3512C	DITA	1765-1895	2367-2541
3512B HP	DITA	1342-1678	1800-2250
3512B HD	DITA	1118-1500	1500-2012
3512B	DITA	820-1230	1100-1650
3512	DITA	900-1305	1207-1750
3508B HP	DITA	895-1118	1200-1500
3508B	DITA	578-820	775-1100
3508	DITA	526-857	705-1150
C32	DITA	820-1232	1100-1652
C32 ACERT	DITA	1343	1800
C18	DITTA	651-747	873-1001
C18	DITA	339-533	454-715
C15 ACERT	DITA	597-636	800-853
C12	DITA	254-448	340-600
C12 ACERT	DITA	492-526	660-705
C9 ACERT	DITA	375-423	503-567
C7	DITA	187-276	250-370
C7 ACERT	DITA	339	455
3056	DITA	138-153	185-205
3056	DINA	93	125

Generator Ratings

Engine Model	50 Hz ekW @ rpm	60 Hz ekW @ rpm
C280-16 DITA	4700/5200 @ 1000	4400/4840 @ 900
C280-12 DITA	3520/3880 @ 1000	3300/3640 @ 900
C280-8 DITA	2350/2600 @ 1000	2200/2420 @ 900
C280-6 DITA	1760/1940 @ 1000	1650/1825 @ 900
3516B DITA	1460/1600 @ 1500	1825 @ 1800
3516B DITA	1180 @ 1000	1285 @ 1200
3512B DITA	965/1200 @ 1500	1070/1360 @ 1800
3512B DITA	880 @ 1000	1030 @ 1200
3508B DITA	630/800 @ 1500	715/910 @ 1800
3508B DITA	590 @ 1000	600 @ 1200
3412C DITA	350-500 @ 1500	400-590 @ 1800
C18 DITA	275-450 @ 1500	340-425 @ 1800
C18 DITTA	—	500-550 @ 1800
3406C DITA	200-245 @ 1500	250-320 @ 1800
C9 DITA	150-200 @ 1500	175-250 @ 1800
C4.4 DIT	65-86 @ 1500	72 @ 1800
C2.2 DINA	17.5/18 @ 1500	21/21.5 @ 1800
C1.5 DINA	11/12 @ 1500	14.5/13.5 @ 1800

For more information on IMO regulations and compliance contact:

- IMO headquarters for “Annex VI of MARPOL 73/78...”
London, phone: 011-44 (0) 171-735-7611
- EPA paper “Frequently Asked Questions about MARPOL 73/78...” download from web site: epa.gov/oms/marine.htm
or call Michigan: (734) 214-4822
- ABS guide “Notes on Prevention of Air Pollution from Ships,”
Texas, phone: (281) 877-6306, fax: (281) 877-5801,
e-mail: jpatterson@eagle.org

For additional information on Cat Marine Power,
see our new marine site: www.cat-marine.com

- Propulsion Ratings
- Generator Ratings

MaK Marine Engines

Propulsion Ratings

MaK Model	kW Rating Range	mhp Rating Range
6 M 20 C	1020 1140	1390 1550
8 M 20 C	1360 1520	1850 2070
9 M 20 C	1530 1710	2080 2325
6 M 25 C	1800 1900 1850 2000	2450 2585 2525 2720
8 M 25 C	2320 2540 2400 2660	3155 3455 3265 3620
9 M 25 C	2610 2850 2700 3000	3550 3875 3670 4080
6 M 32 C	2880 3000	3915 4080
8 M 32 C	3840 4000	5220 5440
9 M 32 C	4320 4500	5875 6120
12 M 32 C	5760 6000	7835 8160
16 M 32 C	7680 8000	10,445 10,880
6 M 43 C	5400 5400 6000 6000	7340 7340 8160 8160
7 M 43 C	6300 6300 7000 7000	8570 8570 9520 9520

Propulsion Ratings

MaK Model	kW Rating Range	mhp Rating Range
8 M 43 C	7200 7200 8000 8000	9790 9790 10,880 10,880
9 M 43 C	8100 8100 9000 9000	11,015 11,015 12,240 12,240
12 M 43 C	10 800 10 800 12 000 12 000	14,690 14,690 16,320 16,320
16 M 43 C	14 400 14 400 16 000 16 000	19,585 19,585 21,760 21,760

Generator Ratings

MaK Model	50 Hz ekW @ rpm	60 Hz ekW @ rpm
6 M 20 C	1080 @ 1000	970 @ 900
8 M 20 C	1445 @ 1000	1290 @ 900
9 M 20 C	1625 @ 1000	1450 @ 900
6 M 25 C	1760/1900 @ 750	1710/1800 @ 720
8 M 25 C	2280/2530 @ 750	2200/2400 @ 720
9 M 25 C	2570/2850 @ 750	2480/2700 @ 720
6 M 32 C	2765/2880 @ 600	2765/2880 @ 600
8 M 32 C	3686/3840 @ 600	3686/3840 @ 600
9 M 32 C	4147/4320 @ 600	4147/4320 @ 600
12 M 32 C	5760 @ 750	5530 @ 720
16 M 32 C	7680 @ 750	7373 @ 720

Cat Marine Engines

Auxiliary Ratings

Engine Model	bkW/bhp				
C280-16 DITA	4600-5420/6169-7268				
C280-12 DITA	3460-4060/4640-5444				
C280-8 DITA	2300-2710/3084-3634				
C280-6 DITA	1730-2030/2320-2722				
Engine Model	50 Hz 1500 rpm bkW/bhp	50 Hz 1000 rpm bkW/bhp	60 Hz 1800 rpm bkW/bhp	60 Hz 1200 rpm bkW/bhp	60 Hz 900 rpm bkW/bhp
C280-16 DITA	—	4920-5420/ 6598-7268	—	—	4600-5060/ 6169-6785
C280-12 DITA	—	3700-4060/ 4962-5444	—	—	3460-3800/ 4640-5096
C280-8 DITA	—	2460-2710/ 3299-3634	—	—	2300-2530/ 3084-3393
C280-6 DITA	—	1850-2030/ 2481-2722	—	—	1730-1900/ 2320-2548
3516C DITA	—	—	2095-2350/ 2809-3151	—	—
3512C DITA	—	—	1628-1786/ 2183-2394	—	—
3516B DITA	1566-1717/ 2100-2303	1287/ 1726	1901/ 2549	1383/ 1855	—
3512B DITA	1020-1257/ 1368-1686	933/ 1251	1125-1424/ 1509-1910	1102/ 1478	—
3508B DITA	673-856/903-1148	649/870	760-968/1019-1298	682/915	—
3516 DITA	1355/1817	1100/1475	1511/2026	1230/1650	—
3512 DITA	1020/1368	860/1153	1125/1509	955/1281	—
3508 DITA	673/903	446/598	760/1019	599/804	—
3412C DITA (R)	413-513/ 554-688	—	427-583/573-782	—	—
3408C DITA (R)	332/445	—	396/531	—	—
3406C DITA (R)	224-254/ 300-341	—	267-336/ 358-451	—	—
3412C DITA (HE)	431-534/578-716	—	450-620/603-831	—	—
3408C DITA (HE)	340/456	—	410/550	—	—
3406C DITA (HE)	229-260/307-349	—	228-345/306-462	—	—
C18 DITTA	—	—	547-601/ 733-806	—	—
C18 DITA	301-492/ 404-660	—	372-465/ 499-624	—	—
C9 DITA	162-215/ 217-288	—	189-269/ 253-361	—	—

For more information on IMO regulations and compliance contact:

- IMO headquarters for "Annex VI of MARPOL 73/78..."
London, phone: 011-44 (0) 171-735-7611
- EPA paper "Frequently Asked Questions about MARPOL 73/78..." download from web site: epa.gov/oms/marine.htm
or call Michigan: (734) 214-4822
- ABS guide "Notes on Prevention of Air Pollution from Ships,"
Texas, phone: (281) 877-6306, fax: (281) 877-5801,
e-mail: jpatterson@eagle.org

For additional information on Cat Marine Power,
see our new marine site: www.cat-marine.com

Cat Industrial Diesel Applications

Model	Type	“IND A”			“IND B”			“IND C”			“IND D”			“IND E”		
		bkW	bhp	rpm	bkW	bhp	rpm	bkW	bhp	rpm	bkW	bhp	rpm	bkW	bhp	rpm
C0.5	NA	—	—	—	—	—	—	8.2	11.0	2800	—	—	—	—	—	—
		—	—	—	—	—	—	10.2	13.7	3600	—	—	—	—	—	—
C0.7	NA	—	—	—	—	—	—	12.2	16.3	2800	—	—	—	—	—	—
		—	—	—	—	—	—	15.3	20.5	3600	—	—	—	—	—	—
C1.1	NA	—	—	—	—	—	—	14.7/13.7	19.7/18.3	2200	—	—	—	—	—	—
		—	—	—	—	—	—	16.1/14.6	21.6/19.6	2400	—	—	—	—	—	—
		—	—	—	—	—	—	17.3/15.8	23.2/21.2	2600	—	—	—	—	—	—
		—	—	—	—	—	—	18.5/16.8	24.8/22.5	2800	—	—	—	—	—	—
		—	—	—	—	—	—	19.7/17.7	26.4/23.7	3000	—	—	—	—	—	—
		—	—	—	—	—	—	21.0	28.2	3400	—	—	—	—	—	—
C1.5	NA	—	—	—	—	—	—	20.7	27.8	2200	—	—	—	—	—	—
		—	—	—	—	—	—	22.3	29.9	2400	—	—	—	—	—	—
		—	—	—	—	—	—	23.4	31.4	2600	—	—	—	—	—	—
		—	—	—	—	—	—	24.4	32.7	2800	—	—	—	—	—	—
		—	—	—	—	—	—	25.1	33.7	3000	—	—	—	—	—	—
C1.5	T	—	—	—	—	—	—	23.1	31.0	2200	—	—	—	—	—	—
		—	—	—	—	—	—	25.2	33.8	2400	—	—	—	—	—	—
		—	—	—	—	—	—	27.3	36.6	2600	—	—	—	—	—	—
		—	—	—	—	—	—	29.4	39.4	2800	—	—	—	—	—	—
		—	—	—	—	—	—	30.0	40.2	3000	—	—	—	—	—	—
C1.6	NA	—	—	—	—	—	—	24.6	33.0	2800	—	—	—	—	—	—
		—	—	—	—	—	—	26.5	35.5	3000	—	—	—	—	—	—
C1.7	NA	—	—	—	—	—	—	24.7	33.2	2400	—	—	—	—	—	—
		—	—	—	—	—	—	26.0	34.8	2600	—	—	—	—	—	—

C0.5, C0.7, C1.1, C1.5, C1.6, C1.7 — Meets Tier 2, Stage II emissions requirements. Designed to meet Tier 3, Stage IIIA and Tier 4, Stage IIIB emissions requirements. Tier 2, Tier 3, and Tier 4 refer to EPA (U.S.) requirements. Stage IIIA and Stage IIIB refer to European requirements.

Rating Definitions:

NOTE: Application examples are for reference only. For an exact determination of the appropriate rating, contact the factory or your local Cat dealer.

Rating Conditions:

Diesel Engines — up to 6.6 liter

All rating conditions are based on ISO/TR14396, inlet air standard conditions with a total barometric pressure of 100 kPa (29.5 in Hg), with a vapor pressure of 1 kPa (0.295 in Hg), and 25° C (77° F). Performance measured using fuel to specification EPA 2D 89.330-96 with a density of 0.845-0.850 kg/L @ 15° C (59° F) and fuel inlet temperature 40° C (104° F).

Diesel Engines — 7 liter and higher

All rating conditions are based on SAE J1995, inlet air standard conditions of 99 kPa (29.31 in Hg) dry barometer and 25° C (77° F) temperature. Performance measured using a standard fuel with fuel gravity of 35° API having a lower heating value of 42,780 kJ/kg (18,390 btu/lb) when used at 29° C (84.2° F) with a density of 838.9 g/L.

Gas Engines

Ratings are based on SAE J1349 standard conditions of 100 kPa (29.61 in Hg) and 25° C (77° F). These ratings also apply at ISO3046, DIN6271, and BS5514 standard conditions of 100 kPa (29.61 in Hg) and 27° C (81° F); and API 7B-11C standard conditions of 99 kPa (29.28 in Hg) and 29° C (85° F) also apply.

Ratings are based on dry natural gas having an LHV of 35.54 MJ/N·m³ (905 btu/ft³). Variations in altitude, temperature, and gas composition from standard conditions may require a reduction in engine horsepower. Turbocharged-Aftercooled ratings apply to 1525 m (5000 ft) and 25° C (77° F).

A Rating (Continuous):

- For heavy-duty services when engine is operated at rated load and speed up to 100% of the time without interruption or load cycling.
- Time at full load up to 100% of the duty cycle.

B Rating:

- For service where power and/or speed are cyclic.
- Time at full load not to exceed 80% of the duty cycle.

C Rating (Intermittent):

- For intermittent service where maximum power and/or speed are cyclic.
- Time at full load not to exceed 50% of the duty cycle.

D Rating:

- For service where maximum power is required for periodic overloads.
- Time at full load not to exceed 10% of the duty cycle.

E Rating:

- For service where rated power is required for a short time for initial starting or sudden overload. For emergency service where standard power is unavailable.
- Time at full load not to exceed 5% of the duty cycle.

NA — Naturally Aspirated

T — Turbocharged

TA — Turbocharged-Aftercooled

ATAAC — Air-to-Air Aftercooled

DI — Direct Injection

PC — Precombustion Chamber (Indirect Injection)

hp — Horsepower

kW — Metric equivalent of horsepower

Cat Industrial Diesel Applications

Model	Type	“IND A”			“IND B”			“IND C”			“IND D”			“IND E”		
		bkW	bhp	rpm	bkW	bhp	rpm	bkW	bhp	rpm	bkW	bhp	rpm	bkW	bhp	rpm
C2.2	NA	—	—	—	—	—	—	31.0/27.5	41.6/36.9	2200	—	—	—	—	—	—
		—	—	—	—	—	—	34.1/29.7	45.7/39.8	2400	—	—	—	—	—	—
		—	—	—	—	—	—	35.7/31.4	47.9/42.1	2600	—	—	—	—	—	—
		—	—	—	—	—	—	37.3/32.8	50.0/44.0	2800	—	—	—	—	—	—
		—	—	—	—	—	—	38.0/34.0	51.0/45.6	3000	—	—	—	—	—	—
C2.2	T	—	—	—	—	—	—	40.0	53.6	2600	—	—	—	—	—	—
		—	—	—	—	—	—	45.5	61.0	3000	—	—	—	—	—	—
C2.2	TA	—	—	—	—	—	—	49.2	66.0	2800	—	—	—	—	—	—
C3.4	NA	—	—	—	—	—	—	47.0	63.0	2500	—	—	—	—	—	—
C3.4	T	—	—	—	—	—	—	55.0	73.7	2500	—	—	—	—	—	—
		—	—	—	—	—	—	62.0	83.0	2500	—	—	—	—	—	—
3054C	NA	—	—	—	—	—	—	50.0	67.0	2200	—	—	—	—	—	—
		—	—	—	—	—	—	54.0	72.0	2200	—	—	—	—	—	—
		—	—	—	—	—	—	62.0	83.0	2400	—	—	—	—	—	—
		—	—	—	—	—	—	60.0	80.0	2200	—	—	—	—	—	—
		—	—	—	—	—	—	64.0	86.0	2400	—	—	—	—	—	—
3054C	T	—	—	—	—	—	—	60.0	80.0	2200	—	—	—	—	—	—
		—	—	—	—	—	—	64.5	86.0	2200	—	—	—	—	—	—
		—	—	—	—	—	—	72.5	97.0	2200	—	—	—	—	—	—
		—	—	—	—	—	—	72.5	97.0	2400	—	—	—	—	—	—
		—	—	—	—	—	—	74.5	99.5	2400	—	—	—	—	—	—
3054C	TA	—	—	—	—	—	—	78.5	105.0	2400	—	—	—	—	—	—
		—	—	—	—	—	—	83.5	112.0	2200	—	—	—	—	—	—
		—	—	—	—	—	—	87.0	117.0	2200	—	—	—	—	—	—
		—	—	—	—	—	—	95.0	127.0	2200	—	—	—	—	—	—
		—	—	—	—	—	—	97.0	130.0	2200	—	—	—	—	—	—
3054E	NA	—	—	—	—	—	—	64.0	86.0	2400	—	—	—	—	—	—
3054E	T	—	—	—	—	—	—	86.0	115.0	2500	—	—	—	—	—	—
3054E	TA	—	—	—	—	—	—	97.0	130.0	2200	—	—	—	—	—	—
C4.4	NA	—	—	—	—	—	—	54.5	73.0	2200	—	—	—	—	—	—
		—	—	—	—	—	—	56.0	75.0	2200	—	—	—	—	—	—
C4.4	T	—	—	—	—	—	—	55.5-74.5	75.0-99.9	2200-2400	—	—	—	—	—	—
C4.4	TA	—	—	—	—	—	—	74.5-83.0	99.9-111.3	2200-2400	—	—	—	—	—	—
C4.4	T	—	—	—	—	—	—	61.5-74.5	82.5-99.0	2200	—	—	—	—	—	—
C4.4	ACERT	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
C4.4	TA	—	—	—	—	—	—	74.5-106.0	99.5-142.0	2200	—	—	—	—	—	—
C4.4	ACERT	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

*Specific application rating.

C2.2, C3.4, 3054C and E — Meets Tier 2, Stage II emissions requirements. Tier 2 refers to EPA (U.S.) requirements. Stage II refers to European requirements.

C2.2, C3.4 — Designed to meet Tier 3, Stage IIIA and Tier 4, Stage IIIB emissions requirements. Tier 3 and Tier 4 refer to EPA (U.S.) requirements. Stage IIIA and Stage IIIB refer to European requirements.

C4.4 and C4.4 ACERT — Meets Tier 3, Stage IIIA emissions requirements. Tier 3 refers to EPA (U.S.) requirements. Stage IIIA refers to European requirements.

Cat Industrial Diesel Applications

Model	Type	“IND A”			“IND B”			“IND C”			“IND D”			“IND E”		
		bkW	bhp	rpm	bkW	bhp	rpm	bkW	bhp	rpm	bkW	bhp	rpm	bkW	bhp	rpm
C6.6 ACERT	TA	—	—	—	—	—	—	89.0	119.4	2200	—	—	—	—	—	—
		—	—	—	—	—	—	116.5	156.2	2200	—	—	—	—	—	—
		—	—	—	—	—	—	129.5	173.7	2200	—	—	—	—	—	—
		—	—	—	—	—	—	129.0	173.0	2500	—	—	—	—	—	—
		—	—	—	—	—	—	130.0	174.3	2500	—	—	—	—	—	—
		—	—	—	—	—	—	136.0	182.4	2200	—	—	—	—	—	—
		—	—	—	—	—	—	140.0	187.7	2200	—	—	—	—	—	—
		—	—	—	—	—	—	144.0	193.1	2200	—	—	—	—	—	—
		—	—	—	—	—	—	146.0	195.8	2200	—	—	—	—	—	—
		—	—	—	—	—	—	151.0	202.5	1800	—	—	—	—	—	—
		—	—	—	—	—	—	151.0	202.5	2200	—	—	—	—	—	—
		—	—	—	—	—	—	159.0	213.2	2200	—	—	—	—	—	—
		—	—	—	—	—	—	168.0	225.3	2200	—	—	—	—	—	—
		—	—	—	—	—	—	176.5	236.7	2200*	—	—	—	—	—	—
		—	—	—	—	—	—	186.0	249.4	2200	—	—	—	—	—	—
		—	—	—	—	—	—	205.0	274.9	2200*	—	—	—	—	—	—
C6.6 ACERT	TA IOPU	—	—	—	—	—	—	129.5	173.7	2200	—	—	—	—	—	—
		—	—	—	—	—	—	130.0	174.3	2500	—	—	—	—	—	—
		—	—	—	—	—	—	151.0	202.5	1800	—	—	—	—	—	—
		—	—	—	—	—	—	151.0	202.5	2200	—	—	—	—	—	—
		—	—	—	—	—	—	168.0	225.3	2200	—	—	—	—	—	—
C7 ACERT	ATAAC	—	—	—	168	225	1800-2200	187.0	250.0	1800-2200	224	300	2100-2200	—	—	—
C9 ACERT	ATAAC	205	275	1800-2200	224	300	1800-2200	242.0	325.0	1800-2200	280	375	1800-2200	—	—	—
		—	—	—	—	—	—	261.0	350.0	1800-2200	—	—	—	—	—	—
C11 ACERT	ATAAC	242	325	1800-2100	261	350	1800-2100	287.0	385.0	1800-2100	313	420	1800-2100	336	450	1800-2100
C13 ACERT	ATAAC	287	385	1800-2100	310	415	1800-2100	328.0	440.0	1800-2100	354	475	1800-2100	388	520	1800-2100
3406C	T	201	270	1800	224	300	2000	242.0	325.0	2100	283	380	2100	291	390	2100
3406C	TA	199	267	1300	—	—	—	199.0	267.0	1300	—	—	—	—	—	—
		205	275	1800	242	325	2000	269.0	360.0	2100	313	420	2100	336	450	2100
		242	325	1800	242	325	2000	242.0	325.0	1800	—	—	—	—	—	—
		—	—	—	—	—	—	242.0	325.0	2100	—	—	—	—	—	—
		242	325	1800	276	370	2000	298.0	400.0	2100	358	480	2100	373	500	2100
		257	345	1800	254	340	2000	250.0	335.0	2100	—	—	—	—	—	—
		—	—	—	—	—	—	257.0	345.0	1800	—	—	—	—	—	—
		—	—	—	—	—	—	269.0	360.0	1800	283	380	2100	291	390	2100
		268	360	1800	268	360	2000	269.0	360.0	2100	298	400	2100	324	435	2100
		—	—	—	—	—	—	280.0	375.0	2000	—	—	—	—	—	—
		—	—	—	—	—	—	280.0	375.0	2100	—	—	—	—	—	—
		—	—	—	—	—	—	298.0	400.0	1800	—	—	—	—	—	—
		—	—	—	—	—	—	298.0	400.0	2000	—	—	—	—	—	—
		280	375	1800	291	390	2000	298.0	400.0	2100	324	435	2100	362	485	2100
		—	—	—	—	—	—	321.0	430.0	2100	—	—	—	—	—	—
		—	—	—	—	—	—	328.0	440.0	1800	—	—	—	—	—	—
		—	—	—	—	—	—	328.0	440.0	1900	366	490	2100	—	—	—
		—	—	—	—	—	—	328.0	440.0	2000	—	—	—	384	515	1900
		287	385	1800	328	440	2000	343.0	460.0	2100	373	500	2100	384	515	2100
		313	420	1800	328	440	2000	343.0	460.0	2100	384	515	2100	392	525	2100

*Specific application rating.

C6.6 ACERT, C7 ACERT, C9, C9 ACERT, C10, C11, C12, C13 ACERT — Meets Tier 3, Stage IIIA emission requirements. Tier 3 refers to EPA (U.S.) requirements. Stage IIIA refers to European requirements.

Cat Industrial Diesel Applications

Model	Type	“IND A”			“IND B”			“IND C”			“IND D”			“IND E”		
		bkW	bhp	rpm	bkW	bhp	rpm	bkW	bhp	rpm	bkW	bhp	rpm	bkW	bhp	rpm
C15 ACERT	ATAAC	328	440	1800-2100	354.0	475	1800-2100	403	540	1800-2100	433	580	1800-2100	444	595	1800-2100
C18 ACERT	ATAAC	429	575	1800-2100	447.5	600	1800-2100	470	630	1800-2100	—	—	—	—	—	—
C18 ACERT	TTA (ATAAC)	—	—	—	—	—	—	522	700	1800-2100	571	765	1800-2100	597	800	1800-2100
C27 ACERT	TA (ATAAC)	597	800	1800-2100	653.0	875	1800-2100	708	950	1800-2100	783	1050	1800-2100	858	1150	1800-2100
C32 ACERT	TA (ATAAC)	—	—	—	708.0	950	1800-2100	839	1125	1800-2100	895	1200	1800-2100	1007	1350	1800-2100
3508	TA	507	680	1200	—	—	—	612	820	1300	—	—	—	—	—	—
		578	775	1800	—	—	—	634	850	1800	—	—	—	—	—	—
		638	855	1800	—	—	—	746	1000	1800	—	—	—	—	—	—
3508B	TA	746	1000	1800	—	—	—	820	1100	1800	—	—	—	—	—	—
3512	TA	761	1020	1200	—	—	—	858	1150	1300	—	—	—	—	—	—
		877	1175	1800	—	—	—	1007	1350	1800	—	—	—	—	—	—
		955	1280	1800	—	—	—	1119	1500	1800	—	—	—	—	—	—
3512B	TA	1119	1500	1800	—	—	—	1231	1650	1800	—	—	—	—	—	—
3516	TA	1011	1355	1200	—	—	—	1242	1665	1300	—	—	—	—	—	—
		1156	1550	1800	—	—	—	1268	1700	1800	—	—	—	—	—	—
		1275	1710	1800	—	—	—	1492	2000	1800	—	—	—	—	—	—
3516B	TA	1492	2000	1800	—	—	—	1566	2100	1800	—	—	—	—	—	—
3606	TA	1490	1998	750	—	—	—	—	—	—	—	—	—	—	—	—
		1560	2092	800	—	—	—	—	—	—	—	—	—	—	—	—
		1730	2319	900	—	—	—	—	—	—	—	—	—	—	—	—
		1850	2481	1000	—	—	—	—	—	—	—	—	—	—	—	—
3608	TA	1980	2655	750	—	—	—	—	—	—	—	—	—	—	—	—
		2080	2787	800	—	—	—	—	—	—	—	—	—	—	—	—
		2300	3080	900	—	—	—	—	—	—	—	—	—	—	—	—
		2460	3300	1000	—	—	—	—	—	—	—	—	—	—	—	—
3612	TA	2980	3996	750	—	—	—	—	—	—	—	—	—	—	—	—
		3120	4184	800	—	—	—	—	—	—	—	—	—	—	—	—
		3460	4640	900	—	—	—	—	—	—	—	—	—	—	—	—
		3700	4962	1000	—	—	—	—	—	—	—	—	—	—	—	—
3616	TA	3960	5310	750	—	—	—	—	—	—	—	—	—	—	—	—
		4160	5579	800	—	—	—	—	—	—	—	—	—	—	—	—
		4600	6169	900	—	—	—	—	—	—	—	—	—	—	—	—
		4920	6598	1000	—	—	—	—	—	—	—	—	—	—	—	—

C15 ACERT — Meets Tier 3, Stage IIIA emissions requirements. Tier 3 refers to EPA (U.S.) requirements. Stage IIIA refers to European requirements.

C18 ACERT — A, B, and C ratings meet Tier 3, Stage IIIA emissions requirements. Tier 3 refers to EPA (U.S.) requirements. Stage IIIA refers to European requirements. D and E ratings meet Tier 2 emissions requirements above 559 bkW (**751 bhp**). Tier 2 refers to EPA (U.S.) requirements.

C27 and C32 — Meets Tier 2 emissions requirements. Tier 2 refers to EPA (U.S.) requirements.

Cat Industrial Diesel Applications

Cat Diesel Engines for Fire Pump Packages

Model	No. of Cylinders	1460 rpm		1750 rpm		1900 rpm		2100 rpm		2200 rpm		2300 rpm	
		bkW	bhp	bkW	bhp	bkW	bhp	bkW	bhp	bkW	bhp	bkW	bhp
3406C* T	I6	183	247	218	292	233	312	246	330	—	—	261	350
3406C* T	I6	242	325	276	370	280	375	280	375	—	—	—	—
3406C* TA	I6	224	300	313	420	317	425	321	430	—	—	339	455
3406C* TA	I6	—	—	343	460	343	460	359	482	—	—	—	—
3412C** T	V12	466	625	401	538	507	680	427	573	—	—	466	625
3412C** T	V12	—	—	492	660	—	—	522	700	—	—	—	—
3412C** TA	V12	—	—	476	638	551	739	551	739	—	—	649	870
3412C** TA	V12	—	—	597	800	642	860	649	870	—	—	—	—
3508** TA	V8	709	950	794	1065	—	—	—	—	—	—	—	—
3512** TA	V12	1067	1430	1193	1600	—	—	—	—	—	—	—	—
3516** TA	V16	1417	1900	1480	1985	—	—	—	—	—	—	—	—

*New Source Performance Standard (NSPS) compliant.

**For export out of the U.S. only.

T — Turbocharged
TA — Turbocharged-Aftercooled

Rating Definition:

Standby: Fire pump engine ratings represent the output which may be utilized to drive stationary fire pumps where the pumping equipment has been sized according to ULI and FM procedures.

Cat Oil and Gas Engines

Gas Industrial Ratings

Model		900 rpm		1000 rpm		1200 rpm		1400 rpm		1500 rpm		1600 rpm		1800 rpm	
		bkW	bhp	bkW	bhp	bkW	bhp	bkW	bhp	bkW	bhp	bkW	bhp	bkW	bhp
G3304	NA	—	—	—	—	—	—	56	75	—	—	64	85	71	95
G3306	NA	—	—	—	—	—	—	—	—	—	—	—	—	108	145
G3306	TA	—	—	—	—	—	—	—	—	—	—	—	—	157	211
G3306	TA ²	—	—	—	—	—	—	—	—	—	—	—	—	151	203
G3306	TA ¹	—	—	—	—	—	—	—	—	—	—	—	—	164	220
G3406	NA	—	—	—	—	—	—	131	175	—	—	—	—	160	215
G3406	TA ^{2,4}	—	—	—	—	—	—	—	—	—	—	—	—	206	276
G3406	TA ⁴	—	—	—	—	—	—	—	—	—	—	—	—	218	292
G3406	TA ²	—	—	—	—	—	—	187	250	—	—	—	—	242	325
G3406	TA ¹	—	—	—	—	—	—	—	—	—	—	—	—	257	345
G3406	TA ¹	—	—	—	—	—	—	209	280	—	—	—	—	272	365
G3408	NA	—	—	—	—	—	—	157	210	—	—	—	—	190	255
G3408	TA ²	—	—	—	—	—	—	223	300	—	—	—	—	—	—
G3408	TA ²	—	—	—	—	—	—	223	300	—	—	—	—	298	400
G3408	TA ¹	—	—	—	—	—	—	246	330	—	—	—	—	—	—
G3408	TA ^{2,4}	—	—	—	—	—	—	—	—	248	332	—	—	—	—
G3408	TA ^{1,4}	—	—	—	—	—	—	261	350	—	—	—	—	302	405
G3408	TA ^{2,3}	—	—	—	—	—	—	—	—	—	—	—	—	317	425
G3408	TA ¹	—	—	—	—	—	—	261	350	—	—	—	—	336	450
G3412	NA	—	—	—	—	—	—	235	315	—	—	—	—	272	365
G3412	TA ^{2,4}	—	—	—	—	—	—	302	405	—	—	—	—	—	—
G3412	TA ^{2,4}	—	—	—	—	—	—	—	—	373	500	—	—	—	—
G3412	TA ²	—	—	—	—	—	—	335	450	—	—	—	—	—	—
G3412	TA ²	—	—	—	—	—	—	347	465	—	—	—	—	448	600
G3412	TA ^{1,3}	—	—	—	—	—	—	369	495	—	—	—	—	—	—
G3412	TA ¹	—	—	—	—	—	—	392	525	—	—	—	—	—	—
G3412	TA ^{1,4}	—	—	—	—	—	—	—	—	—	—	—	—	453	607
G3412	TA ^{2,3}	—	—	—	—	—	—	—	—	—	—	—	—	475	637
G3412	TA ^{1,3,4}	—	—	—	—	—	—	—	—	—	—	—	—	504	675

¹ 32° C (90° F) water to aftercooler.

² 54° C (130° F) water to aftercooler.

³ Low Emissions.

⁴ Catalyst Rating.

Ratings listed are for 25° C (77° F) ambient temperature, 152 m (500 ft) altitude, and pipeline quality gas.

NA — Naturally Aspirated

TA — Turbocharged-Aftercooled

bhp — Brake horsepower

bkW — Metric equivalent of brake horsepower

Rating Definition:

Continuous: Output available without varying load for an unlimited time. Continuous power in accordance with ISO 8528, ISO 3046/1, AS2789, DIN6271, and BS5514.

Cat Oil and Gas Engines

Gas Industrial Ratings

Model	900 rpm		1000 rpm		1200 rpm		1400 rpm		1500 rpm		1600 rpm		1800 rpm	
	bkW	bhp	bkW	bhp	bkW	bhp	bkW	bhp	bkW	bhp	bkW	bhp	bkW	bhp
G3508	NA	—	—	—	231	310	—	—	—	—	—	—	—	—
G3508	TA ^{3,4}	—	—	—	384	515	472	630	—	—	—	—	—	—
G3805	TA ³	—	—	—	391	524	—	—	—	—	—	—	—	—
G3508	TA ^{2,4}	—	—	—	395	530	485	650	—	—	—	—	—	—
G3508	TA ²	—	—	—	399	535	—	—	—	—	—	—	—	—
G3508	TA ¹	—	—	—	406	545	—	—	—	—	—	—	—	—
G3508	TA ^{1,4}	—	—	—	407	545	500	670	—	—	—	—	—	—
G3512	NA	—	—	—	391	525	—	—	—	—	—	—	—	—
G3512	TA ³	—	—	—	589	790	—	—	—	—	—	—	—	—
G3512	TA ²	—	—	—	595	800	—	—	—	—	—	—	—	—
G3512	TA ^{3,4}	—	—	—	604	810	705	945	—	—	—	—	—	—
G3512	TA ¹	—	—	—	607	815	—	—	—	—	—	—	—	—
G3512	TA ^{2,4}	—	—	—	623	835	727	975	—	—	—	—	—	—
G3512	TA ^{3,4}	—	—	—	642	860	749	1005	—	—	—	—	—	—
G3516	NA	—	—	—	492	660	—	—	—	—	—	—	—	—
G3516	TA ³	—	—	—	783	1050	—	—	—	—	—	—	—	—
G3516	TA ²	—	—	—	794	1065	—	—	—	—	—	—	—	—
G3516	TA ^{3,4}	—	—	—	809	1085	943	1265	—	—	—	—	—	—
G3516	TA ^{2,4}	—	—	—	831	1115	969	1300	—	—	—	—	—	—
G3516	TA ^{3,4}	—	—	—	858	1150	1000	1340	—	—	—	—	—	—
G3520B	TA	—	—	—	965	1294	1286	1725	—	—	—	—	—	—
G3606	TA ^{2,3}	1193	1600	1324	1775	—	—	—	—	—	—	—	—	—
G3606	TA ^{1,3}	1271	1705	1413	1895	—	—	—	—	—	—	—	—	—
G3608	TA ^{2,3}	1591	2133	1767	2370	—	—	—	—	—	—	—	—	—
G3608	TA ^{1,3}	1693	2270	1879	2520	—	—	—	—	—	—	—	—	—
G3612	TA ^{2,3}	2383	3195	2647	3550	—	—	—	—	—	—	—	—	—
G3612	TA ^{1,3}	2539	3405	2822	3785	—	—	—	—	282	—	—	—	—
G3616	TA ^{2,3}	3178	4261	3531	4735	—	—	—	—	—	—	—	—	—
G3616	TA ^{1,3}	3389	4545	3762	5045	—	—	—	—	—	—	—	—	—
G16CM34	TA	—	—	—	—	—	—	—	—	—	—	—	—	—

¹ 32° C (90° F) water to aftercooler.² 54° C (130° F) water to aftercooler.³ Low Emissions.⁴ Catalyst Rating.

Ratings listed are for 25° C (77° F) ambient temperature, 152 m (500 ft) altitude, and pipeline quality gas.

NA — Naturally Aspirated

TA — Turbocharged-Aftercooled

bhp — Brake horsepower

bkW — Metric equivalent of brake horsepower

Rating Definition:

Continuous: Output available without varying load for an unlimited time. Continuous power in accordance with ISO 8528, ISO 3046/1, AS2789, DIN6271, and BS5514.

- Cat Oil and Gas Engines
- Offshore Power Module Ratings
- Land Rig Power Module Ratings

Engines

Cat Oil and Gas Engines

Offshore Power Module Ratings

Model	L with Base		W of Base		H with Base		Approximate Weight with Base	
	m	ft	mm	in	mm	in	kg	lb
3512B	5.44	17'10"	1790	71	2225	90	13 970	30,800
3512B HD	5.44	17'10"	1790	71	2225	90	14 515	32,000
3516B	6.10	20'0"	1790	71	2225	90	16 740	36,900
3516B HD	6.40	21'0"	1790	71	2225	90	17 236	38,000
3606	7.39	24'3"	1905	75	3250	128	37 194	82,000
3608	9.91	32'6"	1905	75	3250	128	44 452	98,000
3612	9.45	31'0"	2085	82	3300	130	55 340	122,000
3616	10.06	33'0"	2085	82	3300	130	65 317	144,000
12CM32	11.05	36'2"	2800	110	5357	211	121 000	266,200
16CM32	12.40	40'8"	2800	110	5357	211	148 000	325,600

Land Rig Power Module Ratings

Model	L Bases Available*	W of Base		Radiator Height with Base		Approximate Weight with Base	
	7.85 m (25'9")	mm	in	mm	in	kg	lb
3508	X	2390	94	2896	114	13 155	29,000
3508B	X	2390	94	2896	114	13 155	29,000
3512	X	2390	94	2896	114	15 875	35,000
3512B	X	2390	94	2896	114	15 875	35,000
3512B HD	X	2390	94	2896	114	16 798	37,000
3516	X	2390	94	2896	114	18 600	41,000
3516B	X	2390	94	2896	114	18 600	41,000

*9.37 m (30'9") and 12.4 m (40'9") bases also available.

Cat Oil and Gas Engines

Electric Drive Engine Ratings for SCR and DC Powered Rigs

Model	No. Cyl.	60 Hz								50 Hz					
		720 rpm		900 rpm		1200 rpm		1800 rpm		750 rpm		1000 rpm		1500 rpm	
		bkW	bhp	bkW	bhp	bkW	bhp	bkW	bhp	bkW	bhp	bkW	bhp	bkW	bhp
C16	I-6	—	—	—	—	—	—	410	550¹	—	—	—	—	—	—
3412E	V-12	—	—	—	—	—	—	577	760¹	—	—	—	—	—	—
3412E	V-12	—	—	—	—	354	475¹	—	—	—	—	—	—	—	—
3508	V-8	—	—	—	—	641	860¹	—	—	—	—	—	—	—	—
3508B	V-8	—	—	—	—	682	915¹	—	—	—	—	—	—	880	1180
3512	V-12	—	—	—	—	709	950¹	—	—	—	—	—	—	1090	1462
3512C	V-12	—	—	—	—	1678	2250	—	—	—	—	—	—	—	—
3512C HD	V-12	—	—	—	—	1101	1475	—	—	—	—	—	—	1310	1757
3516C HD	V-16	—	—	—	—	1345	1804¹	—	—	—	—	—	—	—	—
3516C	V-16	—	—	—	—	1384	1855³	—	—	—	—	—	—	—	—
3516C HD	V-16	—	—	—	—	1604	2150³	—	—	—	—	—	—	—	—
3606C	I-6	1565	2100²	1880	2520²	—	—	—	—	1645	2210²	2010	2700²	—	—
3608	I-8	2085	2800²	2533	3395²	—	—	—	—	2155	2890²	2700	3630²	—	—
3612	V-12	3130	4200²	3802	5096²	—	—	—	—	3285	4410²	4025	5400²	—	—
3616	V-16	4180	5600²	4604	6172²	—	—	—	—	4315	5790²	5415	7260²	—	—
12CM32	V-12	5760	7724	—	—	—	—	—	—	6000	8160	—	—	—	—
16CM32	V-16	7680	10,300	—	—	—	—	—	—	8000	10,880	—	—	—	—

¹ EPA certified.² IMO certified.³ EPA and IMO certified.

bhp — Brake horsepower

bkW — Metric equivalent of brake horsepower

Requires Separate Circuit Aftercooling (SCAC), without fan power, when emissions compliant.

Cat Oil and Gas Engines

Mechanical Drill Rig Ratings

Model	No. Cyl.	Pumping and Drilling Ratings (B Level)			
		1400 rpm		1200 rpm	
		bkW	bhp	bkW	bhp
3412E***	V-12	466	625	—	—
3508**	V-8	—	—	567	760
3508B*	V-8	—	—	567	760
3508B*	V-8	—	—	671	900
3512B	V-12	—	—	783	1050
3512B	V-12	—	—	1044	1400
3516**	V-16	—	—	1044	1400
3516**	V-16	—	—	1230	1649

*2002 U.S. EPA and IMO certified, Separate Circuit Aftercooling (SCAC), without fan.

**Not U.S. EPA and IMO certified, Jacket Water Aftercooling (JWAC), without fan.

***2002 U.S. EPA and IMO certified, Air to Air Aftercooled (ATAAC), without fan.

bhp — Brake horsepower

bkW — Metric equivalent of brake horsepower

Fracturing/Acidizing/Cementing Ratings

Dry Manifolds (E Level)				
Model	bkW	bhp	rpm	2002 EPA, Carb & EU 97/68/EC
C10	317	425	2100	X
C12	373	500	2100	X
C15	428	575	2100	X
C16	492	660	2100	X
C32	1119	1500	2100	X
3512B*	1492	2000	1900	X
3512B	1604	2150	1900	X
3512B	1679	2250	1900	X

Water Cooled Manifolds (E Level)				
Model	bkW	bhp	rpm	2002 EPA and IMO
C10*	272	365	2100	X
C15*	373	500	2100	X
3126**	172	230	2600	X
3406*	365	490	2100	X
3412E*	642	860	2100	X
3412E	780	1050	2100	X

*D Rating Level — cementing.

**C Rating Level.

STA — Series Turbocharged-Aftercooled

bhp — Brake horsepower

bkW — Metric equivalent of brake horsepower

E Rating Level — fracturing.

Rating Definitions:

The horsepower and speed capability of the engine which can be used to power high pressure well servicing equipment.

NOTE: For a transmission match, consult your transmission supplier.

Engines

- Cat Railway Power
- Locomotive Traction Engine Ratings
 - Auxiliary Electric (Head End) Power Engine Ratings

Cat Railway Power

Locomotive Traction Engine Ratings

Model	Rated Speed	Low Rating		High Rating	
	rpm	kW	hp	kW	hp
C9 ACERT	1800-2200	205	275	280	375
C11 ACERT	1800-2100	242	325	336	450
C13 ACERT	1800-2100	287	385	388	520
3406C	1300-2100	199	267	392	525
C15 ACERT	1800-2100	328	440	444	595
C18 ACERT	1800-2100	429	575	597	800
C18 ACERT-Horizontal*	1800	—	—	522	700
C27 ACERT	1800-2100	597	800	858	1150
C32 ACERT	1800-2100	708	950	1007	1350
C175-16 ACERT	1800	2500	3351	2700	3620
3508	1300-1800	503	675	970	1300
3512	1300-1800	746	1000	1700	2280
3516	1300-1800	1200	1600	2300	3085
3606	750-1000	1640	2200	2030	2720
3608	750-1000	2180	2925	2710	3635
3612	750-1000	3280	4400	4060	5445
3616	750-1000	4360	5850	5420	7270

*Preliminary rating.

Auxiliary Electric (Head End) Power Engine Ratings

Model	Rating (Hz)	Power (ekW)	Emissions Tier
C15 ACERT	50	292	STAGE II
C15 ACERT	50	328	STAGE II
C15 ACERT	50	364	STAGE II
C15 ACERT	50	400	STAGE II
C15 ACERT	60	320	TIER 3
C15 ACERT	60	365	TIER 3
C15 ACERT	60	410	TIER 3
C15 ACERT	60	455	TIER 3
C18 ACERT	50	400	STAGE II
C18 ACERT	50	436	STAGE II
C18 ACERT	50	508	STAGE II
C18 ACERT	50	573	STAGE II
C18 ACERT	60	500	TIER 2
C18 ACERT	60	545	TIER 2
C27 ACERT	60	590	TIER 2
C27 ACERT	60	635	TIER 2
C27 ACERT	60	680	TIER 2
C27 ACERT	60	725	TIER 2

All 60 Hz ratings are EPA Tier 2 or Tier 3 and CARB emission certified (non-road mobile regulations).

All 50 Hz ratings are EU emission certified (non-road mobile regulations).

Maintenance of Way Engine Ratings

Model	Aspiration	Rated Speed	Low Rating		High Rating	
		rpm	kW	hp	kW	hp
C0.5	NA	2800-3600	8.2	11.0	10.2	13.7
C0.7	NA	2800-3600	12.2	16.3	15.3	20.5
C1.1	NA	2200-3400	13.7	18.3	21.0	28.2
C1.5	NA	2200-3000	20.7	27.8	25.1	33.7
C1.5	T	2200-3000	23.1	30.0	30.0	40.2
C1.6	NA	2800-3000	24.6	33.0	26.5	35.5
C1.7	NA	2400-2600	24.7	33.2	26.0	34.8
C2.2	NA	2200-3000	27.5	36.9	38.0	51.0
C2.2	T	2600-3000	40.0	53.6	45.5	61.0
C2.2	TA	2800	—	—	49.2	66.0
C3.4	NA	2500	—	—	47.0	63.0
C3.4	T	2500	55.0	73.7	62.0	83.0
3054C	NA	2200-2400	50.0	67.0	64.0	86.0
3054C	T	2200-2400	60.0	80.0	74.5	99.5
3054C	TA	2200-2400	78.5	105.0	97.0	130.0
3054E	NA	2400	—	—	64.0	86.0
3054E	T	2500	—	—	86.0	115.0
3054E	TA	2200	—	—	97.0	130.0
C4.4	NA	2200	54.5	73.0	56.0	75.0
C4.4	T	2200-2400	55.5	75.0	74.5	99.9
C4.4	TA	2200-2400	74.5	99.9	83.0	111.3
C4.4 ACERT	T	2200	61.5	82.5	74.5	99.0
C4.4 ACERT	TA	2200	74.5	99.5	106.0	142.0
C6.6 ACERT	TA	1800-2500	89.0	119.4	205.0	274.9
C7 ACERT	TA	1800-2200	168.0	225.0	224.0	300.0
C9 ACERT	TA	1800-2200	205.0	275.0	280.0	375.0
C11 ACERT	TA	1800-2100	242.0	325.0	336.0	450.0
C13 ACERT	TA	1800-2100	287.0	385.0	388.0	520.0
3406C	T	1800-2100	201.0	270.0	291.0	390.0
3406C	TA	1300-2100	199.0	267.0	392.0	525.0
C15 ACERT	TA	1800-2100	328.0	440.0	444.0	595.0
C18 ACERT	TA	1800-2100	429.0	575.0	597.0	800.0
C27 ACERT	TA	1800-2100	597.0	800.0	858.0	1150.0
C32 ACERT	TA	1800-2100	708.0	950.0	1007.0	1350.0
3508	TA	1200-1800	507.0	680.0	746.0	1000.0
3512	TA	1200-1800	761.0	1020.0	1119.0	1500.0
3516	TA	1200-1800	1011.0	1355.0	1492.0	2000.0

Ratings meet appropriate non-road mobile emissions regulations.
Specific EPA or EU emissions information is available through your Cat dealer.

NA — Naturally Aspirated
T — Turbocharged
TA — Turbocharged/Aftercooled

FORMER MODELS



TRACK-TYPE TRACTORS

Model	Product Ident. No. Prefix	Years Built	Horse-power FW/ Drawbar	Approx. Machine Weight kg (lb)	Gauge m (ft) and Width m (ft)	Length m (ft) and Height m (ft)	Transmission	Rated Drawbar Pull — kg (lb) and Forward Speed — km/h (mph)					
								1st	2nd	3rd	4th	5th	6th
D2	4U	47-58	43/38	3258 (7175)	1.02 (3'4") 1.42 (4'8")	2.74 (9'0") 1.57 (5'2")	DD	3609 (7950) 2.9 (1.8)	2588 (5700) 4.4 (2.7)	2061 (4540) 5.2 (3.2)	1634 (3600) 6.3 (3.9)	1067 (2350) 8.9 (5.5)	
D2	4U	47-58	42/35	3258 (7175)	1.02 (3'4") 1.57 (5'2")	2.74 (9'0") 1.57 (5'2")	DD	3609 (7950) 2.7 (1.7)	2588 (5700) 4.0 (2.5)	2061 (4540) 4.8 (3.0)	1634 (3600) 5.8 (3.6)	1067 (2350) 8.2 (5.1)	
D2	5U	57-58	38/32	3119 (5870)	1.27 (4'2") 1.42 (4'8")	2.74 (9'0") 1.57 (5'2")	DD	3033 (6680) 2.7 (1.7)	2483 (5420) 4.0 (2.5)	2007 (4420) 4.8 (3.0)	1703 (3570) 5.8 (3.6)	1035 (2280) 8.2 (5.1)	
D2	5U	57-58	43/38	3373 (7430)	1.27 (4'2") 1.67 (5'6")	2.74 (9'0") 1.57 (5'2")	DD	3609 (7950) 2.9 (1.8)	2588 (5700) 4.4 (2.7)	2061 (4540) 5.2 (3.2)	1634 (3600) 6.3 (3.9)	1067 (2250) 8.9 (5.5)	
D3	79U	72-79	62/—	4812 (10,610)	1.42 (4'8") 1.78 (5'10")	2.77 (9'1") 1.70 (5'7")	PS		3.1 (1.9)	5.6 (3.5)	11.3 (7.0)		
D3 LGP	6N	72-79	62/—	5410 (11,925)	1.65 (5'5") 2.29 (7'6")	2.97 (9'10") 1.70 (5'7")	PS		3.1 (1.9)	5.6 (3.5)	11.3 (7.0)		
D3B	23Y	79-87	65	6719 (14,812)	1.42 (4'8") 1.78 (5'10")	2.77 (9'1") 2.67 (8'9")	PS		3.1 (1.9)	5.6 (3.5)	11.4 (7.1)		
D3B	27Y	79-87	65	6877 (15,160)	1.42 (4'8") 1.78 (5'10")	2.77 (9'1") 2.67 (8'9")	PS		3.1 (1.9)	5.9 (3.7)	10.6 (6.6)		
D3B LGP	24Y	79-87	65	7479 (16,488)	1.65 (5'5") 2.29 (7'6")	2.99 (9'10") 2.67 (8'9")	PS		3.1 (1.9)	5.6 (3.5)	11.4 (7.1)		
D3B LGP	28Y	79-87	65	7637 (16,836)	1.65 (5'5") 2.29 (7'6")	2.99 (9'10") 2.67 (8'9")	PS		3.1 (1.9)	5.9 (3.7)	10.7 (6.7)		
D3B	3YC	85-87	65	6719 (14,812)	1.42 (4'8") 1.78 (5'10")	2.77 (9'1") 2.67 (8'9")	DD	5593 (12,330) 2.48 (1.5)	3993 (8802) 3.40 (2.1)	2694 (5940) 4.68 (2.9)	1830 (4034) 6.45 (4.0)	1326 (2925) 8.27 (5.1)	
D3B LGP	5MC	85-87	65	7479 (16,488)	1.65 (5'5") 2.29 (7'6")	2.99 (9'10") 2.67 (8'9")	DD	5595 (12,330) 2.48 (1.5)	3993 (8802) 3.40 (2.1)	2694 (5940) 4.68 (2.9)	1830 (4034) 6.45 (4.0)	1326 (2925) 8.27 (5.1)	

NOTE: Power Shift models show speeds only, not drawbar pull.

NOTE: Track-Type Tractor weights do not include blades until 1967.

Track-Type Tractors (cont'd)

Model	Product Ident. No. Prefix	Years Built	Horse-power FW/ Drawbar	Approx. Machine Weight kg (lb)	Gauge m (ft) and Width m (ft)	Length m (ft) and Height m (ft)	Trans-mission	Rated Drawbar Pull — kg (lb) and Forward Speed — km/h (mph)					
								1st	2nd	3rd	4th	5th	6th
D3C	5KG	87-90	67	7084 (15,618)	1.42 (4'8") 1.79 (5'10.6")	2.8 (9'4") 2.66 (8'8.9")	PS	3.1 (1.9)	5.9 (3.7)	10.8 (6.7)			
D3C Series II		90-93	70	7001 (15,435)	1.42 (4'8") 1.79 (5'11")		PS	3.1 (1.9)	5.9 (3.7)	10.8 (6.7)			
D3C Series III		93-01	70	7110 (15,650)	1.45 (4'9") 1.85 (6'1")	3.98 (13'1") 2.73 (8'11")	HYS		0-9.0 (0-5.6)				
D3C XL Series II		91-93	70	7242 (15,965)	1.42 (4'8") 1.83 (6'0")		PS	3.1 (1.9)	5.9 (3.7)	10.8 (6.7)			
D3C XL Series III		93-01	70	7304 (16,100)	1.45 (4'9") 1.85 (6'1")	3.98 (13'1") 2.73 (8'11")	HYS		0-9.0 (0-5.6)				
D3G XL	CFC	01-03	70	7314 (16,125)	1.45 (4'9") 1.85 (6'1")	4.02 (13'2") 2.72 (8'11")	HYS		0-9.0 (0-5.6)				
D3G XL Tier 2	JMH	03-07	70	7345 (16,193)	1.45 (4'9") 1.85 (6'1")	4.02 (13'2") 2.72 (8'11")	HYS		0-9.0 (0-5.6)				
D3C LGP	1PJ	87-90	67	7788 (17,170)	1.65 (5'4") 2.29 (7'6")	3.0 (9'10.1") 2.66 (8'8.9")	PS	3.1 (1.9)	5.9 (3.7)	10.8 (6.7)			
D3C LGP Series II		90-93	70	7788 (17,170)	1.65 (5'5") 2.29 (7'6")		PS	3.1 (1.9)	5.9 (3.7)	10.8 (6.7)			
D3C LGP Series III		93-01	70	7710 (17,000)	1.68 (5'6") 2.31 (7'7")	3.95 (13'0") 2.73 (8'11")	HYS		0-9.0 (0-5.6)				
D3G LGP	CFF	01-03	70	7723 (17,026)	1.68 (5'6") 2.31 (7'7")	4.02 (13'2") 2.72 (8'11")	HYS		0-9.0 (0-5.6)				
D3G LGP Tier 2	BYR	03-07	70	7768 (17,126)	1.68 (5'6") 2.31 (7'7")	4.02 (13'2") 2.72 (8'11")	HYS		0-9.0 (0-5.6)				

NOTE: Power Shift models show speeds only, not drawbar pull.
NOTE: Track-Type Tractor weights do not include blades until 1967.

Track-Type Tractors (cont'd)

Model	Product Ident. No. Prefix	Years Built	Horse-power FW/ Drawbar	Approx. Machine Weight kg (lb)	Gauge m (ft) and Width m (ft)	Length m (ft) and Height m (ft)	Trans-mission	Rated Drawbar Pull — kg (lb) and Forward Speed — km/h (mph)					
								1st	2nd	3rd	4th	5th	6th
D4	6U	47-59	48/43	4629 (10,195)	1.12 (3'8") 1.58 (5'2")	3.07 (11'0") 1.54 (5'1")	DD	4531 (9980) 2.7 (1.7)	3496 (7700) 4.2 (2.4)	2656 (5850) 4.8 (3.0)	2089 (4600) 6.0 (3.7)	1339 (2950) 8.7 (5.4)	
D4	6U	47-59	60/48	4847 (10,675)	1.12 (3'8") 1.58 (5'2")	3.16 (10'5") 1.54 (5'1")	DD	4858 (10,700) 3.1 (1.9)	3496 (7700) 4.3 (2.7)	2724 (6000) 5.5 (3.4)	2093 (4610) 6.8 (4.2)	1326 (2920) 9.8 (6.1)	
D4	6U	47-59	63/50	4844 (10,675)	1.12 (3'8") 1.58 (5'2")	3.18 (10'5") 1.76 (5'10")	DD	4858 (10,700) 3.1 (1.9)	3528 (7770) 4.3 (2.7)	2724 (6000) 5.5 (3.4)	2093 (4610) 6.8 (4.2)	1326 (2920) 9.8 (6.1)	
D4	7U	47-59	63/50	5067 (10,970)	1.52 (5'0") 1.98 (6'6")	3.16 (10'5") 1.76 (5'10")	DD	4858 (10,700) 3.1 (1.9)	3528 (7770) 4.3 (2.7)	2724 (6000) 5.5 (3.4)	2093 (4610) 6.8 (4.2)	1326 (2920) 9.8 (6.1)	
D4B	2XF	87	75	7450 (16,420)	1.42 (4'8") 1.78 (5'10")	2.78 (9'1") 2.67 (8'9")	PS	3.2 (2.0)	6.0 (3.7)	11.1 (6.9)			
D4B LGP	1SG	87	75	7800 (17,200)	1.65 (5'5") 2.29 (7'6")	2.99 (9'10") 2.67 (8'9")	PS	3.2 (2.0)	6.0 (3.7)	11.1 (6.9)			
D4C	39A	59-63	65/52	5064 (11,155)	1.12 (3'8") 1.58 (5'2")	3.05 (10'1") 1.76 (5'10")	DD	4858 (10,700) 3.1 (1.9)	3528 (7770) 4.3 (2.7)	2724 (6000) 5.5 (3.4)	2093 (4610) 6.8 (4.2)	1321 (2910) 9.8 (6.1)	
D4C	40A	59-63	65/52	4881 (10,750)	1.52 (5'0") 1.98 (6'6")	3.05 (10'1") 1.76 (5'10")	DD	4858 (10,700) 3.1 (1.9)	3528 (7770) 4.3 (2.7)	2724 (6000) 5.5 (3.4)	2093 (4610) 6.8 (4.2)	1321 (2910) 9.8 (6.1)	
D4C	1RJ	87-90	78	7581 (16,714)	1.42 (4'7") 1.83 (6'0")	3.00 (9'10.1") 2.66 (8'8.9")	PS	3.1 (1.9)	5.9 (3.7)	11.1 (6.9)			
D4C Series II		90-93	80	7557 (16,660)	1.42 (4'8") 1.83 (6'5")		PS	3.2 (2.0)	5.9 (3.7)	11.1 (6.9)			
D4C Series III		93-01	80	7330 (16,150)	1.50 (4'11") 1.91 (6'3")	3.99 (13'1") 2.73 (8'11")	HYS		0-9.0 (0-5.6)				
D4C XL Series III		93-01	80	7520 (16,570)	1.50 (4'11") 1.96 (6'5")	3.99 (13'1") 2.73 (8'11")	HYS		0-9.0 (0-5.6)				

NOTE: Power Shift models show speeds only, not drawbar pull.

NOTE: Track-Type Tractor weights do not include blades until 1967.

Track-Type Tractors (cont'd)

Model	Product Ident. No. Prefix	Years Built	Horse-power FW/ Drawbar	Approx. Machine Weight kg (lb)	Gauge m (ft) and Width m (ft)	Length m (ft) and Height m (ft)	Trans-mission	Rated Drawbar Pull — kg (lb) and Forward Speed — km/h (mph)					
								1st	2nd	3rd	4th	5th	6th
D4C LGP	2CJ	87-90	78	7905 (17,427)	1.65 (5'4") 2.29 (7'6")	3.00 (9'10.1") 2.66 (8'8.9")	PS						
D4C LGP Series II		90-93	80	7905 (17,427)	1.65 (5'5") 2.29 (7'6")		PS	3.2 (2.0)	5.9 (3.7)	11.1 (6.9)			
D4C LGP Series III		93-01	80	7790 (17,160)	1.68 (5'6") 2.31 (7'6")	3.99 (13'1") 2.73 (8'11")	HYS		0-9.0 (0-5.6)				
D4D	78A	63-68	65/52	5900 (13,000)	1.52 (5'0") 1.98 (6'6")	3.35 (11'0") 2.41 (7'11")	DD	5300 (11,690)	3700 (8160)	2560 (5640)	1880 (4150)	1350 (2980)	
D4D	22C	67-68	65/—	5900 (13,100)	1.52 (5'0") 1.98 (6'6")	3.38 (11'1") 2.41 (7'11")	PS		3.2 (2.0)	5.8 (3.6)	9.3 (5.8)		
D4D	82J	63	—/65	7910 (17,440)	1.52 (5'0") 1.98 (6'6")	3.38 (11'1") 2.67 (8'9")	DD	6150 (13,550)	4150 (9140)	2820 (6210)	2030 (4480)	1420 (3120)	
D4D	83J	67-71	—/65	8270 (18,240)	1.52 (5'0") 1.98 (6'6")	3.38 (11'1") 2.67 (8'9")	PS		3.2 (2.0)	5.7 (3.6)	9.3 (5.8)		
D4D	83J	72-77	—/75	5900 (13,100)	1.52 (5'0") 1.98 (6'6")	3.38 (11'1") 2.67 (8'9")	DD	6150 (13,550)	4150 (9140)	2820 (6210)	2030 (4480)	1420 (3120)	
D4E	27X	77-84	80/—	9013 (19,820)	1.52 (5'0") 2.44 (8'0")	3.86 (12'8") 2.72 (8'11")	DD	6495 (14,320)	4425 (9756)	3018 (6654)	2172 (4788)	1509 (3327)	
D4E	28X	77-84	80/—	9090 (20,040)	1.52 (5'0") 2.44 (8'0")	3.86 (12'8") 2.72 (8'11")	PS		3.3 (2.1)	5.9 (3.7)	9.5 (5.9)		
D4G XL	CFN	01-03	80	7761 (17,110)	1.50 (4'11") 1.96 (6'5")	4.04 (13'3") 2.72 (8'11")	HYS		0-9.0 (0-5.6)				
D4G XL Tier 2	HYD	03-07	80	7800 (17,196)	1.50 (4'11") 1.96 (6'5")	4.04 (13'3") 2.72 (8'11")	HYS		0-9.0 (0-5.6)				

NOTE: Power Shift models show speeds only, not drawbar pull.
NOTE: Track-Type Tractor weights do not include blades until 1967.

Track-Type Tractors (cont'd)

Model	Product Ident. No. Prefix	Years Built	Horse-power FW/ Drawbar	Approx. Machine Weight kg (lb)	Gauge m (ft) and Width m (ft)	Length m (ft) and Height m (ft)	Transmission	Rated Drawbar Pull — kg (lb) and Forward Speed — km/h (mph)					
								1st	2nd	3rd	4th	5th	6th
D4G LGP	FDC	01-03	80	8109 (17,877)	1.68 (5'6") 2.31 (7'7")	4.04 (13'3") 2.72 (8'11")	HYS		0-9.0 (0-5.6)				
D4G LGP Tier 2	TLX	03-07	80	8143 (17,952)	1.68 (5'6") 2.31 (7'7")	4.04 (13'3") 2.72 (8'11")	HYS		0-9.0 (0-5.6)				
D4H (JPN)	8PB*	85-89	90/—	9975 (21,991)	1.67 (5'6") 2.13 (7'0")	3.422 (11'3") 2.933 (9'8")	PS	3.5 (2.2)	6.2 (3.9)	10.2 (6.3)			
D4H (JPN)	2AC*	85-89	90/—	10 111 (22,291)	1.67 (5'6") 2.13 (7'0")	3.422 (11'3") 2.933 (9'8")	DD	7618 (16,798)	5843 (12,884)	4333 (9554)	3207 (7071)	2335 (5149)	1640 (3617)
D4H (JPN)	8PB*	89-90	95/—	10 105 (22,277)	1.67 (5'6") 2.13 (7'0")	3.422 (11'3") 2.933 (9'8")	PS	2.5 (1.6)	3.2 (2.0)	4.3 (2.6)	5.5 (3.4)	7.2 (4.4)	9.5 (5.9)
D4H (JPN)	8PB	91-96	95/—	11 019 (24,242)	1.67 (5'6") 2.13 (7'0")	3.44 (11'3") 2.939 (9'8")	PS	3.5 (2.2)	6.2 (3.9)	10.2 (6.3)			
D4H (JPN)	2AC*	89-90	95/—	10 231 (22,555)	1.67 (5'6") 2.13 (7'0")	3.422 (11'3") 2.933 (9'8")	DD	7454 (16,434)	5715 (12,599)	4235 (9336)	3132 (6904)	2277 (5020)	1597 (3520)
D4H (JPN)	2AC	91-96	95/—	11 019 (24,242)	1.67 (5'6") 2.13 (7'0")	3.44 (11'3") 2.939 (9'8")	DD	2.5 (1.6)	3.2 (2.0)	4.3 (2.6)	5.5 (3.4)	7.2 (4.4)	9.5 (5.9)
D4H LGP (JPN)	9DB*	85-89	90/—	11 245 (24,790)	2.00 (6'7") 2.76 (9'1")	3.693 (10'4") 2.986 (9'10")	PS	3.5 (2.2)	6.2 (3.9)	10.2 (6.3)			
D4H LGP (JPN)	3AC*	85-89	90/—	11 381 (25,090)	2.00 (6'7") 2.76 (9'1")	3.693 (10'4") 2.986 (9'10")	DD	7618 (16,798)	5843 (12,884)	4333 (9554)	3207 (7071)	2335 (5149)	1640 (3617)
D4H LGP (JPN)	9DB*	89-90	95/—	11 350 (25,022)	2.00 (6'7") 2.76 (9'1")	3.693 (10'4") 2.986 (9'10")	PS	2.5 (1.6)	3.2 (2.0)	4.3 (2.6)	5.5 (3.4)	7.2 (4.4)	9.5 (5.9)
D4H LGP (JPN)	9DB	91-96	105/—	12 440 (27,368)	2.00 (6'7") 2.76 (9'1")	3.718 (12'2") 3.04 (10'0")	PS	3.5 (2.2)	6.2 (3.9)	10.2 (6.3)			
								3.4 (2.1)	6.0 (3.7)	10.2 (6.4)			

*D4H models prior to Series II. Product identification number prefix still in use for current product.

NOTE: Power Shift models show speeds only, not drawbar pull.

NOTE: Track-Type Tractor weights do not include blades until 1967.

Track-Type Tractors (cont'd)

Model	Product Ident. No. Prefix	Years Built	Horse-power FW/ Drawbar	Approx. Machine Weight kg (lb)	Gauge m (ft) and Width m (ft)	Length m (ft) and Height m (ft)	Transmission	Rated Drawbar Pull — kg (lb) and Forward Speed — km/h (mph)					
								1st	2nd	3rd	4th	5th	6th
D4H LGP (JPN)	3AC*	89-90	95/—	11 476 (25,300)	2.00 (6'7") 2.76 (9'1")	3.693 (10'4") 2.986 (9'10")	DD	7454 (16,434) 2.5 (1.6)	5715 (12,599) (2.0)	4235 (9336) (2.6)	3132 (6904) (3.4)	2277 (5020) (4.4)	1597 (3520) (5.9)
D4H LGP (JPN)	9GJ	92-96	105/—	12 440 (27,368)	2.00 (6'7") 2.76 (9'1")	3.718 (12'2") 3.04 (10'0")	PS	3.4 (2.1)	6.0 (3.7)	10.2 (6.4)			
D4H XL (JPN)	8PS	92-96	105/—	11 786 (25,929)	1.77 (5'10") 2.28 (7'6")	3.446 (11'4") 2.99 (9'10")	PS	3.4 (2.1)	6.0 (3.7)	10.2 (6.4)			
D5	81H	67-67	93/75	8300 (18,200)	1.52 (5'0") 2.02 (6'8")	3.89 (12'9") 2.00 (8'7")	DD	7870 (17,330) 3.8 (2.3)	4910 (10,820) 4.7 (2.9)	3330 (7320) 5.8 (3.6)	2230 (4920) 7.1 (4.4)	1440 (3170) 8.9 (5.5)	
D5	82H	67-67	93/75	8400 (18,600)	1.88 (6'2") 2.38 (7'10")	3.89 (12'9") 2.00 (8'7")	DD	7870 (17,330) 2.7 (1.7)	4910 (10,820) 4.2 (2.6)	3330 (7320) 5.8 (3.6)	2230 (4920) 8.0 (5.0)	1440 (3170) 11.1 (6.9)	
D5	83H	67-67	93/—	8500 (18,800)	1.52 (5'0") 2.02 (6'8")	3.89 (12'9") 2.64 (8'8")	PS	2.7 (1.7)	4.2 (2.6)	5.8 (3.6)	8.0 (5.0)	11.1 (6.9)	
D5	84H	67-67	93/—	8700 (19,200)	1.88 (6'2") 2.38 (7'10")	3.89 (12'9") 2.64 (8'8")	PS	3.6 (2.2)	6.1 (3.8)	10.1 (6.3)			
D5	98J	67-77	105	11 290 (24,400)	1.52 (5'0") 2.02 (6'8")	3.89 (12'9") 2.74 (9'0")	DD	8770 (19,340) 4.0 (2.5)	5500 (12,130) 4.8 (3.0)	3750 (8270) 5.6 (3.5)	2540 (5610) 6.4 (4.0)	1660 (3660) 7.4 (4.6)	9.0 (5.6)
D5	93J	67-77	105	11 290 (24,400)	1.52 (5'0") 2.02 (6'8")	3.89 (12'9") 2.74 (9'0")	DD	8770 (19,340) 2.7 (1.7)	5500 (12,130) 4.2 (2.6)	3750 (8270) 5.8 (3.6)	2540 (5610) 8.0 (5.0)	1660 (3660) 11.1 (6.9)	
D5	94J	66-77	105	11 390 (25,100)	1.88 (6'2") 2.38 (7'10")	3.89 (12'9") 2.74 (9'0")	DD	8770 (19,340) 2.7 (1.7)	5500 (12,130) 4.2 (2.6)	3750 (8270) 5.8 (3.6)	2540 (5610) 8.0 (5.0)	1660 (3660) 11.1 (6.9)	
D5	95J	66-77	105	11 290 (24,900)	1.52 (5'0") 2.02 (6'8")	3.89 (12'9") 2.74 (9'0")	PS						
D5	96J	66-77	105	11 600 (25,600)	1.88 (6'2") 2.38 (7'10")	3.89 (12'9") 2.74 (9'0")	PS						

*D4H models prior to Series II. Product identification number prefix still in use for current product.

NOTE: Power Shift models show speeds only, not drawbar pull.

NOTE: Track-Type Tractor weights do not include blades until 1967.

Track-Type Tractors (cont'd)

Model	Product Ident. No. Prefix	Years Built	Horse-power FW/ Drawbar	Approx. Machine Weight kg (lb)	Gauge m (ft) and Width m (ft)	Length m (ft) and Height m (ft)	Transmission	Rated Drawbar Pull — kg (lb) and Forward Speed — km/h (mph)					
								1st	2nd	3rd	4th	5th	6th
D5B	25X	77-84	105/—	11 619 (25,615)	1.88 (6'2") 3.15 (10'4")	4.60 (15'1") 2.77 (9'1")	PS	3.5 (2.2)	6.1 (3.8)	10.1 (6.3)			
D5B	23X	77-82	105/—	11 283 (24,875)	1.88 (6'2") 3.15 (10'4")	4.60 (15'1") 2.77 (9'1")	DD	8060 (17,770)	5030 (11,100)	3410 (7520)	2290 (5060)	1480 (3260)	
D5C		91-93	90	8460 (18,650)	1.54 (5'1") 2.01 (6'7")		PS	3.5 (2.2)	6.3 (3.9)	10.0 (6.2)			
D5C Series III		93-01	90	8490 (18,710)	1.55 (5'1") 2.00 (6'7")	4.07 (13'4") 2.74 (9'0")	HYS		0-9.0 (0-5.6)				
D5C XL Series III		93-01	90	8820 (19,450)	1.55 (5'1") 2.06 (6'9")	4.32 (14'2") 2.74 (9'0")	HYS		0-9.0 (0-5.6)				
D5C LGP		91-93	90	8987 (19,800)	1.72 (5'8") 2.38 (7'10")		PS	3.5 (2.2)	6.3 (3.9)	10.0 (6.2)			
D5C LGP Series III		93-01	90	8970 (19,780)	1.73 (5'8") 2.39 (7'10")	4.07 (13'4") 2.74 (9'0")	HYS		0-9.0 (0-5.6)				
D5E		-99	105	11 700 (25,800)	1.52 (5'0")	3.88 (12'8")	DD	8770 (19,340)	5500 (12,130)	3750 (8270)	2450 (5600)	1660 (3660)	
D5G XL	FDH	01-03	90	8863 (19,540)	1.55 (5'1") 2.06 (6'9")	4.34 (14'3") 2.73 (8'11")	HYS		0-9.0 (0-5.6)				
D5G XL Tier 2	WGB	03-07	90	8919 (19,662)	1.55 (5'1") 2.06 (6'9")	4.34 (14'3") 2.73 (8'11")	HYS		0-9.0 (0-5.6)				
D5G LGP	FDW	01-03	90	9207 (20,298)	1.73 (5'8") 2.39 (7'10")	4.25 (13'11") 2.73 (8'11")	HYS		0-9.0 (0-5.6)				
D5G LGP Tier 2	RKG	03-07	90	9269 (20,434)	1.73 (5'8") 2.39 (7'10")	4.25 (13'11") 2.73 (8'11")	HYS		0-9.0 (0-5.6)				

NOTE: Power Shift models show speeds only, not drawbar pull.

NOTE: Track-Type Tractor weights do not include blades until 1967.

Track-Type Tractors (cont'd)

Model	Product Ident. No. Prefix	Years Built	Horse-power FW/ Drawbar	Approx. Machine Weight kg (lb)	Gauge m (ft) and Width m (ft)	Length m (ft) and Height m (ft)	Transmission	Rated Drawbar Pull — kg (lb) and Forward Speed — km/h (mph)					
								1st	2nd	3rd	4th	5th	6th
D5H (FR)	8RC*	85-90	120/—	12 144 (26,772)	1.8 (5'11") 2.21 (7'3")	3.6 (11'10") 2.93 (9'7")	PS	— 3.3 (2.1)	— 5.9 (3.7)	— 10.0 (6.2)			
D5H (FR)	8RC	91-96	120/—	13 250 (29,200)	1.8 (5'11") 2.31 (7'7")	3.6 (11'10") 3.0 (9'10")	DD	3.3 (2.1)	5.9 (3.7)	10.0 (6.2)			
D5H (FR)	7NC*	85-90	120/—	12 212 (26,922)	1.8 (5'11") 2.21 (7'3")	3.6 (11'10") 2.93 (9'7")	DD	9140 (20,150)	7005 (15,440)	5190 (11,440)	3835 (8450)	2785 (6140)	1950 (4300)
D5H (FR)	7NC	91-96	120/—	13 250 (29,200)	1.8 (5'11") 2.31 (7'7")	3.6 (11'10") 3.0 (9'10")	DD	9140 (20,150)	7005 (15,440)	5190 (11,440)	3835 (8450)	2785 (6140)	1950 (4300)
D5H LGP (FR)	1DD*	86-90	120/—	14 685 (32,380)	2.16 (7'1") 3.02 (9'11")	4.129 (13'7") 3.069 (10'1")	PS	3.3 (2.1)	5.9 (3.7)	10.0 (6.2)			
D5H LGP (FR)	1DD	91-96	130/—	16 200 (35,700)	2.16 (7'1") 3.02 (9'11")	4.133 (13'7") 3.135 (10'3")	PS	3.3 (2.1)	5.9 (3.7)	10.0 (6.2)			
D5H LGP (FR)	9HC*	85-90	120/—	14 878 (32,800)	2.16 (7'1") 3.02 (9'11")	4.129 (13'7") 3.069 (10'1")	DD	9140 (20,150)	7005 (15,440)	5190 (11,440)	3835 (8450)	2785 (6140)	1950 (4300)
D5H LGP (FR)	9HC	91-96	130/—	16 200 (35,700)	2.16 (7'1") 3.02 (9'11")	4.133 (13'7") 3.135 (10'3")	DD	10 061 (22,181)	7725 (17,031)	5738 (12,650)	4256 (9384)	3109 (6855)	2195 (4840)
D5H (JPN)	3MD*	86-90	120/—	12 144 (26,772)	1.8 (5'11") 2.21 (7'3")	3.6 (11'10") 2.93 (9'7")	PS	3.3 (2.1)	5.9 (3.7)	10.0 (6.2)			
D5H (JPN)	3MD	91-96	120/—	13 250 (29,200)	1.8 (5'11") 2.31 (7'7")	3.6 (11'10") 3.0 (9'10")	PS	3.3 (2.1)	5.9 (3.7)	10.0 (6.2)			
D5H (JPN)	1YD*	86-90	120/—	12 212 (26,922)	1.8 (5'11") 2.21 (7'3")	3.6 (11'10") 2.93 (9'7")	DD	9140 (20,150)	7005 (15,440)	5190 (11,440)	3835 (8450)	2785 (6140)	1950 (4300)
								2.7 (1.7)	3.4 (2.1)	4.5 (2.8)	5.8 (3.6)	7.6 (4.7)	10.0 (6.2)

*D5H models prior to Series II. Product identification number prefix still in use for current product.

NOTE: Power Shift models show speeds only, not drawbar pull.

NOTE: Track-Type Tractor weights do not include blades until 1967.

Track-Type Tractors (cont'd)

Model	Product Ident. No. Prefix	Years Built	Horse-power FW/ Drawbar	Approx. Machine Weight kg (lb)	Gauge m (ft) and Width m (ft)	Length m (ft) and Height m (ft)	Transmission	Rated Drawbar Pull — kg (lb) and Forward Speed — km/h (mph)					
								1st	2nd	3rd	4th	5th	6th
D5H (JPN)	1YD*	91-96	120/—	13 250 (29,200)	1.8 (5'11") 2.31 (7'7")	3.6 (11'10") 3.0 (9'10")	DD	9140 (20,150) 2.7 (1.7)	7005 (15,440) 3.4 (2.1)	5190 (11,440) 4.5 (2.8)	3835 (8450) 5.8 (3.6)	2785 (6140) 7.6 (4.7)	1950 (4300) 10.0 (6.2)
D5H LGP (JPN)	4KD*	86-90	120/—	14 685 (32,380)	2.16 (7'1") 3.02 (9'11")	4.129 (13'7") 3.069 (10'1")	PS	3.3 (2.1)	5.9 (3.6)	10.0 (6.2)			
D5H LGP (JPN)	4KD	91-96	130/—	16 200 (35,700)	2.16 (7'1") 3.02 (9'11")	4.133 (13'7") 3.135 (10'3")	PS	3.3 (2.1)	5.9 (3.7)	10.0 (6.2)			
D5H LGP (JPN)	2SD*	86-90	120/—	14 878 (32,800)	2.16 (7'1") 3.02 (9'11")	4.129 (13'7") 3.069 (10'1")	DD	9140 (20,150) 2.7 (1.7)	7005 (15,440) 3.4 (2.1)	5190 (11,440) 4.5 (2.8)	3835 (8450) 5.8 (3.6)	2785 (6140) 7.6 (4.7)	1950 (4300) 10.0 (6.2)
D5H LGP (JPN)	2SD	91-96	130/—	16 200 (35,700)	2.16 (7'1") 3.02 (9'11")	4.133 (13'7") 3.135 (10'3")	DD	10 061 (22,181) 2.6 (1.6)	7725 (17,031) 3.4 (2.1)	5738 (12,650) 4.5 (2.7)	4256 (9384) 5.8 (3.6)	3109 (6855) 7.5 (4.7)	2195 (4840) 9.9 (6.2)
D5H XL (FR)	8RJ	92-96	130/—	13 900 (30,600)	1.89 (6'2") 2.49 (8'2")	3.606 (11'10") 3.08 (9'11")	PS	3.3 (2.1)	5.9 (3.7)	10.0 (6.2)			
D5M XL (FR)	4BR	96-02	82/110	12 250 (27,006)	1.77 (5'10") 2.33** (7'8")**	3.544 (11'8") 3.002*** (9'10")***	PS	22 347 (49,264) 3.27 (2.03)	12 166 (26,821) 5.81 (3.61)	6745 (14,870) 9.93 (6.17)			
D5M XL (FR)	6GN	96-02	82/110	12 250 (27,006)	1.77 (5'10") 2.33** (7'8")**	3.544 (11'8") 3.002*** (9'10")***	PS	22 347 (49,264) 3.27 (2.03)	12 166 (26,821) 5.81 (3.61)	6745 (14,870) 9.93 (6.17)			
D5M LGP (FR)	3DR	96-02	82/110	13 100 (28,880)	2.00 (6'7") 2.76** (9'1")**	3.72 (12'2") 3.046*** (10'0")***	PS	22 347 (49,264) 3.27 (2.03)	12 166 (26,821) 5.81 (3.61)	6745 (14,870) 9.93 (6.17)			
D5M LGP (FR)	3CR	96-02	82/110	13 100 (28,880)	2.00 (6'7") 2.76** (9'1")**	3.72 (12'2") 3.046*** (10'0")***	PS	22 347 (49,264) 3.27 (2.03)	12 166 (26,821) 5.81 (3.61)	6745 (14,870) 9.93 (6.17)			

*D5H models prior to Series II. Product identification number prefix still in use for current product.

**Width without blade and with standard shoes.

***Height with ROPS cab.

NOTE: Power Shift models show speeds only, not drawbar pull.

NOTE: Track-Type Tractor weights do not include blades until 1967.

Track-Type Tractors (cont'd)

Model	Product Ident. No. Prefix	Years Built	Horse-power FW/ Drawbar	Approx. Machine Weight kg (lb)	Gauge m (ft) and Width m (ft)	Length m (ft) and Height m (ft)	Transmission	Rated Drawbar Pull — kg (lb) and Forward Speed — km/h (mph)					
								1st	2nd	3rd	4th	5th	6th
D6	4R	47-59	85	8042 (17,730)	1.88 (6'2") 1.52 (5'0")	3.75 (12'4") 1.91 (6'3")	DD	8618 (19,000)	5534 (12,200)	3837 (8460)	2617 (5770)	1842 (4060)	
D6	9U	47-59	93/75	8153 (17,975)	1.88 (6'2") 1.52 (5'0")	3.75 (12'4") 1.91 (6'3")	DD	8618 (19,000)	5534 (12,200)	3837 (8460)	2617 (5770)	1842 (4060)	
D6B	37A	59-67	93/75	8130 (17,930)	1.52 (5'0") 2.02 (6'8")	3.85 (12'9") 1.91 (6'3")	DD						
D6B	44A	59-67	93/75	8300 (18,300)	1.88 (6'2") 2.38 (7'10")	3.85 (12'9") 1.91 (6'3")	DD	7820 (16,240)	4940 (10,900)	3220 (7090)	2120 (4670)	1450 (3190)	
D6C	74A	63-67	120	10 400 (23,000)	1.88 (6'2") 2.38 (7'9")	3.95 (13'0") 1.92 (6'4")	DD	12 050 (26,540)	8020 (17,670)	5300 (11,690)	3360 (7400)	2030 (4470)	
D6C	76A	63-67	120	10 700 (23,500)	1.88 (6'2") 2.38 (7'9")	3.95 (13'0") 1.92 (6'4")	PS						
D6C	10K	67-76	140	13 880 (30,600)	1.88 (6'2") 2.38 (7'9")	3.73 (12'3") 2.87 (9'5")	PS						
D6 LGP	69U	72-77	140	17 010 (37,500)	2.11 (6'11") 3.02 (9'11")	3.94 (12'11") 2.97 (9'9")	PS						
D6C	99J	67-76	140	14 243 (31,400)	1.88 (6'2") 2.38 (7'9")	3.73 (12'3") 2.87 (9'5")	DD	11 500 (25,360)	7750 (17,090)	5180 (11,420)	3350 (7380)	2090 (4610)	
D6C LGP	69U	72-77	140	13 835 (30,500)	2.11 (6'11") 3.02 (9'11")	2.97 (9'9") 3.94 (12'11")	PS						

NOTE: Power Shift models show speeds only, not drawbar pull.

NOTE: Track-Type Tractor weights do not include blades until 1967.

Track-Type Tractors (cont'd)

Model	Product Ident. No. Prefix	Years Built	Horse-power FW/ Drawbar	Approx. Machine Weight kg (lb)	Gauge m (ft) and Width m (ft)	Length m (ft) and Height m (ft)	Transmission	Rated Drawbar Pull — kg (lb) and Forward Speed — km/h (mph)					
								1st	2nd	3rd	4th	5th	6th
D6D	3X	77-86	140	14 290 (31,500)	1.88 (6'2") 2.36 (7'9")	3.73 (12'3") 3.06 (10'0")	DD	11 500 (25,360)	7750 (17,090)	5180 (11,420)	3350 (7380)	2090 (4610)	
D6D	4X	77-86	140	14 290 (31,500)	1.88 (6'2")	3.73 (12'3")	PS	4.0 (2.5)	6.9 (4.3)	10.8 (6.7)			
D6D LGP	6X	77-86	140	17 370 (38,300)	2.1 (6'11") 3.02 (9'11")	3.94 (12'1") 3.06 (10'0")	PS	4.0 (2.5)	6.9 (4.3)	10.8 (6.7)			
D6H	4RC*	85-90	165/—	16 950 (37,367)	1.88 (6'2") 2.64 (8'8")	4.069 (13'4") 3.114 (10'3")	PS						
D6H	8KB	85-88	165/—	16 954 (37,377)	1.88 (6'2") 2.64 (8'8")	4.069 (13'4") 3.114 (10'3")	DD	12 500 (27,560)	9520 (20,990)	7140 (15,740)	5440 (11,990)	4010 (8840)	2820 (6220)
D6H	3ZF*	88-90	165/—	17 055 (37,599)	1.88 (6'2") 2.64 (8'8")	4.069 (13'4") 3.114 (10'3")	PS/DS						
D6H LGP	6FC*	87-90	165/—	19 555 (43,111)	2.225 (7'4") 3.43 (11'3")	4.493 (14'9") 3.164 (10'5")	PS						
D6H LGP	3YG*	88-90	165/—	19 527 (43,049)	2.225 (7'4") 3.43 (11'3")	4.493 (14'9") 3.164 (10'5")	PS/DS						
D6H (JPN)	2KD*	86-90	165/—	16 950 (37,367)	1.88 (6'2") 2.64 (8'8")	4.069 (13'4") 3.114 (10'3")	PS						
D6H (DS)	32F (E. Peoria) 4YF (Sagami) 6CF (Grenoble)	92-96	123/165	18 111 (39,928)	1.88 (6'2") 3.36 (11'0")	4.07 (13'4") 3.12 (10'3")	PS	3.8 (2.3)	6.5 (4.1)	11.3 (7.1)			

*D6H models prior to Series II. Product identification number prefix still in use for current product.

NOTE: Power Shift models show speeds only, not drawbar pull.

NOTE: Track-Type Tractor weights do not include blades until 1967.

Track-Type Tractors (cont'd)

Model	Product Ident. No. Prefix	Years Built	Horse-power FW/ Drawbar	Approx. Machine Weight kg (lb)	Gauge m (ft) and Width m (ft)	Length m (ft) and Height m (ft)	Transmission	Rated Drawbar Pull — kg (lb) and Forward Speed — km/h (mph)					
								1st	2nd	3rd	4th	5th	6th
D6H (CB)	4RC (E. Peoria) 2KD (Sagami) 4LG (Grenoble)	92-96	123/165	17 997 (39,676)	1.88 (6'2") 3.36 (11'0")	4.07 (13'4") 3.12 (10'3")	PS	3.8 (2.3)	6.6 (4.1)	11.4 (7.1)			
D6H XL (DS)	9KJ (E. Peoria) 8SK (Sagami) 9LK (Grenoble)	92-96	130/175	19 080 (42,063)	1.88 (6'2") 3.36 (11'0")	4.07 (13'4") 3.12 (10'3")	PS	3.8 (2.3)	6.6 (4.1)	11.4 (7.1)			
D6H XL (CB)	8ZJ (E. Peoria) 9RK (Sagami) 8KK (Grenoble)	92-96	130/175	18 966 (41,811)	1.88 (6'2") 3.36 (11'0")	4.07 (13'4") 3.12 (10'3")	PS	3.8 (2.3)	6.6 (4.1)	11.4 (7.1)			
D6H XR (DS)	6CK (E. Peoria) 2TL (Sagami) 1YL (Grenoble)	92-96	130/175	18 799 (41,444)	1.88 (6'2") 3.36 (11'0")	4.22 (13'10") 3.12 (10'3")	PS	3.8 (2.3)	6.6 (4.1)	11.4 (7.1)			
D6H XR (CB)	5KK (E. Peoria) 7ZK (Sagami) 2BL (Grenoble)	92-96	130/175	18 799 (41,444)	1.88 (6'2") 3.36 (11'0")	4.22 (13'10") 3.12 (10'3")	PS	3.8 (2.3)	6.6 (4.1)	11.4 (7.1)			
D6H LGP (DS)	3YG (E. Peoria) 4GG (Sagami) 5HF (Grenoble)	92-96	134/180	20 486 (45,163)	2.24 (7'3") 4.0 (13'1")	4.49 (14'9") 3.17 (10'5")	PS	3.8 (2.3)	6.6 (4.1)	11.4 (7.1)			
D6H LGP (CB)	6FC (E. Peoria) 1KD (Sagami) 2TG (Grenoble)	92-96	134/180	20 486 (45,163)	2.24 (7'3") 4.0 (13'1")	4.49 (14'9") 3.17 (10'5")	PS	3.8 (2.3)	6.6 (4.1)	11.4 (7.1)			
D6H (JPN)	3ED*	86-92	165/—	16 954 (37,377)	1.88 (6'2") 2.64 (8'8")	4.069 (13'4") 3.114 (10'3")	DD	12 500 (27,560) 2.7 (1.7)	9520 (20,990) 3.5 (2.2)	7140 (15,740) 4.6 (2.9)	5440 (11,990) 5.8 (3.6)	4010 (8840) 7.6 (4.7)	2820 (6220) 10.0 (6.2)
D6H (JPN)	4YF*	88-90	165/—	17 055 (37,599)	1.88 (6'2") 2.64 (8'8")	4.069 (13'4") 3.114 (10'3")	PS/DS	3.8 (2.4)	6.5 (4.0)	11.3 (7.0)			

*D6H models prior to Series II. Product identification number prefix still in use for current product.

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NOTE: Track-Type Tractor weights do not include blades until 1967.

Track-Type Tractors (cont'd)

Model	Product Ident. No. Prefix	Years Built	Horse-power FW/ Drawbar	Approx. Machine Weight kg (lb)	Gauge m (ft) and Width m (ft)	Length m (ft) and Height m (ft)	Transmission	Rated Drawbar Pull — kg (lb) and Forward Speed — km/h (mph)					
								1st	2nd	3rd	4th	5th	6th
D6H LGP (JPN)	1KD*	86-90	165/—	19 555 (43,111)	2.225 (7'4") 3.43 (11'3")	4.493 (14'9") 3.164 (10'5")	PS	3.8 (2.4)	6.5 (4.0)	11.3 (7.0)			
D6H LGP (JPN)	8FC*	86-90	165/—	19 676 (43,380)	2.225 (7'4") 3.43 (11'3")	4.485 (14'9") 3.164 (10'5")	DD	12 500 (27,560)	9520 (20,990)	7140 (15,740)	5440 (11,990)	4010 (8840)	2820 (6220)
D6H LGP (JPN)	4GG*	88-90	165/—	19 527 (43,049)	2.225 (7'4") 3.43 (11'3")	4.493 (14'9") 3.164 (10'5")	PS/DS	3.8 (2.4)	6.5 (4.0)	11.3 (7.0)			
D6H (FR)	4LG*	87-90	165/—	16 950 (37,367)	1.88 (6'2") 2.64 (8'8")	4.069 (13'4") 3.114 (10'3")	PS	3.8 (2.4)	6.5 (4.0)	11.3 (7.0)			
D6H (FR)	1FJ*	88-90	165/—	16 954 (37,377)	1.88 (6'2") 2.64 (8'8")	4.069 (13'4") 3.114 (10'3")	DD	12 500 (27,560)	9520 (20,990)	7140 (15,740)	5440 (11,990)	4010 (8840)	2820 (6220)
D6H (FR)	6CF*	88-90	165/—	17 055 (37,599)	1.88 (6'2") 2.64 (8'8")	4.069 (13'4") 3.114 (10'3")	PS/DS	3.8 (2.4)	6.5 (4.0)	11.3 (7.0)			
D6H LGP (FR)	2TG*	87-90	165/—	19 555 (43,111)	2.225 (7'4") 3.43 (11'3")	4.493 (14'9") 3.164 (10'5")	PS	3.8 (2.4)	6.5 (4.0)	11.3 (7.0)			
D6H LGP (FR)	5HF*	88-90	165/—	19 527 (43,049)	2.225 (7'4") 3.43 (11'3")	4.493 (14'9") 3.164 (10'5")	PS/DS	3.8 (2.4)	6.5 (4.0)	11.3 (7.0)			
D6H (SCOT)	7PC	86-87	165/—	16 950 (37,367)	1.88 (6'2") 2.64 (8'8")	4.069 (13'4") 3.114 (10'3")	PS	3.8 (2.4)	6.5 (4.0)	11.3 (7.0)			
D6H LGP (SCOT)	8YC	86-87	165/—	19 555 (43,111)	2.225 (7'4") 3.43 (11'3")	4.493 (14'9") 3.164 (10'5")	PS	3.8 (2.4)	6.5 (4.0)	11.3 (7.0)			
D6R STD CB (US)	2YN	95-02	165/—	18 100 (40,000)	1.88 (6'2") 2.64 (8'8")	4.08 (13'4") 3.20 (10'6")	PS	4.0 (2.5)	7.1 (4.4)	12.4 (7.7)			
D6R STD CB (BRAZIL)	9ZS	97-02	165/—	18 100 (40,000)	1.88 (6'2") 2.64 (8'8")	4.08 (13'4") 3.20 (10'6")	PS	4.0 (2.5)	7.1 (4.4)	12.4 (7.7)			

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Track-Type Tractors (cont'd)

Model	Product Ident. No. Prefix	Years Built	Horse-power FW/ Drawbar	Approx. Machine Weight kg (lb)	Gauge m (ft) and Width m (ft)	Length m (ft) and Height m (ft)	Transmission	Rated Drawbar Pull — kg (lb) and Forward Speed — km/h (mph)					
								1st	2nd	3rd	4th	5th	6th
D6R STD CB (FRANCE)	2HM	96-01	165/—	18 100 (40,000)	1.88 (6'2") 2.64 (8'8")	4.08 (13'4") 3.20 (10'6")	PS	4.0 (2.5)	7.1 (4.4)	12.4 (7.7)			
D6R STD CB (JAPAN)	6FR	96-02	165/—	18 100 (40,000)	1.88 (6'2") 2.64 (8'8")	4.08 (13'4") 3.20 (10'6")	PS	4.0 (2.5)	7.1 (4.4)	12.4 (7.7)			
D6R STD DS (US)	3ZN	95-02	165/—	18 300 (40,400)	1.88 (6'2") 2.64 (8'8")	4.08 (13'4") 3.20 (10'6")	PS	3.9 (2.4)	6.8 (4.2)	11.9 (7.6)			
D6R STD DS (BRAZIL)	1RW	97-02	165/—	18 300 (40,400)	1.88 (6'2") 2.64 (8'8")	4.08 (13'4") 3.20 (10'6")	PS	3.9 (2.4)	6.8 (4.2)	11.9 (7.6)			
D6R STD DS (FRANCE)	4FM	96-01	165/—	18 300 (40,400)	1.88 (6'2") 2.64 (8'8")	4.08 (13'4") 3.20 (10'6")	PS	3.9 (2.4)	6.8 (4.2)	11.9 (7.6)			
D6R STD DS (JAPAN)	5PR	97-02	165/—	18 300 (40,400)	1.88 (6'2") 2.64 (8'8")	4.08 (13'4") 3.20 (10'6")	PS	3.9 (2.4)	6.8 (4.2)	11.9 (7.6)			
D6R XL CB (US)	4MN	96-02	175/—	19 000 (41,900)	1.88 (6'2") 2.64 (8'8")	4.08 (13'4") 3.20 (10'6")	PS	4.0 (2.5)	7.1 (4.4)	12.4 (7.7)			
D6R XL CB (BRAZIL)	6MR	97-02	175/—	19 000 (41,900)	1.88 (6'2") 2.64 (8'8")	4.08 (13'4") 3.20 (10'6")	PS	4.0 (2.5)	7.1 (4.4)	12.4 (7.7)			
D6R XL CB (FRANCE)	4JR	96-01	175/—	19 000 (41,900)	1.88 (6'2") 2.64 (8'8")	4.08 (13'4") 3.20 (10'6")	PS	4.0 (2.5)	7.1 (4.4)	12.4 (7.7)			
D6R XL CB (JAPAN)	4WR	97-02	175/—	19 000 (41,900)	1.88 (6'2") 2.64 (8'8")	4.08 (13'4") 3.20 (10'6")	PS	4.0 (2.5)	7.1 (4.4)	12.4 (7.7)			
D6R XL DS (US)	5LN	95-02	175/—	19 200 (42,300)	1.88 (6'2") 2.64 (8'8")	4.08 (13'4") 3.20 (10'6")	PS	3.9 (2.4)	6.8 (4.2)	11.9 (7.6)			
D6R XL DS (BRAZIL)	7GR	96-02	175/—	19 200 (42,300)	1.88 (6'2") 2.64 (8'8")	4.08 (13'4") 3.20 (10'6")	PS	3.9 (2.4)	6.8 (4.2)	11.9 (7.6)			

NOTE: Power Shift models show speeds only, not drawbar pull.

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Track-Type Tractors (cont'd)

Model	Product Ident. No. Prefix	Years Built	Horse-power FW/ Drawbar	Approx. Machine Weight kg (lb)	Gauge m (ft) and Width m (ft)	Length m (ft) and Height m (ft)	Transmission	Rated Drawbar Pull — kg (lb) and Forward Speed — km/h (mph)					
								1st	2nd	3rd	4th	5th	6th
D6R XL DS (FRANCE)	9BM	96-01	175/—	19 200 (42,300)	1.88 (6'2") 2.64 (8'8")	4.08 (13'4") 3.20 (10'6")	PS	3.9 (2.4)	6.8 (4.2)	11.9 (7.6)			
D6R XL DS (JAPAN)	5RR	97-02	175/—	19 200 (42,300)	1.88 (6'2") 2.64 (8'8")	4.08 (13'4") 3.20 (10'6")	PS	3.9 (2.4)	6.8 (4.2)	11.9 (7.6)			
D6R XR CB (US)	6JN	95-02	175/—	18 780 (41,400)	1.88 (6'2") 2.64 (8'8")	4.22 (13'10") 3.19 (10'5")	PS	4.0 (2.5)	7.1 (4.4)	12.4 (7.7)			
D6R XR CB (FRANCE)	8XN	97-01	175/—	18 780 (41,400)	1.88 (6'2") 2.64 (8'8")	4.22 (13'10") 3.19 (10'5")	PS	4.0 (2.5)	7.1 (4.4)	12.4 (7.7)			
D6R XR CB (JAPAN)	6HR	97-02	175/—	18 780 (41,400)	1.88 (6'2") 2.64 (8'8")	4.22 (13'10") 3.19 (10'5")	PS	4.0 (2.5)	7.1 (4.4)	12.4 (7.7)			
D6R XR DS (US)	7KN	95-02	175/—	18 910 (41,700)	1.88 (6'2") 2.64 (8'8")	4.22 (13'10") 3.19 (10'5")	PS	3.9 (2.4)	6.8 (4.2)	11.9 (7.6)			
D6R XR DS (FRANCE)	9MN	97-01	175/—	18 910 (41,700)	1.88 (6'2") 2.64 (8'8")	4.22 (13'10") 3.19 (10'5")	PS	3.9 (2.4)	6.8 (4.2)	11.9 (7.6)			
D6R XR DS (JAPAN)	7DR	97-02	175/—	18 910 (41,700)	1.88 (6'2") 2.64 (8'8")	4.22 (13'10") 3.19 (10'5")	PS	3.9 (2.4)	6.8 (4.2)	11.9 (7.6)			
D6R LGP CB (US)	8LN	95-02	185/—	20 500 (45,200)	2.23 (7'3") 3.43 (11'3")	4.24 (13'11") 3.19 (10'5")	PS	4.0 (2.5)	7.1 (4.4)	12.4 (7.7)			
D6R LGP CB (FRANCE)	4HN	97-01	185/—	20 500 (45,200)	2.23 (7'3") 3.43 (11'3")	4.24 (13'11") 3.19 (10'5")	PS	4.0 (2.5)	7.1 (4.4)	12.4 (7.7)			
D6R LGP CB (JAPAN)	7AR	97-01	185/—	20 500 (45,200)	2.23 (7'3") 3.43 (11'3")	4.24 (13'11") 3.19 (10'5")	PS	4.0 (2.5)	7.1 (4.4)	12.4 (7.7)			
D6R LGP DS (US)	9PN	95-02	185/—	20 680 (45,600)	2.23 (7'3") 3.43 (11'3")	4.24 (13'11") 3.19 (10'5")	PS	3.9 (2.4)	6.8 (4.2)	11.9 (7.6)			

NOTE: Power Shift models show speeds only, not drawbar pull.

NOTE: Track-Type Tractor weights do not include blades until 1967.

Track-Type Tractors (cont'd)

Model	Product Ident. No. Prefix	Years Built	Horse-power FW/ Drawbar	Approx. Machine Weight kg (lb)	Gauge m (ft) and Width m (ft)	Length m (ft) and Height m (ft)	Transmission	Rated Drawbar Pull — kg (lb) and Forward Speed — km/h (mph)					
								1st	2nd	3rd	4th	5th	6th
D6R LGP DS (FRANCE)	8TM	96-01	185/—	20 680 (45,600)	2.23 (7'3") 3.43 (11'3")	4.24 (13'11") 3.19 (10'5")	PS	3.9 (2.4)	6.8 (4.2)	11.9 (7.6)			
D6R LGP DS (JAPAN)	4TR	96-02	185/—	20 680 (45,600)	2.23 (7'3") 3.43 (11'3")	4.24 (13'11") 3.19 (10'5")	PS	3.9 (2.4)	6.8 (4.2)	11.9 (7.6)			
D6R LGP DD (JAPAN)	6GR	95-02	185/—	20 680 (45,600)	2.23 (7'3") 3.43 (11'3")	4.24 (13'11") 3.19 (10'5")	PS	3.4 (2.1)	5.9 (3.7)	10.4 (6.5)			
D6M XL (FR)	9ZM	96-02	104/140	15 530 (34,240)	1.89 (6'2") 2.49* (8'2")*	3.74 (12'3") 3.08** (10'1")**	PS	30 493 (67,222)	16 643 (36,689)	9211 (20,306)			
D6M XL (FR)	3WN	96-02	104/140	15 530 (34,240)	1.89 (6'2") 2.49* (8'2")*	3.74 (12'3") 3.08** (10'1")**	PS	30 493 (67,222)	16 643 (36,689)	9211 (20,306)			
D6M LGP (FR)	2RN	96-02	104/140	16 930 (37,320)	2.16 (7'1") 3.02* (9'11")*	4.146 (13'7") 3.194** (10'6")**	PS	30 493 (67,222)	16 643 (36,689)	9211 (20,306)			
D6M LGP (FR)	4JN	96-02	104/140	16 930 (37,320)	2.16 (7'1") 3.02* (9'11")*	4.146 (13'7") 3.194** (10'6")**	PS	30 493 (67,222)	16 643 (36,689)	9211 (20,306)			
D6R SII STD CB (FTC) (US)	AEM	02-05	123/165	17 826 (39,300)	1.88 (6'2") 2.64 (8'8")	3.86 (12'8") 3.2 (10'6")	PS	3.8 (2.4)	6.6 (4.1)	11.5 (7.2)			
D6R SII STD CB (FTC) (BRAZIL)	BRJ	02-06	123/165	17 826 (39,300)	1.88 (6'2") 2.64 (8'8")	3.86 (12'8") 3.2 (10'6")	PS	3.8 (2.4)	6.6 (4.1)	11.5 (7.2)			
D6R SII STD CB (FTC) (FRANCE)	BLE	01-05	123/165	17 826 (39,300)	1.88 (6'2") 2.64 (8'8")	3.86 (12'8") 3.2 (10'6")	PS	3.8 (2.4)	6.6 (4.1)	11.5 (7.2)			
D6R SII STD CB (FTC) (JAPAN)	BMK	01-06	123/165	17 826 (39,300)	1.88 (6'2") 2.64 (8'8")	3.86 (12'8") 3.2 (10'6")	PS	3.8 (2.4)	6.6 (4.1)	11.5 (7.2)			
D6R SII STD DS (US)	AFM	01-05	123/165	18 099 (39,900)	1.88 (6'2") 2.64 (8'8")	3.86 (12'8") 3.2 (10'6")	PS	3.8 (2.3)	6.6 (4.1)	11.4 (7.1)			

*Width without blade and with standard shoes.

**Height with ROPS cab.

NOTE: Power Shift models show speeds only, not drawbar pull.**NOTE:** Track-Type Tractor weights do not include blades until 1967.

Track-Type Tractors (cont'd)

Model	Product Ident. No. Prefix	Years Built	Horse-power FW/ Drawbar	Approx. Machine Weight kg (lb)	Gauge m (ft) and Width m (ft)	Length m (ft) and Height m (ft)	Transmission	Rated Drawbar Pull — kg (lb) and Forward Speed — km/h (mph)					
								1st	2nd	3rd	4th	5th	6th
D6R SII STD DS (BRAZIL)	BPM	03-06	123/165	18 099 (39,900)	1.88 (6'2") 2.64 (8'8")	3.86 (12'8") 3.2 (10'6")	PS	3.8 (2.3)	6.6 (4.1)	11.4 (7.1)			
D6R SII STD DS (FRANCE)	BLT	02-05	123/165	18 099 (39,900)	1.88 (6'2") 2.64 (8'8")	3.86 (12'8") 3.2 (10'6")	PS	3.8 (2.3)	6.6 (4.1)	11.4 (7.1)			
D6R SII STD DS (JAPAN)	BNL	01-06	123/165	18 099 (39,900)	1.88 (6'2") 2.64 (8'8")	3.86 (12'8") 3.2 (10'6")	PS	3.8 (2.3)	6.6 (4.1)	11.4 (7.1)			
D6R SII XL CB (FTC) (US)	AGM	00-05	138/185	18 711 (41,250)	1.88 (6'2") 2.64 (8'8")	3.86 (12'8") 3.2 (10'6")	PS	3.8 (2.4)	6.6 (4.1)	11.5 (7.2)			
D6R SII XL CB (FTC) (BRAZIL)	CAD	02-06	138/185	18 711 (41,250)	1.88 (6'2") 2.64 (8'8")	3.86 (12'8") 3.2 (10'6")	PS	3.8 (2.4)	6.6 (4.1)	11.5 (7.2)			
D6R SII XL CB (FTC) (FRANCE)	BMJ	02-05	138/185	18 711 (41,250)	1.88 (6'2") 2.64 (8'8")	3.86 (12'8") 3.2 (10'6")	PS	3.8 (2.4)	6.6 (4.1)	11.5 (7.2)			
D6R SII XL CB (FTC) (JAPAN)	BPS	01-06	138/185	18 711 (41,250)	1.88 (6'2") 2.64 (8'8")	3.86 (12'8") 3.2 (10'6")	PS	3.8 (2.4)	6.6 (4.1)	11.5 (7.2)			
D6R SII XL DS (US)	AAX	00-05	138/185	18 847 (41,550)	1.88 (6'2") 2.64 (8'8")	3.86 (12'8") 3.2 (10'6")	PS	3.8 (2.3)	6.6 (4.1)	11.4 (7.1)			
D6R SII XL DS (BRAZIL)	FDT	02-06	138/185	18 847 (41,550)	1.88 (6'2") 2.64 (8'8")	3.86 (12'8") 3.2 (10'6")	PS	3.8 (2.3)	6.6 (4.1)	11.4 (7.1)			
D6R SII XL DS (FRANCE)	BMJ	01-05	138/185	18 847 (41,550)	1.88 (6'2") 2.64 (8'8")	3.86 (12'8") 3.2 (10'6")	PS	3.8 (2.3)	6.6 (4.1)	11.4 (7.1)			
D6R SII XL DS (JAPAN)	BRZ	01-06	138/185	18 847 (41,550)	1.88 (6'2") 2.64 (8'8")	3.86 (12'8") 3.2 (10'6")	PS	3.8 (2.3)	6.6 (4.1)	11.4 (7.1)			
D6R SII XW DS (US)	AEP	2001	138/185	19 550 (43,100)	2.03 (6'8") 2.95 (9'8")	3.86 (12'8") 3.2 (10'6")	PS	3.8 (2.3)	6.6 (4.1)	11.4 (7.1)			

NOTE: Power Shift models show speeds only, not drawbar pull.

NOTE: Track-Type Tractor weights do not include blades until 1967.

Track-Type Tractors (cont'd)

Model	Product Ident. No. Prefix	Years Built	Horse-power FW/ Drawbar	Approx. Machine Weight kg (lb)	Gauge m (ft) and Width m (ft)	Length m (ft) and Height m (ft)	Transmission	Rated Drawbar Pull — kg (lb) and Forward Speed — km/h (mph)					
								1st	2nd	3rd	4th	5th	6th
D6R SII XW DS (FRANCE)	DAE	02-05	138/185	19 550 (43,100)	2.03 (6'8") 2.95 (9'8")	3.86 (12'8") 3.2 (10'6")	PS	3.8 (2.3)	6.6 (4.1)	11.4 (7.1)			
D6R SII XW DS (JAPAN)	BRE	01-06	138/185	19 550 (43,100)	2.03 (6'8") 2.95 (9'8")	3.86 (12'8") 3.2 (10'6")	PS	3.8 (2.3)	6.6 (4.1)	11.4 (7.1)			
D6R SII LGP CB (FTC) (US)	ACJ	01-05	138/185	20 865 (46,000)	2.23 (7'3") 3.43 (11'3")	4.24 (13'11") 3.25 (10'8")	PS	3.8 (2.4)	6.6 (4.1)	11.5 (7.2)			
D6R SII LGP CB (FTC) (JAPAN)	BPP	01-06	138/185	20 865 (46,000)	2.23 (7'3") 3.43 (11'3")	4.24 (13'11") 3.25 (10'8")	PS	3.8 (2.4)	6.6 (4.1)	11.5 (7.2)			
D6R SII LGP DS (US)	ADE	00-05	138/185	21 047 (46,400)	2.23 (7'3") 3.43 (11'3")	4.24 (13'11") 3.25 (10'8")	PS	3.8 (2.3)	6.6 (4.1)	11.4 (7.1)			
D6R SII LGP DS (FRANCE)	BNC	01-05	138/185	21 047 (46,400)	2.23 (7'3") 3.43 (11'3")	4.24 (13'11") 3.25 (10'8")	PS	3.8 (2.3)	6.6 (4.1)	11.4 (7.1)			
D6R SII LGP DS (JAPAN)	BPZ	01-06	138/185	21 047 (46,400)	2.23 (7'3") 3.43 (11'3")	4.24 (13'11") 3.25 (10'8")	PS	3.8 (2.3)	6.6 (4.1)	11.4 (7.1)			
D6R SIII (US) (BRAZIL) (FRANCE)	HCD GMT TBC	05-07 06-07 06-07	138/185	18 326 (40,400)	1.88 (6'2")	3.86 (12'8") 3.20 (10'6")	PS	3.8 (2.3)	6.6 (4.1)	11.4 (7.1)			
D6R SIII XL (US) (BRAZIL) (FRANCE)	GJB JDL LFM	05-07 05-07 06-07	149/200	20 081 (44,270)	1.88 (6'2") 2.13 (7'0")	3.86 (12'8") 3.20 (10'6")	PS	3.8 (2.3)	6.6 (4.1)	11.4 (7.1)			
D6R SIII XL PAT (US) (FRANCE)	HKE RFC	05-07 06-07	149/200	20 081 (44,270)	1.88 (6'2") 2.13 (7'0")	3.86 (12'8") 3.20 (10'6")	PS	3.8 (2.3)	6.6 (4.1)	11.4 (7.1)			
D6R SIII XW (US) (BRAZIL)	MRT DPS	05-07 06-07	149/200	20 672 (45,573)	2.03 (6'8") 2.29 (7'6")	3.86 (12'8") 3.20 (10'6")	PS	3.8 (2.3)	6.6 (4.1)	11.4 (7.1)			
D6R SIII XW PAT (US) (FRANCE)	HDC MTJ	05-07 05-07	149/200	20 672 (45,573)	2.03 (6'8") 2.29 (7'6")	3.86 (12'8") 3.20 (10'6")	PS	3.8 (2.3)	6.6 (4.1)	11.4 (7.1)			

NOTE: Power Shift models show speeds only, not drawbar pull.

NOTE: Track-Type Tractor weights do not include blades until 1967.

Track-Type Tractors (cont'd)

Model	Product Ident. No. Prefix	Years Built	Horse-power FW/ Drawbar	Approx. Machine Weight kg (lb)	Gauge m (ft) and Width m (ft)	Length m (ft) and Height m (ft)	Transmission	Rated Drawbar Pull — kg (lb) and Forward Speed — km/h (mph)					
								1st	2nd	3rd	4th	5th	6th
D6R SIII LGP (US) (FRANCE)	WRG DMK	05-07 06-07	149/200	21 716 (47,874)	2.29 (7'6") 2.29 (7'6")	4.25 (13'11") 3.25 (10'8")	PS	3.8 (2.3)	6.6 (4.1)	11.4 (7.1)			
D6R SIII LGP PAT (US) (FRANCE)	WCB DLM	05-07 05-07	149/200	21 716 (47,874)	2.29 (7'6") 2.29 (7'6")	4.25 (13'11") 3.25 (10'8")	PS	3.8 (2.3)	6.6 (4.1)	11.4 (7.1)			
D7	3T	54-55	108/90	11 770 (25,925)	1.88 (6'2") 2.64 (8'1")	4.27 (14'0") 2.06 (6'10")	DD						
D7C	17A	55-59	128/102	11 954 (26,355)	1.88 (6'2") 2.64 (8'1")	4.26 (14'0") 2.06 (6'10")	DD	11 759 (25,900) 2.4 (1.5)	8045 (17,720) 3.5 (2.2)	4521 (11,960) 5.2 (3.2)	3428 (7550) 7.4 (4.6)	2397 (5280) 9.5 (5.9)	
D7D	17A	59-61	140/112	12 056 (26,555)	1.88 (6'2") 2.64 (8'1")	4.26 (14'0") 2.06 (6'10")	DD	12 300 (27,100) 2.4 (1.5)	8600 (18,900) 3.5 (2.2)	5700 (12,550) 5.2 (3.2)	3650 (8080) 7.4 (4.6)	2600 (5720) 9.5 (5.9)	
D7E	47A	61-68	160/128	14 787 (32,590)	1.98 (6'6") 2.56 (8'5")	4.47 (14'8") 2.30 (7'7")	DD	14 741 (32,500) 2.4 (1.5)	10 296 (22,700) 3.5 (2.2)	6803 (15,000) 4.9 (3.1)	4259 (9390) 7.4 (4.6)	3070 (6770) 9.4 (5.9)	
D7E	48A	61-66	160/128	14 787 (32,590)	1.98 (6'6") 2.56 (8'5")	4.47 (14'8") 2.30 (7'7")	PS		3.3 (2.1)	5.7 (3.6)	9.3 (5.8)		
D7E	47A	66-69	180/144	15 200 (33,500)	1.98 (6'6") 2.56 (8'5")	4.47 (14'8") 2.18 (7'2")	DD	17 140 (37,750) 2.4 (1.5)	11 350 (25,000) 3.5 (2.2)	7420 (16,340) 5.0 (3.1)	4540 (9990) 7.4 (4.6)	3180 (7010) 9.5 (5.9)	
D7E	48A	66-69	180	15 500 (34,000)	1.98 (6'6") 2.56 (8'5")	4.47 (14'8") 2.18 (7'2")	PS		3.7 (2.3)	6.4 (4.0)	10.1 (6.3)		
D7F	94N	69-74	180	14 700 (32,400)	1.98 (6'6") 2.56 (8'5")	4.15 (13'8") 2.26 (7'5")	PS		3.5 (2.2)	6.3 (3.9)	9.5 (5.9)		
D7F	93N	69-74	180	14 700 (32,400)	1.98 (6'6") 2.56 (8'5")	4.15 (13'8") 2.26 (7'5")	DD	17 100 (37,600) 2.4 (1.5)	11 350 (25,000) 3.5 (2.2)	7450 (16,400) 5.0 (3.4)	4580 (10,000) 7.4 (4.6)	3240 (7140) 9.5 (5.9)	

NOTE: Power Shift models show speeds only, not drawbar pull.

NOTE: Track-Type Tractor weights do not include blades until 1967.

Track-Type Tractors (cont'd)

Model	Product Ident. No. Prefix	Years Built	Horse-power FW/ Drawbar	Approx. Machine Weight kg (lb)	Gauge m (ft) and Width m (ft)	Length m (ft) and Height m (ft)	Transmission	Rated Drawbar Pull — kg (lb) and Forward Speed — km/h (mph)					
								1st	2nd	3rd	4th	5th	6th
D7G	92V	77-86	200	20 090 (44,300)	1.98 (6'6") 2.62 (8'7")	4.19 (13'9") 3.35 (11'0")	PS	3.7 (2.3)	6.4 (4.0)	10.0 (6.2)			
D7G	91V	77-86	200	20 090 (44,300)	1.98 (6'6") 2.62 (8'7")	4.19 (13'9") 3.35 (11'0")	DD	17 690 (39,010)	11 730 (25,860)	7680 (16,940)	4700 (10,370)	3320 (7320)	10.1 (6.3)
D7G LGP	72W	77-86	200	22 630 (52,100)	2.18 (7'2") 3.3 (10'11")	4.22 (13'9") 3.28 (10'9")	PS	3.7 (2.3)	6.4 (4.0)	10.0 (6.2)			
D7H (CB)	79Z (E. Peoria) 4AB (Sagami)	92-96	171/230	24 778 (54,635)	1.98 (6'6") 3.9 (12'10")	4.74 (15'6") 3.5 (11'6")	PS	3.5 (2.2)	6.2 (3.8)	10.6 (6.6)			
D7H (DS)	5BF (E. Peoria) 2RG (Sagami)	92-96	171/230	25 077 (55,295)	1.98 (6'6") 3.9 (12'10")	4.74 (15'6") 3.5 (11'6")	PS	3.5 (2.2)	6.2 (3.8)	10.6 (6.6)			
D7H LGP (CB)	80Z (E. Peoria) 5WB (Sagami)	92-96	171/230	27 065 (59,678)	2.24 (7'4") 4.50 (14'9")	4.74 (15'6") 3.58 (11'9")	PS	3.5 (2.2)	6.2 (3.8)	10.6 (6.6)			
D7H LGP (DS)	4FG (E. Peoria) 3XG (Sagami)	92-96	171/230	27 065 (59,678)	2.24 (7'4") 4.50 (14'9")	4.74 (15'6") 3.58 (11'9")	PS	3.5 (2.2)	6.2 (3.8)	10.6 (6.6)			
D7H XR (CB)	79Z (E. Peoria) 4AB (Sagami)	92-96	171/230	25 193 (55,551)	1.98 (6'6") 3.9 (12'10")	4.74 (15'6") 3.5 (11'6")	PS	3.5 (2.2)	6.2 (3.8)	10.6 (6.6)			
D7H XR (DS)	5BF (E. Peoria) 2RG (Sagami)	92-96	171/230	25 492 (56,211)	1.98 (6'6") 3.9 (12'10")	4.74 (15'6") 3.5 (11'6")	PS	3.5 (2.2)	6.2 (3.8)	10.6 (6.6)			
D7H	77Z	85-86	215	19 680 (43,380)	1.98 (6'6") 2.54 (8'5")	4.73 (15'6")	DD	16 834 (37,113)	12 861 (28,353)	9703 (21,390)	7436 (16,394)	5522 (12,173)	3940 (8686)
D7H (US)	79Z*	85-90	215/—	23 647 (52,134)	1.981 (6'6") 2.869 (9'5")	4.619 (15'2") 3.421 (11'3")	PS	3.9 (2.4)	6.8 (4.2)	11.9 (7.4)			
D7H (US)	77Z	85-90	215/—	23 570 (51,960)	1.981 (6'6") 2.869 (9'5")	4.619 (15'2") 3.421 (11'3")	DD	16 834 (37,113)	12 861 (28,353)	9703 (21,390)	7436 (16,394)	5522 (12,173)	3940 (8686)
D7H (US)	5BF*	88-90	215/—	24 351 (53,683)	1.981 (6'6") 2.871 (9'5")	4.624 (15'2") 3.429 (11'3")	PS/DS	3.7 (2.3)	6.4 (4.0)	11.1 (6.9)			

*D7H models prior to Series II. Product identification number prefix still in use for current product.

NOTE: Power Shift models show speeds only, not drawbar pull.

NOTE: Track-Type Tractor weights do not include blades until 1967.

Track-Type Tractors (cont'd)

Model	Product Ident. No. Prefix	Years Built	Horse-power FW/ Drawbar	Approx. Machine Weight kg (lb)	Gauge m (ft) and Width m (ft)	Length m (ft) and Height m (ft)	Transmission	Rated Drawbar Pull — kg (lb) and Forward Speed — km/h (mph)					
								1st	2nd	3rd	4th	5th	6th
D7R STD (US)	2HR	95-01	171 (230)	27 413 (60,436)	2.0 (6'6")	6.04 (19'9")	PS/FTC	3.5 (2.3)	6.4 (4.0)	10.8 (6.8)			
D7R STD	3ZR	96-02	171 (230)	27 413 (60,436)	2.0 (6'6")	6.04 (19'9")	PS/FTC	3.5 (2.3)	6.4 (4.0)	10.8 (6.8)			
D7R XR (US)	2EN	95-01	171 (230)	27 776 (61,236)	2.0 (6'6")	6.04 (19'9")	PS/DS	3.5 (2.3)	6.4 (4.0)	10.8 (6.8)			
D7R XR	5MR	97-02	171 (230)	27 776 (61,236)	2.0 (6'6")	6.04 (19'9")	PS/DS	3.5 (2.3)	6.4 (4.0)	10.8 (6.8)			
D7H LGP (US)	80Z*	85-90	215/—	25 237 (55,638)	2.235 (7'4") 3.371 (11'1")	4.619 (15'2") 3.503 (11'6")	PS	3.9 (2.4)	6.8 (4.2)	11.9 (7.4)			
D7R LGP	4SR	96-02	179 (240)	29 500 (65,036)	2.24 (7'4")	5.8 (19'0")	PS/FTC	3.5 (2.3)	6.4 (4.0)	10.8 (6.8)			
D7H LGP (US)	4FG*	87-90	230/—	25 894 (57,086)	2.235 (7'4") 3.377 (11'1")	4.624 (15'2") 3.505 (11'6")	PS/DS	3.7 (2.3)	6.4 (4.0)	11.1 (6.9)			
D7R LGP (US)	3DN	95-01	179 (240)	30 605 (67,472)	2.24 (7'4")	5.8 (19'0")	PS/DS	3.5 (2.3)	6.4 (4.0)	10.8 (6.8)			
D7R LGP (US)	9HM	95-01	179 (240)	29 500 (65,036)	2.24 (7'4")	5.8 (19'0")	PS/FTC	3.5 (2.3)	6.4 (4.0)	10.8 (6.8)			
D7H (JPN)	4AB*	86-90	215/—	23 647 (52,134)	1.981 (6'6") 2.869 (9'5")	4.619 (15'2") 3.421 (11'3")	PS	3.9 (2.4)	6.8 (4.2)	11.9 (7.4)			
D7H (JPN)	2SB*	86-91	215/—	23 570 (51,960)	1.981 (6'6") 2.869 (9'5")	4.619 (15'2") 3.421 (11'3")	DD	16 834 (37,113)	12 861 (28,353)	9703 (21,390)	7436 (16,394)	5522 (12,173)	3940 (8686)
D7H (JPN)	2RG*	88-90	215/—	24 351 (53,683)	1.981 (6'6") 2.871 (9'5")	4.624 (15'2") 3.429 (11'3")	PS/DS	3.7 (2.3)	6.4 (4.0)	11.1 (6.9)			
D7R LGP (JPN)	6ER	96-02	179 (240)	30 605 (67,472)	2.24 (7'4")	5.8 (19'0")	PS/DS	3.5 (2.3)	6.4 (4.0)	10.8 (6.8)			
D7H LGP (JPN)	5WB*	86-90	215/—	25 237 (55,638)	2.235 (7'4") 3.371 (11'1")	4.619 (15'2") 3.503 (11'6")	PS	3.9 (2.4)	6.8 (4.2)	11.9 (7.4)			
D7H LGP (JPN)	82Z*	86-91	215/—	25 445 (56,096)	2.235 (7'4") 3.371 (11'1")	4.619 (15'2") 3.503 (11'6")	DD	16 834 (37,113)	12 861 (28,353)	9703 (21,390)	7436 (16,394)	5522 (12,173)	3940 (8686)
D7H LGP (JPN)	3XG*	88-90	230/—	25 894 (57,086)	2.235 (7'4") 3.377 (11'1")	4.624 (15'2") 3.505 (11'6")	PS/DS	3.7 (2.3)	6.4 (4.0)	11.1 (6.9)			

*D7H models prior to Series II. Product identification number prefix still in use for current product.

NOTE: Power Shift models show speeds only, not drawbar pull.

NOTE: Track-Type Tractor weights do not include blades until 1967.

Track-Type Tractors (cont'd)

Model	Product Ident. No. Prefix	Years Built	Horse-power FW/ Drawbar	Approx. Machine Weight kg (lb)	Gauge m (ft) and Width m (ft)	Length m (ft) and Height m (ft)	Transmission	Rated Drawbar Pull — kg (lb) and Forward Speed — km/h (mph)						Remarks
								1st	2nd	3rd	4th	5th	6th	
D8	1H	35-41	110/95	14 790 (32,600)	1.98 (6'6") 2.64 (8'8")	4.64 (15'3") 2.28 (7'6")	*	9680 (21,350)	6870 (15,150)	5720 (12,610)	4800 (10,590)	3860 (8520)	2740 (6050)	RD-8 with 192 cm (78") gauge
D8	8R	41-45	131/113	15 490 (34,160)	1.98 (6'6") 2.64 (8'8")	4.64 (15'3") 1.85 (6'1")	**	13 060 (28,800)	9750 (21,500)	7940 (17,500)	6800 (15,000)	5620 (12,400)	3990 (8800)	
D8	2U	45-53	148/130	16 470 (36,310)	1.98 (6'6") 2.64 (8'8")	4.85 (15'10") 2.18 (7'2")	DD	13 560 (29,900)	9840 (21,700)	7120 (15,700)	5400 (11,900)	3900 (8600)		Horsepower Increase
D8	13A	53-55	185/150	16 866 (37,150)	1.98 (6'6") 2.64 (8'8")	4.88 (16'1") 2.18 (7'2")	DD	20 358 (44,840)	12 939 (28,500)	8926 (19,660)	6955 (15,320)	4935 (10,870)		HP increase, DD transmission
D8D, G	15A	55-57	191/155	16 310 (35,925)	1.98 (6'6") 2.58 (8'6")	5.23 (17'2") 2.23 (7'8")	TC							
D8E, F	14A	55-57	191/155 Belt	17 734 (39,060)	1.98 (6'6") 2.64 (8'8")	4.88 (16'1") 2.26 (7'6")	DD	20 439 (45,020)	16 135 (35,540)	10 964 (24,150)	7373 (16,240)	4953 (10,910)		
D8H	35A	59-61	235	20 924 (46,032)	2.13 (7'0") 2.87 (9'1")	5.20 (17'1") 2.39 (7'10")	TC							
D8H	36A	58-66	235/185	21 400 (47,180)	2.13 (7'0") 2.87 (9'1")	5.20 (17'1") 2.39 (7'10")	DD	19 958 (44,400)	15 648 (34,500)	10 931 (24,100)	8051 (17,750)	5869 (13,000)	3832 (8450)	
D8H	46A	58-74	270	21 863 (48,210)	2.13 (7'0") 2.87 (9'1")	5.20 (17'1") 2.39 (7'10")	PS							
D8K	76V	74-82	300	31 980 (69,300)†	2.13 (7'0") 3.05 (10'0")	5.26 (17'3") 2.44 (8'0")	DD	25 400 (56,000)	18 930 (41,740)	12 990 (28,640)	9370 (20,650)	6610 (14,580)	4090 (9010)	Turbocharged, Sealed and Lubricated Track
D8K	77V	74-82	300	31 430 (70,500)*	2.13 (7'0") 3.05 (10'0")	5.26 (17'3") 2.44 (8'0")	PS							
D8L	53Y 7JC 7YB	82-86 84-90 85-92	335	37 305 (82,243)	2.2 (7'3") 2.84 (9'4")	4.95 (16'2") 3.79 (12'5")	PS							Turbocharged, Sealed and Lubricated Track
D8L SA	4FB	84-87	400/325	36 650 (80,820)	2.54 (8'4") 3.11 (10'3")		DD	31 679 (69,840)	23 115 (50,960)	17 196 (37,910)	12 388 (27,310)	9154 (20,180)	6428 (14,170)	

* Power transmitted through dry tape flywheel clutch to selective type hinge speed gear set.

** Power transmitted through flexible and over center engagement, dry flywheel clutch with metallic friction surfaces. Selective type change speed gear set.

† Approximate operating weight. Includes lubricants, coolant, full fuel tank, hydraulic control, 8S Bulldozer, ROPS canopy and operator.

All other weights listed in this column are shipping weights.

NOTE: Power Shift models show speeds only, not drawbar pull.

NOTE: Track-Type Tractor weights do not include blades until 1967.

Track-Type Tractors (cont'd)

Model	Product Ident. No. Prefix	Years Built	Horse-power FW/ Drawbar	Approx. Machine Weight kg (lb)	Gauge m (ft) and Width m (ft)	Length m (ft) and Height m (ft)	Transmission	Rated Drawbar Pull — kg (lb) and Forward Speed — km/h (mph)					
								1st	2nd	3rd	4th	5th	6th
D8N	9TC 5TJ	87-92 92-95	285 285	37 462 (82,590)	2.08 (6'10") 3.05 (10'0")	4.95 (16'3") 3.43 (11'3")	PS	3.5 (2.2)	6.2 (3.9)	10.8 (6.7)			
D8R Series II (US)	6YZ	00-04	310	37 830 (83,400)	2.08 (6'10") 3.05 (10'0")	6.91 (22'8") 3.51 (11'6")	PS	3.4 (2.1)	6.0 (3.7)	10.6 (6.6)			
D8R Series II (BRAZIL)	AKA	2000	231/310	37 830 (83,400)	2.08 (6'10") 3.05 (10'0")	6.91 (22'8") 3.51 (11'6")	PS	3.4 (2.1)	6.0 (3.7)	10.6 (6.6)			
D9D	18A	55-56	286/230	25 772 (56,765)	2.29 (7'6") 3.03 (10'0")	5.46 (17'11") 2.67 (8'9")	DD	27 631 (60,860)	21 207 (46,710)	15 423 (33,970)	10 706 (23,580)	7658 (16,670)	4958 (10,920)
D9D	18A	56-59	320/260	26 125 (57,543)	2.29 (7'6") 3.03 (10'0")	5.46 (17'11") 2.67 (8'9")	DD	28 603 (63,000)	23 835 (52,500)	16 617 (36,600)	12 167 (26,800)	9171 (20,200)	6106 (13,450)
D9D	19A	55-56	286/230	25 729 (56,670)	2.29 (7'6") 3.03 (10'0")	5.46 (17'11") 2.67 (8'9")	TC	6.6 (4.1)	9.0 (5.6)	12.6 (7.8)			
D9D	19A	56-59	320/260	26 238 (57,990)	2.29 (7'6") 3.03 (10'0")	5.46 (17'11") 2.68 (8'9")	TC	6.6 (4.1)	9.5 (5.9)	13.0 (8.1)			
D9E	50A	59-60	335	27 016 (59,506)	2.29 (7'6") 3.03 (10'0")	5.50 (18'1") 2.70 (8'11")	TC	6.8 (4.2)	9.7 (6.0)	13.2 (8.2)			
D9D	34A	59-61	335	27 167 (59,837)	2.29 (7'6") 3.03 (10'0")	5.50 (18'1") 2.70 (8'11")	PS	4.2 (2.6)	7.2 (4.5)	11.2 (7.0)			
D9E	49A	59-60	335/268	26 957 (59,375)	2.29 (7'6") 3.03 (10'0")	5.50 (18'1") 2.70 (8'11")	DD	2.7 (1.7)	3.5 (2.2)	4.8 (3.0)	6.4 (4.0)	8.2 (5.1)	11.4 (7.1)
D9G	66A	61-74	385	31 072 (68,500)	2.29 (7'6") 3.10 (10'0")	5.50 (18'1") 2.10 (8'7")	PS	3.9 (2.4)	6.8 (4.2)	10.5 (6.5)			
D9R (CB) (US)	ACL	00-04	410	49 147 (108,350)	2.25 (7'5") 3.30 (10'10")	6.84 (22'5") 3.99 (13'1")	PS	3.8 (2.4)	6.8 (4.2)	11.9 (7.4)			
D9R (DS) (US)	ABK	00-04	410	49 510 (109,150)	2.25 (7'5") 3.30 (10'10")	6.84 (22'5") 3.99 (13'1")	PS	3.8 (2.4)	6.8 (4.2)	11.9 (7.4)			

NOTE: Power Shift models show speeds only, not drawbar pull.

NOTE: Track-Type Tractor weights do not include blades until 1967.

Track-Type Tractors (cont'd)

Model	Product Ident. No. Prefix	Years Built	Horse-power FW/ Drawbar	Approx. Machine Weight kg (lb)	Gauge m (ft) and Width m (ft)	Length m (ft) and Height m (ft)	Transmission	Rated Drawbar Pull — kg (lb) and Forward Speed — km/h (mph)						Remarks
								1st	2nd	3rd	4th	5th	6th	
S × S D9G	29N	69-74	770	86 200* (190,000)	5.8* (19'0")	8.0◀ (25'0")	PS	3.9 (2.4)	6.8 (4.2)	10.0 (6.2)				L.H. of S × S D9G
	30N				7.3** (24'0")	2.8◀◀ (9'2")								R.H. of S × S D9G
Dual D9G	90J	69-74	770	79 470* (175,200)	2.3* (7'6")	12.9◀ (42'6")	PS	3.9 (2.4)	6.8 (4.2)	10.5 (6.5)				Front of Dual D9G
	91J				3.3** (10'9")	3.1◀◀ (9'11")								Rear of Dual D9G
S × S D9H	99V	74-77	820	83 400* (183,900)	5.8* (19'0")	9.0◀ (26'1")	PS	4.0 (2.5)	6.9 (4.3)	10.8 (6.7)				L.H. of S × S D9H
	12U				7.3** (24'0")	2.9◀◀ (9'6")								R.H. of S × S D9H
Dual D9H	97V	74-80	820	81 100* (178,800)	2.3* (7'6")	12.9◀ (42'6")	PS	4.0 (2.5)	6.9 (4.3)	10.8 (6.7)				Front of Dual D9H
	98V				3.3** (10'9")	3.1◀◀ (9'11")								Rear of Dual D9H
D9H	90V	74-81	410	32 840 (72,400)	2.3* (7'6")	5.6 (18'5")	PS	4.0 (2.5)	6.9 (4.3)	10.8 (6.7)				Standard Model
					3.0 (9'11")	2.7◀◀ (8'10")								
D9L	14Y	80-87	460	52 055 (114,656)	2.5 (8'2")	5.32 (17'5")								
					3.11 (10'2")	4.41 (14'6")		3.9 (2.4)	7.2 (4.5)	12.4 (7.7)				
D9N	1JD	86-94	370	42 816 (96,196)	2.55 (7'5")	5.17 (16'11.5")	PS	3.9 (2.4)	6.9 (4.3)	12.1 (7.5)				
	6XJ	93-95			2.43 (9'7")	3.91 (12'10")								
D10	84W	78-86	700	88 245 (194,140)	2.9 (9'6")	5.92 (19'8")	PS	3.9 (2.4)	6.8 (4.2)	11.6 (7.2)				Width 2.2 m (7'0") 2.9 m (9'6") gauge 1.9 × 2.7 m (6'4" × 8'10") gauge Width 3.45 m (11'4")
	76X				3.65 (12'0")	4.63◀◀ (15'2")								
D10N	2YD	87-93	520	66 400 (147,405)	2.55 (8'4")	5.89 (18'4")	PS							
	3SK	93-96			3.30 (10'10")	4.45 (14'7")		4.0 (2.5)	7.1 (4.4)	12.5 (7.7)				
D10R	AKT	01-04	580	65 400 (144,200)	2.55 (8'4")	9.16 (30'0")	PS							
					3.74 (12'3")	4.27 (14'0")		4.0 (2.5)	7.1 (4.4)	12.5 (7.7)				
D11N	74Z	86-93	770	95 900 (211,000)	2.90 (9'6")	6.16 (20'3")	PS							
	4HK	93-96		97 450 (214,850)	3.65 (12'0")	4.65 (15'3")		3.9 (2.4)	6.8 (4.4)	11.6 (7.2)				
D11R	7PZ	96-07	850	104 600 (230,100)	2.89 (9'6")	5.21 (17'1")	PS							
					3.60 (11'10")	4.57 (15'0")		3.9 (2.4)	6.8 (4.2)	11.8 (7.3)				
D11R CD	AAF	96-07	850	113 000 (248,600)	2.89 (9'6")	5.21 (17'1")	PS							
					3.81 (12'6")	4.57 (15'0")		3.9 (2.4)	6.8 (4.2)	11.8 (7.3)				

* Gauge of both tractors combined.

** Width to outside of dozer blade.

* Approximate weight of both machines plus Bulldozer, hydraulic controls, coolant and 5% fuel. (D10, D11N, D11R includes SS ripper)

NOTE: Power Shift models show speeds only, not drawbar pull.

NOTE: Track-Type Tractor weights do not include blades until 1967.

TRACK-TYPE TRACTORS MANUFACTURED OUTSIDE U.S.A.

Source	Model	Product Ident. No. Prefix	Years Built	Horsepower Flywheel/ Drawbar	Transmission	Gauge m (ft)
U.K.	D4C	24A	60-64	63/50	DD	1.52 (5'0")
	D4D	88A	64-67	65/52	DD	1.52 (5'0")
	D6C	82A	64-68	120/93	DD	1.88 (6'2")
	D6C	83A	64-68	120/—	PS	1.88 (6'2")
	D6C	46J	71-77	140/—	DD	1.88 (6'2")
	D6C	47J	71-77	140/—	PS	1.88 (6'2")
	D8H	52A	59-61	235/—	PS	2.13 (7'0")
	D8H	22A	59-66	235/185	DD	2.13 (7'0")
	D8H	68A	60-66	235/—	PS	2.13 (7'0")
Brazil	D8K	66V	74-82	300/—	PS	2.13 (7'0")
	D4D	97F	69-78	75/—	DD	1.52 (5'0")
	D4D	74U	71-78	75/—	PS	1.52 (5'0")
	D6C	24U	71-77	120/93	PS	1.88 (6'2")
	D6C	23U	73-77	120/93	DD	1.88 (6'2")
	D6D	74W	77-92	140/—	DD	1.88 (6'2")
	D6D	75W	77-92	140/—	PS	1.88 (6'2")
	D6D	9FK	92-96	140/—	PS	1.88 (6'2")
	D6E	2MJ	92-96	155/—	PS	1.88 (6'2")
	D6D	19B	85-91	140/—	PS	1.88 (6'2")
	D6M XL	5WR	96-02	104/140	PS	1.89 (6'2")
	D6M XL	6LR	96-02	104/140	PS	1.89 (6'2")
	D8L	7JC	84-90	335/—	PS	2.2 (7'3")
	D8L	7YB	85-92	335/—	PS	2.2 (7'3")
	D8N	7TK	93-95	285/—	PS	2.08 (6'10")
	D8R	9EM	95-	305/—		
	D8R Series II	AKA	00-04	310	PS	2.08 (6'10")
	D8R Series II	AKA	00-04	310	PS	3.05 (10'0")
Australia	D4	29A	59-61	63/50	DD	1.12 (3'8")
	D4	30A	59-60	63/50	DD	1.52 (5'0")
	D4C	54A	60-62	63/52	DD	1.12 (3'8")
	D4C	55A	60-62	65/52	DD	1.52 (5'0")
	D4D	85A	63-68	65/52	DD	1.52 (5'0")
	D5	51H	68-68	93/75	DD	1.88 (6'2")
	D5	52H	68-69	93/—	PS	1.88 (6'2")
	D6	31A	58-60	93/75	DD	1.52 (5'0")
	D6	32A	58-60	93/75	DD	1.18 (6'2")
	D6B	56A	60-66	90/73	DD	1.52 (5'0")
	D6B	57A	60-68	90/73	DD	1.88 (6'2")
	D6C	71A	63-68	120/93	DD	1.88 (6'2")
	D6C	73A	63-68	120/—	PS	1.88 (6'2")
	D6C	55J	69-72	125/—	DD	1.88 (6'2")
	D6C	56J	69-72	125/—	PS	1.88 (6'2")

TRACK-TYPE TRACTORS MANUFACTURED OUTSIDE U.S.A. (cont'd)

Source	Model	Product Ident. No. Prefix	Years Built	Horsepower Flywheel/ Drawbar	Transmission	Gauge m (ft)
France	D4C	69A	61-63	63/50	DD	1.52 (5'0")
	D4D	86A	63-68	65/52	DD	1.52 (5'0")
	D4D LGP	18J	66-68	65/52	DD	1.79 (5'10")
	D4D	58J	67-68	65/—	PS	1.52 (5'0")
	D4E	68X	78-86	80/—	DD	1.52 (5'0")
	D4E	69X	78-85	80/—	PS	1.52 (5'0")
	D4E LGP	71X	78-85	80/—	DD	1.77 (5'10")
	D4E LGP	72X	78-86	80/—	PS	1.77 (5'10")
	D5	62J	69-77	105/—	DD	1.88 (6'2")
	D5	63J	69-77	105/—	PS	1.88 (6'2")
	D5 LGP	6R	70-77	105/—	PS	2.06 (6'9")
	D5 LGP	12R	70-77	105/—	DD	2.06 (6'9")
	D5B	43X	77-85	105/—	DD	1.88 (6'2")
	D5B	44X	77-86	105/—	PS	1.88 (6'2")
	D5B LGP	45X	77-86	105/—	DD	2.06 (6'9")
	D5B LGP	46X	77-86	105/—	PS	2.06 (6'9")
	D5B	8MB	84-86	105/—	PS	1.52 (5'0")
	D5H	8RC	85-96	120/—	PS	1.80 (5'11")
	D5H LGP	1DD	86-96	130/—	PS	2.16 (7'1")
	D5H XL	8RJ	86-96	130/—	PS	1.89 (6'2")
	D5H	7NC	85-96	120/—	DD	1.80 (5'11")
	D5H LGP	9HC	85-96	130/—	DD	2.16 (7'1")
	D5M XL	4BR	96-02	82/110	PS	1.77 (5'10")
	D5M XL	6GN	96-02	82/110	PS	1.77 (5'10")
	D5M LGP	3DR	96-02	82/110	PS	2.00 (6'7")
	D5M LGP	3CR	96-02	82/110	PS	2.00 (6'7")
	D6M XL	9ZM	96-02	104/140	PS	1.89 (6'2")
	D6M XL	3VN	96-02	104/140	PS	1.89 (6'2")
	D6M LGP	2RN	96-02	104/140	PS	2.16 (7'1")
	D6M LGP	4JN	96-02	104/140	PS	2.16 (7'1")
Scotland	D6D	19X	78-86	140/—	DD	1.88 (6'2")
	D6D	20X	78-86	140/—	PS	1.88 (6'2")
	D6D	0IY	79-87	125/—	PS	1.88 (6'2")
Glasgow	D6H	7PC	86-87	165/—	PS	1.88 (6'2")
	D6H LGP	8YC	86-87	165/—	PS	2.23 (7'4")
Japan	D3	79U	73-79	62/—	PS	1.42 (4'8")
	D3	82U	73-78	62/—	PS	1.42 (4'8")
	D3 LGP	6N	73-79	62/—	PS	1.65 (5'5")
	D3 LGP	83U	73-79	62/—	PS	1.65 (5'5")
	D3B	23Y	79-87	65/—	PS	1.42 (4'8")
	D3B LGP	24Y	79-87	65/—	PS	1.65 (5'5")
	D3B	27Y	79-87	65/—	PS	1.42 (4'8")
	D3B LGP	28Y	79-87	65/—	PS	1.65 (5'5")
	D3B	3YC	85-87	65/—	DD	1.42 (4'8")
	D3B LGP	5MC	85-87	65/—	DD	1.65 (5'5")
	D3C	5KG	87-90	67/—	PS	1.42 (4'7")
	D3C Series II	7JG/4HJ	90-93	70/—	PS	1.42 (4'7")
	D3C LGP	1PJ	87-90	67/—	PS	1.65 (5'4")
	D3C LGP Series II	8GD/5CJ	90-93	70/—	PS	1.65 (5'4")
	D3G XL	CFC	01-03	70	HYS	1.45 (4'9")
	D3G XL Tier 2	JMH	03-07	70	HYS	1.45 (4'9")
	D3G LGP	CFF	01-03	70	HYS	1.68 (5'6")
	D3G LGP Tier 2	BYR	03-07	70	HYS	1.68 (5'6")
	D4D LGP	67A	65-68	65/52	DD	1.79 (5'10")
	D4D	91A	65-68	65/52	DD	1.52 (5'0")
	D4E	50X	77-86	80/—	DD	1.52 (5'0")
	D4E	51X	77-86	80/—	PS	1.52 (5'0")
	D4E LGP	52X	77-86	80/—	DD	1.77 (5'10")

TRACK-TYPE TRACTORS MANUFACTURED OUTSIDE U.S.A. (cont'd)

Source	Model	Product Ident. No. Prefix	Years Built	Horsepower Flywheel/ Drawbar	Transmission	Gauge m (ft)
Japan (cont'd)	D4C	1RJ	87-90	78/—	PS	1.42 (4'7")
	D4C Series II	7KG	90-93	80/—	PS	1.42 (4'7")
	D4C LGP	2CJ	87-90	78/—	PS	1.65 (5'4")
	D4C LGP Series II	98G	90-93	80/—	PS	1.65 (5'4")
	D4G XL	CFN	01-03	80	HYS	1.50 (4'11")
	D4GXL Tier 2	HYD	03-07	80	HYS	1.50 (4'11")
	D4G LGP	FDC	01-03	80	HYS	1.68 (5'6")
	D4G LGP Tier 2	TLX	03-07	80	HYS	1.68 (5'6")
	D4H	8PB	85-96	90/95	PS	1.67 (5'5")
	D4H LGP	9DB	85-96	105/—	PS	2.0 (6'7")
	D4H	2AC	85-92	90/95	DD	1.67 (5'5")
	D4H LGP	3AC	85-90	90/95	DD	2.0 (6'7")
	D4H XL	8PJ	92-96	105/—	PS	1.77 (5'10")
	D4H LGP	9GJ	92-96	105/—	PS	2.0 (6'7")
	D4H LGP	4NK	92-93	105/—	DD	2.0 (6'7")
	D5	37J	67-68	93/75	DD	1.88 (6'2")
	D5 LGP	98A	67-68	93/75	DD	2.06 (6'9")
	D5	67J	68-77	105/—	DD	1.88 (6'2")
	D5	97J	71-76	105/—	PS	1.88 (6'2")
	D5 LGP	68J	68-77	105/—	DD	2.06 (6'9")
	D5B	47X	77-86	105/—	DD	1.88 (6'2")
	D5B	48X	77-86	105/—	PS	1.88 (6'2")
	D5B LGP	49X	77-86	105/—	DD	2.06 (6'9")
	D5C	6PJ	91-93	90/—	PS	1.54 (5'1")
	D5C LGP	3MK	91-93	90/—	PS	1.72 (5'8")
	D5G XL	FDH	01-03	90	HYS	1.55 (5'1")
	D5GXL Tier 2	WGB	03-07	90	HYS	1.55 (5'1")
	D5G LGP	FDW	01-03	90	HYS	1.73 (5'8")
	D5G LGP Tier 2	RKG	03-07	90	HYS	1.73 (5'8")
	D5H	3MD	86-96	120/—	PS	1.80 (5'11")
	D5H LGP	4KD	86-96	130/—	PS	2.16 (7'1")
	D5H	1YD	86-96	120/—	DD	1.80 (5'11")
	D5H LGP	2SD	86-96	130/—	DD	2.16 (7'1")
	D5M XL	4JS	96-	82/110	PS	1.77 (5'10")
	D5M XL	5ES	96-02	82/110	PS	1.77 (5'10")
	D5M LGP	5FS	96-	82/110	PS	2.00 (6'7")
	D5M LGP	6AS	96-02	82/110	PS	2.00 (6'7")
	D5M LGP	7LR	97-02	78/105	DDPS	2.00 (6'7")
	D6B	37H	66-67	93/75	DD	1.88 (6'2")
	D6B LGP	38H	66-67	93/75	DD	2.06 (6'9")
	D6C	41A	66-68	120/93	DD	1.88 (6'2")
	D6C	96A	66-68	120/93	PS	1.88 (6'2")
	D6C	26K	68-77	125/—	DD	1.88 (6'2")
	D6C	69C	68-77	125/—	PS	1.88 (6'2")
	D6C LGP	90B	71-77	140/—	DD	2.11 (6'11")
	D6D LGP LS	6HC	86-96	160/—	DD	1.88 (6'2")
	D6D	31X	86-98	140/—	PS	1.88 (6'2")
	D6D	30X	85-96	140/—	DD	1.88 (6'2")
	D6D PTNR	5YB	88-96	160/—	PS	1.88 (6'2")
	D6M XL	2YS	96-	104/140	PS	1.89 (6'2")
	D6M XL	4HS	96-02	104/140	PS	1.89 (6'2")
	D6M LGP	4GS	96-	104/140	PS	2.16 (7'1")
	D6M LGP	5NR	96-02	104/140	PS	2.16 (7'1")
	D7H	25B	85-92	215/—	DD	1.98 (6'6")
						2.54 (8'5")
	D7H LGP	82Z	85-92	215/—	DD	2.23 (7'4")
						3.15 (10'4")



AGRICULTURAL TRACTORS

Model	Product Ident. No. Prefix	Years Built	Horse-power FW/ Drawbar	Approx. Machine Weight kg (lb)	Height m (ft) Gauge m (ft)	Drawbar Pull kg (lb)* and Forward Speed km/h (mph)							
						Forward Speed km/h (mph)							
						1st	2nd	3rd	4th	5th	6th	7th	8th
Challenger 35	8DN	94-98	175/150	9838 - 12 133 (21,690 - 26,750)	3.05 (10'0") 1.47* (60")*	8604 (18,968)	8499 (18,737)	8314 (18,329)	7851 (17,307)	7161 (15,787)	6694 (14,757)	5949 (13,116)	5147 (11,348)
Challenger 35	8RD	99-01	175/150	9838 - 12 133 (21,690 - 26,750)	3.05 (10'0") 1.47 (60")	8604 (18,968)	8499 (18,737)	8314 (18,329)	7851 (17,307)	7161 (15,787)	6694 (14,757)	5949 (13,116)	5147 (11,348)
Challenger 35	ADK	99-01	175/150	9838 - 12 133 (21,690 - 26,750)	3.05 (10'0") 2.03 (80")	8604 (18,968)	8499 (18,737)	8314 (18,329)	7851 (17,307)	7161 (15,787)	6694 (14,757)	5949 (13,116)	5147 (11,348)
Challenger MT735		01-02	235/185	10 977 - 20 400 (24,200 - 45,000)	3.37 (11'1")	12 680 (27,900)	12 680 (27,900)	12 680 (27,900)	10 890 (23,950)	9130 (20,090)	8105 (17,830)	7187 (15,810)	6388 (14,050)
Challenger 45	1DR	94-98	200/170	9838 - 12 133 (21,690 - 26,750)	3.05 (10'0") 1.47* (60")*	8675 (19,125)	8675 (19,125)	8675 (19,125)	8255 (18,199)	7710 (16,997)	7318 (16,134)	6757 (14,897)	5891 (12,987)
Challenger 45	ABF	99-01	200/170	9838 - 12 133 (21,690 - 26,750)	3.05 (10'0") 1.47 (60")	8675 (19,125)	8675 (19,125)	8675 (19,125)	8255 (18,199)	7710 (16,997)	7318 (16,134)	6757 (14,897)	5891 (12,987)
Challenger 45	3BK	99-01	200/170	9838 - 12 133 (21,690 - 26,750)	3.05 (10'0") 2.03 (80")	8675 (19,125)	8675 (19,125)	8675 (19,125)	8255 (18,199)	7710 (16,997)	7318 (16,134)	6757 (14,897)	5891 (12,987)
Challenger MT745		01-02	255/205	10 977 - 20 400 (24,200 - 45,000)	3.37 (11'1")	12 680 (27,900)	12 680 (27,900)	12 680 (27,900)	11 828 (26,020)	9920 (21,820)	8806 (19,370)	7808 (17,180)	6941 (15,270)
Challenger 55	7DM	96-98	225/191	9838 - 12 133 (21,690 - 26,750)	3.05 (10'0") 1.47* (60")*	8675 (19,125)	8675 (19,125)	8675 (19,125)	8675 (19,125)	8255 (18,200)	7802 (17,200)	7188 (15,848)	6593 (14,535)
Challenger 55	AEN	99-01	225/191	9838 - 12 133 (21,690 - 26,750)	3.05 (10'0") 2.03 (80")	8675 (19,125)	8675 (19,125)	8675 (19,125)	8675 (19,125)	8255 (18,200)	7802 (17,200)	7188 (15,848)	6593 (14,535)
Challenger 55	6NN	99-01	225/191	9838 - 12 133 (21,690 - 26,750)	3.05 (10'0") 1.47 (60")	8675 (19,125)	8675 (19,125)	8675 (19,125)	8675 (19,125)	8255 (18,200)	7802 (17,200)	7188 (15,848)	6593 (14,535)
Challenger MT755		01-02	290/235	10 097 - 20 400 (24,200 - 45,000)	3.37 (11'1")	12 682 (27,900)	12 682 (27,900)	12 682 (27,900)	12 682 (27,900)	11 302 (24,865)	10 032 (22,070)	8896 (19,570)	7908 (17,397)
Challenger MT765		01-02	306/255	10 977 - 20 411 (24,200 - 45,000)	3.37 (11'1")	12 682 (27,900)	12 682 (27,900)	12 682 (27,900)	12 682 (27,900)	11 894 (26,168)	10 558 (23,228)	9362 (20,597)	8322 (18,308)

*Base gauge (no spacers) of 1.47 m (60") available on 8DN1-849, 1DR1-1699, 7DM1-849. Base gauges (no spacers) of 1.47 m (60") and 2.03 m (80") available on 8DN850-Up, 1DR1700-Up, and 7DM850-Up.

Agricultural Tractors (cont'd)

Model	Product Ident. No. Prefix	Years Built	Horse-power FW/ Drawbar	Approx. Machine Weight kg (lb)	Height m (ft) Gauge m (ft)	Drawbar Pull kg (lb)* and Forward Speed km/h (mph)							
						9th	10th	11th	12th	13th	14th	15th	16th
Challenger 35	8DN	94-98	175/150	9838 - 12 133 (21,690 - 26,750)	3.05 (10'0") 1.47* (60")*	4436 (9779) 9.39 (5.8)	3740 (8244) 11.11 (6.9)	3171 (6991) 12.70 (7.9)	2601 (5735) 15.04 (9.3)	2154 (4749) 17.60 (10.9)	1771 (3904) 20.70 (12.9)	1449 (3194) 24.49 (15.2)	1196 (2637) 28.64 (17.8)
Challenger 35	8RD	99-01	175/150	9838 - 12 133 (21,690 - 26,750)	3.05 (10'0") 1.47 (60")	4436 (9779) 9.39 (5.8)	3740 (8244) 11.11 (6.9)	3171 (6991) 12.70 (7.9)	2601 (5735) 15.04 (9.3)	2154 (4749) 17.60 (10.9)	1771 (3904) 20.70 (12.9)	1449 (3194) 24.49 (15.2)	1196 (2637) 28.64 (17.8)
Challenger 35	ADK	99-01	175/150	9838 - 12 133 (21,690 - 26,750)	3.05 (10'0") 2.03 (80")	4436 (9779) 9.39 (5.8)	3740 (8244) 11.11 (6.9)	3171 (6991) 12.70 (7.9)	2601 (5735) 15.04 (9.3)	2154 (4749) 17.60 (10.9)	1771 (3904) 20.70 (12.9)	1449 (3194) 24.49 (15.2)	1196 (2637) 28.64 (17.8)
Challenger MT735		01-02	235/185	10 977 - 20 400 (24,200 - 45,000)	3.37 (11'1")	5678 (12,490) 10.4 (6.5)	5047 (11,100) 11.7 (7.3)	4476 (9850) 13.2 (8.2)	3974 (8742) 14.9 (9.3)	3339 (7346) 17.7 (11.0)	2628 (5782) 22.5 (14.0)	2077 (4568) 28.5 (17.7)	1635 (3598) 39.7 (24.6)
Challenger 45	1DR	94-98	200/170	9838 - 12 133 (21,690 - 26,750)	3.05 (10'0") 1.47* (60")*	5063 (11,162) 9.39 (5.8)	4170 (9193) 11.11 (6.9)	3547 (7821) 12.70 (7.9)	2920 (6438) 15.04 (9.3)	2427 (5351) 17.60 (10.9)	2003 (4416) 20.70 (12.9)	1646 (3629) 24.49 (15.2)	1365 (3010) 28.64 (17.8)
Challenger 45	ABF	99-01	200/170	9838 - 12 133 (21,690 - 26,750)	3.05 (10'0") 1.47 (60")	5063 (11,162) 9.39 (5.8)	4170 (9193) 11.11 (6.9)	3547 (7821) 12.70 (7.9)	2920 (6438) 15.04 (9.3)	2427 (5351) 17.60 (10.9)	2003 (4416) 20.70 (12.9)	1646 (3629) 24.49 (15.2)	1365 (3010) 28.64 (17.8)
Challenger 45	3BK	99-01	200/170	9838 - 12 133 (21,690 - 26,750)	3.05 (10'0") 2.03 (80")	5063 (11,162) 9.39 (5.8)	4170 (9193) 11.11 (6.9)	3547 (7821) 12.70 (7.9)	2920 (6438) 15.04 (9.3)	2427 (5351) 17.60 (10.9)	2003 (4416) 20.70 (12.9)	1646 (3629) 24.49 (15.2)	1365 (3010) 28.64 (17.8)
Challenger MT745		01-02	255/205	10 977 - 20 400 (24,200 - 45,000)	3.37 (11'1")	6169 (13,573) 10.4 (6.5)	5484 (12,065) 11.7 (7.3)	4864 (10,700) 13.2 (8.2)	4317 (9498) 14.9 (9.3)	3628 (7981) 17.7 (11.0)	2856 (6282) 22.5 (14.0)	2256 (4963) 28.5 (17.7)	1777 (3909) 39.7 (24.6)
Challenger 55	7DM	96-98	225/191	9838 - 12 133 (21,690 - 26,750)	3.05 (10'0") 1.47* (60")*	5663 (12,484) 9.39 (5.8)	4676 (10,310) 11.11 (6.9)	3990 (8796) 12.70 (7.9)	3295 (7264) 15.04 (9.3)	2747 (6056) 17.60 (10.9)	2275 (5015) 20.70 (12.9)	1876 (4135) 24.49 (15.2)	1562 (3443) 28.64 (17.8)
Challenger 55	AEN	99-01	225/191	9838 - 12 133 (21,690 - 26,750)	3.05 (10'0") 2.03 (80")	5663 (12,484) 9.39 (5.8)	4676 (10,310) 11.11 (6.9)	3990 (8796) 12.70 (7.9)	3295 (7264) 15.04 (9.3)	2747 (6056) 17.60 (10.9)	2275 (5015) 20.70 (12.9)	1876 (4135) 24.49 (15.2)	1562 (3443) 28.64 (17.8)
Challenger 55	6NN	99-01	225/191	9838 - 12 133 (21,690 - 26,750)	3.05 (10'0") 1.47 (60")	5663 (12,484) 9.39 (5.8)	4676 (10,310) 11.11 (6.9)	3990 (8796) 12.70 (7.9)	3295 (7264) 15.04 (9.3)	2747 (6056) 17.60 (10.9)	2275 (5015) 20.70 (12.9)	1876 (4135) 24.49 (15.2)	1562 (3443) 28.64 (17.8)
Challenger MT755		01-02	290/235	10 097 - 20 400 (24,200 - 45,000)	3.37 (11'1")	7029 (15,464) 10.4 (6.5)	6248 (13,745) 11.7 (7.3)	5541 (12,190) 13.2 (8.2)	4919 (10,821) 14.9 (9.3)	4133 (9093) 17.7 (11.0)	3253 (7157) 22.5 (14.0)	2570 (5655) 28.5 (17.7)	2024 (4454) 39.7 (24.6)
Challenger MT765		01-02	306/255	10 977 - 20 411 (24,200 - 45,000)	3.37 (11'1")	7397 (16,274) 10.4 (6.5)	6575 (14,466) 11.7 (7.3)	5831 (12,829) 13.2 (8.2)	5176 (11,388) 14.9 (9.3)	4350 (9569) 17.7 (11.0)	3424 (7533) 22.5 (14.0)	2705 (5951) 28.5 (17.7)	2130 (4687) 39.7 (24.6)

*Base gauge (no spacers) of 1.47 m (60") available on 8DN1-849, 1DR1-1699, 7DM1-849. Base gauges (no spacers) of 1.47 m (60") and 2.03 m (80") available on 8DN850-Up, 1DR1700-Up, and 7DM850-Up.

Agricultural Tractors (cont'd)

Model	Product Ident. No. Prefix	Years Built	Horse-power FW/ Drawbar	Approx. Machine Weight kg (lb)	Height m (ft) Gauge m (ft)	Drawbar Pull kg (lb)* and Forward Speed km/h (mph)									
						Forward Speed km/h (mph)									
						1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Challenger 65	7YC	86-90	270/200	14 061 (31,000)	3.24 (10'8") 2.15 (7'1")	14 825 (32,684)	10 393 (22,912)	8880 (19,577)	7701 (16,978)	6656 (14,674)	5708 (12,583)	4950 (10,912)	4245 (9358)	2858 (6300)	1725 (3803)
Challenger 65B	7YC	91-92	285/225	14 060 (31,000)	3.24 (10'8") 2.15 (7'1")	14 893 (32,914)	11 074 (24,413)	9492 (20,926)	8252 (18,193)	7138 (15,737)	6109 (13,467)	5294 (11,672)	4545 (10,019)	3057 (6740)	1851 (4080)
Challenger 65C	2ZJ	93-95	285/225	14 330 (31,530)	3.24 (10'8") 2.29 (7'5")	12 587 (27,750)	9574 (21,106)	8186 (18,046)	7156 (15,775)	6147 (13,551)	5230 (11,530)	4497 (9914)	3855 (8498)	2701 (5955)	1637 (3610)
Challenger 65D	2ZJ	95-97	300	14 909 (32,875)	3.24 (10'8") 2.29 (7'5")	12 689 (27,975)	10 706 (23,603)	9161 (20,197)	7934 (17,492)	6837 (15,072)	5843 (12,881)	5005 (11,034)	4256 (9382)	3119 (6875)	2030 (4475)
Challenger 65E		97-02	310/277	15 186 (33,480)	3.4 (11'2")	15 098 (33,284)	10 808 (23,827)	9265 (20,425)	8096 (17,849)	6964 (15,352)	6017 (13,265)	5247 (11,567)	4469 (9853)	3396 (7488)	2279 (5025)
Challenger 70C	2YL	93-95	1st Gear 215/154 2nd & up 285/225	16 201 (35,685)	3.24 (10'8") 2.29 (7'5")	12 621 (27,825)	9574 (21,106)	8186 (18,046)	7156 (15,775)	6147 (13,551)	5230 (11,530)	4497 (9914)	3855 (8498)	2701 (5955)	1637 (3610)
Challenger 75	4CJ	91-92	325/256	14 060 (31,000)	3.24 (10'8") 2.15 (7'1")	15 391 (33,931)	12 371 (27,273)	10 753 (23,706)	9382 (20,684)	8073 (17,797)	6923 (15,263)	6017 (13,264)	5162 (11,379)	3588 (7910)	2181 (4830)
Challenger 75C	4KK	92-97	325/268	15 158 (33,419)	3.24 (10'8") 2.29 (7'5")	12 689 (27,975)	10 761 (23,724)	9329 (20,567)	8106 (17,871)	6932 (15,282)	5944 (13,105)	5095 (11,232)	4380 (9657)	3075 (6780)	1878 (4140)
Challenger 75D	5AR	96-97	330	14 878 (32,800)	3.24 (10'8") 2.29 (7'5")	12 884 (28,406)	12 562 (27,693)	10 919 (24,071)	9526 (21,003)	8197 (18,071)	7030 (15,498)	6109 (13,468)	5241 (11,554)	3643 (8031)	2225 (4904)
Challenger 75E		97-02	340/301	15 186 (33,480)	3.4 (11'2") 2.29 (7'6")	15 174 (33,452)	11 696 (25,785)	9402 (20,728)	8155 (17,979)	7015 (15,466)	6412 (14,135)	5543 (12,221)	4798 (10,578)	3502 (7722)	2447 (5395)
Challenger 85C	9TK	92-97	1-2 Gears 325/216 3-10 Gears 355/272	15 286 (33,700)	3.24 (10'8") 2.29 (7'5")	12 689 (27,975)	11 596 (25,565)	9544 (21,042)	8302 (18,304)	7089 (15,629)	6406 (14,122)	5490 (12,104)	4720 (10,406)	3146 (6935)	2024 (4461)
Challenger 85D	4GR	96-97	Gears 1-2 330 3-5 360 6-10 370	15 286 (33,700)	3.24 (10'8") 2.29 (7'5")	15 529 (34,234)	10 684 (23,553)	9599 (21,162)	8247 (18,181)	7175 (15,819)	6590 (14,528)	5705 (12,578)	4887 (10,774)	3825 (8432)	2461 (5425)
Challenger 85E		97-02	375/339	15 413 (33,980)	3.4 (11'2") 2.29 (7'6")	15 454 (34,070)	11 576 (25,520)	10 566 (23,294)	9177 (20,232)	7997 (17,629)	7268 (16,022)	6323 (13,940)	5417 (11,942)	3954 (8718)	2763 (6090)

*Drawbar pull figures for SA and SR models are max. at lug.

NOTE: Drawbar pull figures for the Challenger 65 is at max. power as found in University of Nebraska Tractor Test no. 1268.

This test was performed on concrete. Therefore, usable drawbar pull may be less depending upon soil conditions.

Agricultural Tractors (cont'd)

Model	Product Ident. No. Prefix	Years Built	Horse-power FW/ Drawbar	Approx. Machine Weight kg (lb)	Height m (ft) Gauge m (ft)	Drawbar Pull kg (lb)* and Forward Speed km/h (mph)									
						1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Challenger 95E		97-02	410/375	15 413 (33,980)	3.4 (11'2") 2.29 (7'6")	15 968 (35,202)	11 506 (25,366)	10 505 (23,159)	10 085 (22,234)	8729 (19,244)	7903 (17,423)	6865 (15,134)	5901 (13,009)	4308 (9497)	3010 (6635)
D3B SA	2PC	85-87	101	6650 (14,670)	2.71 (8'11")	7634 (16,830)	6226 (13,725)	5306 (11,700)	4531 (9990)	3888 (8573)					
D3C SA	7JF	87-92	101	7202 (15,846)	2.71 (8'11") 1.52 (5'0")	5552 (12,250)	4521 (9960)	3827 (8450)	3235 (7130)	2755 (6070)					
D4D SA	20J	66-68	—/68	6750 (14,900)	2.44 (8'0") 1.52 (5'0")	4590 (10,120)	3928 (8660)	3098 (6830)	2631 (5800)	2232 (4920)					
D4D SA	84J	66	—/68	6470 (14,270)	2.67 (8'9") 1.52 (5'0")	4880 (10,750)	4170 (9200)	3310 (7300)	2840 (6260)	2420 (5330)					
D4E SA	7PB 2CB	84-89 84-91	97	7600 (16,760)	2.71 (8'11")	5901 (13,102)	5148 (11,349)	5831 (12,859)	5002 (11,027)	4433 (9773)					
D4E SA	29X	77-84	—/74	7585 (16,722)	2.72 (8'11") 1.52 (5'0")	5802 (12,791)	4986 (10,993)	4007 (8835)	3814 (8408)	2896 (6384)					
D4E SR		84-99	125/—	9400 (20,730)	1.93 (6'4") 1.52 (5'0")	5450 (12,010)	3744 (8250)	5068 (11,170)	4408 (9715)	3832 (8450)					
D5 SA	21J	67-67	—/90	9300 (20,400)	2.64 (8'8") 1.88 (6'2")	6620 (14,580)	5160 (11,360)	3990 (8740)	3080 (6790)	2290 (5030)					
D5 SA	98J	67-77	—/90	9660 (21,300)	2.95 (9'8") 1.88 (6'2")	6120 (13,500)	5180 (11,410)	4110 (9950)	3640 (7620)	2950 (6500)	2250 (4970)				
D5B SA	26X	77-84	—/90		2.77 (9'1") 1.88 (6'2")	6409 (14,130)	5384 (11,870)	4323 (9530)	3688 (8130)	3180 (7010)	2486 (5480)				
D5B SA	22X	77-82	105/—	11 283 (24,875)	2.77 (9'1") 1.52 (5'0")	8060 (17,770)	5030 (11,100)	3410 (7520)	2290 (5060)	1480 (3260)					
D5B SA	24X	77-84	105/—	11 619 (25,615)	2.77 (9'1") 1.52 (5'0")	8060 (17,770)	5030 (11,100)	3410 (7520)	2290 (5060)	1480 (3260)					
						3.5 (2.2)	6.1 (3.8)	10.1 (6.3)							

*Drawbar pull figures for SA and SR models are max. at lug.

NOTE: Drawbar pull figures for the Challenger 65 is at max. power as found in University of Nebraska Tractor Test no. 1268.

This test was performed on concrete. Therefore, usable drawbar pull may be less depending upon soil conditions.

Agricultural Tractors (cont'd)

Model	Product Ident. No. Prefix	Years Built	Horse-power FW/ Drawbar	Approx. Machine Weight kg (lb)	Height m (ft) Gauge m (ft)	Drawbar Pull kg (lb)* and Forward Speed km/h (mph)									
						1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
D6C SA	17R	70-76	140	13 064 (28,800)	2.67 (8'9")	850 (18,750)	6970 (15,370)	5880 (12,780)	4810 (10,610)	4080 (9000)	3190 (7030)				
						4.0 (2.5)	4.8 (3.0)	5.6 (3.5)	6.4 (4.0)	7.4 (4.6)	8.8 (5.5)				
D6D SR	7XF	89-91	140	15 200 (33,500)	2.87 (9'5")	14 358 (31,645)	12 429 (27,394)	11 721 (25,833)	7067 (15,576)	6096 (13,436)	4931 (10,868)				
						2.0 (1.2)	2.9 (1.8)	4.1 (2.5)	6.5 (4.0)	7.4 (4.6)	8.9 (5.5)				
D6D SA 123-161 kW (165-215 HP)	38C	83-91	165	14 500 (32,000)	2.87 (9'5")	10 098 (22,243)	8510 (18,744)	9210 (20,287)	7789 (17,156)	6732 (14,828)	5456 (12,017)				
						4.5 (2.8)	5.3 (3.3)	6.1 (3.8)	7.1 (4.4)	8.2 (5.1)	9.8 (6.1)				
D6D SA 123-179 kW (165-240 HP)	19B	83-91	165	14 500 (32,000)	2.87 (9'5")	10 098 (22,243)	8510 (18,744)	7181 (15,817)	8732 (19,234)	7560 (16,651)	6144 (13,532)				
						4.5 (2.8)	5.3 (3.3)	6.1 (3.8)	7.1 (4.4)	8.2 (5.1)	9.8 (6.1)				
D6E SR	8FJ	91-96	155/216 121/170	14 960 (32,987)	2.03 (6'8") 1.88 (6'2")	11 308 (24,878)	7771 (17,097)	8130 (17,887)	6866 (15,105)	5926 (13,037)	3135 (6987)				
						3.0 (1.9)	4.3 (2.7)	5.8 (2.6)	6.8 (4.3)	7.7 (4.8)	9.3 (5.8)				
Ag 6 Generation One	05X	77-86	165/240	14 787 (32,600)	3.43 (11'3")	10 034 (22,120)	8455 (18,639)	7134 (15,727)	9041 (19,931)	7830 (17,268)					
						4.5 (2.8)	5.3 (3.3)	6.1 (3.8)	7.1 (4.4)	8.2 (5.1)					
Ag 6 Generation Two	05X	77-86	200/240	14 787 (32,600)	3.48 (11'5")	12 407 (27,353)	10 482 (23,110)	10 667 (23,514)	9091 (19,931)	7830 (17,263)					
						4.5 (2.8)	5.3 (3.3)	6.1 (3.8)	7.1 (4.4)	8.2 (5.1)					
D7G SA std. trans.	35N	80-86	250	18 462 (40,700)	3.2 (10'6")	19 101 (42,110)	13 622 (30,030)	11 358 (25,040)	10 015 (22,080)	8627 (19,020)	7584 (16,720)				
						3.5 (2.2)	4.8 (3.0)	5.6 (3.5)	6.4 (4.0)	7.2 (4.5)	8.2 (5.1)				
D7G SA std. trans. 168-186 kW (225-250 HP)		77-86	250	18 462 (40,700)	3.2 (10'6")	16 990 (37,424)	12 090 (26,631)	11 358 (25,040)	10 015 (22,080)	8627 (19,020)	7584 (16,720)				
						3.5 (2.2)	4.8 (3.0)	5.6 (3.5)	6.4 (4.0)	7.2 (4.5)	8.2 (5.1)				
D8L SA		84-87	400	36 650 (80,820)	3.87 (12'8") 2.2 (7'3")	40 252 (88,740)	39 466 (86,960)	22 013 (48,530)	15 953 (35,170)	11 880 (26,190)	8446 (18,620)				
						2.9 (1.8)	3.9 (2.4)	5.0 (3.1)	6.8 (4.2)	8.9 (5.5)	11.9 (7.4)				

*Drawbar pull figures for SA and SR models are max. at lug.

NOTE: Drawbar pull figures for the Challenger 65 is at max. power as found in University of Nebraska Tractor Test no. 1268.

This test was performed on concrete. Therefore, usable drawbar pull may be less depending upon soil conditions.



MOTOR GRADERS

Model	Product Ident. No. Prefix	Years Built	Horsepower, Rated	Approx. Ship Wt. kg (lb)	Wheel-base m (ft)	Length m (ft)	Width m (ft)	Mold-board Length m (ft)	Turning Radius m (ft)	Controls	Maximum Speed km/h (mph)	
											Forward	Rev.
212TD	79C	54-57	50	6030 (13,290)	5.03 (16'6")	6.68 (21'11")	2.07 (6'10")	3.05 (10'0")	11.10 (36'5")	Mech.	18.1 (11.2)	4.2 (2.6)
112	3U	47-59	70	8770 (19,330)	5.72 (18'9")	7.59 (24'11")	2.39 (7'10")	3.66 (12'0")	10.87 (35'8")	Mech.	25.7 (16.0)	6.4 (4.0)
112	81C	55-59	75	9435 (20,805)	5.72 (18'9")	7.59 (24'11")	2.39 (7'10")	3.66 (12'0")	10.74 (35'3")	Mech.	25.7 (16.0)	6.4 (4.0)
112E	68E(U.S.) 91G(U.S.)	59-64 64-68	85	9500 (20,900)	5.72 (18'9")	7.62 (25'0")	2.36 (7'9")	3.66 (12'0")	10.74 (35'3")	Mech.	29.3 (18.2)	9.3 (5.8)
112F	82F(U.S.) 46D(U.S.) 74H(U.S.) 89J(U.S.) 80J(AUSTL)	60-64 64-68 67-68 68-74 69-84	100	9800 (21,600)	5.72 (18'9")	7.82 (25'8")	2.36 (7'9")	3.66 (12'0")	10.70 (35'3")	Mech.	29.9 (18.6)	9.7 (6.0)
120	89G(U.S.)	64-67	115	10 480 (23,100)	5.71 (18'9")	7.62 (25'0")	2.36 (7'9")	3.66 (12'0")	10.74 (35'3")	Mech.	32.2 (20.0)	10.3 (6.4)
120	14K(U.S.)	67-69	125	10 600 (23,500)	5.71 (18'9")	7.80 (25'8")	2.36 (7'9")	3.66 (12'0")	10.74 (35'3")	Mech.	32.2 (20.0)	41.5 (25.8)
120	10R(U.S.)	69-74	125	10 700 (23,700)	5.85 (19'2")	7.95 (26'1")	2.36 (7'9")	3.66 (12'0")	10.90 (35'9")	Mech.	32.2 (20.0)	6.6 (4.1)
120	13U(U.S.)	71-74	125	11 000 (24,300)	5.85 (19'2")	7.95 (26'1")	2.36 (7'9")	3.66 (12'0")	10.90 (35'9")	Mech.	32.2 (20.0)	6.6 (4.1)
120B	64U(BRAZ)	72-89	125	12 000 (26,460)	5.85 (19'2")	7.92 (26'0")	2.36 (7'9")	3.66 (12'0")	10.90 (35'9")	Mech.	35.4 (22.0)	23.8 (14.8)
120G	87V(U.S.) 4HD(BRAZ) 11W(AUSTL) 82V(CAN)	73-95 86-95 75-95 74-80	125	12 859 (28,350)	5.69 (18'8")	7.92 (26'0")	2.45 (8'0")	3.66 (12'0")	6.7 (22'0")	Hyd.	40.9 (25.4)	40.9 (25.4)
120H	4MK(U.S.) 6NM(U.S.) 9YR(BRAZ) 2AN(AUSTL) 3GR(S.AFRICA) 124 (AUSTL) ALZ(U.S.) CAF(BRAZ)	95-02 03-05 02-04 03-07	125/140	12 520 (27,600)	5.86 (19'3")	8.26 (27'1")	2.44 (7'11")	3.66 (12'0")	7.2 (23'8")	Hyd.	42.6 (26.5)	33.7 (20.9)
120H	ALZ(U.S.) CAF(BRAZ) 124(AUSTL)	02-03 02-07 03-05	125/140	12 650 (27,880)	5.92 (19'5")	8.31 (27'3")	2.44 (8'0")	3.66 (12'0")	7.3 (23'7")	Hyd.	42.6 (26.5)	33.7 (20.9)
120H STD	6TM(U.S.) 5FM(BRAZ) 9FN(INDO)	96-99 96-09 96-04	125/140	12 466 (27,483)	5.87 (19'3")	8.15 (26'9")	2.44 (8'0")	3.66 (12'0")	7.2 (23'8")	Hyd.	42.6 (26.5)	33.7 (20.9)

Motor Graders (cont'd)

Model	Product Ident. No. Prefix	Years Built	Horse-power, Rated	Approx. Ship Wt. kg (lb)	Wheel-base m (ft)	Length m (ft)	Width m (ft)	Mold-board Length m (ft)	Turning Radius m (ft)	Controls	Maximum Speed km/h (mph)	
											Forward	Rev.
130G	74V(U.S.) 12W(AUSTL)	73-95 75-89	135	13 050 (28,770)	5.92 (19'5")	8.30 (27'3")	2.45 (8'0")	3.66 (12'0")	7.3 (24'0")	Hyd.	39.4 (24.5)	39.4 (24.5)
135H	3YK(U.S.) AMX(U.S.) CBC(BRAZ)	95-02 02-04 03-07	135/155	12 950 (28,550)	5.86 (19'3")	8.26 (27'1")	2.44 (7'11")	3.66 (12'0")	7.2 (23'8")	Hyd.	41.9 (26.0)	33.1 (20.6)
135H	AMX(U.S.) CBC(BRAZ)	02-04 02-07	135/155	13 080 (28,840)	5.92 (19'5")	8.31 (27'3")	2.44 (8'0")	3.66 (12'0")	7.3 (23'7")	Hyd.	41.9 (26.1)	33.1 (20.6)
12	6M(U.S.)	39-42	66	9440 (20,820)	5.72 (18'9")	7.62 (25'0")	2.39 (7'10")	3.66 (12'0")	10.87 (35'8")	Mech.	24.5 (15.2)	6.1 (3.8)
12	9K(U.S.)	38-45	70	9590 (21,140)	5.72 (18'9")	7.62 (25'0")	2.39 (7'10")	3.66 (12'0")	10.87 (35'8")	Mech.	24.5 (15.2)	6.1 (3.8)
12	7T(U.S.)	45-47	75	9750 (21,500)	5.72 (18'9")	7.62 (25'0")	2.39 (7'10")	3.66 (12'0")	10.87 (35'8")	Mech.	24.5 (15.2)	6.1 (3.8)
12	8T(U.S.) 94C(AUSTL)	47-55 55-58	100	10 100 (22,375)	5.72 (18'9")	7.62 (25'0")	2.39 (7'10")	3.66 (12'0")	10.87 (35'8")	Mech.	31.1 (19.3)	6.6 (4.1)
12	70D-71D(U.S.) 80C(U.S.) 38E(AUSTL)	57-59 55-67 58-60	115	10 200 (22,410)	5.72 (18'9")	7.62 (25'0")	2.37 (7'10")	3.66 (12'0")	10.87 (35'8")	Mech.	31.1 (19.3)	10.1 (6.3)
12E	99E(U.S.) 21F(AUSTL) 17K(AUSTL)	59-65 60-68 68-75	115	11 100 (24,400)	5.72 (18'9")	8.03 (26'4")	2.36 (7'9")	3.66 (12'0")	10.90 (35'9")	Mech.	32.0 (19.9)	22.2 (13.8)
12F	73G(U.S.)	65-67	115	12 973 (28,600)	6.0 (19'8")	8.20 (26'10")	2.36 (7'9")	3.66 (12'0")	11.40 (37'5")	Hyd. Mech.	32.0 (19.9)	22.2 (13.8)
12F	89H(U.S.) 13K(U.S.)	69-73 67-73	125	12 973 (28,600)	6.00 (19'8")	8.20 (26'10")	2.36 (7'9")	3.65 (12'0")	11.40 (37'5")	Hyd. Mech.	34.3 (21.3)	41.5 (25.8)
12G	61M(U.S.) 3PL(BRAZ) 3WC(AUSTL)	73-95 93-95 85-95	135	13 554 (29,860)	5.92 (19'5")	8.30 (27'3")	2.45 (8'0")	3.66 (12'0")	7.30 (24'0")	Hyd.	39.4 (24.5)	39.4 (24.5)
12H	4XM(U.S.) 2LR(U.S.) 8MN(BRAZ) 2GS(BRAZ) 2WR(AUSTL) AMZ(U.S.) CBK(BRAZ) 125(AUSTL)	95-02 02-07 02-07 03-05	140	14 247 (31,410)	6.10 (20'0")	8.57 (28'1")	2.44 (7'11")	3.66 (12'0")	7.40 (24'3")	Hyd.	39.7 (24.7)	31.3 (19.5)
12H	AMZ(U.S.) CBK(BRAZ) 125(AUSTL)	02-07 02-07 03-05	145/185	14 200 (31,320)	6.09 (20'0")	8.57 (28'1")	2.44 (8'0")	3.66 (12'0")	7.40 (24'3")	Hyd.	44.0 (27.4)	34.7 (21.6)
12H STD	5ZM(U.S.) 4ER(BRAZ) XZJ(CHINA)	97-98 96-09 06-10	140	14 185 (31,273)	6.09 (20'0")	8.45 (27'9")	2.44 (8'0")	3.66 (12'0")	7.4 (24'3")	Hyd.	41.7 (25.9)	32.9 (20.5)

Motor Graders (cont'd)

Model	Product Ident. No. Prefix	Years Built	Horsepower, Rated	Approx. Ship Wt. kg (lb)	Wheel-base m (ft)	Length m (ft)	Width m (ft)	Mold-board Length m (ft)	Turning Radius m (ft)	Controls	Maximum Speed km/h (mph)	
											Forward	Rev.
140	14U(U.S.) 11R(U.S.) 55F(AUSTL) 24R(CAN)	71-74 70-74 71-75 71-74	150	13 109 (28,900)	5.84 (19'2")	7.95 (26'1")	2.44 (8'0")	3.66 (12'0")	10.97 (36'0")	Mech.	38.8 (24.1)	47.0 (29.2)
140B	61S(BRAZ)	81-87	150	13 620 (30,003)	6.14 (20'2")	8.07 (26'6")	2.39 (7'10")	3.96 (13'0")	11.60 (38'0")	Mech.	37.6 (23.4)	25.6 (15.9)
140G	72V(U.S.) 5MD(BRAZ) 13W(AUSTL) 81V(CAN)	73-95 87-95 75-95 74-80	150	14 102 (31,090)	5.92 (19'5")	8.33 (27'4")	2.45 (8'0")	3.66 (12'0")	7.30 (24'0")	Hyd.	41.0 (25.5)	41.0 (25.5)
140G AWD	72V(U.S.)	73-95	150	14 914 (32,880)	5.92 (19'5")	8.33 (27'4")	2.45 (8'0")	3.66 (12'0")	7.30 (24'0")	Hyd.	41.0 (25.5)	41.0 (25.5)
140H	22K(U.S.) 8KM(U.S.) 9TN(BRAZ) 3AS(BRAZ) 9ZN(AUSTL) APM(U.S.) CCA(BRAZ) 126(AUSTL)	95-02 02-07 02-07 03-05	165/185	14 724 (32,460)	6.10 (20'0")	8.60 (28'3")	2.46 (8'1")	3.66 (12'0")	7.40 (24'3")	Hyd.	41.1 (25.5)	32.4 (20.2)
140H	APM(U.S.) CCA(BRAZ) 126(AUSTL)	02-07 02-07 03-05	165/205	14 677 (32,357)	6.17 (20'3")	8.71 (28'7")	2.46 (8'1")	3.66 (12'0")	7.5 (24'7")	Hyd.	44.0 (27.4)	34.7 (21.6)
140H STD	8JM(U.S.) 5HM(BRAZ) XZH(CHINA)	96-99 96-09 05-10	165/185	14 661 (32,321)	6.09 (20'0")	8.60 (28'3")	2.46 (8'1")	3.66 (12'0")	7.4 (24'3")	Hyd.	41.1 (25.5)	32.4 (20.2)
143H	1AL(U.S.) APN(U.S.)	95-02 02-07	165/185	15 023 (33,120)	6.10 (20'0")	8.60 (28'3")	2.46 (8'1")	3.66 (12'0")	7.40 (24'3")	Hyd.	41.1 (25.5)	32.4 (20.2)
143H	APN(U.S.)	02-07	165/205	15 270 (33,670)	6.17 (20'3")	8.71 (28'7")	2.55 (8'5")	3.66 (12'0")	7.5 (24'7")	Hyd.	44.0 (27.4)	34.7 (21.6)
14B	78E(U.S.) 64C(U.S.)	59-59 59-69	150	13 300 (29,280)	5.84 (19'2")	8.03 (26'4")	2.44 (8'0")	3.66 (12'0")	10.97 (36'0")	Mech.	34.8 (21.6)	11.3 (7.0)
14C	35F(U.S.)	59-61	150	12 973 (28,600)	5.84 (19'2")	8.03 (26'4")	2.44 (8'0")	3.66 (12'0")	10.97 (36'0")	Mech.	34.8 (21.6)	11.3 (7.0)
14D	96F(U.S.)	61-65	150	13 700 (30,300)	6.15 (20'2")	8.33 (27'4")	2.44 (8'0")	3.96 (13'0")	11.58 (38'0")	Mech.	34.1 (21.2)	23.5 (14.6)
14E	99G(U.S.)	65-68	150	13 699 (30,200)	6.15 (20'2")	8.33 (27'4")	2.44 (8'0")	3.96 (13'0")	11.58 (38'0")	Hyd.	36.4 (22.6)	24.9 (15.5)
14E	12K(U.S.) 72G(U.S.)	67-73 69-73	150	14 300 (31,600)	6.10 (20'2")	8.30 (27'4")	2.44 (8'0")	3.96 (13'0")	11.60 (38'0")	Hyd.	39.1 (24.3)	47.3 (29.4)
14G	96U(U.S.)	73-95	200	20 688 (45,610)	6.45 (21'2")	9.21 (30'3")	2.83 (9'3")	4.27 (14'0")	7.90 (25'11")	Hyd.	43.0 (26.8)	50.1 (31.1)
14H	7WJ(U.S.) ASE(U.S.)	95-02 02-07	215	18 784 (41,410)	6.45 (21'2")	9.21 (30'2")	2.70 (8'10")	4.27 (14'0")	7.90 (25'11")	Hyd.	42.7 (26.5)	47.3 (29.4)
14H	ASE(U.S.)	02-07	220/240	18 809 (41,465)	6.56 (21'6")	9.34 (30'8")	2.82 (9'3")	4.27 (14'0")	8.0 (26'4")	Hyd.	46.1 (28.7)	51.1 (31.8)

Motor Graders (cont'd)

Model	Product Ident. No. Prefix	Years Built	Horse-power, Rated	Approx. Ship Wt. kg (lb)	Wheel-base m (ft)	Length m (ft)	Width m (ft)	Mold-board Length m (ft)	Turning Radius m (ft)	Controls	Maximum Speed km/h (mph)	
											Forward	Rev.
160H	9EJ(U.S.) 6WM(U.S.) 3GM(BRAZ) 2HS(BRAZ) ASD(U.S.) CCP(BRAZ)	95-02 02-07 02-07	180/200	15 586 (34,360)	6.10 (20'0")	8.60 (28'3")	2.46 (8'1")	4.27 (14'0")	7.40 (24'3")	Hyd.	40.7 (25.3)	32.1 (20.0)
160H	ASD(U.S.) CCP(BRAZ)	02-07 03-07	180/220	15 676 (34,560)	6.17 (20'3")	8.71 (28'7")	2.48 (8'2")	4.27 (14'0")	7.5 (24'7")	Hyd.	43.6 (27.1)	34.4 (21.4)
160H	9JM(U.S.) STD 2FM(BRAZ) XZK(CHINA)	96-99 96-98 06-10	180/200	15 524 (34,225)	6.09 (20'0")	8.49 (27'10")	2.46 (8'1")	4.27 (14'0")	7.4 (24'3")	Hyd.	40.7 (25.3)	32.1 (20.0)
163H	5AK(U.S.) ARL(U.S.)	95-02 02-07	180/200	16 538 (36,460)	6.10 (20'0")	8.60 (28'3")	2.46 (8'1")	4.27 (14'0")	7.40 (24'3")	Hyd.	40.7 (25.3)	32.1 (20.0)
163H	ARL(U.S.)	02-07	180/220	16 280 (35,890)	6.17 (20'3")	8.71 (28'7")	2.55 (8'5")	4.27 (14'0")	7.5 (24'7")	Hyd.	43.6 (27.1)	34.4 (21.4)
16	49G(U.S.)	63-73	225	22 499 (49,600)	6.86 (22'6")	9.50 (31'2")	3.00 (9'10")	4.27 (14'0")	13.56 (44'6")	Hyd. Mech.	49.7 (30.9)	49.7 (30.9)
16G	93U(U.S.)	73-95	275	27 284 (60,150)	6.96 (22'10")	9.99 (32'8")	3.08 (10'1")	4.88 (16'0")	8.20 (27'0")	Hyd.	43.6 (27.1)	43.6 (27.1)
16H	6ZJ(U.S.) ATS(U.S.)	95-02 02-07	275	24 748 (54,560)	6.96 (22'10")	9.99 (32'9")	2.99 (9'10")	4.88 (16'0")	8.20 (27'0")	Hyd.	44.5 (27.7)	42.3 (26.3)
16H	ATS(U.S.)	02-07	265/285	24 740 (54,550)	6.96 (22'10")	9.99 (32'9")	3.08 (10'1")	4.88 (16'0")	8.2 (26'11")	Hyd.	48.1 (29.9)	45.7 (28.4)
24H	7KK(U.S.)	96-07	500	61 955 (136,611)	10.23 (33'7")	14.16 (46'6")	4.23 (13'10")	7.3 (24'0")	12.0 (39'11")	Hyd.	37.7 (23.4)	36.1 (22.4)



SKID STEER LOADERS

Model	Product Ident. No. Prefix	Years Built	Approx. Machine Weight kg (lb)	Net Power kW (hp)	Length to Coupler mm (in)	Width over Tires mm (in)**	Height to Top of Cab mm (in)	Engine Model	Top Travel Speed km/h (mph)	Rated Operating Capacity at 50% with counter-weight kg (lb)	
										Rated Operating Capacity at 50% kg (lb)	Rated Operating Capacity at 50% with counter-weight kg (lb)
216	4NZ	99-03	2490 (5490)	36 (48)	2519 (99)	1525 (60)	1950 (77)	3024C	11.5 (7.0)	635 (1400)	680 (1500)
216B	RLL	04-07	2589 (5709)	37 (49)	2519 (99)	1525 (60)	1950 (77)	3024C	12.7 (7.9)	635 (1400)	680 (1500)
226	5FZ	99-03	2560 (5645)	41 (54)	2519 (99)	1525 (60)	1950 (77)	3034	11.5 (7.0)	680 (1500)	726 (1600)
226B	MJH	04-07	2646 (5834)	42 (57)	2519 (99)	1525 (60)	1950 (77)	3024C T	12.7 (7.9)	680 (1500)	726 (1600)
228	6BZ	99-03	2650 (5843)	41 (54)	2519 (99)	1525 (60)	1950 (77)	3034	11.5 (7.0)	680 (1500)	726 (1600)
232	CAB	02-04	3005 (6627)	36 (48)	2776 (110)	1525 (60)	1953 (77)	3024C	11.1 (7.0)	793 (1750)	815 (1795)
232B	SCH	04-07	3021 (6661)	37 (49)	2760 (109)	1525 (60)	1953 (77)	3024C	11.1 (6.9)	793 (1750)	815 (1795)
236	4YZ	99-03	3134 (6810)	44 (59)	2800 (110)	1676 (66)	2092 (82)	3034	12.1 (7.5)	793 (1750)	839 (1850)
236B	HEN	04-07	3178 (7007)	52 (70)	2800 (110)	1676 (66)	2092 (82)	3044C DIT	12.2/18.6* (7.6/11.6*)	793 (1750)	815 (1850)
242	CMB	02-04	3060 (6748)	41 (54)	2776 (110)	1676 (66)	1986 (78)	3034	11.3 (7.0)	907 (2000)	930 (2045)
242B	BXM	04-07	3085 (6805)	42 (57)	2760 (109)	1676 (66)	1986 (78)	3024C T	12.0 (7.4)	907 (2000)	930 (2045)
246	5SZ	99-03	3214 (7087)	55 (74)	2800 (110)	1676 (66)	2092 (82)	3034 T	12.1 (7.5)	907 (2000)	952 (2100)
246B	PAT	04-07	3239 (7142)	58 (78)	2800 (110)	1676 (66)	2092 (82)	3044C T	12.5/19.1* (7.7/11.8*)	907 (2000)	952 (2100)
248	6LZ	99-03	3328 (7338)	55 (74)	2800 (110)	1676 (66)	2092 (82)	3034 T	12.1 (7.5)	907 (2000)	952 (2100)
248B	SCL	04-07	3320 (7321)	57 (76)	2800 (110)	1676 (66)	2092 (82)	3044C DIT	12.5/19.1* (7.7/11.8*)	907 (2000)	952 (2100)
252	FDG	01-03	3454 (7615)	44 (59)	2776 (110)	1829 (72)	1968 (78)	3034	12.1 (7.5)	1020 (2250)	1043 (2300)
252B	SCP	04-07	3552 (7832)	52 (70)	2902 (114)	1829 (72)	2063 (81)	3044C DIT	11.2/17.8* (6.9/11.0*)	1134 (2500)	1134 (2500)
262	CED	01-03	3472 (7655)	55 (74)	2902 (114)	1829 (72)	2098 (83)	3034 T	12.1 (7.5)	1134 (2500)	1156 (2550)
262B	PDT	04-07	3565 (7861)	58 (78)	2902 (114)	1829 (72)	2063 (81)	3044C DIT	11.6/17.8* (7.2/11.0*)	1225 (2700)	1247 (2750)
268B	LBA	04-07	3626 (7995)	57 (76)	2902 (114)	1829 (72)	2063 (81)	3044C DIT	11.6/17.8* (7.2/11.0*)	1225 (2700)	1247 (2750)

*With two-speed option.

**Models 216-236B with 254 mm (10") wide tires, 242-268B with 305 mm (12") wide tires.



MULTI TERRAIN LOADERS

Model	Product Ident. No. Prefix	Years Built	Approx. Machine Weight kg (lb)	Net Power kW (hp)	Length to Coupler mm (in)	Width over Tracks mm (in)*	Height to Top of Cab mm (in)	Engine Model	Top Travel Speed km/h (mph)	Rated Operating Capacity at 50% kg (lb)
247	CML	02-04	3023 (6665)	41 (54)	2518 (99)	1676 (66)	1990 (78)	3034	12.1 (7.5)	877 (1933)
247B	MTL	04-07	3024 (6668)	42 (57)	2518 (99)	1676 (66)	1990 (78)	3024C T	12.2 (7.6)	885 (1950)
257	CMM	02-04	3460 (7628)	44 (59)	2701 (106)	1676 (66)	2022 (80)	3034 T	12.1 (7.5)	1046 (2306)
257B	SLK	04-07	3428 (7559)	42 (57)	2701 (106)	1676 (66)	2022 (80)	3024C T	11.4 (7.1)	1047 (2310)
267	CMP	01-04	4134 (9088)	44 (59)	2923 (115)	1898 (75)	2074 (82)	3034	9.7 (6.0)	1315 (2900)
267B	CYC	04-07	4250 (9371)	52 (70)	2923 (115)	1898 (75)	2074 (82)	3044C DIT	11.2 (7.0)	1315 (2900)
277	CNC	01-04	4148 (9126)	55 (74)	2923 (115)	1898 (75)	2074 (82)	3034 T	9.7 (6.0)	1338 (2950)
277B	MDH	04-07	4269 (9411)	58 (78)	2923 (115)	1898 (75)	2074 (82)	3044C DIT	11.2 (7.0)	1338 (2950)
287	CNY	03-04	4471 (9870)	55 (74)	2900 (114)	1962 (77)	2122 (84)	3034 T	11.0 (7.0)	1587 (3500)
287B	ZSA	04-07	4660 (10,275)	58 (78)	2900 (114)	1962 (77)	2122 (84)	3044C DIT	11.2 (7.0)	1632 (3600)

*With 457 mm (18") wide track.



HYDRAULIC EXCAVATORS (Track)

Model	Product Ident. No. Prefix COSA (US)	Years Built	Flywheel Horsepower	Approx. Operating Weight kg (lb)	Track Gauge m (ft)	Height* m (ft)	Length* m (ft)	Width m (ft)	Max. Reach** m (ft)	Lift Capacity*** kg (lb)
205 LC	(3HC) (4DC)	84-89	Deutz-67 Perkins-71	13 135 (28,957)	1.895 (6'2.5")	3.00 (9'10")	7.30 (23'11")	2.40 (7'10")	8.17 (26'10")	3290 (7300)
205B	5ZF	90-92	80	12 900 (28,443)	1.895 (6'2.5")	2.976 (9'9")	7.67 (25'2")	2.495 (8'2")	8.9 (29'2")	3740 (8250)
211 LC	(4EC) (5CC)	84-89	Deutz-84 Perkins-94	15 540 (34,260)	2.08 (6'9.9")	3.02 (9'11")	8.01 (26'3")	2.49 (8'2")	9.88 (32'5")	4240 (9340)
213 LC	3ZC	83-87	102	17 300 (38,140)	2.08 (6'10")	3.08 (10'1")	8.34 (27'4")	2.49 (8'2")	10.30 (33'9.5")	5127 (11,305)
215	(96L) (57Z) (14Z)	76-80 79-84	85 90	17 450 (38,480)	1.92 (6'4")	3.10 (10'1")	8.94 (29'4")	2.47 (8'0")	9.25 (30'4")	5090 (11,200)
215 SA	(57Y) (14Z)	82-84	90	19 440 (42,860)	2.18 (7'2")	3.22 (10'6")	8.94 (29'4")	2.73 (8'11")	9.23 (30'3")	5130 (11,300)
215B LC	(9YB)	84-87	105	18 510 (40,806)	1.92 (6'4")	3.10 (10'2")	8.94 (29'4")	2.44 (8'0")	9.25 (30'4")	5760 (12,700)
215C LC	(4HG)	87-89	115	19 570 (43,150)	1.92 (6'4")	3.1 (10'2")	8.94 (29'4")	2.42 (7'11")	9.29 (30'6")	7070 (15,200)
215D LC	(9TF)	89-92	125	19 900 (43,900)	1.92 (6'4")	3.2 (10'6")	9.0 (24'6")	2.44 (8'0")	9.23 (30'3")	6830 (14,700)
219	(5CF)	87-89	130	21 120 (46,550)	2.18 (7'2")	3.12 (10'3")	8.94 (29'4")	2.73 (8'11")	10.39 (34'1")	7080 (15,300)
219D	(5XG)	89-92	140	21 600 (47,500)	2.18 (7'2")	3.12 (10'3")	9.41 (30'10")	2.73 (8'11")	9.75 (32'0")	7670 (16,500)
219 LC	(5CF)	87-89	130	22 020 (48,550)	2.18 (7'2")	3.12 (10'3")	8.94 (29'4")	2.73 (8'11")	10.39 (34'1")	7080 (15,300)
219D LC	(5XG)	89-92	140	22 400 (49,300)	2.18 (7'2")	3.12 (10'3")	9.41 (30'10")	2.73 (8'11")	9.75 (32'0")	7670 (16,500)
225 LC	(51U)	72-86	135	23 900 (52,700)	2.64 (8'8")	3.17 (10'5")	9.83 (32'3")	2.99 (9'10")	9.58 (31'5")	7300 (15,600)
225 SA	(51U)	77-86	135	27 125 (59,800)	2.64 (8'8")	3.17 (10'5")	9.83 (32'3")	3.35 (11'0")	9.55 (31'4")	7340 (15,700)
225B	(2ZD) (3YD)	86-89 87-89	145	24 960 (55,030)	2.44 (8'0")	3.17 (10'5")	9.83 (32'3")	2.99 (9'10")	10.16 (33'4")	11 040 (26,100)
225D	(6RG)	89-91	150	25 400 (55,900)	2.44 (8'0")	3.23 (10'7")	9.94 (32'7")	2.99 (9'10")	10.13 (33'3")	—
225B LC	(2ZD) (3YD)	86-89 87-89	145	26 140 (58,230)	2.44 (8'0")	3.17 (10'5")	9.83 (32'3")	2.99 (9'10")	10.16 (33'4")	11 040 (26,100)
225D LC	(2SJ)	89-91	165	26 700 (58,900)	2.44 (8'0")	3.23 (10'7")	9.94 (32'7")	2.99 (9'10")	10.13 (33'3")	12 450 (26,900)

*When shipped with medium stick and bucket curled under.

**Maximum reach at ground level, one-piece boom, longest stick.

***Lift capacity at 4.6 m (15'0") over front, one-piece boom, longest stick.

Hydraulic Excavators (Track) (cont'd)

Model	Product Ident. No. Prefix COSA (US)	Years Built	Flywheel Horsepower	Approx. Operating Weight kg (lb)	Track Gauge m (ft)	Height* m (ft)	Length* m (ft)	Width m (ft)	Max. Reach** m (ft)	Lift Capacity*** kg (lb)
229	(1GF) (1AF)	86-89	145	29 140 (64,830)	2.64 (8'8")	3.38 (11'1")	9.83 (32'3")	3.45 (11'4")	10.11 (33'2")	—
229 LC	(1GF)	86-89	180	33 540 (73,940)	2.64 (8'8")	3.38 (11'1")	11.02 (36'2")	3.45 (11'4")	11.35 (37'3")	7940 (17,100)
Custom 180										8300
229D	(2LJ)	89-91	157	31 700 (69,900)	2.64 (8'8")	3.52 (11'7")	10.9 (35'9")	3.25 (10'8")	10.76 (35'4")	18300 (40,300)
231D		90-92	200	34 300 (75,600)	2.64 (8'8")	3.45 (11'4")	10.83 (35'6")	3.45 (11'4")	11.20 (36'9")	15 300 (33,000)
231D LC		90-92	200	35 500 (78,100)	2.64 (8'8")	3.45 (11'4")	10.83 (35'6")	3.45 (11'4")	11.20 (36'9")	15 300 (33,000)
235	(32K) (64R)	73-86	195	39 320 (86,700)	2.69 (8'10")	3.40 (11'2")	11.27 (37'0")	3.45 (11'4")	11.23 (36'10")	7050 (17,300)
235B	(7WC) (9PC)	86-88	215	40 960 (89,700)	2.69 (8'10")	3.40 (11'2")	11.27 (37'0")	3.45 (11'4")	11.23 (36'10")	9934 (21,900)
235C	(4DG) (5AF) (2PG) (3WG)	88-92	250	42 140 (92,800)	2.69 (8'10")	3.50 (11'4")	11.50 (37'7")	3.45 (11'4")	12.00 (39'5")	14 720 (35,000)
235D	(8KJ) (8TJ)	92-93	250	46 270 (103,780)	2.69 (8'10")	3.50 (11'5")	11.50 (37'7")	3.45 (11'4")	12.00 (39'5")	14 840 (35,200)
235D LC	(8KJ) (8TJ)	92-93	250	49 270 (108,620)	3.30 (10'10")	3.60 (11'9")	11.60 (38'1")	3.79 (12'5")	11.97 (39'3")	15 070 (35,700)
245	(82X) (84X)	74-88	325	65 745 (144,941)	3.24 (10'7")	4.62 (15'2")	13.18 (43'3")	3.71 (12'2")	14.02 (46'0")	14 930 (32,920)
245B	6MF 1SJ	88-92	360	65 200 (143,500)	3.24 (10'7")	4.78 (15'8")	13.13 (43'1")	3.61 (11'10")	14.02 (46'0")	—
245D	(4LK) (7ZJ)	92-93	385	68 420 (150,520)	3.24 (10'7")	5.46 (17'11")	12.82 (42'0")	3.61 (11'10")	13.84 (45'9")	14 640† (31,600)
E70	3BG 3CG	87-89	52	6500 (14,300)	1.65 (5'5")	2.59 (8'6")	6.02 (19'9")	2.25 (7'5")	6.67 (21'10")	1300 (2750)
E70B	7YF(JPN) 5TG(OSJ) 6AK(OSJ)	89-94	54	6760 (14,900)	1.75 (5'9")	2.56 (8'5")	6.09 (20'0")	2.32 (7'7")	6.72 (22'1")	1315 (2900)
E110	3FG 3GG	87-89	74	10 700 (23,600)	1.9 (6'3")	2.73 (8'11")	7.345 (24'0")	2.5 (8'2")	7.93 (26'0")	2700 (5750)
E110B	9HF(OSJ) 8MF(JPN) 5GK(OSJ)	90-92	79	11 600 (25,600)	1.99 (6'6")	2.70 (8'10")	7.25 (23'9")	2.495 (8'2")	8.10 (26'7")	3350 (7200)
E120	1LF(OSJ) 1MF(JPN)	87-89	84	12 200 (26,800)	1.99 (6'6")	2.775 (9'1")	7.66 (25'1")	2.490 (8'2")	8.58 (28'2")	3850 (8300)
E120B	7NF(OSJ) 6JF(JPN) 4XK(OSJ)	90-92	84	12 680 (28,200)	1.99 (6'6")	2.70 (8'10")	7.62 (25'10")	2.495 (8'2")	8.74 (28'8")	4310 (9250)
E140	1PF(JPN) 1NF(OSJ)	87-94	89	13 970 (30,800)	1.99 (6'6")	2.89 (9'6")	8.29 (27'6")	2.55 (8'4")	5.49 (18'0")	4380 (9650)

*When shipped with medium stick and bucket curled under.

**Maximum reach at ground level, one-piece boom, longest stick.

***Lift capacity at 4.6 m (15'0") over front, one-piece boom, longest stick.

†Lift capacity at 7.5 m (25'0") over front, one-piece boom, longest stick.

Hydraulic Excavators (Track) (cont'd)

Model	Product Ident. No. Prefix COSA (US)	Years Built	Flywheel Horsepower	Approx. Operating Weight kg (lb)	Track Gauge m (ft)	Height* m (ft)	Length* m (ft)	Width m (ft)	Max. Reach** m (ft)	Lift Capacity*** kg (lb)
E200B	6KF(OSJ) 4SG(JPN)	87-91 87-91	118	18 800 (41,400)	2.20 (7'3")	2.97 (9'9")	9.48 (31'11")	2.83 (9'4")	10.63 (34'10")	8100 (17,350)
EL200B	7DF(OSJ) 5EG(JPN)	87-91 87-91	118	20 100 (44,300)	2.38 (7'10")	2.97 (9'9")	9.48 (31'11")	3.18 (10'5")	10.63 (34'10")	8150 (17,600)
E240	1FG(OSJ) 2HF(JPN)	87-89 87-89	148	23 000 (50,700)	2.39 (7'10")	3.02 (9'11")	9.73 (31'11")	3.19 (10'6")	10.6 (34'9")	9800 (21,600)
E240B	8SF(OSJ) 9PF(JPN)	89-92	148	23 000 (50,700)	2.39 (7'10")	3.02 (9'11")	9.73 (31'11")	3.19 (10'6")	10.6 (34'9")	9800 (21,600)
E240C	2RL(OSJ) 8MK(JPN)	92-93	148	23 000 (50,700)	2.39 (7'10")	3.02 (9'11")	9.73 (31'11")	3.19 (10'6")	10.6 (34'9")	9800 (21,600)
EL240	4JF(OSJ) 4MF(JPN)	87-89 87-89	148	23 600 (52,000)	2.58 (8'6")	3.02 (9'11")	9.73 (31'11")	3.38 (11'1")	10.6 (34'9")	11 300 (24,300)
EL240B	5WG(OSJ) 6MG(JPN)	89-92	148	23 600 (52,000)	2.58 (8'6")	3.02 (9'11")	9.73 (31'11")	3.38 (11'1")	10.6 (34'9")	10 320 (22,750)
EL240C	9PK(OSJ) 9NK(JPN)	92-93	148	23 600 (52,000)	2.58 (8'6")	3.02 (9'11")	9.73 (31'11")	3.38 (11'1")	10.6 (34'9")	10 320 (22,750)
E300	2CF(OSJ) 1KG(JPN)	87-89 87-89	187	30 500 (67,300)	2.6 (8'6")	3.22 (10'7")	10.94 (35'11")	3.4 (11'2")	11.84 (38'9")	12 550 (27,650)
E300B	1WJ(OSJ) 2HJ(JPN)	90-91 90-91	206	30 200 (66,580)	2.6 (8'6")	3.22 (10'7")	10.94 (35'11")	3.4 (11'2")	11.84 (38'9")	12 450 (26,850)
EL300	4NF(OSJ) 4SF(JPN)	87-89 87-89	187	31 600 (69,700)	2.6 (8'6")	3.22 (10'7")	10.94 (35'11")	3.4 (11'2")	11.84 (38'9")	12 550 (27,650)
EL300B	3FJ(OSJ) 1GK(JPN)	90-91 90-91	206	31 200 (68,780)	2.6 (8'6")	3.22 (10'7")	10.94 (35'11")	3.4 (11'2")	11.84 (38'9")	12 450 (26,850)
E450	3HG(OSJ) 3JG(JPN)	87-93 87-93	276	46 000 (101,430)	2.89 (9'6")	3.49 (11'5")	11.96 (39'3")	3.15 (10'4")	13.08 (42'11")	10 900 (23,500)
E650	3KG(OSJ) 3LG(JPN)	87-92 87-92	375	62 600 (138,000)	3.25 (10'8")	4.84 (15'11")	14.0 (45'11")	3.49 (11'5")	13.33 (43'9")	15 850 (34,000)
301.5	3YW	98-05	17.4	1650 (3640)	0.75 (2'6")	2.19 (7'2")	3.69 (12'1")	0.98 (3'3")	3.8 (12'6")	380† (830)
301.6	BDH	00-05	17.4	1690 (3726)	0.75 (2'6")	2.19 (7'2")	3.69 (12'1")	0.98 (3'3")	3.8 (12'6")	370† (810)
301.8	BFA	00-05	17.4	1725 (3803)	0.75 (2'6")	2.19 (9'8")	3.69 (12'1")	0.98 (3'3")	3.8 (12'6")	370† (810)
302.5	4AZ	99-05	22.9	2730 (6020)	1.15 (3'9")	2.3 (7'7")	4.52 (14'10")	1.45 (4'9")	4.83 (15'10")	870† (1910)
303 CR	DMA	01-05	26.1	3210 (7077)	1.25 (4'1")	2.48 (8'2")	4.68 (15'4")	1.55 (5'1")	5.39 (17'8")	1200† (2646)
303.5	AFW DCH	99-02 01-02	25	7430 (7546)	1.25 (4'1")	2.44 (8'0")	5.07 (16'6")	1.55 (5'1")	5.54 (18'2")	1030† (2270)

*When shipped with medium stick and bucket curled under.

**Maximum reach at ground level, one-piece boom, longest stick.

***Lift capacity at 4.6 m (15'0") over front, one-piece boom, longest stick.

†Lift capacity at 7.5 m (25'0") over front, one-piece boom, longest stick.

Hydraulic Excavators (Track) (cont'd)

Model	Product Ident. No. Prefix COSA (US)	Years Built	Flywheel Horsepower	Approx. Operating Weight kg (lb)	Track Gauge m (ft)	Height* m (ft)	Length* m (ft)	Width m (ft)	Max. Reach** m (ft)	Lift Capacity*** kg (lb)
304 CR	NAD	02-05	35.5	4300 (9480)	1.58 (5'2")	2.6 (8'6")	5.18 (17'0")	1.98 (6'6")	5.95 (19'6")	2250† (5000)
304.5	ANK WAK	99-02 01-02	38	4475 (9866)	1.5 (4'11")	2.5 (8'4")	5.7 (18'8")	1.9 (6'6")	6.05 (19'10")	1600† (3630)
305 CR	DSA	01-03	42	4800 (10,582)	1.58 (5'2")	2.6 (8'6")	5.37 (17'7")	1.98 (6'6")	6.14 (20'2")	2550† (5622)
	DGT	03-05	42	4800 (10,582)	1.58 (5'2")	2.6 (8'6")	5.37 (17'7")	1.98 (6'6")	6.14 (20'2")	2550† (5622)
307	2WM	94-98	54	7600 (16,760)	1.75 (5'9")	2.61 (8'7")	6.3 (20'8")	2.4 (7'11")	6.38 (20'11")	2450 (5400)
	2PM(OSJ)	94-98	54	6740 (14,860)	1.75 (5'9")	2.63 (8'8")	6.08 (19'11")	2.28 (7'6")	6.72 (22'1")	1350 (3000)
	9ZL(JPN)	94-97	54	6650 (14,660)	1.75 (5'9")	2.63 (8'8")	6.08 (19'11")	2.28 (7'6")	6.72 (22'1")	1350 (3000)
307B	5CW(OSJ)	98-00	54	6960 (15,340)	1.75 (5'9")	2.63 (8'8")	6.08 (19'11")	2.28 (7'6")	6.72 (22'1")	1350 (3000)
	4RW(JPN)	97-00	54	6500 (14,330)	1.75 (5'9")	2.64 (8'8")	6.08 (19'11")	2.28 (7'6")	6.72 (22'1")	1350 (3000)
307B SB	AFB	99-00	40/54	7500 (16,530)	1.75 (5'9")	2.9 (9'6")	6.75 (22'2")	2.28 (7'6")	7.01 (23'0")	1410 (3100)
	6KZ(OSJ) 7DZ(JPN)	98-01	40/54	8040 (17,730)	1.75 (5'9")	2.64 (8'8")	6.73 (22'1")	2.28 (7'6")	7.42 (24'4")	1500 (3300)
307C	(BCM)	00-	54	7210 (15,900)	1.75 (5'9")	2.78 (9'1")	6.07 (19'11")	2.29 (7'6")	6.85 (22'6")	947 (2100)
	BAJ	00-	54	6450 (14,220)	1.75 (5'9")	2.63 (8'8")	6.07 (19'11")	2.29 (7'6")	6.34 (20'10")	1052 (2300)
307C SB	(BNE)	00-07	54	8390 (18,500)	1.75 (5'9")	2.63 (8'8")	6.79 (22'3")	2.29 (7'6")	7.55 (24'9")	822 (1800)
308B CR	3YS(JPN)	99-02	54	7650 (16,870)	1.85 (6'1")	2.61 (8'7")	5.77 (18'11")	2.3 (7'7")	6.9 (22'8")	1600 (3500)
308C CR	(KCX)	02-07	54	8040 (17,730)	1.87 (6'2")	2.61 (8'7")	5.83 (19'2")	2.47 (8'1")	6.9 (22'8")	947 (2100)
	CPE	01-	54	7390 (16,290)	1.87 (6'2")	2.61 (8'7")	5.83 (19'2")	2.32 (7'7")	6.39 (21'0")	1135 (2500)
311	9LJ(OSJ)	93-96	79	11 100 (24,470)	1.99 (6'6")	2.76 (9'1")	7.25 (23'9")	2.49 (8'2")	8.1 (26'7")	3100 (6800)
	5PK(JPN)	93-96	79	11 050 (24,360)	1.99 (6'6")	2.76 (9'1")	7.25 (23'9")	2.49 (8'2")	8.10 (26'7")	3100 (6800)

*When shipped with medium stick and bucket curled under.

**Maximum reach at ground level, one-piece boom, longest stick.

***Lift capacity at 4.6 m (15'0") over front, one-piece boom, longest stick.

†Lift capacity at 3 m (10'0") over front, blade down, one-piece boom, longest stick.

Hydraulic Excavators (Track) (cont'd)

Model	Product Ident. No. Prefix COSA (US)	Years Built	Flywheel Horsepower	Approx. Operating Weight kg (lb)	Track Gauge m (ft)	Height* m (ft)	Length* m (ft)	Width m (ft)	Max. Reach** m (ft)	Lift Capacity*** kg (lb)
311B	2LS(blade) (OSJ)	96-01	79	11 890 (26,210)	1.99 (6'6")	2.76 (9'1")	7.25 (23'9")	2.495 (8'2")	8.1 (26'7")	3080 (6800)
	2MS(blade) (JPN)	96-01	79	11 900 (26,230)	1.99 (6'6")	2.76 (9'1")	7.25 (23'9")	2.5 (8'2")	8.1 (26'7")	3100 (6800)
	8GR(OSJ)	96-01	79	11 130 (24,540)	1.99 (6'6")	2.76 (9'1")	7.25 (23'9")	2.495 (8'2")	8.1 (26'7")	3120 (6900)
	8HR(JPN)	96-01	79	11 200 (24,690)	1.99 (6'6")	2.76 (9'1")	7.25 (23'9")	2.49 (8'2")	8.1 (26'7")	3100 (6800)
311C U	(CKE)	01-07	79	11 980 (26,410)	1.99 (6'6")	2.77 (9'1")	6.92 (22'8")	2.49 (8'2")	8.225 (27'0")	1295 (2900)
	CLK	01-07	79	11 500 (25,350)	1.99 (6'6")	2.765 (9'1")	6.88 (22'7")	2.49 (8'2")	7.7 (25'3")	1453 (3200)
311D LRR	(DDW)CLA	08-	80	12 710 (28,021)	1.99 (6'6")	3.16 (10'4")	6.83 (22'5")	2.49 (8'2")	8.10 (26'7")	4000 (8550)
312	6BL	93-97	84	12 600	1.99	2.76	7.6	2.49	8.63	4200
	6GK(OSJ)	93-96		(27,780)	(6'6")	(9'1")	(24'11")	(8'2")	(28'4")	(9300)
	7DK(JPN)	93-96	84	12 000 (26,460)	1.99 (6'6")	2.76 (9'1")	7.6 (24'11")	2.49 (8'2")	8.63 (28'4")	4050 (8900)
312B	6SW	98-01	84	13 000 (28,660)	1.99 (6'6")	2.91 (9'7")	7.59 (24'11")	2.49 (8'2")	8.3 (27'3")	4590 (10,110)
	9GR(OSJ)	98-01	84	12 440 (27,430)	1.99 (6'6")	2.76 (9'1")	7.595 (24'11")	2.495 (8'2")	8.625 (28'4")	4170 (9200)
	9HR(JPN)	98-00	84	12 150 (26,790)	1.99 (6'6")	2.76 (9'1")	7.595 (24'11")	2.49 (8'2")	8.625 (28'4")	4050 (8900)
	9NW(blade)	98-01	66/88	13 785 (30,390)	1.99 (6'6")	2.91 (9'7")	7.59 (24'11")	2.49 (8'2")	8.3 (27'3")	4940 (10,900)
	2NS(blade) (OSJ)	98-01	66/88	13 200 (29,100)	1.99 (6'6")	2.76 (9'1")	7.595 (24'11")	2.495 (8'2")	8.625 (28'4")	4230 (9300)
	3ES(blade) (JPN)	98-00	84	12 900 (28,440)	1.99 (6'6")	2.76 (9'1")	7.595 (24'11")	2.49 (8'2")	8.625 (28'4")	4200 (9300)
	9FS	97-01	84	13 270 (29,260)	1.99 (6'6")	2.91 (9'7")	7.59 (24'11")	2.59 (8'6")	8.3 (27'3")	5000 (11,000)
312B L	8JR(OSJ)	98-01	66/88	12 940 (28,530)	1.99 (6'6")	2.76 (9'1")	7.595 (24'11")	2.59 (8'6")	8.625 (28'4")	4930 (10,900)
	2KW(blade)	97-01	84	14 055 (30,990)	1.99 (6'6")	2.91 (9'7")	7.59 (24'11")	2.59 (8'6")	8.3 (27'3")	5050 (11,100)
	3FS(blade) (OSJ)	98-01	66/88	13 720 (30,250)	1.99 (6'6")	2.76 (9'1")	7.595 (24'11")	2.59 (8'6")	8.625 (28'4")	4920 (10,800)

*When shipped with medium stick and bucket curled under.

**Maximum reach at ground level, one-piece boom, longest stick.

***Lift capacity at 4.6 m (15'0") over front, one-piece boom, longest stick.

Hydraulic Excavators (Track) (cont'd)

Model	Product Ident. No. Prefix COSA (US)	Years Built	Flywheel Horsepower	Approx. Operating Weight kg (lb)	Track Gauge m (ft)	Height* m (ft)	Length* m (ft)	Width m (ft)	Max. Reach** m (ft)	Lift Capacity*** kg (lb)
312C	BNN(FDS)	01-07	90	12 860 (28,350)	1.99 (6'6")	2.76 (9'1")	7.57 (24'10")	2.59 (8'6")	8.74 (28'8")	1402 (3100)
	CAE	00-	90	12 200 (26,900)	1.99 (6'6")	2.75 (9'0")	7.57 (24'10")	2.49 (8'2")	8.3 (27'3")	1448 (3200)
	BNN	01-	71/96	13 000 (28,665)	1.99 (6'6")	2.91 (9'6")	7.59 (24'11")	2.49 (8'2")	8.3 (27'3")	4350 (10,120)
312C L	CBT(CBA)	01-07	90	13 140 (28,970)	1.99 (6'6")	2.76 (9'1")	7.57 (24'10")	2.59 (8'6")	8.74 (28'8")	1439 (3200)
	CBT	01-	71/96	13 270 (29,260)	1.99 (6'6")	2.91 (9'6")	7.59 (24'11")	2.59 (8'6")	8.3 (27'3")	5040 (11,025)
312D	(HCW)	08-	90	13 150 (29,000)	1.99 (6'6")	2.83 (9'3")	7.61 (25'0")	2.59 (8'6")	8.62 (28'3")	4400 (9400)
312D L	(JBC)	08-	90	13 450 (29,650)	1.99 (6'6")	2.83 (9'3")	7.61 (25'0")	2.59 (8'6")	8.62 (28'3")	5100 (10,950)
313B CR	BAS(OSJ)	00-02	89	13 225 (29,160)	1.99 (6'6")	2.82 (9'3")	7.17 (23'6")	2.49 (8'2")	8.55 (28'1")	3900 (8600)
	AEX(JPN)	99-02	89	12 750 (28,110)	1.99 (6'6")	2.82 (9'3")	7.17 (23'6")	2.49 (8'2")	8.24 (27'0")	3900 (8600)
314C CR	(KJA)	02-02	90	14 610 (32,210)	1.99 (6'6")	2.81 (9'3")	7.28 (23'11")	2.59 (8'6")	8.765 (28'9")	1351 (3000)
	KHB	01-	90	13 500 (29,760)	1.99 (6'6")	2.81 (9'3")	7.28 (23'11")	2.49 (8'2")	8.32 (27'4")	1527 (3400)
314C LCR	(PCA)	02-02	90	14 810 (32,650)	1.99 (6'6")	2.73 (9'0")	7.41 (24'4")	2.59 (8'6")	8.765 (28'9")	1372 (3000)
314D CR	(PDP)	08-	90	14 200 (31,310)	1.99 (6'6")	2.91 (9'7")	7.28 (23'11")	2.49 (8'2")	8.63 (28'4")	4350 (9300)
314D LCR	(BYJ)	08-	90	14 400 (31,750)	1.99 (6'6")	2.91 (9'7")	7.41 (24'4")	2.49 (8'2")	8.63 (28'4")	5050 (10,800)
315	3ZM	95-98	99	15 920 (35,100)	1.99 (6'6")	2.88 (9'5")	8.5 (27'11")	2.49 (8'2")	8.21 (26'11")	5300 (11,700)
	4YM(OSJ)	94-97	99	16 330 (36,000)	1.99 (6'6")	2.88 (9'5")	8.5 (27'11")	2.49 (8'2")	9.14 (30'0")	5290 (11,700)
	6XM(JPN)	94-97	99	15 330 (33,800)	1.99 (6'6")	2.88 (9'5")	8.5 (27'11")	2.49 (8'2")	9.14 (30'0")	—
315 L	6YM(OSJ)	94-97	99	15 920 (35,100)	1.99 (6'6")	2.88 (9'5")	8.5 (27'11")	2.59 (8'6")	8.74 (28'8")	6320 (13,900)

*When shipped with medium stick and bucket curled under.

**Maximum reach at ground level, one-piece boom, longest stick.

***Lift capacity at 4.6 m (15'0") over front, one-piece boom, longest stick.

Hydraulic Excavators (Track) (cont'd)

Model	Product Ident. No. Prefix COSA (US)	Years Built	Flywheel Horsepower	Approx. Operating Weight kg (lb)	Track Gauge m (ft)	Height* m (ft)	Length* m (ft)	Width m (ft)	Max. Reach** m (ft)	Lift Capacity*** kg (lb)
315B	1SW(OSJ)	97-01	99	16 300 (35,940)	1.99 (6'6")	2.88 (9'5")	8.5 (27'11")	2.49 (8'2")	9.14 (30'0")	5500 (12,100)
	2DW(JPN)	97-01	99	15 850 (34,940)	1.99 (6'6")	2.88 (9'5")	8.5 (27'11")	2.49 (8'2")	9.14 (30'0")	—
315B L	5SW	98-	99	16 700 (36,820)	1.995 (6'7")	3.0 (9'10")	8.41 (27'7")	2.49 (8'2")	9.02 (29'7")	6720 (14,800)
	3AW(OSJ) 7RZ(forest) (OSJ)	97-01	80/107	16 700 (36,820)	1.99 (6'6")	2.88 (9'5")	8.47 (27'10")	2.59 (8'6")	9.14 (30'0")	6600 (14,600)
315C	(CFB)	01-02	110	16 400 (36,160)	1.99 (6'6")	2.99 (9'10")	8.52 (27'11")	2.59 (8'6")	9.29 (30'6")	1675 (3700)
	CFL	01-	110	16 000 (35,270)	1.99 (6'6")	2.95 (9'8")	8.52 (27'11")	2.49 (8'2")	8.9 (29'2")	1840 (4100)
	AKE	03-07	110	16 399 (36,160)	1.99 (6'6")	2.88 (9'5")	8.5 (27'11")	2.49 (8'2")	9.14 (30'0")	5650 (12,100)
315C L	(CFT)	01-02	110	16 750 (36,930)	1.99 (6'6")	2.99 (9'10")	8.52 (27'11")	2.59 (8'6")	9.29 (30'6")	1719 (3800)
	CJC	03-07	110	16 748 (36,930)	1.99 (6'6")	2.88 (9'5")	8.5 (27'11")	2.59 (8'6")	9.14 (30'0")	6750 (14,450)
	ANF	03	83/111	16 770 (36,970)	1.99 (6'6")	2.76 (9'0")	8.39 (27'6")	2.49 (8'2")	9.09 (29'9")	7110 (15,675)
315D L	(CJN)	07-	115	17 280 (38,100)	1.99 (6'6")	3.36 (11'0")	8.54 (28'0")	2.59 (8'6")	9.24 (30'3")	7150 (15,350)
317	4MM	95-98	99	17 260 (38,050)	2.15 (7'1")	2.88 (9'5")	8.5 (27'11")	2.75 (9'0")	8.62 (28'3")	4210 (9300)
317B L	9WW	98-	81/109	17 300 (38,146)	2.2 (7'3")	3.04 (9'10")	8.41 (27'6")	2.8 (9'2")	9.1 (29'8")	7100 (15,655)
317 N	9SR	96-98	99	17 220 (37,960)	1.99 (6'6")	2.88 (9'5")	8.5 (27'11")	2.75 (9'0")	8.62 (28'3")	6450 (14,200)
317B LN	6DZ	98-	81/110	17 300 (38,146)	1.995 (6'5")	3.04 (9'10")	8.41 (27'6")	2.49 (8'2")	9.1 (29'8")	7100 (15,655)
318B L	9WW	98-	86/115	17 700 (39,020)	2.2 (7'3")	3.02 (9'11")	8.67 (28'5")	2.8 (9'2")	8.94 (29'4")	8440 (18,600)
	3LR(OSJ)	99-02	86/115	18 390 (40,540)	2.2 (7'3")	3.05 (10'0")	8.72 (28'7")	2.8 (9'2")	9.77 (32'0")	7650 (16,900)
	ADC	99-	86/115	18 500 (40,792)	2.2 (7'3")	3.04 (9'10")	8.69 (28'6")	2.8 (9'2")	9.6 (31'6")	7600 (16,760)
	(3LR)	01-02	86/115	18 360 (40,480)	2.2 (7'3")	2.83 (9'3")	8.69 (28'6")	2.8 (9'2")	9.78 (32'1")	2200 (4900)

*When shipped with medium stick and bucket curled under.

**Maximum reach at ground level, one-piece boom, longest stick.

***Lift capacity at 4.6 m (15'0") over front, one-piece boom, longest stick.

Hydraulic Excavators (Track) (cont'd)

Model	Product Ident. No. Prefix COSA (US)	Years Built	Flywheel Horsepower	Approx. Operating Weight kg (lb)	Track Gauge m (ft)	Height* m (ft)	Length* m (ft)	Width m (ft)	Max. Reach** m (ft)	Lift Capacity*** kg (lb)
318B LN	6DZ	98-	86/115	17 160 (37,830)	1.995 (6'7")	3.02 (9'11")	8.67 (28'5")	2.495 (8'2")	8.94 (29'4")	7590 (16,700)
	7KZ(OSJ)	99-02	86/115	18 260 (40,260)	2.2 (7'3")	3.05 (10'0")	8.72 (28'7")	2.59 (8'6")	9.77 (32'1")	7600 (16,800)
	AEJ	99-	86/115	18 500 (40,792)	1.995 (6'7")	3.04 (9'10")	8.69 (28'6")	2.49 (8'2")	9.6 (31'6")	7580 (16,710)
	(7KZ)	01-02	86/115	17 990 (39,660)	1.995 (6'7")	3.05 (10'0")	8.72 (28'7")	2.49 (8'2")	9.78 (32'1")	2200 (4900)
318C	BTG	03	94/127	19 560 (43,120)	2.2 (7'2")	2.9 (9'9")	8.9 (29'2")	2.8 (9'2")	9.66 (31'8")	7850 (17,305)
318C L	DAH(MDY)	02-07	94/127	20 160 (44,445)	2.2 (7'2")	2.9 (9'9")	8.9 (29'2")	2.8 (9'2")	9.66 (31'8")	8950 (19,730)
318C N	FAA(GPA)	02-07	94/127	19 280 (42,505)	1.99 (6'6")	2.9 (9'9")	8.9 (29'2")	2.49 (8'2")	9.66 (31'8")	7730 (17,040)
319C LN	KGL	04	94/127	20 080 (44,269)	1.99 (6'6")	2.9 (9'9")	8.9 (29'2")	2.49 (9'2")	9.66 (31'8")	7730 (17,040)
320	7WK(OSJ) 2DL(OSJ) 8LG(OSJ) 7GJ(JPN) 3XM(JPN) 4ZJ(GOS)	91-96	128	19 120 (42,150)	2.2 (7'3")	2.93 (9'7")	9.37 (30'9")	2.8 (9'2")	10.63 (34'9")	6200 (17,700)
320 L	1TL(OSJ) 9KK(OSJ) 8HJ(JPN) 4JM(JPN) 3XK(GOS)	91-96	128	20 370 (44,910)	2.38 (7'10")	2.93 (9'7")	9.37 (30'9")	3.18 (10'5")	10.63 (34'9")	8150 (17,600)
320 N	1XM(OSJ) 9WG(GOS)	94-96	128	20 050 (44,150)	1.90 (6'6")	2.93 (9'7")	9.37 (30'9")	2.59 (8'6")	10.63 (34'9")	8150 (17,600)
320 S	6KM									
320B	3MR 5BR 1XS	96-00	128	19 400 (42,770)	2.2 (7'2.6")	3.01 (9'10.5")	9.46 (31'4")	2.8 (9'2.2")	10.77 (35'4")	8600 (19,000)
320B L	4MR 6CR 7JR	96-00	128	20 720 (45,680)	2.38 (7'9.7")	3.01 (9'10.5")	9.46 (31'4")	3.18 (10'5.2")	10.77 (35'4")	9200 (20,300)
320B N	4NR 2AS	96-00	128	19 930 (43,940)	2.2 (7'2.6")	3.01 (9'10.5")	9.46 (31'4")	2.5 (8'2.4")	10.77 (35'4")	9100 (20,100)
320B LN	3YZ	96-00	128							
321B CR	AKG(JPN)	98-01	128	19 400 (42,770)	2.2 (7'3")	3.1 (10'2")	8.6 (28'3")	2.98 (9'9")	9.68 (31'9")	8250 (18,200)
321B LCR	9CZ(JPN)	98-01	128	22 500 (49,600)	2.38 (7'10")	3.1 (10'2")	8.8 (28'11")	2.98 (9'9")	9.68 (31'9")	10 300 (22,700)
	KGA(OSJ)	02-02	128	23 100 (50,930)	2.38 (7'10")	3.1 (10'2")	8.8 (28'11")	2.98 (9'9")	9.68 (31'9")	10 300 (22,700)

*When shipped with medium stick and bucket curled under.

**Maximum reach at ground level, one-piece boom, longest stick.

***Lift capacity at 4.6 m (15'0") over front, one-piece boom, longest stick.

Hydraulic Excavators (Track) (cont'd)

Model	Product Ident. No. Prefix COSA (US)	Years Built	Flywheel Horsepower	Approx. Operating Weight kg (lb)	Track Gauge m (ft)	Height* m (ft)	Length* m (ft)	Width m (ft)	Max. Reach** m (ft)	Lift Capacity*** kg (lb)
322*	7WL(OSJ) 7WL(JPN)	93-96	153	22 650 (50,000)	2.39 (7'10")	3.12 (10'3")	9.95 (32'8")	2.99 (9'10")	10.47 (34'4")	10 400 (22,500)
322B	8MR 3NR	96-01 96-00	153	22 760 (50,180)	2.39 (7'10")	3.28 (10'9")	10.0 (32'10")	2.99 (9'10")	10.47 (34'4")	10 650 (23,500)
322 L*	8CL(OSJ) 8CL(JPN)	93-96	153	23 950 (52,800)	2.59 (8'6")	3.12 (10'3")	9.95 (32'8")	3.39 (11'1")	10.47 (34'4")	10 400 (22,500)
322B L	8NR 5CR	96-01 96-00	153	23 990 (52,890)	2.59 (8'6")	3.28 (10'9")	10.0 (32'10")	3.39 (11'1")	10.47 (34'4")	11 600 (25,600)
322C L	BGR BFK	01-02 02-06	165	24 200 (53,400)	2.59 (8'6")	3.12 (10'3")	9.96 (32'8")	3.39 (11'1")	10.47 (34'4")	11 500 (24,900)
325*	5WK(OSJ) 8NL(OSJ) 8JG(JPN)	91-95 91-95	168 168	25 520 (56,270) 25 520 (56,270)	2.39 (7'10") 2.39 (7'10")	3.24 (10'8") 3.24 (10'8")	10.27 (33'8") 10.27 (33'8")	2.99 (9'10") 2.99 (9'10")	11.50 (37'7") 11.50 (37'7")	11 100 (24,000) 11 000 (24,000)
325 L*	6KK(OSJ) 9KL(OSJ) 7CJ(JPN) 6KK(JPN)	91-95 91-95	168 168	27 010 (59,560) 27 010 (59,560)	2.59 (8'6") 2.59 (8'6")	3.24 (10'8") 3.24 (10'8")	10.27 (33'8") 10.27 (33'8")	3.39 (11'1") 3.39 (11'1")	11.50 (37'7") 11.50 (37'7")	11 650 (25,150) 11 650 (25,150)
325B L	6DN(GOS)	96-01	168	28 890 (63,690)	2.59 (8'6")	3.21 (10'6")	10.35 (33'11")	3.39 (11'1")	10.57 (34'8")	15 460 (34,080)
325B LN	8FN(GOS)	96-01	168	27 670 (61,000)	2.39 (7'10")	3.21 (10'6")	10.35 (33'11")	2.99 (9'10")	10.57 (34'8")	15 030 (33,140)
325C L	CBR CSJ	01-06	188	28 600 (63,100)	2.59 (8'6")	3.26 (10'8")	10.34 (33'11")	3.39 (11'1")	10.51 (34'6")	15 600 (33,750)
325D L	A3R	06-08	204	29 240 (64,460)	2.59 (8'6")	3.04 (10'0")	10.42 (34'2")	3.39 (11'1")	11.15 (36'7")	15 450 (33,400)
330*	9PJ(OSJ) 8RL(OSJ) 9NG(JPN)	92-95 92-95	222 222	32 130 (70,830) 32 130 (70,830)	2.59 (8'6") 2.59 (8'6")	3.29 (10'10") 3.29 (10'10")	11.01 (36'2") 11.01 (36'2")	3.19 (10'6") 3.19 (10'6")	12.37 (40'6") 12.37 (40'6")	15 550 (33,650) 15 550 (33,650)
330 L*	6SK(OSJ) 9ML(OSJ) 6WJ(JPN) 6SK(JPN)	92-95 92-95	222 222	33 510 (73,880) 33 510 (70,830)	2.59 (8'6") 2.59 (8'6")	3.29 (10'10") 3.29 (10'10")	11.01 (36'2") 11.01 (36'2")	3.34 (10'11") 3.34 (10'11")	12.37 (40'6") 12.37 (40'6")	14 600 (31,500) 14 600 (31,500)
330B L	3YR(GOS)	96-01	222	34 020 (75,000)	2.59 (8'6")	3.56 (11'8")	11.06 (36'3")	3.34 (10'11")	11.62 (38'1")	17 070 (37,630)
330B LN	5LR(GOS)	96-01	222	33 860 (74,650)	2.39 (7'10")	3.56 (11'8")	11.06 (36'3")	2.99 (9'10")	11.62 (38'1")	17 070 (37,630)
330C L	CAP CGZ	01-06	247	35 100 (77,400)	2.59 (8'6")	3.63 (11'11")	11.19 (36'9")	3.44 (11'3")	11.64 (38'2")	17 450 (37,750)
330D L	MWP	06-08	268	36 150 (79,700)	2.59 (8'6")	3.14 (10'4")	11.20 (36'9")	3.44 (11'3")	11.71 (38'5")	17 610 (38,100)

*When shipped with medium stick and bucket curled under.

**Maximum reach at ground level, one-piece boom, longest stick.

***Lift capacity at 4.6 m (15'0") over front, one-piece boom, longest stick (6.1 m (20'0") over front for 375/375 L).

Hydraulic Excavators (Track) (cont'd)

Model	Product Ident. No. Prefix COSA (US)	Years Built	Flywheel Horsepower	Approx. Operating Weight kg (lb)	Track Gauge m (ft)	Height* m (ft)	Length* m (ft)	Width m (ft)	Max. Reach** m (ft)	Lift Capacity*** kg (lb)
345B	4SS	97-00	290	44 050 (97,100)	2.74 (9'0")	3.76 (12'4")	11.79 (33'8")	3.49 (11'5")	13.0 (42'8")	20 850 (45,000)
345B L	7KS(GOS) 2SW(GOS)	98-00	290	47 665 (105,080)	2.39 (7'10")	3.68 (12'1")	11.74 (38'6")	2.99 (9'10")	12.97 (42'6")	21 000 (46,300)
345B L Series II	CCC(VG) FEE(FG) DET(MH)	01-05	321	48 960 (107,960)	2.39 (7'10")	3.87 (12'8")	11.46 (37'7")	2.99 (9'10")	11.69 (38'4")	19 250 (42,450)
345C L Tier 2	ELS(FG) GCL(VG)	05-08	325	50 500 (111,350)	2.39 (7'10")	3.74 (12'3")	11.84 (38'10")	2.99 (9'10")	11.70 (38'5")	20 100 (44,320)
345C L Tier 3	LYS(FG) GPH(VG) FPC(VG)	05-08	325	50 500 (111,350)	2.39 (7'10")	3.74 (12'3")	11.84 (38'10")	2.99 (9'10")	11.70 (38'5")	20 100 (44,320)
350	7RK	93-99	286	48 040 (105,910)	2.55 (8'4.4")	3.75 (12'3.6")	12.2 (40'3")	3.2 (10'6")	13.45 (44'1.5")	17 750 (39,100)
	2ZL	93-99	286	50 094 (110,210)	2.55 (8'4.4")	3.75 (12'4")	12.2 (40'0")	3.3 (10'10")	13.49 (44'3")	17 750 (39,100)
350 L	9DK	93-99	286	49 010 (108,050)	2.55 (8'4.4")	3.75 (12'3.6")	12.2 (40'3")	3.3 (10'9.9")	13.45 (44'1.5")	17 750 (39,100)
	3ML	93-99	286	51 126 (112,450)	2.55 (8'4.4")	3.75 (12'4")	12.2 (40'0")	3.3 (10'10")	13.49 (44'3")	17 600 (40,900)
365B L	9PZ(GOS)	99-02	385	66 245 (146,050)	2.75 (9'0")	4.57 (15'0")	12.17 (39'11")	3.50 (11'6")	14.04 (46'1")	29 200 (64,370)
365B L Series II	JMB(EAME) DER(NACD) PEG(FS) SDL(MH)	02-04	404	70 250 (154,900)	2.75 (9'0")	4.7 (15'5")	12.54 (41'2")	3.42 (11'3")	14.09 (16'3")	13 040 (28,750)
375	8WJ	92-01	428	81 190 (178,800)	2.75 (9'0")	5.24 (17'2")	14.3 (46'11")	3.5 (11'6")	15.96 (52'4")	30 300 (65,600)
	6NK(GOS)	92-02	428	79 807 (175,940)	2.75 (9'0")	5.24 (17'2")	13.14 (43'1")	3.48 (11'5")	15.67 (51'5")	23 620 (52,070)
375 L	1JM	93-01	428	82 380 (181,500)	2.94 (9'7")	5.24 (17'2")	14.3 (46'11")	3.84 (12'7")	15.96 (52'4")	29 550 (64,400)
	9WL(GOS)	92-02	428	80 700 (177,910)	2.75 (9'0")	5.24 (17'2")	14.29 (46'11")	3.48 (11'5")	15.67 (51'5")	23 620 (52,070)
385B L	FDL(EAME) RCD(NACD) CLS(EAME) MYA(NACD)	01-04	513	89 130 (196,530)	2.75 (9'0")	5.16 (16'11")	14.6 (47'11")	3.73 (12'3")	15.61 (51'2")	13 810 (30,450)
5090B	CLD EAME SJY NACD	01-04	512	87 500 (192,937)	3.5 (11.51)	4.63 (15.19)	14.26 (46.77)	3.47 (11.38)	10.35 (33.95)	— —

*When shipped with medium stick and bucket curled under.

**Maximum reach at ground level, one-piece boom, longest stick.

***Lift capacity at 4.6 m (15'0") over front, one-piece boom, longest stick (6.1 m (20'0") over front for 375/375 L).



HYDRAULIC EXCAVATORS (Wheel)

Model	Product Ident. No. Prefix (USA)	Years Built	Flywheel Horsepower	Approx. Operating Weight kg (lb)	Height* m (ft)	Length* m (ft)	Width m (ft)	Max. Reach** m (ft)	Lift Capacity*** kg (lb)	Standard Tire Size
206	(2RC) (3GC)	84-89	Deutz-67 Perkins-71	12 185 (26,863)	3.11 (10'2")	7.38 (24'2.5")	2.40 (7'10")	8.14 (26'9")	3360 (7400)	Dual 9.00-20 12PR
212	(3JC) (5DC)	84-89	Deutz-84 Perkins-94	13 700 (30,423)	3.15 (10'4")	8.00 (26'3")	2.49 (8'2")	9.86 (32'4")	3850 (8490)	Dual 10.00-20 12PR
212B	(3PJ)	90-95	110	14 000 (30,870)	3.04 (10'0")	8.28 (27'2")	2.49 (8'2")	9.48 (31'1")	3900 (8600)	Dual 10.00-20 12PR
214	(9MB) (1KB)	84-89	Deutz-101 Perkins-102	15 600 (34,175)	3.06 (10'0")	8.28 (27'2")	2.49 (8'2")			Dual 10.00-20 12PR
214B	4CF	87-94	110	18 700 (41,230)	3.06 (10'0")	8.28 (27'2")	2.49 (8'2")	10.41 (34'2")	4200 (9260)	Dual 10.00-20 12PR
214B FT	9NF	87-94	135	18 700 (41,230)	3.06 (10'0")	8.28 (27'2")	2.49 (8'2")	10.41 (34'2")	4200 (9260)	Dual 10.00-20 12PR
224	(2JC) (5TC)	84-89	Deutz-143 Perkins-124	19 000 (41,890)	3.42 (11'3")	8.98 (29'6")	2.49 (8'2")	10.61 (34'10")	4800 (10,600)	Dual 10.00-20 12PR

*When shipped with medium stick and bucket curled under.

**Maximum reach at ground level, one-piece boom, longest stick.

***Lift capacity at 4.6 m (15'0") over front, one-piece boom, longest stick.

Model	Product Ident. No. Prefix (USA)	Years Built	Flywheel Horsepower	Approx. Operating Weight kg (lb)	Height* m (ft)	Length* m (ft)	Width m (ft)	Max. Reach** m (ft)	Lift Capacity*** kg (lb)	Standard Tire Size
M312	6TL	96-02	114	13 425 (29,602)	3.07 (10'1")	8.62 (28'3")	2.5 (8'2")	8.9 (29'2")	4300 (9482)	10-20.00 14PR
M315	7ML	95-02	117	15 570 (34,332)	3.08 (10'1")	8.84 (29'0")	2.5 (8'2")	9.26 (30'5")	5100 (11,246)	10-20.00 14PR
M318	8AL	95-02	131	17 870 (39,403)	3.1 (10'2")	8.97 (29'5")	2.6 (8'6")	10.55 (34'7")	6400 (14,112)	10-20.00 14PR
M318 MH	6ES	98-02	133	20 300 (44,762)	3.37 (11'1")	8.89 (29'2")	2.69 (8'10")	10.5 (34'5")	4600 (10,143)	11-20.00
	8SS	98-02	133	20 300 (44,762)	3.37 (11'1")	8.89 (29'2")	2.69 (8'10")	10.5 (34'5")	4600 (10,143)	11-20.00
M320	6WL	97-02	131	20 200 (44,541)	3.21 (10'6")	9.55 (31'4")	2.75 (9'0")	11.18 (36'8")	7500 (16,538)	11-20.00 14PR
M320 MH	9PS	98-02	133	22 300 (49,172)	3.35 (11'0")	9.92 (32'7")	2.69 (8'10")	11.6 (38'1")	6600 (14,553)	11-20.00

*When shipped with medium stick and bucket curled under, one-piece boom.

**Maximum reach at ground level, one-piece boom, longest stick.

***Lift capacity at 4.6 m (15'0") over front, rear dozer up, one-piece boom, longest stick.

Hydraulic Excavators (Wheel) (cont'd)

Model	Product Ident. No. Prefix (USA)	Years Built	Flywheel Horsepower	Approx. Operating Weight kg (lb)	Height* m (ft)	Length* m (ft)	Width m (ft)	Max. Reach** m (ft)	Lift Capacity*** kg (lb)	Standard Tire Size
M313C	H2A BDR	05-06 02-05	118	13 100-14 750 (28,886-35,524)	3.12 (10'2")	8.08 (26'6")	2.55 (8'4")	8.77 (28'9")	4800 (10,584)	10.00-20 16PR
M315C	H2B BDM	05-06 02-05	129	15 000-16 650 (33,075-36,713)	3.15 (10'4")	8.33 (27'4")	2.55 (8'4")	9.17 (30'1")	5600 (12,348)	10.00-20 16PR
M316C	H2C BDX	05-06 02-05	138	16 300-18 200 (35,942-40,131)	3.17 (10'5")	8.40 (27'7")	2.55 (8'4")	9.17 (30'1")	6500 (14,330)	10.00-20 16PR
M318C	H2D BCZ	05-06 02-05	151	17 800-19 700 (39,249-43,439)	3.21 (10'6")	8.96 (29'5")	2.55 (8'4")	9.60 (31'6")	6600 (14,550)	10.00-20 16PR
M322C	H2E BDK	05-06 02-05	164	20 500-22 700 (45,203-50,054)	3.25 (10'8")	9.64 (31'7")	2.75 (9'0")	10.32 (33'10")	7300 (16,093)	11.00-20 16PR
M318C MH	H2F BEB	05-06 02-05	151	21 460 (47,319)	3.48 (11'5")	9.06 (29'9")	2.99 (9'10")	11.00 (36'1")	6800 (14,991)	10.00-20 16PR
M322C MH	H2G BDY	05-06 02-05	164	24 690 (54,441)	3.49 (11'5")	9.88 (32'5")	2.99 (9'10")	12.50 (36'11")	8700 (19,180)	11.00-20 16PR

*When shipped with medium stick and bucket curled under, one-piece boom.
**Maximum reach at ground level, one-piece boom, longest stick.
***Lift capacity at 4.6 m (15'0") over front, rear dozer up, one-piece boom, longest stick.



5000 SERIES EXCAVATORS AND FRONT SHOVELS

Model	Product Ident. No. Prefix COSA (US)	Years Built	Flywheel Horsepower	Approx. Operating Weight kg (lb)	Track Gauge m (ft)	Height* m (ft)	Length* m (ft)	Width m (ft)	Max. Reach** m (ft)	Lift Capacity*** kg (lb)
5080	6XK(GOS)	94-02	428	83 800 (184,750)	2.75 (9'0")	4.73 (15'6")	13.76 (45'2")	3.48 (11'5")	9.76 (32'0")	—
5090B	CLD(EAME) SJY(NACD)	01-04	512	87 500 (192,940)	3.51 (11'6")	4.63 (15'2")	14.26 (46'9")	3.47 (11'5")	10.35 (33'11")	—

*When shipped with medium stick and bucket curled under.

**Maximum reach at ground level, one-piece boom, longest stick.

***Lift capacity at 4.6 m (15'0") over front, one-piece boom, longest stick.

Model	Product Ident. No. Prefix (USA)	Years Built	Flywheel Horsepower	Approx. Operating Weight kg (lb)	Rated* Capacity m ³ (yd ³)	Breakout Force kN (lb)	Crowd Force kN (lb)	Track Gauge m (ft)	Max. Reach* m (ft)	Max. Load Height m (ft)	Max. Digging Depth m (ft)
5110B ME	AAA	00-03	696	127 000 (280,000)	7.6 (9.9)	501 (112,600)	439 (98,800)	4.1 (13.4')	13.9 (45.7')	8.6 (28.0')	7.9 (25.9')
5110B L	AAK	02-03	696	129 000 (284,000)	4.6 (6.0)	463 (104,175)	377 (84,825)	4.1 (13.4')	16.39 (53.8')	10.06 (33.0')	10.51 (34.5')
5130 ME	5ZL	92-97	755	180 000 (397,000)	10.0 (13.0)	615 (138,400)	624 (140,300)	4.72 (15'6")	14.9 (48'11")	9.1 (29'10")	8.4 (27'7")
5130 FS	5ZL	92-97	755	179 000 (395,000)	10.5 (13.7)	715 (161,000)	770 (173,000)	4.72 (15'6")	12.4 (40'8")	9.1 (29'10")	—
5130B ME	4CS	97-03	800	182 000 (401,000)	10.5 (13.7)	672 (151,100)	624 (140,300)	4.72 (15.5')	14.9 (48.9')	9.1 (29.8')	8.4 (27.6')
5130B FS	4CS	97-03	800	181 000 (399,000)	11.0 (14.5)	715 (161,000)	770 (173,000)	4.72 (15.5')	12.4 (40.7')	9.1 (29.8')	—
5230 ME	7LL	94-00	1470	316 600 (698,000)	16.0 (21.0)	873 (196,260)	874 (196,480)	5.2 (17'0")	17.7 (58'0")	9.8 (32'2")	9.4 (30'10")
5230 FS	7LL	94-00	1470	318 422 (702,000)	17.0 (22.2)	1125 (253,000)	1250 (281,000)	5.2 (17'0")	14.8 (48'7")	10.3 (33'10")	—
5230B ME	4HZ	01-04	1550	328 100 (723,400)	16.0 (21.0)	855 (192,083)	885 (198,848)	5.196 (17.0')	17.8 (58.4')	9.8 (32.0')	9.5 (31.3')
5230B FS	4HZ	01-04	1550	327 000 (721,000)	17.0 (22.2)	1162 (261,145)	1145 (257,324)	5.196 (17.0')	14.9 (48.8')	10.4 (34.1')	—

*Standard boom and stick.



LOGGING AND FOREST PRODUCT MACHINES

Model	Product Ident. No. Prefix	Years Built	Flywheel Power kW (hp)	Overall Track Length m (ft)	Overall Length m (ft)	Overall Width m (ft)	Operating Weight kg (lb)
320B Stroke Delimber			96 (128)		11.96 (39'3")	3.66 (12'0")	30 390 (67,000)
FB221	8XD	1986	147 (197)	4.47 (14'8")	9.78 (32'1")	3.20 (10'6")	28 180 (62,000)
FB227	10W	1983-93	100/134 (135/180)	4.55 (14'11")	11.88 (39'0")	3.35 (11'0")	31 769 (69,892)
DL221	8YD	1987	98 (132)	4.47 (14'8")	—	—	22 816 (50,300)
LL216	8JD	1986	95 (128)	—	10.70 to 11.23 (35'1" to 36'10")	2.64 (8'8")	17 577 (38,750)
LL228	8MD	1986	131 (176)	—	9.7 to 11.6 (32'0" to 38'0")	2.62 (8'7")	30 391 (67,000)
LL231	8PD	1986	175 (235)	5.03 (16'6")	10.6 to 11.6 (35'0" to 38'0")	3.56 (11'8")	39 146 (86,300)
320B LL	6LS/9JS	96-01	96 (128)	4.48 (14'8")	—	3.29 (10'10")	28 610 (63,100)
322B LL	1YS	96-02	114 (153)	4.66 (15'3")	—	3.72 (12'3")	32 970 (72,686)
322C FM GF (HD/LC)	—	01-06	125 (168)	4.66 (15'4")	9.96 (32'8")	3.29 (10'10")	28 229 (62,245)*
322C FM GF (HW)	—	01-06	125 (168)	4.69 (15'5")	9.91 (32'6")	3.62 (11'11")	30 710 (67,716)*
322C FM LL (U/U)	—	01-06	125 (168)	4.69 (15'5")	14.10 (46'3")	3.62 (11'11")	33 607 (74,103)*
322C FM LL (O/U)	—	01-06	125 (168)	4.69 (15'5")	15 (49'3")	3.62 (11'11")	33 896 (74,741)*
325B LL	2JR	96-01	124 (166)	4.66 (15'3")	—	3.62 (11'11")	36 916 (81,400)
325C FM GF (HD/LC)	—	02-06	140 (188)	4.70 (15'5")	10.34 (33'11")	3.44 (11'3")	31 942 (70,432)*
325C FM GF (HW)	—	02-06	140 (188)	4.70 (15'5")	10.29 (33'9")	3.62 (11'11")	33 078 (72,937)*
325C FM LL (U/U)	—	02-06	140 (188)	4.70 (15'5")	14.87 (48'9")	3.62 (11'11")	37 644 (83,005)*
325C FM LL (O/U)	—	02-06	140 (188)	4.70 (15'5")	15.75 (51'8")	3.62 (11'11")	38 219 (84,273)*
330B LL	6DR	96-02	160 (214)	5.02 (16'6")	—	3.62 (11'11")	44 172 (97,400)
330C FM GF (HD/LC)	—	02-06	184 (247)	5.08 (16'8")	11.19 (36'9")	3.52 (11'6")	39 347 (86,760)*
330C FM GF (HW)	—	02-06	184 (247)	5.07 (16'7")	11.19 (36'9")	3.62 (11'11")	40 778 (89,915)*
330C FM LL (U/U)	—	02-06	184 (247)	5.07 (16'7")	16.67 (54'8")	3.62 (11'11")	44 430 (97,968)*
330C FM LL (O/U)	—	02-06	184 (247)	5.07 (16'7")	17.36 (57'0")	3.62 (11'11")	44 965 (99,148)*

*Operating Weight without bucket or grapple and with the new FM Cab/Riser with integrated guarding (available in July 2004).



WHEEL SKIDDERS

Model	Product Ident. No. Prefix	Years Built	Flywheel Horsepower kW (hp)	Operating Weight kg (lb)	Ground Clearance mm (in)	Wheel Base m (ft/in)
508 Cable	9NC	87-89	71 (95)	7770 (17,130)	521 (20.5")	2.8 (9'2")
508 Grapple	2HD	87-89	71 (95)	8766 (19,308)	521 (20.5")	2.8 (9'2")
518 FB	8ZC	86-89	96 (130)	11 612 (25,600)	587 (23.1")	3.25 (10'8")
518 PS Cable	50S	71-83	90 (120)	7718 (17,000)	505.4 (19.8976")	2895.6 (9'6")
518 PS Grapple	55U	1-80/81-83	90/97 (120/130)	9307 (20,500)	505.4 (19.8976")	2895.6 (9'6")
518 Cable	94U	3-84/85-92	90/97 (120/130)	9988 (22,000)	470 (18.5039")	3251 (10'8.4")
518 Grapple	95U	81-90	97 (130)	11 259 (24,800)	470 (18.5039")	3251 (10'8.4")
518 Series II Cable	94U	91-92	dual 97/108 dual (130/145)	10 260 (22,600)	470 (18.5039")	3251 (10'8.4")
518 Series II Grapple	95U	91-92	dual 97/108 dual (130/145)	12 031 (26,500)	470 (18.5039")	3251 (10'8.4")
518C Cable	1CL	93-95	115 (154)	11 528 (25,391)	450.7 (17.74406")	3251 (10'8.4")
518C Grapple	9HJ	93-95	115 (154)	12 587 (27,725)	463.4 (18.24406")	3251 (10'8.4")
525	—	—	119 (160)	13 558 (29,891)	527 (20.7)	3.5 (11.5)
525B	—	02-06	119 (160)	18 325 (40,400)	463 (18.2)	3.5 (11.5)
535B	—	6-Feb	134 (180)	19 006 (41,900)	463 (18.2)	3.5 (11.5)
545 Grapple	—	6-Feb	149.1 (225)	20 230 (44,600)	606.4 (23.9)	3.8 (12.5)



TRACK SKIDDERS

Model	Product Ident. No. Prefix	Years Built	Flywheel Horsepower kW (hp)	Operating Weight kg (lb)	Gauge m (ft/in)
D4 TSK Series II	8ZF	90-92	78 (105)	12 909 (28,400)	2.00 (6'6")
D4 TSK Series III	7PK	92-96	78 (105)	14 000 (30,900)	2.00 (6'6")
D5H TSK Series II	7EG	92-96	97 (130)	18 800 (41,360)	2.16 (7'11")



BACKHOE LOADERS

Model	Product Ident. No. Prefix	Years Built	Flywheel Horsepower kW (hp)	Operating Weight kg (lb)	Digging Depth mm (ft/in)	GP Bucket Capacity m³ (yd³)	MP Bucket Capacity m³ (yd³)
416	5PC	85-90	46 (62)	6156 (13,574)	4420 (14'6")	0.76 (1.0)	0.76 (1.0)
416 Series II	5PC	90-92	46 (62)	6217 (13,708)	4420 (14'6")	0.76 (1.0)	0.76 (1.0)
416B	8ZK(8SG)	92-95	59 (79)	6227 (13,700)	4420 (14'6")	0.76 (1.0)	0.96 (1.25)
416C	4ZN(5YN)	96-00	56 (75)	6330 (13,957)	4420 (14'6")	0.76 (1.0)	0.96 (1.25)
416C (IT)	1WR(1XR)	96-00	56 (75)	6666 (14,698)	4420 (14'6")	0.96 (1.25)	0.96 (1.25)
416D	BFP, BKG, BGJ, CXP	00-05	58 (78)	6900 (15,257)	4390 (14'5")	0.76 (1.0)	0.96 (1.25)
420D	FDP, BKC	00-05	69 (93)	7150 (15,772)	4390 (14'5")	0.96 (1.25)	0.96 (1.25)
420D (IT)	BLN, BMC, MBH	00-05	69 (93)	7150 (15,772)	4390 (14'5")	0.96 (1.25)	0.96 (1.25)
424D	RXA, CJZ	01-05	56 (75)	7502 (16,539)	4854 (15'9")	1.0 (1.31)	0.96 (1.25)
426	7BC	86-90	52 (70)	6549 (14,626)	4720 (15'6")	0.96 (1.25)	0.76 (1.0)
426 Series II	7BC	90-92	52 (70)	7315 (15,126)	4720 (15'6")	0.96 (1.25)	0.76 (1.0)
426B	6KL(5YJ)	92-95	59 (79)	6790 (14,970)	4720 (15'6")	0.96 (1.25)	0.96 (1.25)
426C	6XN(7WN)	96-98	60 (80)	7051 (15,548)	4721 (15'6")	0.96 (1.25)	0.96 (1.25)
426C	6XN3616 and up (7WN939 and up)	99-00	63 (85)	7051 (15,548)	4721 (15'6")	0.96 (1.25)	0.96 (1.25)

Backhoe Loaders (cont'd)

Model	Product Ident. No. Prefix	Years Built	Flywheel Horsepower kW (hp)	Operating Weight kg (lb)	Digging Depth mm (ft/in)	GP Bucket Capacity m³ (yd³)	MP Bucket Capacity m³ (yd³)
(AWS) 426C	1CR(1ER)	96-98	60 (80)	7051 (15,548)	4721 (15'6")	0.96 (1.25)	0.96 (1.25)
(AWS) 426C	1CR864 and up (1ER864 and up)	99-00	63 (85)	7051 (15,548)	4721 (15'6")	0.96 (1.25)	0.96 (1.25)
426C (IT)	1YR(1ZR)	96-98	60 (80)	7387 (16,289)	4721 (15'6")	0.96 (1.25)	0.96 (1.25)
426C (IT)	1YR1517 and up (1ZR926 and up)	99-00	63 (85)	7387 (16,289)	4721 (15'6")	0.96 (1.25)	0.96 (1.25)
(AWS) 426C (IT)	1MR(1NR)	96-98	60 (80)	7387 (16,289)	4721 (15'6")	0.96 (1.25)	0.96 (1.25)
(AWS) 426C (IT)	1MR956 and up (1NR954 and up)	99-00	63 (85)	7387 (16,289)	4721 (15'6")	0.96 (1.25)	0.96 (1.25)
428	6TC	86-90	52 (70)	6963 (15,350)	4790 (15'9")	1.0 (1.31)	0.92 (1.2)
428 Series II	6TC	90-92	52 (70)	7143 (15,750)	4750 (15'7")	1.0 (1.31)	0.92 (1.2)
428B	7EJ	92-95	60 (80)	7254 (15,992)	4810 (15'9")	1.0 (1.31)	0.92 (1.2)
428C	8RN	96-00	56 (75)	7279 (16,047)	4811 (15'9")	1.0 (1.31)	1.03 (1.35)
428C (IT)	2CR	96-00	56 (75)	7615 (16,788)	4811 (15'9")	1.0 (1.31)	1.03 (1.35)
428D	DSX, BXC, MBM	01-05	61 (82)	7738 (17,059)	4854 (15'9")	1.0 (1.31)	1.03 (1.35)
430D	BNK	00-05	75 (101)	7355 (16,217)	4639 (15'3")	1.0 (1.31)	0.96 (1.25)
430D (IT)	BML	00-05	75 (101)	7355 (16,217)	4639 (15'3")	1.0 (1.31)	0.96 (1.25)
432D	TDR, WEP	01-05	69 (93)	7809 (17,216)	4854 (15'9")	1.0 (1.31)	1.03 (1.35)
436	5KF	88-90	57 (77)	6831 (15,062)	4960 (16'3")	0.76 (1.0)	0.76 (1.0)
436 Series II	5KF	90-92	57 (77)	6878 (15,166)	4950 (16'3")	0.76 (1.0)	0.76 (1.0)
436B	7FL(6MJ)	92-95	63 (84)	6857 (15,086)	4950 (16'3")	0.96 (1.25)	0.96 (1.25)
436C	8TN(9JN)	96-98	63 (85)	7118 (15,694)	4953 (16'3")	1.0 (1.31)	0.96 (1.25)
436C	8TN925 and up (9JN884 and up)	99-00	70 (93)	7118 (15,694)	4953 (16'3")	1.0 (1.31)	0.96 (1.25)
(AWS) 436C	1FR(1GR)	96-98	63 (85)	7118 (15,694)	4953 (16'3")	1.0 (1.31)	0.96 (1.25)
(AWS) 436C	1FR1416 and up (1GR916 and up)	99-00	70 (93)	7118 (15,694)	4953 (16'3")	1.0 (1.31)	0.96 (1.25)

Backhoe Loaders (cont'd)

Model	Product Ident. No. Prefix	Years Built	Flywheel Horsepower kW (hp)	Operating Weight kg (lb)	Digging Depth mm (ft/in)	GP Bucket Capacity m³ (yd³)	MP Bucket Capacity m³ (yd³)
436C (IT)	2AR(2BR)	96-98	63 (85)	7454 (16,435)	4953 (16'3")	1.0 (1.31)	0.96 (1.25)
436C (IT)	2AR1604 and up (2BR911 and up)	99-00	70 (93)	7454 (16,435)	4953 (16'3")	1.0 (1.31)	0.96 (1.25)
(AWS) 436C (IT)	1PR(1RR)	96-98	63 (85)	7454 (16,435)	4953 (16'3")	1.0 (1.31)	0.96 (1.25)
(AWS) 436C (IT)	1PR1599 and up (1RR998 and up)	99-00	70 (93)	7454 (16,435)	4953 (16'3")	1.0 (1.31)	0.96 (1.25)
438	3DJ	88-90	63 (84)	7900 (17,420)	4810 (15'9")	1.0 (1.31)	0.92 (1.2)
438 Series II	3DJ	90-92	57 (77)	7364 (16,237)	4810 (15'9")	1.0 (1.31)	0.92 (1.2)
438B	3KK	92-95	62.7 (84)	8331 (18,367)	4870 (16'0")	1.0 (1.31)	0.92 (1.2)
438C	9KN	96-98	63 (85)	7384 (16,279)	4873 (16'0")	1.0 (1.31)	1.03 (1.35)
438C	9KN1061 and up	99-00	70 (93)	7384 (16,279)	4873 (16'0")	1.0 (1.31)	1.03 (1.35)
(AWS) 438C	1JR	96-98	63 (85)	7384 (16,279)	4873 (16'0")	1.0 (1.31)	1.03 (1.35)
(AWS) 438C	1JR1107 and up	99-00	70 (93)	7384 (16,279)	4873 (16'0")	1.0 (1.31)	1.03 (1.35)
438C (IT)	2DR	96-98	63 (85)	7720 (17,020)	4873 (16'0")	1.0 (1.31)	1.03 (1.35)
438C (IT)	2DR2717 and up	99-00	70 (93)	7720 (17,020)	4873 (16'0")	1.0 (1.31)	1.03 (1.35)
(AWS) 438C (IT)	1TR	96-98	63 (85)	7720 (17,020)	4873 (16'0")	1.0 (1.31)	1.03 (1.35)
(AWS) 438C (IT)	1TR1284 and up	99-00	70 (93)	7720 (17,020)	4873 (16'0")	1.0 (1.31)	1.03 (1.35)
442D	SMJ, TBD	01-05	75 (101)	7809 (17,216)	4854 (15'9")	1.0 (1.31)	1.03 (1.35)
446	6XF	89-95	71 (95)	8892 (19,603)	5220 (17'2")	1.15 (1.5)	1.10 (1.5)
446B			76 (102)	8890 (19,600)	5220 (17'2")	1.15 (1.5)	1.05 (1.375)
446D	DBL	04-06	76 (102)	8939 (19,666)	5142 (16'10")	1.15 (1.5)	1.25 (1.63)



PIPELAYERS

Model	Tractor Product Ident. No. Prefix	Years Built	Engine HP	Approx. Weight kg (lb)	Counter-weight kg (lb)	Max. Lift Capacity 1.2 m (4'0") Overhang kg (lb)	Speed Range km/h (mph)		Ground Clearance mm (in)	Ground Contact m ² (sq. in.)
							Forward	Reverse		
MD6	9U39C	52-57	93	12 375 (27,820)	1590 (3500)	12 035 (26,530)	2.7—10.6 (1.7—6.6)	3.2—10.0 (2.0—6.2)	321 (13")	1.77 (2744)
561B	62A	59-66	90	14 560 (32,100)	2270 (5000)	17 500 (38,800)	2.7—10.6 (1.7—6.6)	1.8—9.9 (2.0—6.2)	267 (11")	2.02 (3130)
561B	62A	66-67	93	14 350 (31,637)	2270 (5000)	17 600 (38,800)	2.7—10.9 (1.7—6.8)	3.4—10.3 (2.1—6.4)	267 (11")	2.02 (3130)
561C	85H	66-67	93	14 700 (32,500)	2450 (5400)	18 000 (40,000)	2.7—11.1 (1.7—6.9)	3.4—10.1 (2.1—6.3)	395 (16")	2.02 (3130)
561C	92J	67-77	105	14 700 (32,500)	2450 (5400)	18 100 (40,000)	2.7—11.1 (1.7—6.9)	3.4—10.1 (2.1—6.3)	395 (16")	2.02 (3130)
561D	54X	78-89	105	15 800 (35,000)	2990 (6600)	18 100 (40,000)	3.5—10.1 (2.2—6.3)	4.2—12.2 (2.6—7.6)	395 (16")	2.02 (3130)
561H	6NL	93-97	105	15 700 (34,600)	2128 (4690)	18 100 (40,000)	3.4—10.2 (2.1—6.4)	4.1—12.4 (2.6—7.7)	363 (14.3")	2.67 (4120)
561M		01	110	16 240 (35,800)	3260 (7200)	18 100 (40,000)	3.3—9.9 (2.0—6.2)	4.0—12.1 (2.5—7.5)	438 (17.2")	2.67 (4120)
561M CB* (US)	1KW	97-02	110	16 240 (35,800)						
561N	CPH	03-08	123	16 851 (37,150)	3270 (7210)	18 145 (40,000)	3.1—9.1 (1.9—5.6)	3.8—11.3 (2.3—6.9)	422 (16.6")	2.93 (4542)
561N	TAD	03-08	123	16 851 (37,150)	3270 (7210)	18 145 (40,000)	3.1—9.1 (1.9—5.6)	3.8—11.3 (2.3—6.9)	422 (16.6")	2.93 (4542)
571E PS	64A	61-67	160	22 680 (50,000)	2360 (5200)	7 490 (60,600)	3.7—10.3 (2.3—6.4)	4.3—12.1 (2.7—7.5)	400 (16")	3.04 (4710)
571E PS	64A	66-72	180	23 100 (51,000)	2360 (5200)	27 500 (60,600)	3.7—10.1 (2.3—6.3)	4.3—11.9 (2.7—7.4)	400 (16")	3.04 (4710)
571F	95N	72-74	180	22 800 (50,300)	4350 (9600)	27 500 (60,600)	3.5—9.7 (2.2—6.0)	4.2—11.4 (2.6—7.1)	400 (16")	3.04 (4710)
571G	916W 52D(JPN)	75-81 87-96	200 200	23 040 (50,800)	4350 (9600)	27 500 (60,600)	3.7—10.0 (2.3—6.2)	4.5—11.9 (2.8—7.9)	399 (15.7")	3.04 (4710)
MD7	17A	51-57	140	16 200 (35,815)	3400 (7500)	24 585 (54,200)	2.4—9.5 (1.5—5.9)	2.9—8.7 (1.8—5.4)	394 (16")	3.12 (4840)

*Gauge 2.0 m (6'7"), Width 3.19 m (10'5"), Length 3.73 m (12'3"), Height 3.12 m (10'3"), PS Transmission.

Forward Speed: 1st gear 3.27 km/h (2.03 mph)
2nd gear 5.81 km/h (3.61 mph)
3rd gear 9.93 km/h (6.17 mph)

Pipelayers (cont'd)

Model	Tractor Product Ident. No. Prefix	Years Built	Engine HP	Approx. Weight kg (lb)	Counter-weight kg (lb)	Max. Lift Capacity 1.2 m (4'0") Overhang kg (lb)	Speed Range km/h (mph)		Ground Clearance mm (in)	Ground Contact m ² (sq. in.)
							Forward	Reverse		
572C	21A	57-61	128	26 200 (57,820)	4720 (10,405)	39 000 (86,000)	3.2—7.7 (2.0—4.8)	3.9—6.1 (2.4—3.8)	483 (19")	3.30 (5109)
572D	21A	59	140	26 500 (58,520)	4940 (10,900)	39 000 (86,000)	4.2—9.7 (2.6—6.0)	4.8—7.7 (3.0—4.8)	483 (19")	3.30 (5109)
572E PS	65A	61-69	180	28 000 (62,000)	6000 (13,000)	40 800 (90,000)	3.7—10.1 (2.3—6.3)	4.3—11.9 (2.7—7.4)	480 (19")	3.45 (5345)
572F PS	96N	70-74	180	27 600 (61,000)	6440 (14,200)	40 800 (90,000)	3.5—9.7 (2.2—6.0)	4.2—11.4 (2.6—7.1)	480 (19")	3.45 (5345)
572G	40U	75-86	200	27 800 (61,300)	6400 (14,200)	40 800 (90,000)	3.7—10.0 (2.3—6.2)	4.5—11.9 (2.8—7.4)	480 (19")	3.45 5345
572G	8PC	84-89	200	27 800 (61,300)	6400 (14,200)	40 800 (90,000)	3.7—10.0 (2.3—6.2)	4.5—11.9 (2.8—7.4)	480 (19")	3.45 5345
572R	2HZ	98-04	230	30 110 (66,250)	5055 (11,150)	40 825 (90,000)	3.5—11.1 (2.3—6.9)	4.8—14.2 (3.0—8.8)	414 (16.3")	4.19 6500
578	8HB	89-97	300	46 580 (102,690)	11 777 (25,963)	70 307 (155,000)	3.8—10.8 (2.35—6.7)	4.7—13.8 (2.9—8.6)	452 (17.8")	5.17 (8020)
583C	16A	55-58	190	35 440 (78,132)	8470 (18,676)	58 970 (130,000)	3.9—8.7 (2.4—5.4)	3.9—8.7 (2.4—5.4)	533 (21")	4.24 (6580)
583H TC	38A	59-60	235	38 000 (83,840)	9030 (19,900)	62 140 (137,000)	4.5—10.3 (2.8—6.4)	4.5—10.3 (2.8—6.4)	537 (22")	4.66 (7220)
583H PS	61A	60-74	191	35 600 (78,500)	8470 (18,676)	58 970 (130,000)	3.9—8.7 (2.4—5.4)	3.9—8.7 (2.4—5.4)	533 (21")	4.55 (7050)
583H PS	61A	60-67	225	38 200 (84,270)	9000 (19,900)	62 140 (137,000)	4.1—11.1 (2.5—6.9)	4.6—12.8 (8.9—8.0)	537 (22")	4.66 (7220)
583H PS	61A	61	235	38 900 (85,720)	10 400 (22,880)	62 140 (137,000)	3.9—10.1 (2.4—6.3)	4.8—12.6 (3.0—7.8)	537 (22")	4.66 (7220)
583H	61A	74	270	40 600 (89,500)	10 300 (22,700)	63 500 (140,000)	3.9—10.5 (2.4—6.5)	4.8—13.0 (3.0—8.1)	533 (21")	4.65 (7220)
583K	78V	74-89	300	40 960 (90,300)	7840 (17,290)	63 500 (140,000)	4.0—10.9 (2.5—6.8)	5.0—13.5 (3.1—8.4)	530 (21")	4.65 (7220)
583R	2XS	98-05	228 kW (305)	44 748 (98,650)	9036 (19,920)	63 504 (140,000)	3.5—10.8 (2.3—6.8)	4.7—3.8 (2.9—8.6)	537 (21.1")	5.10 (7896)
589	31Z	82-06	313 kW (420)	65 366 (151,212)	11 854 (26,134)	104 330 (230,000)	3.5—10.9 (2.2—6.8)	4.3—13.7 (2.7—8.5)	625 (24.6")	6.96 (12,148)
594	62H	74	385	55 400 (122,000)	12 600 (27,800)	90 700 (200,000)	3.9—10.5 (2.4—6.5)	4.8—12.7 (3.0—7.9)	640 (25")	5.72 (8865)
594H	96V	74-82	410	56 065 (123,600)	12 555 (27,680)	90 700 (200,000)	4.0—10.8 (2.5—6.7)	5.0—13.2 (3.1—8.2)	630 (25")	6.48 (10,050)



WHEEL TRACTOR-SCRAPERS

Model	Product Ident. No. Prefix	Years Built	Horse-power Max/ Rated	Capacity Struck/ Heaped m ³ (yd ³)	Approx. Shipping Weight kg (lb)	Dimensions m (ft)				Tire Size (Standard) & ply rating Tractor & Scraper	Approx. % Weight on Drivers Loaded/ Empty	Turning Circle m (ft)
						Length	Width	Height	Width of Tread			
DW10 Tractor	1N	41-46	100/*	—	6550 (14,350)	4.57 (15'0")	2.24 (7'4")	1.93 (6'4")	1.73 (5'8")	10.0 × 20-12 18.0 × 24-16	—	—
DW10 Tractor	6V	46-47	100/*	—	6850 (15,100)	4.57 (15'0")	2.24 (7'4")	1.93 (6'4")	1.73 (5'8")	10.0 × 20-12 18.0 × 24-16	—	—
DW10 Tractor	1V	47-53	115/*	—	7540 (16,610)	4.70 (15'5")	2.34 (7'8")	1.93 (6'4")	1.79 (5'10")	12.0 × 20-14 21.0 × 25-20	—	—
DW10 & No. 10 Scraper	1V 3C	47-51	115/*	6.7/8.4 (8.7/11)	15 980 (35,240)	11.23 (37'0")	3.02 (9'11")	2.69 (8'10")	1.88 (6'2")	12.0 × 20-14 21.0 × 25-20	39/44	7.92 (26'0")
DW10 & No. 10 Scraper	1V 19C	52-53	115/*	5.3/6.9 (7/9)	15 130 (33,365)	10.72 (35'2")	2.87 (9'5")	2.36 (7'9")	1.80 (5'11")	12.0 × 20-14 21.0 × 25-20 16.0 × 21-20	42/46	11.23 (37'0")
DW15 & No. 10 Scraper	45C 19C	54-55	/150	5.3/6.9 (7/9)	15 960 (35,180)	11.10 (36'5")	2.87 (9'5")	2.36 (7'9")	1.80 (5'11")	12.0 × 20-14 21.0 × 25-20 16.0 × 21-20	42/46	10.36 (34'0")
DW15 & No. 15 Scraper	45C 4W	54-55	/150	7.7/9.2 (10/12)	9400 (20,720)	11.84 (38'10")	3.18 (10'5")	2.69 (8'10")	1.93 (6'4")	12.0 × 20-14 21.0 × 25-20	40/42	11.23 (37'0")
DW15 Tractor	45C	54-55	/150	—	9510 (20,960)	5.08 (16'8")	2.39 (7'10")	2.69 (8'10")	1.98 (6'6")	12.0 × 20-14 21.0 × 25-20	—	—
DW15C & No. 15 Scraper	59C or 70C	55-57	186/*	7.7/9.5 (10/12.5)	19 220 (42,370)	11.84 (38'10")	3.18 (10'5")	2.69 (8'10")	1.98 (6'6")	12.0 × 12-14 21.0 × 25-20	40/42	10.36 (34'0")
DW15E & No. 428 Scraper	75D or 76D	57-59	200/172	10/14 (13/18)	20 280 (44,711)	12.22 (40'1")	3.30 (10'10")	3.05 (10'0")	1.98 (6'6")	12.0 × 20-14 26.5 × 25-20	37/41	—
DW15F & No. 428 Scraper	75D or 76D	58-59	200/172	10/14 (13/18)	20 280 (44,711)	12.22 (40'1")	3.30 (10'10")	3.05 (10'0")	1.98 (6'6")	12.0 × 20-14 26.5 × 25-20	37/41	—
DW20 & No. 20 Scraper	21C 11C	51-55	225/*	14/7.6 (18/23)	12 750 (28,100)	13.23 (43'5")	3.53 (11'7")	3.10 (10'2")	2.29 (7'6")	24.0 × 29-4	37/41	11.23 (37'0")
DW20 Tractor (For W20 Wagon)	6W	51-55	225/*	—	11 620 (25,610)	5.39 (17'8")	2.79 (9'2")	2.41 (7'11")	2.18 (7'2")	14.0 × 24-16 24.0 × 29-24	—	—
DW20E & No. 456 Scraper	57C 67C	55-57	300/*	14/19 (18/25)	26 040 (57,400)	13.36 (43'10")	3.58 (11'9")	3.45 (11'4")	2.24 (7'4")	14.0 × 24-16 29.5 × 29-22	34/42	11.58 (38'0")
DW20F & No. 456 Scraper	87E 88E	58-60	320/*	14/19 (18/25)	26 870 (59,240)	13.36 (43'10")	3.58 (11'9")	3.45 (11'4")	2.24 (7'4")	14.0 × 24-16 29.5 × 29-22	38/42	11.58 (38'0")
DW20G & No. 456 Scraper	87E 88E	58-60	345/*	15/21 (19.5/27)	27 200 (59,960)	13.36 (43'10")	3.58 (11'9")	3.45 (11'4")	2.24 (7'4")	14.0 × 24-16 29.5 × 29-28	38/42	11.58 (38'0")
DW20G & No. 482 Scraper	87E 88E	58-60	345/*	18.5/26 (24/34)	31 070 (68,500)	14.05 (46'1")	3.91 (12'10")	3.81 (12'6")	2.39 (7'10")	14.0 × 24-16 29.5 × 29-28	37/40	11.58 (38'0")

*Maximum HP only available.

Wheel Tractor-Scrapers (cont'd)

Model	Product Ident. No. Prefix	Years Built	Horse-power Max/ Rated	Capacity Struck/ Heaped m ³ (yd ³)	Approx. Shipping Weight kg (lb)	Dimensions m (ft)				Tire Size (Standard) & ply rating Tractor & Scraper	Approx. % Weight on Drivers Loaded/ Empty	Turning Circle m (ft)
						Length	Width	Height	Width of Tread			
DW21 & No. 21 Scraper	8W 8	51-55	225/*	11.5/15 (15/20)	24 790 (54,650)	12.37 (40'7")	3.53 (11'7")	3.28 (10'9")	2.13 (7'0")	24.0 × 29-24	—	10.67 (35'0")
DW21C & No. 470 Scraper	58C 69C	55-58	300/*	14/19 (18/25)	26 610 (58,670)	12.67 (41'7")	3.58 (11'9")	3.35 (11'0")	2.24 (7'4")	29.5 × 29-22	52/67	11.00 (36'0")
DW21D & No. 470 Scraper	85E 86E	58-58	320/*	14/19 (18/25)	26 310 (58,010)	12.78 (41'11")	3.58 (11'9")	3.35 (11'0")	2.24 (7'4")	29.5 × 29-22	52/67	11.00 (36'0")
DW21G & No. 470 Scraper	85E 86E	58-60	345/*	14.9/20.6 (19.5/27)	27 210 (59,980)	12.78 (41'11")	3.58 (11'9")	3.48 (11'5")	2.24 (7'4")	29.5 × 29-28	52/67	11.00 (36'0")
611	6SZ	99-03	265	11 (15)	23 900 (52,640)	12.02 (39'5")	3.27 (10'9")	3.24 (10'8")	2.06 (6'9")	29.5R25	66/51	10.2 (33'5")
613A	71M	69-76	/150	8.4 (11)	13 334 (29,395)	9.67 (31'9")	2.44 (8'0")	2.85 (9'4.5")	1.89 (6'2.5")	18.0 × 25-12	49/63	9.04 (29'8")
613B	38W	76-84	/150	8.4 (11)	14 155 (31,210)	9.78 (32'1")	2.44 (8'0")	2.85 (9'4.5")	1.89 (6'2.5")	18.0 × 25-12	49/64	8.94 (29'4")
613C		84-93	175	8.4 (11)	14 670 (32,340)	10.0 (32'9")	2.44 (8'0")	3.06 (10'0")	1.89 (6'2.5")	18.00-25, 16 PR (E-2)	49/63	8.9 (29'4")
613C Series II	8LJ	93-08	175	6.8/8.4 (8.9/11)	15 264 (33,650)	10.14 (33'3")	2.44 (8'0")	3.01 (9'10")	1.80 (5'11")	23.5R25★	49/63	9.0 (29'6")
615	46Z	81-87	/250	12.23 (16)	23 400 (51,590)	11.6 (38'1")	3.048 (10'0")	3.590 (11'8")	2.21 (7'3")	26.5-25, 26 PR (E-2)	53/65	9.63 (31'7")
615C		87-93	265	12.23 (16)	23 860 (52,600)	11.6 (38'1")	3.048 (10'0")	3.59 (11'9")	2.21 (7'3")	26.5-25, 26 PR (E-2)	53/79	9.63 (31'7")
615C Series II	9XG	93-08	265	11/13 (14/17)	25 605 (56,450)	11.6 (38'1")	3.05 (10'0")	3.5 (11'0")	2.1 (6'9")	29.5R25★	51/66	10.8 (35'6")
619B DD	89E 90E	59-60	/225							Turbocharged, Electric start Turbocharged, Gas start		
619C PS DD	61F 62F	60-66	280/250	10.8/14 (14/18)	21 550 (47,500)	11.05 (36'3")	3.30 (10'11")	3.76 (12'2")	2.00 (6'7")	26.5 × 29-22	55/69	9.14 (30'0")
619**	43F	64-65	/250	15.3/12.6 (20/16.5)	27 400 (60,390)	11.89 (40'0")	3.60 (11'10")	3.45 (11'4")	2.30 (7'7")	26.5 × 29-26	53/65.8	10.20 (33'6")

*Maximum HP only available.

**Johnson Manufacturing Company built the J619 Elevating Scraper for Caterpillar in 1964.

Wheel Tractor-Scrapers (cont'd)

Model	Product Ident. No. Prefix	Years Built	Horse-power Max/ Rated	Capacity Struck/ Heaped m ³ (yd ³)	Approx. Shipping Weight kg (lb)	Dimensions m (ft)				Tire Size (Standard) & ply rating Tractor & Scraper	Approx. % Weight on Drivers Loaded/ Empty	Turning Circle m (ft)
						Length	Width	Height	Width of Tread			
621	43H	65-72	/300	10.7/15.3 (14/20)	28 400 (62,600)	12.00 (39'5")	3.60 (11'10")	3.45 (11'4")	2.19 (7'3")	29.5 × 29-22	53/68	11.50 (37'8")
621	23H	65-74	/300	10.7/15.3 (14/20)	24 900 (55,000)	11.60 (38'1")	3.50 (11'7")	3.40 (11'2")	2.10 (6'10")	29.5 × 29-22	53/68	13.00 (42'6")
621B	45P	73-86	/330	10.7/15.3 (14/20)	30 205 (66,590)	12.7 (41'7")	3.45 (11'4")	3.63 (11'11")	2.21 (7'3")	29.5-29, 28 PR (E-3)	53/68	11.10 (36'6")
621E	6AB 2PD	86-93	/330	10.7/15.3 (14/20)	30 480 (67,195)	12.93 (42'5")	3.47 (11'4")	3.71 (12'2")	2.21 (7'3")	33.25-29, 26 PR (E-3)	53/68	10.9 (35'8")
621F	4SK	93-00	330	10.7/15.3 (14/20)	32 090 (70,740)	12.93 (42'5")	3.47 (11'4")	3.71 (12'2")	2.21 (7'3")	33.25-29 ★★ (E-2/E-3)	53/68	10.2 (33'5")
621G	ALP	00-03	330/365	10.7/15.3 (14/20)	32 250 (71,090)	12.93 (42'5")	3.47 (11'4")	3.71 (12'2")	2.20 (7'3")	33.25R29	68/53	11.7 (38'5")
621G	CEN	03-05	330/365	12/17 (15.7/22)	32 563 (71,790)	12.93 (42'5")	3.47 (11'4")	3.71 (12'2")	2.20 (7'3")	33.25R29	68/53	11.7 (38'5")
623	52U	72-74	/300	16.8 (22)	29 900 (66,000)	11.90 (39'0")	3.50 (11'7")	3.70 (12'1")	2.20 (7'3")	29.5 × 29-28	53/68	13.70 (44'11")
623B	46P	73-86	/330	16.8 (22)	32 546 (71,750)	12.5 (41'1")	3.55 (11'8")	3.81 (12'6")	2.18 (7'2")	29.5-29, 28 PR (E-2)	53/68	8.90 (29'4")
623E	6CB	86-89	/330	16.8 (22)	33 317 (73,450)	12.61 (41'4")	3.55 (11'8")	3.81 (12'6")	2.21 (7'3")	29.5-29, 34 PR (E-2)	52/65	10.9 (35'9")
623E	6YF	89-93	/365	13.8/17.6 (18/23)	35 290 (77,800)	12.61 (41'4")	3.55 (11'8")	3.94 (12'11")	2.18 (7'2")	29.5R25	51/66	10.9 (35'8")
623F	6BK	93-98	365	13.8/17.6 (18/23)	35 305 (77,830)	12.61 (41'4")	3.55 (11'8")	3.94 (12'11")	2.18 (7'2")	29.5-29, 34 PR (E-2)	51/66	10.9 (35'8")
623F Series II	5EW	98-00	365	13.8/17.6 (18/23)	37 122 (81,840)	13.28 (43'7")	3.55 (11'8")	3.55 (11'8")	2.21 (7'3")	33.25-R29 ★★ (E-2)	50/64	8.6 (28'5")
623G	ARW	00-02	330/365	13.8/17.6 (18/23)	37 120 (81,840)	13.21 (43'4")	3.55 (11'8")	3.68 (12'1")	2.2 (7'3")	33.25R29	64/50	10.9 (35'8")
623G	CES	03-05	330/365	13.8/17.6 (18/23)	37 120 (81,840)	13.21 (43'4")	3.55 (11'8")	3.68 (12'1")	2.2 (7'3")	33.25R29	64/50	10.9 (35'8")

Wheel Tractor-Scrapers (cont'd)

Model	Product Ident. No. Prefix	Years Built	Horse-power Max/ Rated	Capacity Struck/ Heaped m ³ (yd ³)	Approx. Shipping Weight kg (lb)	Dimensions m (ft)				Tire Size (Standard) & ply rating Tractor & Scraper	Approx. % Weight on Drivers Loaded/ Empty	Turning Circle m (ft)
						Length	Width	Height	Width of Tread			
627	54K	68-74	T/225 S/225	10.7/15.3 (14/20)	29 900 (66,000)	12.00 (36'9")	3.50 (11'7")	3.60 (11'8")	2.20 (7'3")	29.5 × 29-28	47/56	13.30 (43'9")
627B	14S	73-86	T/225 S/225	10.7/15.3 (14/20)	34 610 (76,300)	13.3 (43'9")	3.45 (11'4")	3.63 (11'11")	2.18 (7'2")	29.5-29, 28 PR (E-3)	49/58	11.10 (36'6")
627E	6EB	86-90	T/225 S/225	10.7/15.3 (14/20)	34 670 (76,435)	12.89 (42'3")	3.47 (11'4")	3.71 (12'2")	2.21 (7'3") 2.18 (7'2")	33.25-29, 26 PR (E-3)	48/59	10.90 (35'9")
627E	7CG	90-93	T/330 S/225	10.7/15.3 (14/20)	35 160 (77,500)	12.93 (42'5")	3.47 (11'4")	3.71 (12'2")	2.21 (7'3")	33.25-29, 26 PR (E-3)	48/59	10.9 (35'8")
627F Series II	1DL	93-00	T/330 S/225	10.7/15.3 (14/20)	37 060 (81,640)	12.9 (42'5")	3.47 (11'4")	3.71 (12'2")	2.21 (7'3")	33.25-R29 ★★ (E-2/E-3)	49/60	10.9 (35'9")
627B/PP	15S	73-86	T/225 S/225	10.7/15.3 (14/20)	35 660 (78,620)	14.91 (48'11")	3.45 (11'4")	3.63 (11'11")	2.18 (7'2")	29.5-29, 28 PR (E-3)	51/60	11.1 (36'6")
627E/PP	6GB	86-89	T/225 S/225	10.7/15.3 (14/20)	36 130 (79,655)	12.89 (42'3")	3.47 (11'4")	3.71 (12'2")	2.21 (7'3") 2.18 (7'2")	33.25-29, 26 PR (E-3)	49/60	10.90 (35'9")
627E/PP	7CG	90-93	T/330 S/225	10.7/15.3 (14/20)	36 620 (80,735)	15.2 (49'7")	3.47 (11'4")	3.71 (12'2")	2.21 (7'3")	33.25-29, 26 PR (E-3)	49/60	10.9 (35'8")
627F/PP Series II	1DL	93-00	T/330 S/225	10.7/15.3 (14/20)	38 103 (84,000)	15.2 (49'7")	3.47 (11'4")	3.71 (12'2")	2.21 (7'3")	33.25-R29 ★★ (E-2/E-3)	50/60	10.9 (35'9")
627G/PP	AXF	00-02	T/330/365 S/225	10.7/15.3 (14/20)	38 140 (84,075)	15.2 (49'7")	3.47 (11'4")	3.71 (12'2")	2.20 (7'3")	33.25R29	60/49	11.7 (38'5")
627G/PP	CEX	02-05	T/330/365 S/225/249	12/17 (15.7/22)	39 186 (86,390)	15.2 (49'7")	3.47 (11'4")	3.71 (12'2")	2.20 (7'3")	33.25R29	60/49	11.7 (38'5")
630A & 482C Scraper	52F	60-62	420/335	21/27 (27/35)	35 830 (79,000)	14.63 (48'0")	3.91 (12'10")	4.01 (13'2")	2.39 (7'10") Scraper	16.0 × 25-16 29.5 × 35-28 33.5 × 33-26	37/42	11.89 (39'0")
630A	52F	60-62	420/335	16/21.4 (21/28)	31 430 (69,300)	13.82 (45'4")	3.58 (11'9")	3.73 (12'3")	2.21 (7'3")	16.0 × 25-16 29.5 × 35-28	39/45	11.89 (39'0")
630B	14G	62-63	420/335	16/23 (21/30)	33 520 (73,900)	14.12 (46'4")	3.81 (12'6")	3.71 (12'2")	2.41 (7'11")	16.0-25, 16 29.5-35, 28	38/42	13.36 (43'10")
630B	14G	63-66	400/360	16/23 (21/30)	33 570 (74,000)	14.30 (46'11")	3.81 (12'6")	3.94 (12'11")	2.41 (7'11")	16.0-25, 16 29.5-35, 34	37/42	13.36 (43'10")
630B	10G	62-69	/400	16/23 (21/30)	35 750 (78,800)	14.35 (47'1")	3.81 (12'6")	3.94 (12'11")	2.40 (7'10")	16.0-25, 16 29.5-35, 34	38/44	13.36 (43'10")

Wheel Tractor-Scrapers (cont'd)

Model	Product Ident. No. Prefix	Years Built	Horse-power Max/ Rated	Capacity Struck/ Heaped m ³ (yd ³)	Approx. Shipping Weight kg (lb)	Dimensions m (ft)				Tire Size (Standard) & ply rating Tractor & Scraper	Approx. % Weight on Drivers Loaded/ Empty	Turning Circle m (ft)
						Length	Width	Height	Width of Tread			
631A	51F	60-62	420/335	16/21.4 (21/28)	30 250 (66,700)	12.88 (42'3")	3.58 (11'9")	3.56 (11'8")	2.21 (7'3")	29.5-35, 28	54/69	11.00 (36'0")
631B	13G	62-62	420/335	16/23 (21/30)	31 620 (69,700)	13.05 (42'10")	3.81 (12'6")	3.45 (11'5")	2.39 (7'10")	29.5-35, 28	51/67	11.31 (37'5")
631B	13G	62-66	420/360	16/23 (21/30)	31 840 (70,200)	13.29 (43'7")	3.81 (12'6")	3.63 (11'11")	2.41 (7'11")	29.5-35, 34	52/67	11.31 (37'5")
631C	67M	69-75	/415	16/23 (21/30)	36 350 (80,150)	13.54 (44'5")	3.45 (11'4")	3.91 (12'10")	2.39 (7'10")	29.5-35, 34	52/67	11.45 (37'7")
631D	24W	75-85	473/450	16/23.7 (21/31)	42 370 (93,410)	14.25 (46'9")	3.96 (13'0")	4.17 (13'8")	2.46 (8'1")	33.25-35, 38 PR (E-3)	52/68	12.2 (40'1")
631E	1AB	85-91	473/450	16.1/23.7 (21/31)	43 365 (95,600)	14.28 (46'10")	3.94 (12'11")	4.29 (14'1")	2.46 (8'1")	37.25-35, 30	53/67	12.2 (40'1")
631E Series II	1AB	91-01	473/450	16.1/23.7 (21/31)	44 210 (97,460)	14.56 (47'9")	3.94 (12'11")	4.29 (14'1")	2.46 (8'1")	37.25R35	53/67	12.2 (40'1")
631G	AWK	00-02	450/485	16.1/23.7 (21/31)	46 475 (102,460)	14.56 (47'9")	3.94 (12'11")	4.29 (14'1")	2.46 (8'1")	37.25R35	67/53	12.2 (40'1")
631G	CLR	03-05	450/485	18.3/26 (24/34)	46 475 (102,460)	14.56 (47'9")	3.94 (12'11")	4.29 (14'1")	2.46 (8'1")	37.25R35	67/53	12.2 (40'1")
632	14G	62-63	420/335	21.4/29 (28/38)	37 650 (83,000)	15.21 (49'11")	4.04 (13'3")	4.00 (13'1")	2.44 (8'0")	16.0-25, 16 29.5-35, 34	37/41	13.36 (43'10")
632	14G	63-66	420/360	21.4/29 (28/38)	39 420 (86,910)	15.30 (50'2")	4.04 (13'3")	4.00 (13'1")	2.44 (8'0")	16.0-25, 16 29.5-35, 34	37/41	13.36 (43'10")
633C	66M	69-75	/415	24.5 (32)	41 750 (92,050)	13.36 (43'10")	3.45 (11'4")	3.96 (13'0")	2.39 (7'10")	33.2-35, 32	52/66	11.78 (38'8")
633D	25W	75-85	450	17.7/23 (23/34)	47 570 (104,870)	14.40 (47'3")	3.96 (13'0")	4.24 (13'11")	2.46 (8'1")	33.25-35, 38 PR (E-3)	51/66	12.4 (40'7")
633E	1AB	92-96	475	17.7/23 (23/34)	50 800 (112,000)	14.40 (47'3")	3.96 (13'0")	4.24 (13'11")	2.46 (8'1")	37.25R35	51/64	13.15 (43'2")
633E Series II	2PS	96-00	490	17.7/23 (23/34)	51 100 (112,670)	14.8 (48'7")	3.96 (13'0")	4.24 (13'11")	2.46 (8'1")	37.25R35	51/64	13.15 (43'2")
637	65M	70-75	T/415 S/225	16/23 (21/30)	41 300 (91,050)	13.65 (44'9.5")	3.45 (11'4")	3.93 (12'11")	2.39 (7'10")	33.25-35, 32	49/60	11.68 (38'4")
637/PP	79P	70-75	T/415 S/225	16/23 (21/30)	43 700 (96,350)	15.82 (51'11")	3.45 (11'4")	3.93 (12'11")	2.39 (7'10")	33.25-35, 32	51/63	11.68 (38'4")
637D	26W	75-85	T/450 S/250	16/23 (21/31)	46 987 (103,590)	14.8 (48'8")	3.96 (13'0")	4.17 (13'8")	2.46 (8'1")	33.25-35, 38 PR (E-3)	50/61	12.2 (40'1")
637D/PP	27W	75-85	T/450 S/250	16/23 (21/31)	48 531 (106,990)	14.8 (48'8")	3.96 (13'0")	4.17 (13'8")	2.46 (8'1")	33.25-35, 38 PR (E-3)	50/61	12.2 (40'1")
637E	1FB	85-91	T/450 S/250	16/23 (21/31)	49 940 (110,100)	14.28 (46'10")	3.94 (12'11")	4.29 (14'1")	2.46 (8'1")	37.25-35, 30	49/59	12.2 (40'1")
637E Series II	1FB	91-01	T/450 S/250	16/23 (21/31)	50 990 (112,320)	14.56 (47'9")	3.94 (12'11")	4.29 (14'1")	2.46 (8'1")	37.25R35	49/59	12.2 (40'1")
637E/PP	1FB	85-91	T/450 S/250	16/23 (21/31)	51 485 (113,500)	15.88 (52'1")	3.94 (12'11")	4.29 (14'1")	2.46 (8'1")	37.25-35, 30	50/60	12.2 (40'1")
637E Series II/PP	1FB	91-01	T/450 S/250	16/23 (21/31)	52 385 (115,490)	16.49 (54'1")	3.94 (12'11")	4.29 (14'1")	2.46 (8'1")	37.25R35	50/60	12.2 (40'1")
637G/PP	AXT	00-02	T/450/485 S/249	16.1/23.7 (21/31)	53 590 (118,150)	16.49 (54'1")	3.94 (12'11")	4.29 (14'1")	2.46 (8'1")	37.25R35	61/50	12.2 (40'1")
637G/PP	CEH	02-05	T/450/485 S/249/274	18.3/26 (24/34)	53 562 (118,084)	16.49 (54'1")	3.94 (12'11")	4.29 (14'1")	2.46 (8'1")	37.25R35	61/50	12.2 (40'1")

Wheel Tractor-Scrapers (cont'd)

Model	Product Ident. No. Prefix	Years Built	Horse-power Max/ Rated	Capacity Struck/ Heaped m ³ (yd ³)	Approx. Shipping Weight kg (lb)	Dimensions m (ft)				Tire Size (Standard) & ply rating Tractor & Scraper	Approx. % Weight on Drivers Loaded/ Empty	Turning Circle m (ft)
						Length	Width	Height	Width of Tread			
639D	99X	79-84	T/450 S/250	26 (34)	55 030 (121,318)	14.53 (47'8")	3.96 (13'0")	4.06 (13'4")	2.46 (8'1")	37.25-35, 42 37.25-35, 42	51/59	12.4 (40'7")
641	64F	62-65	560/450	21.4/29 (28/38)	43 200 (95,300)	14.73 (48'4")	4.04 (13'3")	4.00 (13'1")	2.44 (8'0")	33.5-39, 38	52/67	12.68 (41'7")
641B	65K	69-81	/550	21.4/29 (28/38)	53 070 (117,000)	14.96 (49'1")	4.04 (13'3")	4.24 (13'11")	2.55 (8'4")	37.5-39, 36	54/69	13.00 (42'9")
650	63F	62-64	560/450	24.5/33.6 (32/44)	45 130 (99,500)	16.31 (53'6")	4.24 (13'11")	4.01 (13'2")	2.54 (8'4")S	18.0-25, 20 33.5-39, 32 37.5-39, 36	37/41	13.87 (45'6")
650B	22G	62-72	/550	24.5/33.6 (32/44)	46 100 (101,700)	17.00 (55'10")	3.80 (12'6")	4.30 (14'1")	2.65 (8'9")S	18.0-25, 20 37.5-39, 28 37.5-30, 36	40/46	14.00 (46'0")
651	33G	62-68	560/450	24.5/33.6 (32/44)	43 730 (96,400)	14.93 (49'0")	4.24 (13'11")	4.01 (13'2")	2.54 (8'4")	37.5-39, 36	51/65	13.29 (43'7")
651B	67K	69-84	/550	24.5/33.6 (32/44)	56 340 (124,200)	15.34 (51'4")	4.32 (14'2")	4.29 (14'1")	2.72 (8'11")S	37.5-39, 36 37.5-39, 36	52/67	13.5 (44'2")
651E	89Z	82-96	550	24.5/33.6 (32/44)	59 420 (131,000)	16.13 (52'11")	4.37 (14'4")	4.7 (15'5")	2.64 (8'8")	37.5R39	69/54	14.5 (47'7")
651E	4YR	96-06	550/605	24.5/33.6 (32/44)	61 126 (134,760)	16.18 (53'1")	4.37 (14'4")	4.7 (15'5")	2.64 (8'8")	40.5/75R39	66/47	15.1 (49'8")
657	31G	62-68	T/450 S/335	24.5/33.6 (32/44)	56 550 (124,700)	15.39 (50'6")	4.24 (13'11")	4.09 (13'5")	2.62 (8'7")	37.5-39, 44	48/55	13.29 (43'7")
657	46M	68-69	T/500 S/400	24.5/33.6 (32/44)	56 820 (125,155)	15.39 (50'6")	4.24 (13'11")	4.09 (13'5")	2.67 (8'8")	37.5-39, 44	48/55	14.57 (47'10")
657B	68K	69-84	T/550 S/400	24.5/33.6 (32/44)	63 100 (139,100)	15.7 (51'8")	4.32 (14'2")	4.21 (13'10")	2.67 (8'9")S	37.5-39, 44 37.5-39, 44	49/57	13.7 (45'1")
657E	90Z	82-95	T/550 S/400	24.5/33.6 (32/44)	68 720 (151,500)	17 (55'10")	4.37 (14'4")	4.7 (15'5")	2.64 (8'8")	37.5R39	61/50	14.5 (47'7")
657E	6TR	96-06	T/550/605 S/400/440	24.5/33.6 (32/44)	69 078 (152,290)	16.2 (53'1")	4.37 (14'4")	4.7 (15'5")	2.64 (8'8")	40.5/75R39	60/51	15.1 (49'8")
657E/PP	91Z	82-95	T/550 S/400	24.5/33.6 (32/44)	72 120 (159,000)	18.01 (59'1")	4.37 (14'4")	4.7 (15'5")	2.64 (8'8")	37.5R39	61/52	14.5 (47'7")
657E/PP	5YR	96-06	T/550/605 S/400/440	24.5/33.6 (32/44)	72 857 (160,623)	18.01 (59'1")	4.37 (14'4")	4.7 (15'5")	2.64 (8'8")	40.5/75R39	60/51	15.1 (49'8")
660	90F	62-64	560/450	30.6/41.3 (40/54)	49 130 (108,300)	17.04 (55'11")	4.24 (13'11")	4.37 (14'4")	2.59 (8'6") Scraper	18.0 × 25-20 37.5 × 39-28 37.5 × 51-36	37/40	13.87 (45'6")
660B	58K	70-78	/550	30.6/41.3 (40/54)	59 875 (132,000)	17.27 (56'8")	3.81 (14'2")	4.37 (14'4")		18.0 × 25-20 37.5 × 39-28	40/45	14.00 (46'0")
666	77F	63-69	T/450 S/335	30.6/41.3 (40/54)	56 700 (125,000)	17.04 (55'11")	4.24 (13'11")	4.37 (14'4")	2.59 (8'6") Scraper	18.0 × 25-20 37.5 × 39-28 37.5 × 51-36	35/34	13.87 (45'6")
666	64H	67-69	T/500 S/400	30.6/41.3 (40/54)	58 800 (129,645)	17.27 (56'8")	4.24 (13'11")	4.37 (14'4")	2.59 (8'6") Scraper	18.0 × 25-20 37.5 × 39-28 37.5 × 51-51	36/35	13.87 (45'6")
666B	66K	69-78	T/550 S/400	30.6/41.3 (40/54)	67 630 (149,500)	17.27 (56'8")	4.31 (14'4")	4.37 (14'4")	2.59 (8'9")	18.0 × 25-20 37.5 × 39-28	37/42	14.00 (46'0")



TRACTOR-TOWED SCRAPERS

Model	Product Ident. No. Prefix	Years Built	Capacity Struck/Heaped m³ (yd³)	Weight kg (lb)	Width m (ft)	Length m (ft)	Height m (ft)	Width of Cut m (ft)
40	1W	49-59	2.8/3.4 (3.6/4.5)	3348 (7380)	2.27 (7'6")	6.40 (21'0")	1.68 (5'6")	1.82 (6'0")
60	1D	47-53	4.6/6.1 (6.0/8.0)	5579 (12,300)	2.65 (8'9")	8.43 (27'8")	2.36 (7'9")	2.13 (7'0")
60	2W	52-72	5.4/7.0 (7.0/9.0)	6100 (13,500)	2.85 (9'5")	8.52 (28'3")	2.36 (7'9")	2.40 (7'11")
70	8C	46-53	6.7/8.4 (8.7/11.0)	8527 (18,800)	3.02 (10'0")	9.50 (31'2")	2.56 (8'5")	2.43 (8'0")
70	3W	51-57	7.8/9.9 (10.2/13.0)	9140 (20,150)	3.16 (10'5")	9.53 (31'4")	2.61 (8'7")	2.59 (8'6")
80	2D	46-52	10.3/13.8 (13.5/18.0)	11 793 (26,000)	3.38 (11'2")	10.82 (35'6")	2.92 (9'7")	2.74 (9'0")
80	5W	50-56	11.5/15.3 (15.0/20.0)	13 533 (29,836)	3.50 (11'6")	10.92 (35'0")	3.09 (10'2")	2.89 (9'6")
90	9V	51-55	16.2/20.6 (21.2/27.0)	17 208 (37,937)	3.65 (12'0")	12.19 (40'0")	3.20 (10'6")	3.04 (10'0")
435C	45D	56-61	9.9/13.8 (13.0/18.0)	10 659 (23,500)	3.28 (10'10")	10.16 (33'4")	3.01 (9'11")	2.84 (9'4")
435D	45D	59-61	11.5/14.5 (15.0/19.0)	11 521 (25,400)	3.29 (10'10")	10.16 (33'4")	3.01 (9'11")	2.84 (9'4")
435E	85F	61-72	9.2/13.0 (12.0/17.0)	10 400 (22,900)	3.29 (10'10")	10.06 (33'1")	3.07 (10'1")	2.84 (9'4")
435F	45D	62-72	10.7/13.8 (14.0/18.0)	11 300 (24,900)	3.29 (10'10")	10.06 (33'1")	3.02 (9'11")	2.84 (9'4")
435G	27G	63-73	9.2/13.0 (12.0/17.0)	10 400 (22,900)	3.27 (10'9")	10.08 (33'1")	2.97 (9'9")	2.84 (9'4")
463	62C	55-60	13.8/29.1 (18.0/25.0)	14 061 (31,000)	3.58 (11'9")	11.58 (38'0")	3.39 (11'2")	3.15 (10'4")
463C	62C	59-60	16.8/21.4 (22.0/28.0)	15 785 (34,800)	3.58 (11'9")	11.58 (38'0")	3.39 (11'2")	3.15 (10'4")
463E	86F	60-71	13.8/20.0 (18.0/26.0)	15 600 (34,400)	3.58 (11'9")	11.65 (38'3")	3.28 (10'10")	3.15 (10'4")
463F	62C	63-71	16.0/21.4 (21.0/28.0)	15 700 (34,600)	3.58 (11'9")	11.65 (38'3")	3.28 (10'10")	3.15 (10'4")
463G	28G	63-71	13.8/20.0 (18.0/26.0)	13 200 (29,200)	3.58 (11'9")	11.52 (37'10")	3.14 (10'4")	3.15 (10'4")
491	98C	56-64	20.6/26.0 (27.0/34.0)	16 964 (37,400)	3.65 (12'0")	12.13 (39'10")	3.96 (13'0")	3.16 (10'5")
491B	9A	61-63	20.6/26.8 (27.0/35.0)	20 902 (46,060)	3.91 (12'10")	12.49 (41'0")	3.96 (13'0")	3.30 (10'10")
491C	47E	63-70	20.6/26.8 (27.0/35.0)	21 600 (47,500)	3.91 (12'10")	12.64 (41'6")	3.96 (13'0")	3.30 (10'10")



CONSTRUCTION & MINING TRUCKS/TRACTORS

Model	Product Ident. No. Prefix	Years Built	Flywheel Kilowatts (Horsepower)	Capacity Metric Tons (U.S. Tons)	Approx. Weight kg (lb)	Dimensions m (ft)						Tire Size
						Width	Length	Height	Loading Height	Dumping Height (55°)	Turning Circle	
768B	79S	71-78	309 (415)	— —	22 000 (48,500)	3.61 (11'10")	6.55 (21'6")	3.48 (11'5")	— —	— —	18.0 (59'1")	18.00 × 33—24 PR
768C	02X	78-95	336 (450)	— —	24 624 (54,285)	4.70 (15'5")	8.00 (26'3")	3.56 (11'8")	— —	— —	18.5 (60'8")	18.00R33 E-4
769	99F	62-67	298 (400)	31.8 (35.0)	25 365 (55,870)	3.63 (11'11")	7.64 (25'1")	4.05 (13'4")	3.07 (10'1")	7.18 (26'7")	16.5 (54'5")	18.00 × 25—32 PR
769B	99F	67-78	309 (415)	32.0 (35.0)	28 000 (61,800)	3.64 (11'11.5")	7.85 (25'9")	3.89 (12'9")	3.15 (10'4")	7.24 (23'9")	18.0 (59'1")	18.00 × 25—32 PR E-3
769C	01X	78-95	336 (450)	36.9 (40.6)	30 675 (67,855)	4.70 (15'5")	8.00 (26'3")	3.85 (12'8")	3.24 (10'7")	7.68 (25'2")	18.5 (60'8")	18.00R33 E-4
769D	5TR, 5SS, BBB	95-06	363 (487)	36.4 (40.0)	33 875 (74,682)	5.07 (16'8")	8.24 (27'0")	4.03 (13'3")	3.14 (10'4")	7.71 (25'4")	17 (55'9")	18.00R33
771C	3BJ	92-95	336 (450)	40.0 (44.0)	34 170 (75,345)	4.74 (15'7")	8.20 (26'11")	4.00 (13'1")	3.30 (10'10")	7.68 (25'2")	18.5 (60'8")	18.00R33 E-4
771D	6JR, 6YS, BCA	96-06	363 (487)	41 (45)	33 784 (74,482)	5.07 (16'8")	8.40 (27'7")	4.02 (13'2")	3.40 (11'1")	7.74 (25'5")	17 (55'9")	18.00R33
772	80S	71-78	447 (600)	— —	32 100 (70,800)	4.06 (13'4")	7.11 (23'4")	3.68 (12'1")	— —	— —	22.1 (72'6")	24.00 × 35—36 PR
772B	64W	78-95	485 (650)	— —	32 909 (72,550)	4.86 (15'11")	9.12 (29'11")	4.52 (14'10")	— —	— —	23.5 (77'0")	24.00R35 E-4
773	63G	70-78	447 (600)	45.4 (50.0)	37 800 (83,360)	4.06 (13'4")	8.71 (28'7")	4.27 (14'0")	3.61 (11'10")	8.36 (27'5")	22.1 (72'6")	21.00 × 35—32 PR E-3
773B	63W	78-95	485 (650)	54.3 (59.8)	38 321 (84,500)	4.86 (15'11")	9.12 (29'11")	4.31 (14'2")	3.77 (12'5")	8.72 (28'7")	23.5 (77'0")	24.00R35 E-4
773D	7CS, 7ER	96-01	485 (650)	52.9 (58.4)	43 600 (96,000)	5.08 (16'8")	9.21 (29'11")	4.42 (14'6")	3.79 (12'5")	8.82 (28'11")	22.0 (72'2")	24.00R35
773E	BDA	01-06	501 (671)	54.4 (60.0)	45 480 (100,180)	5.08 (16'8")	9.21 (29'11")	4.42 (14'6")	3.79 (12'5")	8.82 (28'11")	22.0 (72'2")	24.00R35
775B	7XJ	92-95	485 (650)	59.5 (65.5)	42 324 (93,325)	4.91 (16'2")	9.33 (30'7")	4.31 (14'2")	3.86 (12'8")	8.72 (28'8")	23.5 (77'7")	24.00R35 E-4
775D	6KR, 8AS	95-01	517 (693)	63.4 (69.9)	43 200 (95,300)	5.08 (16'8")	9.30 (30'6")	4.42 (14'6")	3.91 (12'10")	8.82 (28'11")	22.0 (72'2")	24.00R35
775E	BEC	01-06	544 (730)	63.5 (70.0)	43 470 (95,810)	5.08 (16'8")	9.21 (29'11")	4.42 (14'6")	3.91 (12'10")	8.82 (28'11")	22.0 (72'2")	24.00R35
776	14H	75-84	649 (870)	— —	49 686 (109,540)	3.51 (11'6")	8.06 (26'5.5")	3.40 (11'2")	— —	— —	26.8 (88'0")	27.00 × 49—36 PR E-3
776B	6JC	84-92	649 (870)	— —	49 896 (110,000)	3.51 (11'6")	8.06 (26'6")	3.40 (11'2")	— —	— —	25.8 (84'6")	27.00 × 49—36 PR E-3
776C	2TK	92-96	649 (870)	— —	49 896 (110,000)	3.51 (11'6")	8.06 (26'5.5")	4.55 (14'11")	— —	— —	25.8 (84'6")	27.00R49

Construction & Mining Trucks/Tractors (cont'd)

Model	Product Ident. No. Prefix	Years Built	Flywheel Kilowatts (Horsepower)	Capacity Metric Tons (U.S. Tons)	Approx. Weight kg (lb)	Dimensions m (ft)						Tire Size
						Width	Length	Height	Loading Height	Dumping Height (55°)	Turning Circle	
777	84A	74-84	649 (870)	77.1 (85.0)	58 886 (129,820)	5.463 (17'11")	9.78 (32'1")	4.90 (16'1")	4.14 (13'7")	9.29 (30'6")	26.8 (88'0")	24.00 × 49—42 PR E-3
777B	4YC	84-92	649 (870)	86.2 (95.0)	60 055 (132,422)	5.463 (17'11")	9.79 (32'1")	4.97 (16'4")	4.17 (13'8")	9.42 (30'11")	25.8 (84'6")	24.00 × 49—48 PR E-3
777C	4XJ	92-96	649 (870)	86.2 (95.0)	61 790 (136,227)	5.463 (17'11")	9.79 (32'1")	4.97 (16'4")	4.17 (13'8")	9.42 (30'11")	25.8 (84'6")	27.00R49
777D (Decatur)	2YW, AGC (U.S.)	96-06	699 (938)	90.9 (100.0)	72 575 (160,000)	6.11 (20'0")	9.78 (32'1")	5.15 (16'10")	4.38 (14'4")	10.06 (33'0")	25.3 (83'0")	27.00R49
784B	5RK	93-98	962 (1290)	— (—)	89 280 (196,825)	6.74 (22'2")	9.34 (30'8")	5.47 (17'1")	— (—)	— (—)	33.5 (109'10")	36.00R51 E-3
784C	2PZ	98-09	1005 (1348)	— (—)	88 746 (195,651)	7.00 (23'0")	9.34 (30'8")	5.47 (17'1")	— (—)	— (—)	33.8 (110'11")	36.00R51
785	8GB	85-92	962 (1290)	136.0 (150.0)	96 353 (212,458)	6.64 (21'9")	11.02 (36'2")	5.77 (18'11")	4.98 (16'4")	11.20 (36'9")	30.5 (100'4")	33.00 × 51
785B	6HK	92-98	962 (1290)	136.0 (150.0)	96 353 (212,458)	6.64 (21'9")	11.02 (36'2")	5.77 (18'11")	4.98 (16'4")	11.20 (36'9")	30.2 (99'2")	33.00R51
789	9ZC	86-92	1272 (1705)	177.0 (195.0)	121 922 (268,837)	7.67 (25'2")	12.18 (39'11")	6.15 (20'2")	5.21 (17'1")	11.91 (39'1")	30.2 (99'2")	37.00R57
789B	7EK	92-98	1272 (1705)	177.0 (195.0)	121 922 (268,837)	7.67 (25'2")	12.18 (39'11")	6.15 (20'2")	5.21 (17'1")	11.91 (39'1")	30.2 (99'2")	37.00R57
793	3SJ	90-92	1534 (2057)	218.0 (240.0)	376 482 (830,000)	7.60 (24'11")	12.86 (42'3")	6.43 (21'1")	5.86 (19'3")	13.21 (43'4")	30.2 (99'2")	40.00-57
793B	1HL	92-96	1534 (2057)	218.0 (240.0)	376 482 (830,000)	7.60 (24'11")	12.86 (42'3")	6.43 (21'1")	5.86 (19'3")	13.21 (43'4")	30.2 (99'2")	40.00R57
793C	4AR, 4GZ, ATY	96-04	1615 (2166)	218.0 (240.0)	383 739 (846,000)	7.41 (24'4")	12.87 (42'3")	6.43 (21'1")	5.86 (19'3")	13.21 (43'4")	32.4 (106'4")	40.00R57
797	5YW	98-02	2395 (3211)	326.0 (360.0)	557 820 (1,230,000)	9.14 (30'0")	14.63 (48'0")	7.24 (27'6")	7.05 (26'10")	14.94 (49'0")	32.86 (104'10")	55/80R63
797B	JSM	02-09	2513 (3370)	354.0 (394.0)	623 583 (1,375,000)	9.66 (31'9")	14.4 (47'3")	7.72 (25'4")	7.15 (23'6")	15.34 (50'4")	40.5 (132'10")	59/80/R63



ARTICULATED TRUCKS

Model	Product Ident. No. Prefix	Years Built	Flywheel Kilowatts (Horsepower)	Capacity Metric Tons (U.S. Tons)	Approx. Weight kg (lb)	Dimensions m (ft)						Tire Size
						Width	Length	Height	Loading Height	Dumping Height (55°)	Turning Circle	
D20D	9MG	92-94	134 (180)	18.0 (20.0)	15 000 (33,070)	2.75 (9'0")	8.43 (27'8")	3.30 (10'10")	2.40 (7'11")	5.00 (16'5")	7.25 (24'0")	23.5R25
D22	*	80-82	175 (235)	20.0 (22.0)	17 700 (39,000)	3.00 (9'10")	7.85 (25'9")	3.09 (10'2")	2.44 (8'0")	5.03 (16'6")	7.87 (25'10")	26.5R25
D25	*	80	175 (235)	22.7 (25.0)	17 300 (38,000)	3.00 (9'10")	7.85 (25'9")	3.09 (10'2")	2.44 (8'0")	5.03 (16'6")	7.87 (25'10")	26.5R25
D25B	*	80-83	190 (255)	22.7 (25.0)	17 900 (39,400)	3.00 (9'10")	7.99 (26'2")	3.25 (10'8")	2.44 (8'0")	5.03 (16'6")	7.87 (25'10")	26.5R25
D25C	9YC	85-89	194 (260)	22.7 (25.0)	19 233 (42,400)	3.00 (9'10")	8.73 (28'8")	3.27 (10'9")	2.56 (8'5")	5.28 (17'4")	16.14 (52'11")	26.5R25
D25D	1HK	89-01	194 (260)	22.7 (25.0)	19 450 (42,880)	3.00 (9'10")	8.79 (28'10")	3.34 (10'11")	2.63 (8'8")	5.19 (17'0")	7.95 (26'1")	26.5R25
D30C	7ZC	85-89	194 (260)	27.2 (30.0)	21 320 (47,000)	3.30 (10'10")	8.86 (29'1")	3.33 (10'11")	2.85 (9'4")	5.46 (17'11")	16.33 (53'7")	29.5R25
D30D	3AJ	89-01	213 (285)	27.2 (30.0)	21 690 (47,320)	3.30 (10'10")	8.89 (29'2")	3.40 (11'2")	2.83 (9'3")	5.46 (17'11")	8.20 (26'11")	29.5R25
D35	*	81-83	190 (255)	31.8 (35.0)	20 000 (44,000)	3.27 (10'9")	8.44 (27'8")	3.25 (10'8")	2.91 (9'7")	5.46 (17'11")	7.87 (25'10")	26.5R25 33.25R29
D35C	2GD	85-89	194 (260)	31.8 (35.0)	23 860 (52,600)	3.50 (11'6")	9.44 (31'0")	3.34 (10'11")	2.93 (9'7")	5.32 (17'5")	16.00 (52'5")	Front 29.5R25 Rear 33.5R29
D35 HP	3FD	85-89	287 (385)	31.8 (35.0)	24 950 (55,000)	3.50 (11'6")	9.80 (32'2")	3.51 (11'6")	2.93 (9'7")	5.32 (17'5")	15.78 (51'9")	Front 29.5R25 Rear 33.5R29
D40D	2JJ	89-94	287 (385)	36.3 (40.0)	28 027 (61,800)	3.48 (11'5")	9.76 (32'0")	3.56 (11'8")	3.20 (10'7")	6.00 (19'8")	7.90 (25'11")	Front 29.5R25 Rear 33.25R29
D44	*	81-86	336 (450)	40.0 (44.0)	28 000 (61,600)	3.66 (12'0")	10.05 (33'0")	3.86 (12'8")	2.90 (9'6")	6.35 (20'10")	9.96 (32'8")	33.25R29
D44B	4LD	86-87	343 (460)	40.0 (44.0)	32 296 (71,200)	3.73 (12'3")	10.05 (33'0")	3.98 (13'1")	2.98 (9'9")	6.40 (21'0")	9.08 (29'9")	33.25R29
D250	*	75-78	175 (235)	25.0 (27.5)	18 500 (40,700)	2.66 (8'9")	8.82 (29'0")	3.04 (10'0")	2.61 (8'7")	6.22 (20'5")	7.67 (25'2")	23.5R25
D250B	5WD	85-91	163 (218)	22.7 (25.0)	17 963 (39,600)	2.50 (8'2.5")	9.60 (31'8.5")	3.18 (10'5")	2.55 (8'4.5")	6.23 (20'5")	7.65 (25'1")	20.5R25
D250D	6NG	92-94	160 (214)	22.8 (25.0)	17 300 (38,150)	2.50 (8'2")	9.60 (31'6")	3.21 (10'7")	2.59 (8'6")	6.22 (20'5")	7.61 (25'0")	20.5R25
D250E	5TN	95-98	194 (260)	22.7 (25.0)	20 135 (44,397)	2.74 (9'0")	9.94 (32'7")	3.35 (11'0")	2.7 (8'10")	6.2 (20'4")	7.44 (24'5")	23.5R25
D250E Series II	4PS	98-00	201 (270)	22.7 (25.0)	21 600 (47,628)	2.88 (9'5")	10.0 (32'10")	3.35 (11'0")	2.75 (9'0")	6.39 (20'11")	7.44 (24'5")	23.5R25
725	AFX	2000/05	209 (280)	23.6 (26)	22 730 (50,120)	2.88 (9'5")	9.92 (32'7")	3.44 (11'3")	2.75 (9'0")	6.43 (21'1")	7.26 (23'10")	23.5R25
D275	*	78-80	175 (235)	25.0 (27.5)	18 700 (41,000)	2.66 (8'9")	8.82 (29'0")	3.17 (10'7")	2.61 (8'7")	6.22 (20'5")	7.75 (25'3")	23.5R25
D275B	*	80-82	190 (255)	25.0 (27.5)	19 200 (42,400)	2.66 (8'9")	8.96 (29'5")	3.21 (10'7")	2.61 (8'7")	6.22 (20'5")	7.75 (25'5")	23.5R25

*Information not available — DJB models.

Articulated Trucks (cont'd)

Model	Product Ident. No. Prefix	Years Built	Flywheel Kilowatts (Horsepower)	Capacity Metric Tons (U.S. Tons)	Approx. Weight kg (lb)	Dimensions m (ft)						Tire Size
						Width	Length	Height	Loading Height	Dumping Height (55°)	Turning Circle	
D300	*	76-78	190 (255)	30.0 (33.0)	19 500 (42,900)	2.80 (9'2")	8.82 (29'0")	3.04 (10'0")	2.68 (8'10")	6.22 (20'5")	7.67 (25'2")	23.5R25
D300B	4SD	85-91	194 (260)	27.2 (30.0)	19 800 (43,520)	2.50 (8'2.5")	9.60 (31'8.5")	3.18 (10'5")	2.55 (8'4.5")	6.23 (20'5")	7.76 (25'6")	23.5R25
D300D	5MG	92-95	213 (285)	27.2 (30.0)	20 680 (45,600)	2.88 (9'6")	9.87 (32'5")	3.28 (10'9")	2.66 (8'9")	6.42 (21'1")	7.76 (25'5")	23.5R25
D300E	7FN	95-98	212 (285)	27.2 (30.0)	21 940 (48,369)	2.89 (9'6")	9.94 (32'7")	3.35 (11'0")	2.85 (9'4")	6.26 (20'6")	7.6 (24'10")	23.5R25
D300E Series II	5KS	98-00	212 (285)	27.2 (30.0)	22 793 (50,235)	2.91 (9'7")	10.0 (32'10")	3.35 (11'0")	2.89 (9'6")	6.44 (21'2")	7.6 (24'10")	23.5R25
730	AGF	2000/05	228 (305)	28.1 (31.5)	23 230 (51,222)	2.88 (9'5")	9.92 (32'7")	3.44 (11'3")	2.89 (9'6")	6.50 (21'4")	7.26 (23'10")	23.5R25
D330	*	78-80	190 (255)	30.0 (33.0)	20 000 (43,000)	2.80 (9'2")	8.82 (28'11")	3.17 (10'5")	2.68 (8'9")	6.22 (20'5")	7.80 (25'7")	23.5R25
D330B	*	80-83	190 (255)	30.0 (33.0)	20 200 (44,400)	2.76 (9'1")	9.08 (29'9")	3.25 (10'8")	2.68 (8'9")	6.33 (20'9")	7.92 (26'0")	23.5R25
D350	*	78-80	190 (255)	31.8 (35.0)	21 000 (46,000)	3.00 (9'10")	8.95 (29'4")	3.21 (10'7")	2.82 (9'3")	6.35 (20'10")	7.95 (26'1")	26.5R25
D350B	*	80-83	190 (255)	31.8 (35.0)	21 400 (47,200)	3.00 (9'10")	9.09 (29'10")	3.25 (10'8")	2.85 (9'4")	6.40 (21'0")	7.95 (26'1")	26.5R25
D350C	8XC	85-89	194 (260)	31.8 (35.0)	23 315 (51,400)	3.00 (9'10")	9.93 (32'7")	3.27 (10'9")	2.91 (9'6")	6.52 (21'5")	16.16 (53'0")	26.5R25
D350D	9RF	89-94	213 (285)	31.8 (35.0)	24 595 (54,221)	3.00 (9'10")	9.95 (32'7")	3.34 (11'0")	2.93 (9'7")	6.52 (21'5")	16.06 (52'8")	26.5R25
D350E	9LR	96-99	253 (340)	31.7 (35.0)	27 871 (61,455)	3.26 (10'8")	10.38 (34'1")	3.51 (11'6")	2.94 (9'8")	6.6 (21'8")	8.21 (26'11")	26.5R25
D350E Series II	2XW	99-01	265 (355)	31.8 (35.0)	30 190 (66,560)	3.26 (10'8")	10.65 (35'1")	3.51 (11'6")	2.92 (9'7")	6.83 (20'5")	8.45 (27'8")	26.5R25
735	AWR	2002/05	272 (365)	32.7 (36)	29 858 (65,825)	3.31 (10'10")	10.89 (35'9")	3.70 (12'2")	2.97 (9'10")	6.96 (22'10")	8.14 (26'9")	26.5R25
D400	IMD	85-89	287 (385)	36.3 (40.0)	25 765 (56,800)	3.00 (9'10")	10.42 (34'2")	3.45 (11'4")	3.00 (9'10")	6.53 (21'5")	16.07 (52'9")	26.5R25
D400D	8TF	89-95	287 (385)	36.3 (40.0)	28 027 (61,800)	3.30 (10'8")	10.62 (34'10")	3.56 (11'8")	2.98 (9'9")	6.60 (21'8")	8.26 (27'2")	29.5R25
D400E	2YR	96-99	302 (405)	36.3 (40.0)	29 263 (64,495)	3.3 (10'10")	10.52 (34'6")	3.58 (11'9")	3.07 (10'1")	6.58 (21'7")	8.26 (27'1")	29.5R25
D400E Series II	8PS	99-01	302 (405)	36.3 (40.0)	31 650 (69,760)	3.43 (11'2")	10.65 (35'1")	3.58 (11'9")	3.10 (10'2")	6.92 (23'0")	8.45 (27'8")	29.5R25
D400E II Ejector	APF	99-01	302 (405)	36.3 (40.0)	32 840 (72,380)	3.5 (11'6")	11.0 (36'1")	3.58 (11'9")	3.07 (10'1")	N/A	8.45 (27'8")	29.5R25
740	AXM	2001/05	309 (415)	38.1 (42)	32 693 (72,075)	3.43 (11'3")	10.89 (35'9")	3.75 (12'4")	3.18 (10'5")	7.07 (23'2")	8.14 (26'9")	29.5R25
740 Ejector	AZZ	2001/05	309 (415)	38.1 (42)	35 270 (77,770)	3.50 (11'6")	11.59 (38'0")	3.75 (12'4")	3.07 (10'0")	7.07 (23'2")	8.63 (28'4")	29.5R25
D550	*	78-86	336 (450)	50.0 (55.0)	37 800 (83,400)	3.66 (12'0")	11.35 (37'3")	3.86 (12'8")	3.30 (10'10")	7.83 (25'8")	9.65 (31'8")	33.25R29
D550B	8SD	86-87	343 (460)	50.0 (55.0)	40 370 (89,000)	3.72 (12'2.5")	11.74 (38'6")	3.97 (13'0")	3.22 (10'6")	8.28 (27'2")	8.73 (28'8")	33.25R29

*Information not available — DJB models.



WHEEL DOZERS

Model	Product Ident. No. Prefix	Years Built	Flywheel Kilowatts (Horsepower)	Approx. Oper. Wt. kg (lb)	Length (Dozer on ground)		Wheelbase m (ft)	Ground Clearance mm (in)	Transmission	Maximum Speeds		
					m (ft)	Tread m (ft)				Fwd. km/h (mph)	Rev. km/h (mph)	
814B	90P	70-81	127 (170)	18 780 (41,400)	6.49 (21'3")	2.16 (7'1")	3.10 (10'2")	356 (14")	PS 4F-4R	32.7 (20.3)	39.3 (24.4)	*
814B	16Z	81-95	161 (216)	20 927 (46,137)	6.82 (22'5")			459 (18")	PS 4F-4R	29.9 (18.6)	34.1 (21.2)	*
814F	9DM	96-02	164 (220)	22 780 (50,115)		2.2 (7'3")	3.35 (11'0")	448 (18")	PS 4F-4R	29.9 (18.6)	34.1 (21.2)	
814F	BGF	03-06	179 (240)	21 713 (47,877)	6.82 (22'5")	2.2 (7'3")	3.35 (11'0")	448 (18")	PS 4F-4R	29.9 (18.6)	34.1 (21.2)	
814F II	BXG	06	173 (232)	20 755 (45,765)	6.9 (22'6")	2.2 (7'3")	3.6 (11'8")	366 (1'2")	PS 4F-4R	31 (19.3)	34.9 (21.8)	
824	29G	63-65	224 (300)	31 700 (70,000)	7.04 (23'1")	2.37 (7'10")	3.35 (11'8")	470 (18.2")	PS 3F-3R	34.1 (21.2)	34.1 (21.2)	
824B	36H	65-78	224 (300)	33 330 (73,480)	7.40 (24'3.5")	2.32 (7'7.5")	3.55 (11'8")	490 (19.4")	PS 3F-3R	29.8 (18.5)	29.8 (18.5)	
824C	85X	78-95	235 (315)	30 380 (66,975)	7.69 (25'2")	2.36 (7'7.5")	3.53 (11'7")	477 (18.8")	PS 4F-4R	33.2 (20.6)	37.8 (23.5)	
824G	4SN	96-02	235 (315)	26 620 (58,697)	8.02 (26'4")	2.44 (8'0")	3.7 (12'2")	383 (15")	PS 4F-4R	33 (20.4)	37.8 (23.5)	
824G II	AXB	03-04	253 (339)	28 724 (63,325)	8.02 (26'4")	2.44 (8'0")	3.7 (12'2")	383 (15")	PS 4F-4R	32.1 (20)	36.6 (22.7)	
824H	ASX	05	264 (354)	28 724 (63,325)	8.2 (26'9")	2.44 (8'0")	3.7 (12'2")	358 (1'2")	PS 4F-4R	32.1 (20)	36.6 (22.7)	
834	43E	63-74 96-00	298 (400)	40 300 (88,800)	7.75 (25'5")	2.54 (8'4")	3.80 (12'6")	510 (20.0")	PS 3F-3R	32.8 (20.4)	35.7 (22.2)	
834B	7BR	74-00	336 (450)	46 350 (102,200)	8.72 (28'7")		3.81 (12'6")	466 (18")	PS 4F-4R	34.1 (21.2)	41.8 (25.9)	
834G	6GZ	98-01	359 (481)	44 680 (98,500)	10.4 (34'2")	2.59 (8'6")	4.55 (14'11")	541 (21")	PS 4F-3R	38.5 (23.9)	23.0 (14.3)	**
834G	BPC	02-04	359 (481)	47 106 (103,849)	10.4 (34'2")	2.59 (8'6")	4.55 (14'11")	541 (21")	PS 4F-3R	38.5 (23.9)	23.0 (14.3)	
834H	BTX	05	372 (489)	47 106 (103,849)	10.42 (34'2")	2.59 (8'6")	4.55 (14'11")	531 (1'9")	PS 4F-3R	35.4 (22)	21.4 (13.3)	
844	2KZ	98-01	466 (625)	69 230 (152,620)	10.9 (35'9")	3.1 (10'0")	4.6 (15'1")	552 (22")	PS 3F-3R	22.5 (14.0)	25.0 (15.5)	***
844	BBN	01-05	466 (625)	70 815 (156,120)	10.9 (35'9")	3.1 (10'0")	4.6 (15'1")	552 (22")	PS 3F-3R	22.5 (14.0)	25.0 (15.5)	
844H	BTW	05	468 (627)	70 815 (156,120)	10.94 (35'9")	3.1 (10'0")	4.6 (15'1")	475 (1'7")	PS 3F-3R	21 (13)	23 (14.3)	
854G	1JW	97-99	597 (800)	99 400 (219,125)	13.4 (44'0")	3.3 (10'10")	5.89 (19'3")	691 (27")	PS 3F-3R	20.5 (12.7)	22.7 (14.1)	****
854G	AMP	00-04	597 (800)	99 400 (219,125)	13.4 (44'0")	3.3 (10'10")	5.39 (19'3")	691 (27")	PS 3F-3R	20.5 (12.7)	22.7 (14.1)	
854K	221	08	597 (801)	98 100 (216,273)	13.45 (44'0")	3.3 (10'10")	5890 (19'3")	691 (2'3")	PS 3F-3R	21.2 (13.2)	23.5 (14.6)	

*Turbocharged, Articulated Steering.

**Move to "G" Series.

***New model from Tiger (590).

****New model from Tiger (790).



COMPACTORS

Model	Product Ident. No. Prefix	Years Built	Flywheel Kilowatts (Horsepower)	Approx. Oper. Wt. kg (lb)	Drum Width m (ft)	Articulated Steering Angle, Maximum	Transmission	Maximum Speeds Fwd. km/h (mph)	Rev. km/h (mph)	
815	91P	70-81	127 (170)	17 300 (38,200)	0.97 (3'2")	44° Either Side	Power Shift 4F-4R	30.1 (18.7)	35.7 (22.2)	*
815B	17Z	81-95	161 (216)	20 035 (44,175)	0.98 (3'2")	45° Either Side	Power Shift 4F-4R	37.5 (23.3)	42.9 (26.6)	*
815F	1GN	96-02	164 (220)	20 952 (46,096)	0.98 (3'2")	36° Either Side	Power Shift 4F-4R	37.6 (23.3)	43.0 (26.7)	
815F	BKL	03-06	179 (240)	20 755 (45,765)	0.98 (3'2")	36° Either Side	Power Shift 3F-3R	17.9 (11.1)	19.5 (12.1)	
815F II	BYN	06	173 (232)	20 755 (45,756)	0.99 (3'3")	42° Either side	Power Shift 3F-3R	17.6 (11)	19.5 (12.2)	
816	57U	72-81	127 (170)	18 550 (40,900)	1.02 (3'4")	44° Either Side	Power Shift 4F-4R	30.1 (18.6)	35.7 (22.4)	**
816B	15Z	81-95	161 (216)	20 628 (45,477)	1.02 (3'4")		Power Shift 4F-4R	35.3 (22.0)	40.4 (25.1)	**
816F	5FN	96-02	164 (220)	20 879 (45,934)	1.02 (3'4")	42° Either Side	Power Shift 4F-4R	36.3 (22.5)	41.4 (25.7)	
816F II	BZR	06	173 (232)	23 748 (52,364)	1.016 (3'4")	42° Either side	Power Shift 2F-2R	9.5 (5.9)	10.6 (6.6)	
825B	43N	70-78	224 (300)	30 075 (66,300)	1.13 (3'8")	44° Either Side	Power Shift 4F-4R	29.8 (18.5)	29.8 (18.5)	
825C	86X	78-96	231 (310)	32 400 (71,432)	1.13 (3'8")	42° Either Side	Power Shift 4F-4R	29.8 (18.5)	33.9 (21.1)	
825G	6RN	96-02	235 (315)	31 740 (69,828)	1.13 (3'8")	42° Either Side	Power Shift 3F-3R	15.6 (9.7)	17.2 (10.7)	
825G II	AXB	03-04	253 (339)	32 734 (72,164)	1.13 (3'8")	42° Either Side	Power Shift 3F-3R	15.6 (9.7)	17.2 (10.7)	
825H	AZW	05	264 (354)	32 734 (72,164)	1.125 (3'7")	42° Either side	Power Shift 3F-3R	15.6 (9.7)	17.2 (10.7)	
826C	87X	78-95	235 (315)	34 920 (76,990)	1.20 (3'11")	42° Either Side	Power Shift 4F-4R	32.5 (20.2)	37.2 (23.1)	
826G	7LN	96-02	235 (315)	33 350 (73,537)	1.2 (3'11")	42° Either Side	Power Shift 2F-2R	11.2 (6.9)	13.5 (8.4)	
826H	AWF	05	264 (354)	36 967 (81,498)	1.2 (3'11")	42° Either side	Power Shift 2F-2R	9.7 (6.03)	10.6 (6.59)	
835	44N	70-74	298 (400)	35 900 (79,100)	1.22 (4'0")	44° Either Side	Power Shift 3F-3R	32.2 (20.0)	34.8 (21.6)	
836	3RL 7FR	93-95 95-98	336 (450)	45 450 (100,000)	1.4 (4'7")	35° Either Side	Power Shift 2F-2R	11.3 (7.0)	14.0 (8.7)	*
836G	7MZ	98-01	351 (471)	53 680 (118,348)	1.4 (4'7")	35° Either Side	Power Shift 2F-2R	6.0 (3.7)	10.2 (6.3)	
836H	BXD	05	372 (499)	53 682 (118,348)	1.4 (4'7")	35° Either side	Power Shift 2F-2R	10.9 (6.8)	11.4 (7.1)	

*Turbocharged, Articulated Steering.

**Turbocharged, ROPS Cab, Sleeve Metering Fuel System.



WHEEL LOADERS

Model	Product Ident. No. Prefix	Years Built	Flywheel Horse-power	Approx. Shipping Wt. kg (lb)	Rated Capacity m³ (yd³)	Breakout Force kg (lb)	Width Over Tires m (ft)	Ground Clearance mm (in)	Max. Reach at max. height mm (ft)	Dump Clearance at max. height m (ft)	Maximum Speeds km/h (mph) Fwd. Rev.	Remarks
904B	B4L	05-08	52	4368 (9630)	0.6 (0.8)	3633 (8009)	1.7 (5'7")	218 (8.6")	664 (2'2")	2.38 (7'10")	20 (12.4) 20 (12.4)	
910	80V	73-79	65	6100 (13,400)	1.0 (1.25)	4530 (10,000)	2.07 (6'10")	405 (16")	860 (2'10")	2.46 (8'1")	24.1 (15.0) 10.6 (6.6)	
910	40Y	79-89	65	6658 (14,679)	1.0 (1.25)	5838 (12,870)	2.07 (6'10")	405 (16")	930 (3'0.6")	2.40 (7'10")	23.9 (14.8) 10.6 (6.6)	
910	41Y	79-89	65	6658 (14,679)	1.0 (1.25)	5838 (12,870)	2.07 (6'10")	405 (16")	930 (3'0.6")	2.40 (7'10")	23.5 (14.6) 24.9 (15.5)	
910E	1SF	89-92	78	7298 (16,062)	1.3 (1.7)	6503 (14,339)	2.15 (7'0")	343 (13.5")	1000 (3'3.4")	2.57 (8'5")	34.0 (21.1) 22.4 (13.9)	3114 Engine Z Bar Linkage
910F	1SF	92-95	80	7009 (15,452)	1.3 (1.7)	6443 (14,207)	2.15 (7'0")	370 (14.6")	981 (3'3")	2.60 (8'6")	34.0 (21.1) 22.4 (13.9)	3114 Engine Z Bar Linkage
916	2XB	86-92	85	8554 (18,857)	1.4 (1.75)	9124 (20,115)	2.33 (7'8")	322 (12.7")	926 (3'0.5")	2.65 (8'9")	24.8 (15.4) 25.0 (15.5)	3204 Engine Z Bar Linkage
918F	3TJ	92-94	98	8973 (19,785)	1.5 (2.0)	9795 (21,598)	2.33 (9'1.6")	318 (13")	802 (2'8")	2.78 (9'1")	37.0 (23.0) 24.5 (15.2)	3114 Engine Z Bar Linkage
920	62K	69-84	80	8440 (18,600)	1.2 (1.5)	7901 (17,419)	2.16 (7'1")	335 (13")	740 (2'5")	2.77 (9'1")	43.8 (27.2) 23.2 (14.4)	
922A	59A	60-62	80	7350 (16,200)	0.93 (1.25)	6850 (15,100)	2.12 (7'0")	368 (15")	655 (2'2")	2.60 (8'7")	30.4 (18.9) 32.8 (20.4)	
922B	88J	62-68	80	7670 (16,900)	1.15 (1.50)	9000 (19,900)	2.25 (7'5")	390 (16")	680 (2'3")	2.60 (8'7")	33.6 (20.9) 42.9 (26.7)	
924F	5NN	94-99	105	9025 (19,900)	1.7 (2.25)	9553 (21,067)	2.33 (7'6")	318 (12.5")	855 (2'8")	2.70 (8'10")	38.2 (23.6) 23.6 (14.8)	
924G	9SW	99-02	120	9615 (21,197)	1.8 (2.3)	9876 (21,772)	2.36 (7'9")	370 (15)	1318 (4'4")	2.828 (9'4")	38.5 (23.9) 21.8 (13.5)	
924G	3PZ	99-02	120	9615 (21,197)	1.8 (2.3)	9876 (21,772)	2.36 (7'9")	370 (15)	1318 (4'4")	2.828 (9'4")	38.5 (23.9) 21.8 (13.5)	
924G	AAN	99-02	120	9615 (21,197)	1.8 (2.3)	9876 (21,772)	2.36 (7'9")	370 (15)	1318 (4'4")	2.828 (9'4")	38.5 (23.9) 21.8 (13.5)	
924G	DDA	02-07	129	9977 (21,996)	1.8 (2.3)	11 452 (25,247)	2.36 (7'9")	370 (15)	1451 (4'10")	2.918 (9'7")	38.5 (23.9) 21.8 (13.5)	
924G	RBB	02-07	129	9977 (21,996)	1.8 (2.3)	11 452 (25,247)	2.36 (7'9")	370 (15)	1451 (4'10")	2.918 (9'7")	38.5 (23.9) 21.8 (13.5)	
924G	WMB	02-07	129	9977 (21,996)	1.8 (2.3)	11 452 (25,247)	2.36 (7'9")	370 (15)	1451 (4'10")	2.918 (9'7")	38.5 (23.9) 21.8 (13.5)	
924Gz	6YW	99-02	120	9615 (21,197)	1.8 (2.3)	9876 (21,772)	2.36 (7'9")	370 (15)	1318 (4'4")	2.828 (9'4")	38.5 (23.9) 21.8 (13.5)	
924Gz	3DZ	99-03	120	9615 (21,197)	1.8 (2.3)	9876 (21,772)	2.36 (7'9")	370 (15)	1318 (4'4")	2.828 (9'4")	38.5 (23.9) 21.8 (13.5)	
924Gz	AAB	99-04	120	9615 (21,197)	1.8 (2.3)	9876 (21,772)	2.36 (7'9")	370 (15)	1318 (4'4")	2.828 (9'4")	38.5 (23.9) 21.8 (13.5)	
924Gz	DFZ	02-04	129	9615 (21,197)	1.8 (2.3)	9876 (21,772)	2.36 (7'9")	370 (15)	1318 (4'4")	2.828 (9'4")	38.5 (23.9) 21.8 (13.5)	
924Gz	RTA	02-07	129	9615 (21,197)	1.8 (2.3)	9876 (21,772)	2.36 (7'9")	370 (15)	1318 (4'4")	2.828 (9'4")	38.5 (23.9) 21.8 (13.5)	
924Gz	WGX	02-07	129	9615 (21,197)	1.8 (2.3)	9876 (21,772)	2.36 (7'9")	370 (15)	1318 (4'4")	2.828 (9'4")	38.5 (23.9) 21.8 (13.5)	

Wheel Loaders (cont'd)

Model	Product Ident. No. Prefix	Years Built	Flywheel Horse-power	Approx. Shipping Wt. kg (lb)	Rated Capacity m³ (yd³)	Breakout Force kg (lb)	Width Over Tires m (ft)	Ground Clearance mm (in)	Max. Reach at max. height mm (ft)	Dump Clearance at max. height m (ft)	Maximum Speeds km/h (mph)	Fwd. Rev.	Remarks
926	94Z	84-87	105	8800 (19,400)	1.21 (1.75)	5070 (11,179)	2.33 (7'8")	341 (13.5")	924 (3'0")	2.67 (8'9")	30.3 (18.8)	32.3 (20.0)	3204 Engine Z Bar Linkage
926E	94Z	87-92	110	9432 (20,794)	1.7 (2.25)	10 044 (22,143)	2.33 (7'8")	341 (13.5")	1003 (3'3.5")	2.75 (9'0")	34.2 (21.2)	36.8 (22.9)	
928F	2XL	93-96	120	10 870 (23,920)	2.1 (2.75)	10 090 (22,200)	2.43 (8'0")	318 (13")	956 (3'2")	2.74 (9'0")	36.5 (22.6)	21.1 (13.1)	3116 Engine Z Bar Linkage
928G	6XR	96-02	125	11 250 (24,802)	2.0 (2.6)	11 723 (25,849)	2.44 (8'0")	408 (16")	1455 (4'9")	2.879 (9'5")	37.7 (23.4)	25.8 (16)	
928G	7SR	96-02	125	11 250 (24,802)	2.0 (2.6)	11 723 (25,849)	2.44 (8'0")	408 (16")	1455 (4'9")	2.879 (9'5")	37.7 (23.4)	25.8 (16)	
928Gz	DJD	02-07	143	11 250 (24,802)	2.0 (2.6)	11 723 (25,849)	2.44 (8'0")	408 (16")	1455 (4'9")	2.879 (9'5")	37.7 (23.4)	25.8 (16)	
928Gz	WLG	02-07	143	11 250 (24,802)	2.0 (2.6)	11 723 (25,849)	2.44 (8'0")	408 (16")	1455 (4'9")	2.879 (9'5")	37.7 (23.4)	25.8 (16)	
930	41K	68-85	100	9660 (21,300)	1.7 (2.25)	7900 (17,410)	2.39 (7'10")	348 (13.7")	1350 (3'9")	2.79 (9'2")	44.2 (27.5)	23.3 (14.5)	3304 Engine Z Bar Linkage
930G	TWR	05-07	149	12 756 (28,122)	2.3 (3.0)	14 567 (32,115)	2.41 (7'11")	421 (16")	1542 (5'1")	2917 (9'7")	38.3 (23.8)	24.1 (15)	
930G	TFR	05-07	149	12 756 (28,122)	2.3 (3.0)	14 567 (32,115)	2.41 (7'11")	421 (16")	1542 (5'1")	2917 (9'7")	38.3 (23.8)	24.1 (15)	
936	33Z	83-87	125	11 884 (26,200)	2.1 (2.75)	12 514 (28,708)	2.56 (8'4.5")	329 (13")	1055 (3'0")	2.80 (9'2")	34.4 (21.4)	38.4 (23.9)	3304 Engine Box Frame
936E	33Z	87-92	135	12 300 (27,000)	2.3 (3.00)	12 920 (28,483)	2.56 (8'5")	379 (14.9")	1026 (2'11")	2.87 (9'2")	40.6 (25.2)	45.3 (28.2)	
936F	8AJ	92-94	140	12 300 (27,060)	2.3 (3.00)	12 920 (28,483)	2.58 (8'5")	379 (14.9")	997 (3'3")	2.84 (9'4")	42.3 (26.3)	46.7 (29.6)	
938F		94-97	140	13 030 (28,730)	2.5 (3.25)	12 330 (27,180)	2.61 (8'7")	400 (16")	1004 (3'4")	2.85 (9'4")	37.9 (23.6)	22.0 (13.7)	3116 Engine Wet Disc Brakes Z Bar Linkage
938G	4YS	97-02	160	12 962 (28,578)	2.8 (3.65)	11 227 (24,770)	2.60 (8'6")	400 (16")	1055 (3'6")	2.72 (8'11")	39.4 (24.5)	23.4 (14.5)	
938G Series II	CRD	02-07	160	13 452 (29,656)	2.8 (3.66)	11 156 (24,594)	2.6 (102)	400 (16)	1068 (42)	2771 (109)	38.8 (24.1)	23.3 (14.5)	
944	87J	59-68	100	10 100 (22,000)	1.53 (2.0)	9800 (21,700)	2.40 (7'10")	450 (18")	905 (3'0")	2.96 (9'9")	38.5 (23.9)	46.6 (28.9)	
950	81J	68-81	130	12 930 (28,500)	1.53 (2.07)	10 320 (22,760)	2.41 (7'11")	381 (15")	740 (2'5")	2.82 (9'3")	35.9 (22.3)	42.5 (26.4)	Articulated Steering, 4 Wheel Drive Z Bar Linkage
950B	22Z	81-87	155	14 650 (32,300)	2.9 (3.75)	15 680 (35,895)	2.67 (5'9")	427 (16.8")	1125 (3'8")	2.95 (9'8")	36.4 (22.6)	39.4 (24.5)	
950E	22Z	87-91	160	15 856 (34,883)	3.1 (4.0)	13 586 (29,925)	2.76 (9'0")	400 (15.7")	1160 (3'10")	2.85 (9'4")	36.2 (22.4)	39.9 (24.7)	23.5-25 Std. Tires
950F	7ZF	90-92	170	16 086 (35,463)	3.1 (4.0)	14 954 (32,974)	2.76 (9'0")	474 (18.7")	1160 (3'10")	2.85 (9'4")	39.3 (24.4)	43.0 (26.7)	3116 Engine Wet Disc Brakes Integral ROPS Electronic Shift
950F Series II	5SK	93-98	170	16 880 (37,220)	3.1 (4.0)	14 960 (32,980)	2.76 (9'0")	460 (18.1")	1180 (3'10")	2.83 (9'3")	38.7 (24.0)	42.7 (26.5)	
950G	3JW 4BS	98-02	183	16 904 (37,266)	3.5 (4.5)	14 888 (32,810)	2.89 (9'6")	400 (16")	1270 (4'2")	2.89 (9'6")	37.0 (23.0)	40.7 (25.3)	

Wheel Loaders (cont'd)

Model	Product Ident. No. Prefix	Years Built	Flywheel Horse-power	Approx. Shipping Wt. kg (lb)	Rated Capacity m³ (yd³)	Breakout Force kg (lb)	Width Over Tires m (ft)	Ground Clearance mm (in)	Max. Reach at max. height mm (ft)	Dump Clearance at max. height m (ft)	Maximum Speeds km/h (mph) Fwd. Rev.	Remarks
960F	9ZJ	94-98	200	18 070 (39,840)	3.5 (4.5)	14 500 (31,970)	2.77 (9'1")	454 (17.9")	1030 (3'5")	2.92 (9'6")	39.4 (24.5) 43.2 (26.8)	Material Handler
962G	4PW 5AS	98-02	200	17 941 (39,553)	3.8 (5.0)	14 480 (31,950)	2.90 (9'8")	400 (16")	1250 (4'2")	2.77 (9'2")	37.0 (23.0) 40.7 (25.3)	
966A	33A	60-63	140	13 060 (28,800)	2.10 (2.75)	13 470 (29,700)	2.70 (8'10")	450 (18")	900 (3'0")	2.95 (9'8")	43.0 (26.7) 51.5 (32.3)	
966B	75A	63-68	150	14 300 (31,500)	2.29 (3.0)	14 000 (31,000)	2.70 (8'10")	400 (16")	900 (3'0")	2.95 (9'8")	38.5 (23.9) 46.3 (28.8)	
966C	76J	68-81	170	16 730 (36,890)	3.1 (4.0)	11 600 (25,578)	2.77 (9'1")	400 (15.7")	1420 (4'8")	2.95 (9'8")	38.0 (23.6) 45.1 (28.0)	3306 Engine
966D	99Y	80-87	200	19 730 (43,500)	3.3 (4.25)	20 972 (48,150)	2.86 (9'4.8")	451 (17.8")	1230 (4'0")	3.14 (10'3.5")	34.3 (21.3) 38.1 (23.7)	3306 Engine Z Bar Linkage
966E	99Y	87-90	216	20 324 (44,767)	3.8 (5.0)	18 939 (41,715)	2.94 (9'8")	476 (18.7")	1290 (4'3")	2.98 (9'9")	38.2 (23.7) 43.6 (27.0)	26.5-25 Std. Tires
966F	4YG	90-93	220	20 466 (45,119)	3.8 (5.0)	20 493 (45,187)	2.94 (9'8")	476 (18.7")	1280 (4'2")	2.98 (9'9")	37.6 (23.4) 42.6 (26.4)	Wet Disc Brakes
966F Series II	1SL	93-98	220	21 290 (46,950)	3.8 (5.0)	20 490 (45,180)	2.94 (9'8")	476 (18.7")	1277 (4'2")	2.98 (9'9")	38.8 (24.1) 43.9 (27.3)	Integral ROPS Electronic Shift
966G	3SW 3ZS	98-02	235	22 068 (48,651)	4.0 (5.25)	19 986 (44,120)	2.97 (9'9")	565 (22")	1295 (4'3")	3.1 (10'2")	37.1 (23.1) 42.2 (26.2)	
970F	7SK	93-98	250	23 690 (52,240)	4.7 (6.0)	16 510 (36,400)	2.94 (9'8")	482 (19")	1357 (4'5")	3.22 (10'6")	37.3 (23.2) 42.7 (26.5)	Material Handler New Model
972G	4WW 7LS	98-02	265	24 468 (53,942)	4.7 (6.0)	21 618 (47,580)	2.97 (9'9")	565 (22")	1255 (4'1")	3.15 (10'4")	37.0 (22.9) 41.9 (26.0)	
980	42H	66-70	235	20 000 (44,000)	3.06 (4.0)	18 860 (41,570)	2.87 (9'5")	399 (16")	1190 (3'11")	3.07 (10'1")	42.0 (26.1) 26.7 (16.6)	
980B	89P	70-78	260	23 360 (51,500)	3.44-4.21 (4.5-5.5)	15 900 (35,100)	3.11 (10'2")	— (3'8")	1120 (3'8")	3.20 (10'6")	43.0 (26.7) 27.4 (17.0)	
980C	63X	79-91	270	27 559 (60,755)	5.2 (6.75)	23 188 (51,121)	3.15 (10'4")	417 (16.4")	1480 (4'10")	3.19 (10'6")	34.6 (21.5) 39.6 (24.5)	Dual Z Bar Linkage
980F 980F Series II	8CJ	91-92 92-95	275	27 580 (60,800)	5.3 (7.0)	23 188 (51,121)	3.15 (10'4")	469 (18.5")	1500 (4'11")	3.16 (10'5")	37.4 (23.2) 42.8 (26.6)	Electronic Shift
980G	2KR	95-01	300	29 480 (65,000)	5.4 (7.0)	23 760 (52,390)	3.25 (10'8")	467 (18.4")	1540 (5'1")	3.27 (10'8")	37.4 (23.2) 42.8 (26.6)	

Wheel Loaders (cont'd)

Model	Product Ident. No. Prefix	Years Built	Flywheel Horse-power	Approx. Shipping Wt. kg (lb)	Rated Capacity m ³ (yd ³)	Breakout Force kg (lb)	Width Over Tires m (ft)	Ground Clearance mm (in)	Max. Reach at max. height mm (ft)	Dump Clearance at max. height m (ft)	Maximum Speeds km/h (mph)	Fwd. Rev.	Remarks
988	87A	63-76	325	35 800 (79,000)	4.6-5.4 (6.0-7.0)	21 380 (47,130)	3.20 (10'7")	570 (22.5")	1450 (4'9")	3.33 (10'11")	30.6 (19.0)	30.6 (19.0)	
988B	50W	76-93	375	43 365 (95,600)	5.4-6.3 (7.0-8.25)	36 330 (80,100)	3.52 (11'7")	474 (18")	2150 (7'1")	3.19 (10'5")	36.2 (22.5)	41.4 (25.7)	3408 Engine Z Bar Linkage
988F	8YG	93-95	400	43 540 (95,900)	5.4-6.1 (7.0-8.0)	37 363 (82,371)	3.52 (11'7")	496 (19")	1830 (6'0")	3.21 (10'6")	35.1 (21.8)	23.5 (14.6)	Bucket/HP increase STIC Steer
988F Series II	2ZR	95-00	475	45 678 (100,492)	6.1-6.9 (8.0-9.0)	37 400 (82,282)	3.52 (11'7")	496 (1'7")	1611 (5'3")	3.22 (10'7")	35.1 (21.8)	23.5 (14.6)	3048E HEUI Engine Axle Shaft Brakes
988G	2TW	01	475	50 040 (110,320)	6.3-7.0 (8.2-9.2)	46 950 (103,500)	3.47 (11'5")	549 (21.6")	2113 (6'11")	4.0 (13'1")	38.7 (24.0)	22.3 (13.8)	6 Bar Linkage "G" Series
988G	2TW	01-05	475	50 040 (110,320)	6.3-7.0 (8.2-9.2)	46 950 (103,500)	3.47 (11'5")	549 (21.6")	2113 (6'11")	4.0 (13'11")	38.6 (24.0)	25.1 (15.6)	6 Bar Linkage "G" Series
988H	BXY	05	501	49 546 (109,249)	6.4-7.0 (8.33-9.2)	378.4 (85,068)	3.47 (11'5")	549 (22")	5.85 (19'2")	3466 (11'37")	36 (22.3)	23.7 (14.7)	3.88 Meter Linkage
990	7HK	93-95	610	72 910 (160,600)	8.6 (11.2)	59 776 (131,784)	4.13 (13'6")	552 (21.7")	2070 (6'10")	3.99 (13'1")	22.5 (14.0)	25.0 (15.5)	ICTC & New Model
990 Series II	4FR	96-05	625	72 200 (159,170)	8.4-9.2 (11-12)	63 100 (138,800)	4.0 (13'1")	490 (19.3")	1990 (6'6")	4.05 (13'3")	22.5 (14.0)	25.0 (15.5)	HEUI Engine
990H	BWX	05	627	77 842 (171,642)	8.6-9.2 (11.25-12)	602 (135,429)	4.16 (13'3")	478 (18'8")	8.07 (26'6")	4220 (13'10")	22.4 (13.92)	24.8 (15.41)	Standard Lift 8.6 m ³ /11.2 yd ³ Bucket
992	25K	68-73	550	47 670 (105,100)	7.65 (10.0)	36 900 (81,360)	3.93 (12'11")	530 (21")	2820 (8'3")	4.52 (14'10")	35.6 (22.1)	38.5 (23.8)	
992B	25K	73-77	550	64 320 (141,800)	7.65 (10.0)	29 330 (64,660)	— (—)	— (—)	1930 (6'4")	4.34 (14'3")	40.2 (25.0)	43.6 (27.1)	
992C	42X	77-81	690	85 640 (188,800)	9.6 (12.5)	66 240 (146,030)	4.55 (14'11")	533 (21")	2310 (7'7")	4.17 (13'8")	21.1 (13.1)	23.3 (14.5)	3412 PCT Engine Z Bar Linkage
992C	49Z	81-92	690	88 430 (194,950)	10.4 (13.5)	66 285 (146,132)	4.50 (14'9")	544 (21")	2310 (7'7")	4.17 (13'8")	21.0 (13.0)	22.9 (14.2)	3412 DIT Engine
992D	7MJ	92-97	710	88 690 (195,125)	10.7 (14.0)	62 670 (137,870)	4.50 (14'9")	544 (21")	2300 (7'7")	4.17 (13'8")	21.0 (13.0)	22.9 (14.2)	
992G	7HR	98-00	800	91 540 (201,810)	11.5-12.3 (15-16)	62 650 (137,840)	4.5 (14'9")	691 (27.2")	2300 (7'7")	4.6 (15'3")	20.2 (12.5)	22.7 (14.1)	6 Bar Linkage "G" Series
992K	H4C	07	801	97 294 (214,535)	10.7-12.3 (14-16)	584.66 (128,917)	— (—)	682 (2'2")	9313 (30'6")	4480 (14'8")	20.6 (12.8)	22.4 (13.9)	10.7 m ³ /14 yd ³ Bucket
993K	Z9K	07	945	133 637 (294,800)	12.8-14.5 (16.7-19)	709 (159,500)	4.93 (16'2")	783 (30'8")	9313 (30'7")	4849 (15'11")	20.1 (22.1)	12.5 (13.7)	12.8 m ³ /16.7 yd ³ Bucket
994	9YF	90-98	1250	177 000 (390,300)	10.3 (13.4)	103 420 (228,000)	5.20 (17'1")	662 (26")	2692 (8'10")	6.20 (20'4")	24.7 (15.0)	26.6 (16.5)	



TRACK LOADERS

Model	Product Ident. No. Prefix	Years Built	Flywheel Horsepower	Approx. Operating Weight kg (lb)	Rated Capacity m³ (yd³)	Dimensions			Remarks
						Length** m (ft)	Width m (ft)	Height m (ft)	
931	78U	72-79	62	6940 (15,300)	0.77 (1.0)	2.74 (9'0")	1.78 (5'10")	1.96 (6'5")	
931 LGP	10N	75-79	62	7498 (16,530)	1.15 (1.5)	2.74 (9'0")	2.29 (7'6")	1.98 (6'6")	
931B	29Y	79-88	65	7362 (16,230)	0.8 (1.0)	4.13 (13'9")	1.84 (6'0.5")	2.68 (8'10")	
931B LGP	30Y	79-88	65	8089 (17,834)	0.8 (1.0)	3.84 (12'7")	2.41 (7'11")	2.68 (8'10")	
931C	2BJ1 7HF		67	7595 (16,743)	0.77 (1.0)	2.74 (9'0")	1.78 (5'10")	2.68 (8'10")	
931C LGP	6RF1 8AF		67	8170 (18,012)	0.77 (1.0)	2.74 (9'0")	1.78 (5'10")	2.68 (8'10")	
931C Series II	9AG 6AJ	90-93	70	8047 (17,742)	0.83 (1.08)	4.14 (13'1")	1.97 (6'5")	2.68 (8'10")	
933C	11A	55-58	50	7030 (15,500)	0.77 (1.0)	4.22 (13'10")	1.77 (5'10")	1.91 (6'4")	Integral loader
933E	11A	58-65	50	7640 (16,850)	0.77 (1.0)	4.22 (13'10")	1.77 (5'10")	1.40 (6'3")	Integral loader
933G	42A	65-68	60	7900 (17,500)	0.86 (1.125)	4.31 (14'2")	1.77 (5'10")	2.15 (7'1")	Patented Sealed Track
935B	30F	87-88	75	7899 (17,414)	1.0 (1.25)	4.19 (13'9")	1.96 (6'5")	2.68 (8'10")	
935C	8CF		78	8205 (18,089)	1.0 (1.3)	4.19 (13'9")	1.96 (6'5")	2.68 (8'10")	
935C Series II	SDJ	90-93	80	8759 (19,311)	1.0 (1.3)	4.37 (14'4")	1.97 (6'5")	2.68 (8'10")	
941	80H	68-72	70	8900 (19,700)	0.96 (1.25)	4.50 (14'10")	1.86 (6'1")	2.75 (9'0")*	Electric Start HP Increase, Hydraulic Track Adjusters
941B	80H	68-81	80	11 294 (24,900)	1.15 (1.5)	4.50 (14'10")	1.98 (6'6")	2.75 (9'0")*	
943	31Y	80-85	80	11 750 (25,900)	1.15 (1.5)	5.426 (17'10")	2.21 (8'7")	3.02 (9'11")	Hydrostatic drive
943	19Z	80-92	80	11 750 (25,900)	1.15 (1.5)	5.426 (17'10")	2.21 (8'7")	3.02 (9'11")	Hydrostatic drive made in France

*Height to top of stack. Others to top of seat back.

**Overall length to tip of smallest General Purpose bucket.

Track Loaders (cont'd)

Model	Product Ident. No. Prefix	Years Built	Flywheel Horsepower	Approx. Operating Weight kg (lb)	Rated Capacity m³ (yd³)	Dimensions			Remarks
						Length** m (ft)	Width m (ft)	Height m (ft)	
951B	79H	67-71	85	10 025 (22,100)	1.14 (1.5)	4.70 (15'6")	1.98 (6'6")	2.75 (9'0")*	Pedal Steering HP Increase, Sealed & Lubricated Track
951C	86J	71-81	95	12 338 (27,200)	1.34 (1.75)	4.77 (15'8")	1.98 (6'6")	2.75 (9'0")*	
953	5Z	81-85	110	14 050 (31,000)	1.5 (2.0)	5.87 (19'3")	2.38 (7'10")	3.08 (10'1")	Hydrostatic drive
953	20Z	81-92	110	14 050 (31,000)	1.5 (2.0)	5.87 (19'3")	2.38 (7'10")	3.08 (10'1")	Hydrostatic drive
953	76Y	81-85	110	13 800 (30,500)	1.5 (2.0)	5.87 (19'3")	2.38 (7'10")	3.08 (10'1")	Hydrostatic drive
953	77Y	81-85	110	13 800 (30,500)	1.5 (2.0)	5.87 (19'3")	2.38 (7'10")	3.08 (10'1")	Hydrostatic drive
953B	5MK	92-96	120	14 400 (31,800)	1.75 (2.25)	4.23 (13'4")	2.38 (7'10")	3.08 (10'1")	Hydrostatic drive
953C	2ZN	96-03	121	14 680 (32,360)	2.3 (3.0)	4.35 (14'3")	2.30 (7'7")	3.08 (10'1")	SystemOne U/C
953C Tier 2	BBX	03-07	128	15 145 (33,389)	1.75 (2.25)	4.35 (14'3")	2.30 (7'7")	3.16 (10'4")	
HT4	7U	50-55	54	2607 (5748)	0.96 (1.25)	4.32 (14'2")	2.03 (6'8")	1.83 (6'0")	Integral loader
955C	12A	55-60	70	9590 (21,145)	1.15 (1.5)	4.60 (15'2")	2.03 (6'8")	2.08 (6'11")	
955E	12A	58-60	70	10 160 (22,400)	1.15 (1.5)	4.60 (15'2")	2.03 (6'8")	2.09 (6'11")	Improved undercarriage
955H	60A	60-66	100	11 320 (24,950)	1.34 (1.75)	4.79 (15'9")	1.90 (6'3")	2.65 (8'8")*	Power shift, Turbo, oil cooled brakes
955K	61H	66-71	115	12 700 (28,000)	1.34 (1.75)	5.00 (16'6")	2.06 (6'9")	2.80 (9'3")*	Horsepower and bucket capacity increase
955L	85J	71-75	130	15 330 (33,800)	1.53 (2.0)	5.30 (16'1")	2.18 (7'2")	2.95 (9'8")*	ROPS Cab, Sealed & Lubricated Track
955L	13X	75-81	130	15 853 (34,950)	1.72 (2.25)	5.26 (17'3")	2.18 (7'2")	2.95 (9'8")	

*Height to top of stack. Others to top of seat back.

**Overall length to tip of smallest General Purpose bucket.

Track Loaders (cont'd)

Model	Product Ident. No. Prefix	Years Built	Flywheel Horsepower	Approx. Operating Weight kg (lb)	Rated Capacity m ³ (yd ³)	Dimensions			Remarks
						Length** m (ft)	Width m (ft)	Height m (ft)	
963	6Z	81-85	150	18 250 (40,250)	2.0 (2.6)	6.35 (20'10")	2.50 (8'2")	3.30 (10'10")	Hydrostatic drive
963	11Z	81-85	150	18 370 (40,490)	2.0 (2.6)	6.35 (20'10")	2.50 (8'2")	3.30 (10'10")	Hydrostatic drive
963	18Z	82-86	150	18 250 (40,250)	2.0 (2.6)	6.35 (20'10")	2.50 (8'2")	3.30 (10'10")	Hydrostatic drive made in France
963	21Z	82-95	150	18 370 (40,490)	2.0 (2.6)	6.35 (20'10")	2.50 (8'2")	3.30 (10'10")	Hydrostatic drive made in France
963B	9BL	95-99	160	19 620 (43,270)	2.45 (3.2)	6.60 (21'8")	2.50 (8'2")	3.31 (10'10")	3116 engine
963C	2DS	99-03	160	19 020 (41,940)	1.75 (2.25)	4.61 (15'2")	2.40 (7'11")	3.32 (10'11")	
963C Tier 2	BBD	03-07	158	19 589 (43,096)	2.45 (3.2)	4.61 (15'2")	2.40 (7'11")	3.39 (11'2")	SystemOne U/C
973	86G	81-00	210	25 040 (55,200)	3.2 (4.2)	7.12 (23'4")	2.85 (9'4")	3.42 (11'3")	
No. 6	10A	53-55	80	13 229 (29,165)	1.5 (2.0)	4.90 (16'1")	2.44 (8'1")	2.11 (6'11")	
977D	20A	55-60	100	14 430 (31,795)	1.72 (2.25)	5.19 (18'0")	2.44 (8'0")	2.22 (7'4")	
977E	20A	58-60	100	15 850 (34,910)	1.72 (2.25)	5.19 (18'0")	2.44 (8'0")	2.29 (7'7")	Improved undercarriage
977H	53A	60-66	150	17 000 (37,500)	1.90 (2.5)	5.28 (17'4")	2.44 (8'0")	2.29 (7'7")	Power shift, Turbo, oil cooled brakes
977K	46H	66-78	170	19 100 (42,000)	1.90 (2.5)	5.50 (18'0")	2.38 (7'10")	3.05 (10'0")*	Walk-through compartment, longer roller frame
977L	14X	78-82	190	21 780 (48,010)	2.10 (2.75)	5.59 (18'4")	2.38 (7'10")	3.32 (10'11")*	Horsepower and bucket capacity increase
983	38K	69-78	275	34 460 (75,980)	3.82 (5.0)	6.78 (22'3")	2.90 (9'6")	2.79 (11'10")*	
983B	58X	78-82	275	35 620 (78,530)	3.82 (5.0)	6.78 (22'3")	2.90 (9'6")	3.68 (12'1")*	DI engine

*Height to top of stack. Others to top of seat back.

**Overall length to tip of smallest General Purpose bucket.



INTEGRATED TOOLCARRIERS

	Product Ident. No. Prefix			Approx. Operating Weight kg (lb)					Max. Reach at Max. Height mm (in)	Dump Clearance at Max. Height m (ft)	Maximum Speeds km/h (mph) Fwd. Rev.	
Model		Years Built	Flywheel Horsepower		Rated Capacity m³ (yd³)	Breakout Force kg (lb)	Width Over Tires m (ft)	Ground Clearance mm (in)				
IT12	2YC	84-89	65	7393 (16,299)	1.0 (1.25)	7193 (15,858)	2.3 (7'8")	405 (15.9")	873 (34")	2.84 (9'4")	23.6 (14.6)	24.9 (15.4)
IT12B	1KF	89-93	78	7950 (17,530)	1.2 (1.6)	6160 (13,583)	2.15 (7'1")	343 (13.5")	958 (37.7")	2.69 (8'10")	34 (21.1)	22.4 (13.9)
IT12F	1KF	93-95	80	7893 (17,401)	1.3 (1.7)	6479 (14,247)	2.15 (7'1")	365 (1'2")	917 (3'1")	2.74 (8'11.8")	34 (21.1)	22.4 (13.9)
IT14B	3NJ	89-93	85	8333 (18,374)	1.2 (1.6)	7525 (16,593)	2.15 (7'1")	344 (13.6")	958 (37.7")	2.70 (8'11")	37.3 (23.2)	24.4 (15.2)
IT14F	4EL	93-95	85	7999 (17,635)	1.3 (1.7)	7170 (15,808)	2.15 (7'1")	365 (1'2")	918 (3'1")	2.74 (9'0")	37.3 (23.2)	24.4 (15.2)
IT18	9NB	84-86	85	8660 (19,092)	1.2 (1.5)	9105 (20,108)	2.4 (7'10")	285 (11.2")	990 (39")	2.84 (9'4")	25 (15.5)	25 (15.5)
IT18B	4ZD	86-92	95	9770 (21,540)	1.3 (1.75)	10 500 (21,350)	2.28 (7'6")	324 (12.8")	993 (39")	2.89 (9'6")	26.4 (16.4)	27.7 (17.2)
IT18F	6ZF	92-94	105	9959 (21,960)	1.6 (2.0)	8880 (19,580)	2.33 (7'8")	321 (1'1")	1089 (3'7")	2.75 (9'0")	37 (23)	24.5 (15.2)
IT24F	4NN	94-99	105	9989 (20,022)	1.7 (2.5)	8782 (19,361)	2.33 (7'6")	321 (12.6")	1088 (3'6")	2.75 (9'0")	38.0 (23.6)	23.4 (14.8)
IT28	2KC	84-86	105	9560 (21,076)	1.5 (2.0)	9505 (20,955)	2.4 (7'10")	285 (11.2")	1044 (41")	2.82 (9'3")	30.8 (18.8)	32.3 (20.0)
IT28B	1HF	86-93	110	10 580 (23,325)	1.7 (2.25)	10 456 (23,050)	2.32 (7'7")	324 (12.8")	1091 (43")	2.73 (8'11")	34.4 (21.4)	37.2 (23.1)
IT28F	3CL	93-96	125	11 430 (25,200)	2.0 (2.6)	9840 (21,700)	2.43 (8'0")	317 (12")	1093 (43")	2.72 (8'11")	35.4 (21.9)	21.4 (13.5)
IT28G	DBT	02-04	146	12 640 (27,860)	2.0 (2.6)	10 631 (23,437)	2.54 (8'4")	407 (16")	958 (38")	2.97 (9'9")	37.7 (23.4)	25.8 (16)
IT28G	EWf	02-05	131	11 250 (24,802)	2.0 (2.6)	11 723 (25,849)	2.44 (8'0")	408 (16")	1455 (4'9")	2.879 (9'5")	37.7 (23.4)	25.8 (16)
IT28G	WAC	02-05	131	11 250 (24,802)	2.0 (2.6)	11 723 (25,849)	2.44 (8'0")	408 (16")	1455 (4'9")	2.879 (9'5")	37.7 (23.4)	25.8 (16)
IT38G Series II	CSX	02-07	160	14 583 (32,156)	2.8 (3.66)	11 216 (24,729)	2.6 (102)	400 (16)	1224 (48)	2733 (108)	38.8 (24.1)	23.3 (14.5)
950F CT	5SK	94-98	170	16 600 (36,580)	3.1 (4.0)	13 590 (29,950)	2.87 (9'5")	460 (18")	1714 (68")	2.845 (9'4")	38.7 (24.0)	42.7 (26.5)



TELEHANDLERS

Model	Product Ident. No. Prefix	Years Built	Flywheel Horsepower kW (hp)	Operating Weight kg (lb)	Engine	Maximum Lift Height m (ft/in)	Maximum Reach m (ft/in)	Maximum Lift Capacity kg (lb)
TH62	4TM	00-02	72 (105)	6840 (15,080)	3054T	7.6 (25'0")	4.2 (13'9")	2725 (6000)
TH63	5WM	00-02	72 (105)	9260 (20,420)	3054T	12.5 (41'0")	8.1 (26'7")	3000 (6615)
TH82	3JN	00-02	72 (105)	7470 (16,470)	3054T	7.6 (25'0")	4.2 (13'9")	3635 (8000)
TH83	3RN	00-02	72 (105)	10 000 (22,050)	3054T	12.5 (41'0")	8.2 (27'0")	3635 (8000)
TH103	3PN	00-02	72 (105)	12 500 (27,500)	3054T	13.5 (44'0")	8.8 (28'9")	4536 (10,000)
TH210	MHT	03-06	60 (80)	5000 (11,023)	3054B DI	5.18 (17'0")	2.8 (9'2")	2200 (4840)
TH215	MHS	03-06	60 (80)	5500 (12,100)	3054B DI	5.54 (18'2")	3.1 (10'2")	2500 (5500)
TH220B	SLA/TBF	03-07	74.5 (100)	6700 (14,774)	Cat 3054E	6.1 (20'0")	3.3 (10'9")	3500 (7718)
TH330B	SLB/TBG	03-07	74.5 (100)	7200 (15,876)	Cat 3054E	7.2 (23'7")	3.8 (12'6")	3600 (7938)
TH340B	SLC	03-06	74.5 (99.9)	7700 (17,000)	3054E	9.0 (29'6")	6.5 (21'4")	3000 (6600)
TH350B	SLD	03-06	74.5 (99.9)	8480 (18,100)	3054E	11.0 (36'0")	7.4 (24'0")	3000 (6600)
TH360B	SLE/TBH	03-07	74.5 (100)	9970 (21,984)	Cat 3054E	13.5 (44'3")	9.2 (30'2")	3500 (7718)
TH460B	SLF	03-06	74.5 (99.9)	10 500 (21,600)	3054E	13.5 (44'4")	9.2 (30'0")	4000 (8800)
TH560B	SLG/TBP	03-07	74.5 (99.9)	12,000 (26,500)	Cat 3054E	13.5 (44'0")	9.2 (30'0")	5000 (11,000)
TH580B	SLH/TBJ	03-07	74.5 (99.9)	13,670 (30,100)	Cat 3054E	17 (56'0")	12.7 (42'0")	5000 (11,000)



PAVING PRODUCTS — COLD PLANERS

Model	Product Ident. No. Prefix	Years Built	kW Flywheel (Horsepower)	Approximate Operating Weight kg (lb)	General Dimensions (Shipping)		
					Height mm (ft)	Length mm (ft)	Width mm (ft)
PR-75		85-92	52 (77)	5900 (13,000)	2690 (8'10")	3050 (10'0")	2130 (7'0")
PR-105		85-92	67 (90)	7711 (17,000)	2921 (9'7")	3581 (11'9")	2515 (8'3")
PR-275	6RC	—	201 (270)	17 237 (38,000)	2896 (9'6")	5740 (18'10")	2438 (8'0")
PR-450		85-92	336 (450)	28 308 (58,000)	4270 (14'0")	13 280 (43'8")	2870 (9'5")
PR-450C		92-97	336 (450)	28 308 (58,000)	3810 (12'6")	13 200 (43'6")	2490 (8'2")
PR-750B		85-92	559 (750)	42 638 (94,000)	3734 (12'3")	16 500 (54'0")	3575 (11'9")
PR-1000			Cutter 559 (750) Track 186 (250)	46 780 (103,130)	3810 (12'6")	16 590 (54'5")	4877 (16'0")
PM-465	5ZS	97-03	353 (473)	14 333 (31,600)	2820 (9'3")	13 716 (45'0")	2489 (8'2")
PM-565		xx-05	466 (625)	38 595 (85,100)	5040 (16'6")	15 100 (49'5")	2790 (9'2")



PAVING PRODUCTS — RECLAIMERS & STABILIZERS

Model	Product Ident. No. Prefix	Years Built	kW Flywheel (Horsepower)	Approximate Operating Weight kg (lb)	General Dimensions (Shipping)		
					Height mm (ft)	Length mm (ft)	Width mm (ft)
SS-250	6DD	85-96	250 (335)	13 300 (29,300)	3220 (10'7")	8780 (28'10")	2900 (9'7")
SS-250B	5GR	96-01	250 (335)	14 340 (31,600)	2600 (8'6")	8560 (28'1")	2900 (9'6")
RR-250	6ED	85-96	250 (335)	17 876 (39,300)	3220 (10'7")	8780 (28'10")	2900 (9'7")
RR-250B	3RR	96-01	250 (335)	19 260 (42,470)	2600 (8'6")	8560 (28'1")	2900 (9'6")
RM-250C			250 (335)	16 780 (37,000)	3220 (10'7")	8780 (28'10")	2921 (9'7")
RM-350	5FK	92-97	321 (430)	21 440 (47,200)	3404 (11'2")	9577 (31'5")	2997 (9'10")
SM-350	1RM	92-97	321 (430)	18 440 (40,600)	3404 (11'2")	9577 (31'5")	2997 (9'10")
RM-350B			373 (500)	24 040 (53,000)	3404 (11'2")	9980 (32'9")	2997 (9'10")

PAVING PRODUCTS — UNITIZED VENTURI-MIXERS & UNITIZED DRUM-MIXERS					
Drum Dimensions			Performance		
Model	Diameter mm (ft)	Length m (ft)	Gross Volume m³ (ft³)	Production Range/hr. metric tons (tons)	Air Flow m³/min (ft³/min)
UVM-500	1829/1524 (6'0"/5'0")	7.9 (26'0")	14.17 (500)	68-109 (75-120)	300-481 (10,600-17,000)
UDM-600	1829 (6'0")	6.7 (22'0")	17.00 (600)	82 (89)	354.25 (12,500)
UDM-900	2134/1829 (7'0"/6'0")	9.1 (30'0")	25.48 (900)	68-227 (75-250)	311-793 (11,000-28,000)
UVM-1000	2134 (7'0")	9.754 (32'0")	28.34 (1000)	82-272 (90-300)	425-1076 (15,000-38,000)
UVM-1400	2286 (7'6")	10.973 (36'0")	39.64 (1400)	100-358 (110-395)	481-1274 (17,000-45,000)
UVM-1700	2591 (8'6")	11.582 (38'0")	48.14 (1700)	122-480 (135-450)	651-1614 (23,000-57,000)

PAVING PRODUCTS — PORTABLE VENTURI-MIXERS					
Drum Dimensions			Performance		
Model	Diameter mm (ft)	Length m (ft)	Gross Volume m³ (ft³)	Production Range/hr. metric tons (tons)	Air Flow m³/min (ft³/min)
PVM-1100	2134 (7'0")	10.97 (36'0")	31.15 (1100)	82-295 (90-325)	425-1133 (15,000-40,000)
PVM-1500	2286 (7'6")	12.19 (40'0")	42.48 (1500)	100-363 (110-400)	510-1274 (18,000-45,000)
PVM-2000	2591 (8'6")	12.80 (42'0")	56.64 (2000)	122-454 (135-500)	680-1699 (24,000-60,000)
PVM-2500	2896 (9'6")	12.80 (42'0")	70.79 (2500)	136-499 (150-550)	793-2110 (28,000-74,500)
PVM-2900	3048 (10'0")	13.41 (44'0")	82.12 (2900)	168-553 (185-610)	906-2265 (32,000-80,000)
PVM-3300	3200 (10'6")	13.41 (44'0")	93.45 (3300)	181-612 (200-675)	991-2464 (35,000-87,000)



PAVING PRODUCTS — STATIONARY VENTURI-MIXERS

Drum Dimensions			Performance		
Model	Diameter mm (ft)	Length m (ft)	Gross Volume m³ (ft³)	Production Range/hr. metric tons (tons)	Air Flow m³/min (ft³/min)
SVM-1100	2134 (7'0")	10.97 (36'0")	31.15 (1100)	82-295 (90-325)	425-1133 (15,000-40,000)
SVM-1500	2286 (7'6")	12.19 (40'0")	42.48 (1500)	100-363 (110-400)	510-1274 (18,000-45,000)
SVM-2000	2591 (8'6")	12.80 (42'0")	56.64 (2000)	122-454 (135-500)	680-1699 (24,000-60,000)
SVM-2500	2896 (9'6")	12.80 (42'0")	70.79 (2500)	136-499 (150-550)	793-2110 (28,000-74,500)
SVM-2900	3048 (10'0")	13.41 (44'0")	82.12 (2900)	168-553 (185-610)	906-2265 (32,000-80,000)
SVM-3600	3200 (10'6")	14.63 (48'0")	101.94 (3600)	190-623 (210-685)	1020-2565 (36,000-90,000)



PAVING PRODUCTS — SLIPFORM PAVERS

Model	Product Ident. No. Prefix	Years Built	Flywheel Horsepower	Approx. Operating Weight kg (lb)	Standard Paving Width m (ft)	Shipping Dimensions (Min.)			Remarks
						Length m (ft)	Width m (ft)	Height m (ft)	
SF-175	5ZC	—	142	9072 (20,000)	2.1 (7'0")	6.6 (21'6")	2.4 (8'0")	2.8 (9'4")	
SF-250	6XC	—	208	24 494 (54,000)	3.6 (12'0")	3.0 (10'0")	3.7 (12'0")		
SF-250B	—	—	250	27 216 (60,000)	3.7-7.3 (12'0"-24'0")	1.5 (5'0")	3.66 (12'0")	3.20 (10'6")	
SF-350	—	—	290	40 824 (90,000)	3.6-7.3 (12'0"-24'0")	1.04 (3'5")	3.0 (10'0")	2.9 (9'8")	
SF-450	7GC	73-83	400	43 546* (96,000) 53 525** (118,000)	3.66-7.62 (12'0"-25'0")	9.35 (30'8")	3.05 (10'0")	2.90 (9'6")	
SF-500	8DC	—	400	52 164 (115,000)	7.6 (25'0")	8.9 (29'2½")	3.0 (10'0")	3.0*** (10'2")	
SF-550	5PD	—	400	52 164 (115,000)	5.5-8.5 (18'0"-28'0")	7.0 (23'0")	3.7 (12'0")	2.9 (9'8")	

*Weight of 7.62 m (25'0") machine.

**Weight of 11.58 m (38'0") machine.

***Machine legs and track shipped separately.

Former Models

- Paving Products
- Placer-Spreader-Trimmer

● Belt Placer

● Tube Finisher

● Texturing/Curing

● Trimmer-Reclaimer



PAVING PRODUCTS — PLACER-SPREADER-TRIMMER, BELT PLACER

Model	Product Ident. No. Prefix	Years Built	Flywheel Horsepower	Approximate Operating Weight kg (lb)	General Dimensions		
					Height m (ft)	Length m (ft)	Width m (ft)
PST-300	8EC	—	250	38 193 (84,200)	2.64 (8'8")	10.57 (34'8")	9.02 (29'7")
BP-100	1EF	—	102	11 340 (22,000)	3.27 (10'9")	2.49 (8'2")	2.49 (8'2")



PAVING PRODUCTS — TUBE FINISHER, TEXTURING/CURING

Model	Product Ident. No. Prefix	Years Built	Flywheel Horsepower	Approximate Operating Weight kg (lb)	General Dimensions (Shipping)		
					Height mm (ft)	Length mm (ft)	Width mm (ft)
TF-250	6YC	—	52	5897 (13,000)	2489 (8'2")	8484 (27'10")	2438 (8'0")
TC-250	7HC	—	56	5897 (13,000)	2489 (8'2")	8484 (27'10")	2438 (8'0")



PAVING PRODUCTS — TRIMMER-RECLAIMER

Model	Product Ident. No. Prefix	Years Built	Flywheel Horsepower	Approximate Operating Weight kg (lb)	General Dimensions (Shipping)		
					Height mm (ft)	Length m (ft)	Width mm (ft)
TR-225B	6WC	—	250	21 319 (47,000)	3200 (10'6")	13.9 (45'9.5")	2896 (9'6")
TR-500	8CC	—	375	46 267 (102,000)	3099 (10'2")	8.9 (29'2¼")	3048 (10'0")



PAVING PRODUCTS — ASPHALT PAVERS & WINDROW ELEVATORS

Model	Product Ident. No. Prefix	Years Built	Flywheel kW (hp)	Approx. Op. Weight kg (lb)	Drive	Screed Width mm (ft)	Hopper Capacity m³ (ft³)	Maximum Op. Speed m/min (ft/min)
AP-200	2NK	86-01	26 (35)	4080 (9000)	Track	2743 (9'0")	5.4 t (6 T)	53.6 (176)
AP-200	6AD	85-91	26 (35)	4080 (9000)	Track	2743 (9'0")	5.4 t (6 T)	0-54 (0-177)
AP-650B		-08	97 (130)	13 917 (30,655)		2400 (8'0")	5 t (177 T)	67 (220)
AP-800	1BF	86-89	76 (102)	11 903 (26,350)	Wheel	2438 (8'0")	5.8 (206)	95 (312)
AB-800B	1BF	89-93	76 (102)	11 903 (26,350)	Wheel	2438 (8'0")	5.8 (206)	95 (312)
AP-800C			80 (107)	12 115 (26,700)	Wheel	2438 (8'0")	5.5 (195)	76 (250)
AP-800D			80 (107)	12 115 (26,700)	Wheel	2400 (8'0")	5.5 (195)	76 (250)
AP-900		-06	114 (153)	14 445 (31,850)	Wheel	3000 (10'0")	6.1 (215)	122 (400)
AP-1000B		-05	130 (174)	15 490 (34,150)	Wheel	3000 (10'0")	6.1 (215)	114 (374)
AP-1050	1JG	89-96	116 (155)	14 878 (32,800)	Track	3048 (10'0")	6.2 (215)	57 (186)
AP-1050B			130 (174)	16 015 (35,300)	Track	3048 (10'0")	6.1 (215)	61 (200)
AP-1055B			130 (174)	16 556 (36,500)	Track	3048 (10'0")	6.1 (215)	61 (200)
AP-1200	2JD	85-89	108 (145)	13 608 (30,000)	Wheel	3048 (10'0")	6.2 (220)	21.4 (13.3)
WE601B	TEC	85-91	78 (102)	3856 (8500)	N/A	1524 (5'0")	N/A	N/A
BG-200A	N/A	89-91	35 (47)	6750 (14,900)	Wheel	1803 (5'11")	3.26 (116)	56 (180)
BG-210	N/A	90-91	79 (106)	10 192 (22,500)	Wheel	2438 (8'0")	4.76 (170)	84 (275)
BG-210B	N/A	91-01	80 (107)	11 793 (26,000)	Wheel	2438 (8'0")	4.8 (170)	0-21.7 (0-13.5)
BG-220	N/A	84-87	58 (78)	9752 (21,500)	Wheel	2438 (8'0")	3.7 (130)	88 (289)
BG-220B	4ZM	91-94	80 (108)	12 483 (27,525)	Wheel	2438 (8'0")	4.3 (155)	88 (289)
BG-225	N/A	84-87	58 (78)	11 339 (25,000)	Track	2438 (8'0")	3.7 (130)	58 (188)
BG-225B	N/A		118 (158)	16 400 (36,200)	Track	2438 (8'0")	4.3 (155)	57 (189)
BG-225C			97 (130)	13 917 (30,655)	Track	2400 (8'0")	5 (177)	67 (220)

Former Models

- Paving Products
- Asphalt Pavers
 - Windrow Elevators

Paving Products — Asphalt Pavers & Windrow Elevators (cont'd)

Model	Product Ident. No. Prefix	Years Built	Flywheel kW (hp)	Approx. Op. Weight kg (lb)	Drive	Screed Width mm (ft)	Hopper Capacity m³ (ft³)	Maximum Op. Speed m/min (ft/min)
BG-230			80 (107)	12 111 (26,700)	Wheel	2438 (8'0")	5.5 (195)	76 (250)
BG-230D			97 (130)	13 307 (29,310)	Wheel	2400 (8'0")	5.5 (195)	76 (250)
BG-240	N/A	85-86	72 (96)	13 154 (29,000)	Wheel	3048 (10'0")	3.7 (130)	81 (265)
BG-240B	7RL	87-99	86 (115)	15 200 (33,500)	Wheel	3048 (10'0")	6.5 (230)	81 (265)
BG-245	N/A	85-87	72 (96)	14 514 (32,000)	Track	3048 (10'0")	5.8 (206)	58 (189)
BG-245B	3XL	87-96	116 (155)	16 080 (35,450)	Track	3048 (10'0")	5.8 (206)	55 (182)
BG-245C	N/A		130 (174)	16 015 (35,300)	Track	3048 (10'0")	6.1 (215)	60.1 (200)
BG-2455C	N/A		130 (174)	16 555 (36,500)	Track	3048 (10'0")	6.1 (215)	61 (200)
BG-260	N/A	85-87	106 (142)	14 514 (32,000)	Wheel	3048 (10'0")	5.8 (206)	77 (253)
BG-260B	N/A		116 (155)	14 740 (32,500)	Wheel	3048 (10'0")	5.8 (206)	90 (296)
BG-265	N/A	85-87	106 (142)	16 782 (37,000)	Track	3048 (10'0")	5.8 (206)	50 (164)
BG-265B	7XK	87-98	145 (195)	18 380 (40,570)	Track	3048 (10'0")	5.8 (206)	50 (164)
BG-270B	N/A		145 (195)	15 510 (34,200)	Wheel	3048 (10'0")	6.5 (230)	90 (296)
BG-610	N/A	85	58 (78)	4394 (9700)	N/A	1524 (5'0")	N/A	N/A
BG-610A	N/A	86-90	58 (78)	4911 (10,840)	N/A	1524 (5'0")	N/A	N/A
BG-650	N/A		80 (107)	7984 (17 600)	N/A	N/A	N/A	N/A
BG-710	N/A		111 (149)	13 380 (29,500)	Wheel	3048 (10'0")	10.0 (80)	98 (320)
BG-730	N/A	87-02	114 (153)	14 061 (31,000)	Wheel	3048 (10'0")	10.0 (80)	0-24.1 (0-15.0)
BG-750	N/A	87-97	116 (155)	17 010 (37,500)	Wheel	4270 (14'0")	10.0 (80)	0-24.1 (0-15.0)
MTP-1260	N/A	86-90	58 (78)	4911 (10,840)	N/A	3048 (10'0")	7.7 (275)	58 (189)
MTP-1265	N/A	88-91	167 (224)	25 368 (56,000)	N/A	3048 (10'0")	11.2 (400)	50 (164)



PAVING PRODUCTS — SINGLE DRUM VIBRATORY COMPACTORS

Model	Product Ident. No. Prefix	Years Built	Flywheel kW (hp)	Approx. Op. Weight kg (lb)	Drive	Drum Width mm (in)	Centrifugal Force kg (lb)	Maximum Op. Speed km/h (mph)
CS-323	1TM	85-95	57 (77)	4173 (9200)	Wheel/ Drum	1219 (48")	5760 (12,700)	0-10.9 (0-6.8)
CP-323	6JD	85-95	57 (77)	4218 (9300)	Wheel/ Drum	1219 (48")	5760 (12,700)	0-10.9 (0-6.8)
CS-431	6MD	85-87	52 (70)	6110 (13,480)	Wheel	1680 (66")	7260 (16,000)	21 (13)
CS-431B	1XF	88-94	76.5 (102)	6312 (13,915)	Wheel	1680 (66")	11 235 (24,746)	12.8 (8.0)
CS-431C	9XL	94-01	78 (105)	6509 (14,349)	Wheel/ Drum	1680 (66")	13 609 (30,000)	12.8 (8.0)
CS-433	6ND	85-87	60 (80)	6720 (14,820)	Wheel/ Drum	1524 (60")	7260 (16,000)	10 (6)
CP-433	6NP	85-87	60 (80)	6750 (14,870)	Wheel/ Drum	1524 (60")	7260 (16,000)	10 (6)
CS-433B	4FK	88-94	76.5 (102)	6448 (14,215)	Wheel/ Drum	1680 (66")	11 235 (24,746)	12.8 (8.0)
CS-433C	3TM	94-01	78 (105)	6773 (14,931)	Wheel/ Drum	1680 (66")	13 609 (30,000)	12.8 (8.0)
CP-433B	1MG	88-94	76.5 (102)	6668 (15,225)	Wheel/ Drum	1680 (66")	11 235 (24,746)	12.8 (8.0)
CP-433C	2JM	94-01	78 (105)	7075 (15,597)	Wheel/ Drum	1680 (66")	13 609 (30,000)	12.8 (8.0)
CS-531	3WM	93-95	108 (145)	9310 (20,500)	Wheel	2134 (84")	22 680 (50,000)	12.8 (8.0)
CS-531C	5ZN	95-00	108 (145)	9300 (20,450)	Wheel	2134 (84")	24 091 (53,000)	12.8 (8.0)
CS-531D	3AZ 4MZ AGH	98-99 99-04 01-03	108 (145)	9650 (21,230)	Rear Wheel	2130 (84")	27 124 (60,000)	12.7 (7.8)
CS-533	3BL	93-95	108 (145)	10 110 (22,500)	Wheel/ Drum	2134 (84")	22 680 (50,000)	12.8 (8.0)
CS-533C	2WN	95-00	108 (145)	9500 (20,900)	Wheel/ Drum	2134 (84")	24 091 (53,000)	12.8 (8.0)
CS-533D	AET 5CZ	00-03 00-04	108 (145)	9960 (21,912)	Drum/ Rear Wheel	2130 (84")	27 124 (60,000)	12.7 (7.8)
CP-533	3ZL	93-95	108 (145)	11 470 (25,250)	Wheel/ Drum	2134 (84")	22 680 (50,000)	12.8 (8.0)
CP-533C	3XN	95-00	108 (145)	10 180 (22,400)	Wheel/ Drum	2134 (84")	24 091 (53,000)	12.8 (8.0)
CP-533D	6AZ AFC	01-04 00-03	108 (145)	10 240 (22,528)	Drum/ Rear Wheel	2130 (84")	27 124 (60,000)	13.2 (8.1)

Paving Products — Single Drum Vibratory Compactors (cont'd)

Model	Product Ident. No. Prefix	Years Built	Flywheel kW (hp)	Approx. Op. Weight kg (lb)	Drive	Drum Width mm (in)	Centrifugal Force kg (lb)	Maximum Op. Speed km/h (mph)
CS-551	6ZD 8AD	85-89	115 (155)	10 428 (22,990)	Wheel	2130 (84")	18 150 (40,000)	12.1 (7.5)
CS-553	7AD	85-89	115 (155)	10 782 (23,770)	Wheel/ Drum	2130 (84")	18 150 (40,000)	10.5 (6.5)
CP-553	7BD	85-89	115 (155)	12 247 (27,000)	Wheel/ Drum	2130 (84")	22 680 (50,000)	10.5 (6.5)
CS-563	8XF	89-95	108 (145)	11 130 (24,500)	Wheel/ Drum	2134 (84")	22 680 (50,000)	12.8 (8.0)
CS-563C	4KN	95-00	108 (145)	11 215 (24,700)	Wheel/ Drum	2134 (84")	24 091 (53,000)	12.8 (8.0)
CS-563D	9MW	98-02	108 (145)	10 875 (23,975)	Wheel/ Drum	2130 (84")	27 216 (60,000)	12.7 (7.8)
CP-563	1YJ	89-95	108 (145)	11 580 (25,800)	Wheel/ Drum	2134 (84")	22 680 (50,000)	12.8 (8.0)
CP-563C	5JN	95-00	108 (145)	11 670 (25,700)	Wheel/ Drum	2134 (84")	24 091 (53,000)	12.8 (8.0)
CP-563D	9ZW	98-02	108 (145)	11 275 (24,856)	Wheel/ Drum	2130 (84")	27 216 (60,000)	13.2 (8.1)
CS-573C	6LN	95-00	108 (145)	13 800 (30,360)	Wheel/ Drum	2134 (84")	24 091 (53,000)	12.8 (8.0)
CS-573D	CMK	00-02	108 (145)	12 180 (29,060)	Wheel/ Drum	2130 (84")	27 216 (60,000)	12.7 (7.8)
CS-583	8YJ	91-95	108 (145)	15 040 (33,090)	Wheel/ Drum	2134 (84")	22 680 (50,000)	12.8 (8.0)
CS-583C	7MN	95-00	108 (145)	15 230 (33,500)	Wheel/ Drum	2134 (84")	24 091 (53,000)	12.8 (8.0)
CS-583D	2CZ	98-02	108 (145)	14 850 (32,740)	Wheel/ Drum	2130 (84")	31 751 (70,000)	12.7 (7.8)
CS-643	7FD	85-87	100 (134)	14 900 (32,855)	Wheel/ Drum	2200 (86")	16 800 (37,044)	15.5 (9.6)
CP-643	7GD	85-87	100 (134)	16 300 (35,942)	Wheel/ Drum	2200 (86")	12 600 (27,783)	15.5 (9.6)
CS-653	7HD	85-91	100 (134)	17 100 (37,690)	Wheel/ Drum	2200 (86")	22 230 (48,995)	15.5 (9.6)
CP-653	7JD	85-91	100 (134)	18 500 (40,774)	Wheel/ Drum	2200 (86")	22 230 (48,995)	15.5 (9.6)
TSF-54	7KD	85-88	26 (35)	2131 (4700)	Towed	1370 (54")	6810 (15,000)	Towed
TSM-54	7LD	86-88	26 (35)	2160 (4760)	Towed	1370 (54")	6810 (15,000)	Towed



PAVING PRODUCTS — DOUBLE DRUM, COMBI AND PNEUMATIC TIRE COMPACTORS

Model	Product Ident. No. Prefix	Years Built	Flywheel kW (hp)	Approx. Op. Weight kg (lb)	Drive	Drum Width mm (in)	Centrifugal Force kg (lb)	Maximum Op. Speed km/h (mph)
CB-214	6FD	85-88	24 (33)	2300 (5070)	Drum (2)	1000 (39.4")	2041 (4500)	10.6 (6.6)
CB-214B	6LF	88-93	24 (33)	2300 (5072)	Drum (2)	990 (39")	2018 (4450)	10.4 (6.5)
CB-214C	6LF	93-00	25 (33)	2320 (5115)	Drum (2)	1000 (39.4")	2592 (5715)	10.5 (6.5)
CB-214D	1TZ	99-03	23.5 (31.5)	2430 (5355)	Hydraulic	1000 (39.4")	2590 (5710)	10 (6.2)
CB-214E		-08	24.4 (32.7)	2450 (5400)	Hydraulic	1000 (3'3")	27.6 (6075)	10 (6)
CB-224	6GD	85-88	24 (33)	2450 (5400)	Drum (2)	1200 (47.2")	2450 (5400)	10.6 (6.6)
CB-224B	6LF	88-93	24 (33)	2450 (5402)	Drum (2)	1199 (47.2")	2449 (5400)	10.4 (6.5)
CB-224C	6LF	93-00	25 (33)	2420 (5335)	Drum (2)	1200 (47.2")	2920 (6570)	10.5 (6.5)
CB-224D	8RZ	99-03	23.5 (31.5)	2610 (5750)	Hydraulic	1200 (47.2")	3039 (6700)	10 (6.2)
CB-224E		-08	24.4 (32.7)	2630 (5800)	Hydraulic	1200 (3'11")	31.4 (6975)	10 (6)
CB-225D	9FZ	99-03	23.5 (31.5)	2390 (5270)	Hydraulic	1200 (47.2")	3039 (6700)	10 (6.2)
CB-225E		-08	24.4 (32.7)	2300 (5070)	Hydraulic	1200 (3'11")	31.4 (6975)	10 (6)
CB-314	6HD	85-89	41 (55)	3357 (7400)	Drum	1120 (44")	2770 (6100)	8 (5)
CB-334D	3JZ 4CZ	98-03 98-02	32 (43)	3850 (8490)	Hydraulic	1300 (51")	3263 (7250)	11 (7)
CB-334E	DCZ	02-04 -08	34.1 (46)	3940 (8688)	Hydraulic	1300 (4'3")	33.1 (7448)	12.5 (8)
CB-335D	5PZ BBW D4E	98-03 00-03 02-03	32 (43)	3620 (7980)	Hydraulic	1300 (51")	3263 (7250)	11 (7)
CB-335E		-08	34.1 (46)	3670 (8092)	Hydraulic	1300 (4'3")	33.1 (7448)	12.5 (8)
CB-414	6KD	85-89	52 (70)	5780 (12,750)	Drum	1397 (55")	6350 (14,000)	13.7 (8.5)
CB-424	6LD	85-89	54 (73.5)	6220 (13,710)	Drum (2)	1397 (55")	4485 (9885)	11.0 (6.8)
CB-434	3TF	89-94	60 (80)	6610 (14,540)	Drum (2)	1422 (56")	7620 (16,800)	11.6 (7.2)
CB-434B	6AL	94-95	60 (80)	6577 (14,500)	Drums	1422 (56")	7620 (16,800)	0-11.6 (0-7.2)
CB-434C	4DN	95-03	52 (70)	6485 (14,300)	Hydraulic	1422 (56")	7620 (16,800)	11.6 (7.2)
CB-514	6YD	85-88	68 (91)	9730 (21,450)	Drum (2)	1730 (68")	9073 (20,000)	11 (7)
CB-521	6RD	85-87	61 (82)	8800 (19,404)	Wheel	1700 (67")	5300 (11,687)	15 (9.3)

Former Models

Paving Products

● Double Drum, Combi and Pneumatic Tire Compactors

Paving Products — Double Drum, Combi and Pneumatic Tire Compactors (cont'd)

Model	Product Ident. No. Prefix	Years Built	Flywheel kW (hp)	Approx. Op. Weight kg (lb)	Drive	Drum Width mm (in)	Centrifugal Force kg (lb)	Maximum Op. Speed km/h (mph)
CB-522	6SD	85-87	45 (62)	10 100 (22,271)	Drum (2)	1700 (67")	10 350 (22,822)	8 (5)
CB-523	6TD	85-87	61 (82)	8800 (19,404)	Wheel/ Drum	1700 (67")	5300 (11,687)	13 (8)
CB-524	6WD	85-87	61 (82)	9500 (20,948)	Drum (2)	1700 (67")	10 350 (22,822)	11 (6.8)
CB-534	6EG2YF	87-93	93 (125)	9117 (20,100)	Drum (2)	1700 (67")	11 800 (26,019)	11.2 (7)
CB-534B	4JL	93-95	80 (107)	9117 (20,100)	Drums	1676 (66")	12 043 (26,550)	0-11.3 (0-7.0)
CB-534C	5HN	95-02	75 (100)	9195 (20,270)	Drums	1700 (67")	11 975 (26,400)	11.3 (7.0)
CB-534D			97 (130)	10 380 (22,836)	Drums	1700 (67")	11 434 (25,208)	13 (8)
CB-534D XW			97 (130)	11 300 (24,860)	Drums	2000 (79")	11 434 (25,208)	13 (8)
CB-544	8FM	94-01	60 (80)	10 700 (23,593)	Drums	1700 (67")	8850 (19,510)	8.9 (5.5)
CB-545	2FS	96-01	60 (80)	9410 (20,750)	Wheel/ Drum	1700 (67")	8850 (19,510)	8.9 (5.5)
CB-564D			97 (130)	12 600 (27,783)	Drums	2130 (84")	10 085 (22,234)	13 (8)
CB-614	7CD	85-93	115 (155)	11 340 (25,000)	Drum (2)	1980 (78")	9525 (21,000)	11.2 (7)
CB-634	5CL	94-95	108 (145)		Drums	2134 (84")	12 043 (26,550)	0-9.2 (0-5.7)
CB-634C	3BR	95-01	108 (145)	11 680 (25,750)	Drums	2134 (84")	12 043 (26,550)	12.2 (7.6)
PF-200		85-92	49 (66)	7000 (15,430)	Wheel Pneumatic	1700 (67")	N/A	24 (14.9)
PS-110	7MD	85-96	57 (77)	12 500 (27,550)	Wheel Pneumatic	2134 (84")	N/A	38.6 (24)
PS-130	7ND	85-96	57 (77)	12 500 (27,550)	Wheel Pneumatic	1700 (67")	N/A	38.6 (24)
PS-150	7PD	85-96	57 (77)	15 050 (37,300)	Wheel Pneumatic	1700 (67")	N/A	38.6 (24)
PS-150B	3XR	95-04	52 (70)	12 940 (28,535)	Hydraulic	1743 (69")	N/A	25.6 (15.9)
PS-180	7PD	85-96	57 (77)	16 950 (37,000)	Wheel Pneumatic	1727 (68")	N/A	38.6 (24)
PS-200B	5JR	95-04	78 (105)	13 010 (28,685)	Hydraulic	1743 (69")	N/A	19.3 (12)
PS-300	7TD	85-95	77 (102)	21 000 (46,200)	Wheel Pneumatic	1900 (75")	N/A	26.5 (16.4)
PF-300	7WD	85-95	74 (100)	14 000 (30,860)	Wheel Pneumatic	1920 (77")	N/A	19 (11.8)
PS-300B			75 (100)	21 000 (46,200)	Wheel Pneumatic	1900 (75")		13 (8)
PS-360B			78 (105)	8500 (18,740)	Wheel Pneumatic	2275 (90")	N/A	18 (11)



UNDERGROUND MINING

LHD Model	Product Ident. No. Prefix (USA)	Years Built	Flywheel Power kW (hp)	Approx. Operating Weight kg (lb)	Max. Capacity kg (lb)	Length m (ft)	Height m (ft)	Bucket Width mm (ft)	Breakout Force kg (lb)	Maximum Speeds km/h (mph)	
										Forward	Reverse
R1300	6QW1-	N/A	123 (165)	20 150 (44,430)	6500 (14,330)	8.66 (28'5")	2.00 (6'7")	2000 (6'7")	12 020 (26,500)	26.1 (16.2)	23.8 (14.6)
R1300GII	RSL	1	136 (182)	20 875 (46,021)	6800 (14,991)	8.71 (28'7")	2.12 (6'11")	2200 (7'3")	15 350 (33,841)	26.1 (16.2)	25.9 (16.1)
R1500	N/A	N/A	178 (239)	25 100 (55,360)	9000 (19,850)	9.19 (30'2")	2.30 (7'7")	2480 (8'2")	18 460 (40,700)	30.4 (18.9)	33.0 (20.5)
R1600	9XP1-	N/A	201 (270)	29 800 (65,710)	10 200 (22,490)	9.71 (31'10")	2.40 (7'10")	2600 (8'6")	19 280 (42,510)	30.6 (19.0)	34.0 (21.1)
R1600G	9PP	4	201 (270)	29 800 (65,698)	10 200 (22,487)	9.71 (31'10")	2.40 (7'10")	2600 (8'6")	19 000 (41,888)	22.9 (14.2)	23.81 (14.8)
R1700 Series II	N/A	N/A	231 (310)	34 500 (76,100)	12 000 (26,460)	10.42 (34'2")	2.53 (8'4")	2820 (9'3")	23 430 (51,660)	29.3 (18.2)	33.3 (20.7)
R1700G	SBR	1	262/241 (351/323)	38 500 (84,878)	14 000* (30,865)	10.59 (34'9")	2.56 (8'5")	2894 (9'6")	20 100 (44,313)	24.13 (15.0)	25.28 (15.7)
R1700G SUPA 14	N/A	N/A	231 (310)	39 250 (86,530)	14 000 (30,870)	10.60 (34'9")	2.557 (8'5")	2818 (9'3")	22 550 (49,720)	27.1 (16.8)	30.7 (19.1)
R2800	N/A	N/A	231 (310)	42 660 (94,070)	16 200 (35,720)	10.70 (35'1")	2.68 (8'10")	3000 (9'10")	26 540 (68,530)	29.3 (18.2)	33.3 (20.7)
R2900	5TW1-	N/A	269 (361)	48 850 (107,710)	17 200 (37,930)	10.97 (36'0")	2.888 (9'6")	3100 (10'2")	28 600 (63,060)	26.7 (16.6)	32.5 (20.2)
R2900 SUPA 20	5TW1-	N/A	269 (361)	53 100 (117,090)	20 000 (44,100)	11.09 (36'4")	2.888 (9'6")	3400 (11'2")	25 100 (55,340)	26.7 (16.6)	32.5 (20.2)
R2900G	GLK 1-Up	N/A	306 (410)	50 100 (110,451)	17 200 (39,930)	11.302 (37'1")	2.886 (9'6")	3176 (10'5")	27 346 (60,298)	25.3 (15.7)	26.4 (16.4)
R2900G	JLK	2	321/333 (430/447)	50 209 (110,692)	17 200 (37,920)	10.95 (35'11")	2.89 (9'6")	3176 (10'5")	27 346 (60,288)	25.3 (15.7)	26.4 (16.4)
R2900G	JLK	2	321/333 (430/447)	55 575 (122,522)	20 000 (44,092)	11.08 (36'4")	2.99 (9'10")	3472 (11'5")	27 346 (60,288)	26.11 (16.2)	27.24 (16.9)
R2900G XTRA	GLK1-Up	N/A	306 (410)	53 100 (117,065)	20 000 (44,092)	11.302 (37'1")	2.886 (9'6")	3400 (11'2")	27 346 (60,298)	25.3 (15.7)	26.4 (16.4)

*14 000 kg (30,865 lb) tramming only, 12 500 kg (27,558 lb) truck loading.

Former Models

Underground Mining

- Articulated Trucks
- Rigid Frame Trucks

Underground Mining — Articulated Trucks

LHD Model	Product Ident. No. Prefix (USA)	Years Built	Flywheel Power kW (hp)	Approx. Operating Weight kg (lb)	Max. Capacity kg (lb)	Length m (ft)	Height m (ft)	Bucket Width mm (ft)	Breakout Force kg (lb)	Maximum Speeds km/h (mph)	
										Forward	Reverse
AD30	DXR	2	304 (408)	28 870 (63,647)	30 000 (66,139)	10.15 (33'4")	2.60 (8'6")	2690* (8'10")		40.8 (25.4)	7.8 (4.8)
AD40 Series II	N/A	N/A	380 (510)	38 100 (84,000)	40 000 (88,200)	10.66 (35'0")	2.70 (8'10")	3000 (9'10")		48.1 (29.9)	10.6 (6.6)
AD40 Series II	N/A	N/A	380 (510)	41 800 (92,170)	40 000 (88,200)	11.265 (37'0")	2.89 (9'6")	3200 (10'5")		41.7 (25.9)	9.6 (6.0)
AD45B	CXM	2	439 (589)	39 359 (86,772)	45 000 (99,208)	11.19 (36'9")	2.82 (9'5")	3000* (9'10")		52.0 (32.3)	10.7 (6.6)
AD55	DNW	3.5	485 (650)	47 000 (103,617)	55 000 (121,254)	11.55 (37'11")	3.20 (10'6")	3346* (11'0")		42.29 (26.3)	9.02 (5.6)

Underground Mining — Rigid Frame Trucks

69D Dump	9XS1-	N/A	380 (510)	30 100 (66,371)	38 000 (83,790)	8.127 (26'8")	3.442 (11'4")	3665 (12'0")		76.6 (47.6)	76.6 (47.6)
69D Ejector	9XS1-	N/A	380 (510)	34 700 (78,514)	36 200 (79,821)	7.83 (25'8")	3.442 (11'4")	3665 (12'0")		13.5 (8.4)	13.5 (8.4)

*Overall width less body.

ESTIMATING OWNING & OPERATING COSTS

20

Owning & Operating (O&O) Baseline Cost Estimate Solutions

The O&O web site provides information related to O&O baseline cost estimate development for both commercial engine products and machines. Approved O&O baseline cost estimate ranges for machines, and links related to O&O baseline cost development are also available. **NOTE:** Access to the web sites indicated below is restricted to Caterpillar and Cat dealer personnel.

For information about O&O costs, enter the appropriate link for your location.

For Asia Pacific Division (APD): <http://apdnet.cat.com>

Select "Product Support," "Equipment Management Solutions," "Owning and Operating Costs."

For Corporate Global Mining (CGM): <http://catminer.cat.com>

Select "Product Support," "Equipment Management," "MARCs," "BUILDER Downloads."

For Europe, Africa, Middle East (EAME): (O&O link not supported).

For Latin America Commercial Division (LACD): <http://lacd.cat.com>

Select "Product Support," "Equipment Management Solutions," "Owning and Operating Costs."

For North American Commercial Division (NACD): <https://nacd.cat.com/infocast/frames/home>

Select "Product Support Service Fulfillment (Parts and Service)," "Equipment Management Solutions," "Owning and Operating Cost Information," "Link to O&O Baseline Cost Estimate Solutions."

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General

Machine users must balance productivity and costs to achieve optimum performance ... that is, achieve the desired production at the lowest possible cost. The approach most often used to measure machine performance is this simple equation:

$$\frac{\text{Lowest Possible Hourly Costs}}{\text{Highest Possible Hourly Productivity}} = \text{Top Machine Performance}$$

Most sections of this Handbook deal with the productivity of Cat machines. This section considers the cost aspect of performance.

Hourly Owning and Operating Costs for a given machine can vary widely because they are influenced by many factors: the type of work the machine does, the ownership period, local prices of fuel and labor, the repair and maintenance costs, shipping costs from the factory, interest rates, etc. No attempt is made in this handbook to provide precise hourly costs for each model. Users must be able to estimate with a reasonable degree of accuracy what a machine will cost per hour to own and operate in a given application and locality. Therefore, this section provides a suggested method of estimating hourly owning and operating costs. When this method is coupled with local conditions and dealer input, it will result in reasonable estimates.

The method suggested follows several basic principles:

- Repair and Planned Maintenance cost per hour are developed jointly by the customer and local Cat dealer.
- In the examples, labor is assumed @ \$60.00 per hour, fuel @ \$1.25 per gallon. For reliable estimates, these costs must always be obtained locally.
- Because of different standards of comparison, what may seem a high application to one machine owner may appear only medium to another.
- Unless otherwise specified, the word "hour" when used in this section means clock or operating hours, not Service Meter Units.

HOURLY OWNING AND OPERATING COST ESTIMATE

DATE _____

Estimate #1 Estimate #2

A—Machine Designation
 B—Estimated Ownership Period (Years)
 C—Estimated Usage (Hours/Year)
 D—Ownership Usage (Total Hours)(B × C)

OWNING COSTS

1. a. Delivered Price (P), to the Customer (including attachments) . .
 b. Less Tire Replacement Cost if desired
 c. Delivered Price Less Tires
 2. Less Residual Value at Replacement (S) (____%) (____%)
 (See subsection 2A on back)

3. a. Net Value to be recovered through work
 (line 1c less line 2)

b. Cost Per Hour:

$$\frac{\text{Net Value}}{\text{Total Hours}} \quad (1) \quad (2) \quad \dots\dots\dots$$

4. Interest Costs
$$\frac{P(N + 1) + S(N - 1)}{2N} \times \text{Simple Int. \% Rate}$$

 N = No. Yrs.
$$\frac{\text{Hours/Year}}{\text{Hours/Year}} =$$

 (1)
$$\frac{+ 1}{+ 1} + \frac{- 1}{- 1} \times \text{ \% } \quad (2) \quad \frac{+ 1}{+ 1} + \frac{- 1}{- 1} \times \text{ \% }$$

$$\text{Hours/Yr.} \quad \text{Hours/Yr.}$$

5. Insurance
$$\frac{P(N + 1) + S(N - 1)}{2N} \times \text{Insurance \% Rate}$$

 N = No. Yrs.
$$\frac{\text{Hours/Year}}{\text{Hours/Year}} =$$

 (1)
$$\frac{+ 1}{+ 1} + \frac{- 1}{- 1} \times \text{ \% } \quad (2) \quad \frac{+ 1}{+ 1} + \frac{- 1}{- 1} \times \text{ \% }$$

$$\text{Hours/Yr.} \quad \text{Hours/Yr.}$$

(Optional method when Insurance cost per year is known)

Ins. \$ _____ Per Yr. ÷ _____ Hours/Yr. =

Estimate #1

Estimate #2

6. Property Tax $\frac{P(N+1) + S(N-1)}{2N} \times \text{Tax Rate \%}$
 N = No. Yrs. $\frac{\text{Hours/Year}}{\text{Hours/Year}} =$

(1) $\frac{\text{+ 1} + \text{+ 1}}{\text{+ 1} + \text{+ 1}} \times \text{+ 1} \%$ (2) $\frac{\text{+ 1} + \text{+ 1}}{\text{+ 1} + \text{+ 1}} \times \text{+ 1} \%$
 $\frac{\text{+ 1} + \text{+ 1}}{\text{+ 1} + \text{+ 1}} = \frac{\text{+ 1} + \text{+ 1}}{\text{+ 1} + \text{+ 1}} =$
 _____ Hours/Yr. _____ Hours/Yr.

(Optional method when Property Tax cost per year is known)

Property Tax \$ _____ Per Yr. $\div$ _____ Hours/Yr. =

7. TOTAL HOURLY OWNING COST
 (add lines 3b, 4, 5 and 6)

OPERATING COSTS

8. Fuel: Unit Price $\times$ Consumption

(1) _____ $\times$ _____ =
 (2) _____ $\times$ _____ =

9. Planned Maintenance (PM)-Lube Oils, Filters, Grease, Labor:
 (contact your local Cat dealer)

10. a. Tires: Replacement Cost $\div$ Life in Hours
 $\frac{\text{Cost}}{\text{Life}}$ (1) _____ (2) _____

b. Undercarriage
 (Impact + Abrasiveness + Z Factor) $\times$ Basic Factor

(1) (_____ + _____ + _____) = _____ $\times$ _____ =
 (2) (_____ + _____ + _____) = _____ $\times$ _____ =
 (Total) (Factor)

11. Repair Cost (Per Hour)
 (contact your local Cat dealer)

12. Special Wear Items: Cost $\div$ Life
 (See subsection 12A on back)

13. TOTAL OPERATING COSTS
 (add lines 8, 9, 10a (or 10b), 11 and 12)

14. MACHINE OWNING PLUS OPERATING
 (add lines 7 and 13)

15. OPERATOR'S HOURLY WAGE (include fringes)

16. TOTAL OWNING AND OPERATING COST

SUBSECTION 2A: Residual Value at Replacement

Gross Selling Price

(est. #1) (___%)

(est. #2) (___%)

Less: a. Commission

b. Make-ready costs

c. Inflation during ownership period*

Net Residual Value

(___%)

(___%) of original delivered price

(Enter on line 2)

*When used equipment auction prices are used to estimate residual value, the effect of inflation during the ownership period should be removed to show in constant value what part of the asset must be recovered through work.

SUBSECTION 12A: Special Items
(cutting edges, ground engaging tools, bucket teeth, etc.)

(1)	Cost	Life	Cost/Hour	(2)
1.		÷		=
2.		÷		=
3.		÷		=
4.		÷		=
5.		÷		=
6.		÷		=
Total			(1)	(2)

(Enter total on line 12)

1-7

ESTIMATING OWNING COSTS*(Line Items 1 through 7)*

To protect their equipment investment and be able to replace it, the machine owner must recover over the ownership period an amount equal to the loss in resale value plus the other costs of owning the equipment including interest, insurance and taxes.

The machine owner, for accounting purposes, estimates resale value loss in advance, and recovers his original equipment investment by establishing depreciation schedules according to the various uses of the equipment. Proper financial and tax assistance is highly recommended when establishing depreciation schedules.

Considering today's economic conditions worldwide and the trend toward larger, more expensive equipment, many users choose to keep these units on the job well after they have been fully depreciated for tax purposes. On the other hand, tax incentives in many areas may favor trading a machine well before that occurs.

The ownership period in years, the hours per year, and the total number of hours on a machine, are significant factors in determining O&O costs. Additionally, since the ownership period and machine hours can vary widely for different customers for a given model, it is not practical to calculate O&O costs using an assumed ownership period. The customer must provide that information for each situation.

These same factors will be used to develop the Repair costs and Planned Maintenance costs by your local Cat dealer.

The machine depreciation method suggested in this handbook is not based on or related to any tax considerations, but rather is a simple straight line write-off based solely on the number of years and hours the owner expects to use during the ownership period.

Accordingly, it is imperative that careful consideration be given the selection of depreciation periods, and that for owning and operating cost calculations they be based on actual ownership periods and hours on the machine rather than tax write-off life.

Typical Application Descriptions

The following tables show typical descriptions for work performed by each product family for three different application levels. It is only a guide and can be used along with the fuel and tire charts to help determine fuel and tire cost factors. Additionally, many times the ownership period and the number of hours per year a machine is used, is related to application.

- ① Delivered Price To Customer
- ② Residual Value at Replacement

1

DELIVERED PRICE TO CUSTOMER

(Line Item 1a, b and c)

Delivered price should include all costs of putting a machine on the user's job including transportation and any applicable sales taxes.

On rubber tired machines, tires are considered a wear item and covered as an operating expense. Accordingly, some users may wish to deduct tire costs from the delivered price particularly for larger machines.

2

RESIDUAL VALUE AT REPLACEMENT

(Line Item 2 and Subsection 2A)

Any piece of earthmoving machinery will have some residual value at trade-in. While many owners prefer to depreciate their equipment to zero value, others recognize the residual resale or trade-in value. This is at the estimator's option, but as in the discussion of depreciation, today's higher equipment costs almost dictate that resale value be considered in determining the net depreciable investment. And if machines are traded early for tax incentive purposes, resale value becomes even more significant.

For many owners, potential resale or trade-in value is a key factor in their purchasing decisions, since this is a means of reducing the investment they must recover through depreciation charges. The high resale value of Caterpillar built machines can reduce hourly depreciation charges, lower total hourly owning costs and improve the owner's competitive position.

When resale or trade-in value is used in estimating hourly owning and operating costs, local conditions must be considered, as used equipment values vary widely around the world. However, in any given used equipment business, factors which have greatest influence on resale or trade-in value are: age of machine (years), the number of hours on the machine at the time of sale or trade, the type of jobs and operating conditions in which it worked, and the physical condition of the machine. Your local Cat dealer is your best source for determining current used equipment values.

Subsection 2A can be used to calculate the estimated residual value. If recent auction prices for used machines are used as a guide, then the value (or percentage) should be adjusted downward to remove the effect of inflation. Governmental indices on construction equipment costs or Dealer price records can be used to calculate the amount of inflation for the appropriate useful life. Another way to estimate residual value is comparing the current used machine value to the current new machine price provided major product changes haven't occurred.

③ Value to be Recovered Through Work

④ Interest

⑤ Insurance

⑥ Taxes

Owning & Operating Costs

3

VALUE TO BE RECOVERED THROUGH WORK

(Line Item 3a and b)

The delivered price (P) less the estimated residual value (S) results in the value to be recovered through work, divided by the total usage hours, gives the hourly cost to protect the asset's value.

4

INTEREST

(Line Item 4)

Many owners charge interest as part of hourly owning and operating costs, others consider it as general overhead in their overall operation. When charged to specific machines, interest is usually based on the owner's average annual investment in the unit.

Interest is considered to be the cost of using capital. The interest on capital used to purchase a machine must be considered, whether the machine is purchased outright or financed.

If the machine will be used for N years (where N is the number of years of use), calculate the average annual investment during the use period and apply the interest rate and expected annual usage:

$$\frac{\left[\frac{P(N + 1) + S(N - 1)}{2N} \right] \times \text{Simple Int. \% Rate}}{\text{Hours/Year}}$$

5-6

INSURANCE AND TAXES

(Line Items 5 and 6)

Insurance cost and property taxes can be calculated in one of two ways. If the specific annual cost is known, this figure should be divided by the estimated usage (hours/years) and used. However, when the specific interest and tax costs for each machine are not known, the following formulas can be applied:

$$\frac{\frac{\text{Insurance}}{N = \text{No. Years}}}{\frac{\left[\frac{P(N + 1) + S(N - 1)}{2N} \right] \times \text{Insurance \% Rate}}{\text{Hours/Year}}}$$

$$\frac{\frac{\text{Property Tax}}{N = \text{No. Years}}}{\frac{\left[\frac{P(N + 1) + S(N - 1)}{2N} \right] \times \text{Tax Rate \%}}{\text{Hours/Year}}}$$

8-13

ESTIMATING OPERATING COSTS

(Line Items 8 through 13)

8

FUEL CONSUMPTION

(Line Item 8)

Actual fuel consumption should be measured in the field. However, if no opportunity exists to do this, consumption can be estimated when the machine application is known.

Application determines engine load factor which in turn controls engine fuel consumption. An engine continuously producing full rated horsepower is operating at a load factor of 1.0. Earthmoving machines may reach a 1.0 load factor intermittently, but seldom operate at this level for extended periods of time. Periods spent at idle, dozer and pusher travel in reverse, haul units traveling empty, close maneuvering at part throttle and operating downhill are examples of conditions which reduce load factor.

The following tables provide hourly fuel consumption estimates at various load factors for Caterpillar built machines. Since machine uses vary, application guides are also provided to aid in estimating load factor.

To estimate hourly fuel cost, select the load factor based on application and find hourly consumption. Then:

Hourly consumption × Local Unit Price of Fuel =
Hourly Fuel Cost

When using these tables, keep in mind the many variables which can affect fuel consumption. Two operators of different temperament or attitude operating identical machines side by side in the same material can have as much as 10-12% difference in their consumption rates. However, the ranges shown should be applicable across a wide spectrum of conditions. Your Cat dealer representative can help select the most reasonable estimate for your specific situation; we suggest you call on him.

Keep in mind also that a fuel consumption study measured over a short period of operation will give higher fuel consumption than shown here because: (1) the study will be at 100% efficiency, without breaks or idle time, and (2) the operators will know they're "under the gun" to produce and look good. On the other hand, these tables allow for "normal" inefficiencies in the working cycle and will more closely relate to "normal" day to day operation.

FUEL CONSUMPTION TABLES AND LOAD FACTOR GUIDES

TRACK-TYPE TRACTORS

Model	Low		Medium		High	
	liter	U.S. gal	liter	U.S. gal	liter	U.S. gal
D3K	—	—	7.9	2.1	—	—
D4K	—	—	8.6	2.3	—	—
D5K	—	—	9.0	2.4	—	—
D5N	6.5-11.5	1.5-3.5	11.5-16.0	3.5-4.5	13.75-18.5	3.75-5.0
D6N	12.1-16.5	3.2-4.3	13.8-21.4	3.6-5.6	18.7-26.4	4.9-6.9
D6K	9.9-14.9	2.6-3.9	14.9-21.5	3.9-5.7	19.8-26.4	5.2-7.0
D6R Series 3 (138 kW/185 hp)	13.6-19.7	3.6-5.2	19.7-25.7	5.2-6.8	25.7-31.4	6.8-8.3
D6R Series 3 (149 kW/200 hp)	15.5-22.3	4.1-5.9	22.3-29.1	5.9-7.7	29.1-35.6	7.7-9.4
D6T (138 kW/185 hp)	15.5-22.3	4.1-5.9	22.3-28.8	5.9-7.6	28.8-35.6	7.6-9.4
D6T (149 kW/200 hp)	15.9-22.7	4.2-6.0	22.7-29.5	6.0-7.8	29.5-36.3	7.8-9.6
D7E	14.8-20.8	3.9-5.5	20.8-27.2	5.5-7.2	27.2-34.5	7.2-9.1
D7G	16.0-22.5	4.5-6.0	22.5-29.0	6.0-8.0	29.0-35.5	8.0-9.5
D7R Series 2	—	—	24.6-31.4	6.5-8.3	31.4-39.0	8.3-10.3
D8R	22.5-32.0	6.0-8.5	32.0-41.5	8.5-11.0	41.5-51.0	11.0-13.5
D8T Tier 3	23.5-33.7	6.2-8.9	33.7-43.5	8.9-11.5	43.9-53.7	11.6-14.2
D9T Tier 3	30.3-43.1	8.0-11.4	43.1-56.4	11.4-14.9	56.4-69.3	14.9-18.3
D10T	42.8-60.1	11.3-16.1	60.1-79.5	16.1-21.0	79.5-97.7	21.0-25.8
D11R	61.0-87.0	16.5-23.0	87.0-113.0	23.0-30.0	113.0-139.5	30.0-37.0
D11T	59.0-84.4	15.6-22.3	84.4-109.8	22.3-29.0	109.8-135.1	29.0-35.7

*D7G fuel consumption data is based on a precombustion chamber equipped engine. Fuel consumption for a direct injection equipped D7G should be approximately 10% less.

Typical Application Description

(relative to work application)

- Low Pulling scrapers, most agricultural drawbar, stockpile, coal pile applications. No impact. Intermittent full throttle operation.
- Medium Production dozing in clays, sands, gravels. Push loading scrapers, borrow pit ripping, most land clearing applications. Medium impact conditions. Production landfill work.
- High Heavy rock ripping. Push loading and dozing in hard rock. Working on rock surfaces. Continuous high impact conditions.

Load Factor Guide

(average engine load factor based on application description for each range)

- Low 35%-50%
- Medium 50%-65%
- High 65%-80%

MOTOR GRADERS

Model	Low		Medium		High	
	liter	U.S. gal	liter	U.S. gal	liter	U.S. gal
120K	9.0-12.9	2.4-3.4	12.9-16.7	3.4-4.4	16.7-20.6	4.4-5.4
120M	10.2-14.6	2.7-3.9	14.6-19.0	3.9-5.0	19.0-23.3	5.0-6.2
12M	11.0-15.7	2.9-4.2	15.7-20.4	4.2-5.4	20.4-25.1	5.4-6.6
140K	12.3-17.6	3.3-4.7	17.6-23.0	4.7-6.1	23.0-28.2	6.1-7.5
140M	13.5-16.4	3.6-4.3	16.4-21.3	4.3-5.6	21.3-30.9	5.6-8.2
160K	14.0-20.0	3.7-5.3	20.0-26.0	5.3-6.9	26.0-32.0	6.9-8.5
160M	14.6-17.8	3.9-4.7	17.8-23.1	4.7-6.1	23.1-33.5	6.1-8.8
14M	15.7-22.4	4.1-5.9	22.4-29.1	5.9-7.7	29.1-39.8	7.7-10.5
16M	20.4-29.1	5.4-7.7	29.1-37.9	7.7-10.0	37.9-46.6	10.0-12.3
24M	36.0-49.2	9.5-13.0	49.2-68.1	13.0-18.0	68.1-83.3	18.0-22.0

Typical Application Description

(relative to work application)

- LowLight road maintenance. Finish grading. Plant and road mix work. Large amounts of traveling. Light snow plowing.
- MediumHaul road maintenance. Average road maintenance, road mix work, scarifying. Road construction, ditching, loose fill spreading. Land forming, land leveling and elevating grader use. Medium to heavy snow removal.
- HighHeavy maintenance of hard packed roads with embedded rock. Heavy fill spreading, base material spreading and ditching. Ripping/scarifying of asphalt or concrete. Continuous high load factor. High impact. Heavy snow plowing.

Load Factor Guide

(average engine load factor based on application description for each range)

- Low35%-50%
- Medium50%-65%
- High65%-80%

SKID STEER LOADERS, MULTI TERRAIN LOADERS AND COMPACT TRACK LOADERS

Model	Low		Medium		High	
	liter	U.S. gal	liter	U.S. gal	liter	U.S. gal
216B2	3.98-5.69	1.05-1.50	5.69-7.40	1.50-1.95	7.40-9.11	1.95-2.41
226B2	5.89-8.42	1.56-2.22	8.42-10.94	2.22-2.89	10.94-13.47	2.89-3.56
232B2	5.89-8.42	1.56-2.22	8.42-10.94	2.22-2.89	10.94-13.47	2.89-3.56
236B2	5.59-7.98	1.48-2.11	7.98-10.37	2.11-2.74	10.37-12.77	2.74-3.37
242B2	5.89-8.42	1.56-2.22	8.42-10.94	2.22-2.89	10.94-13.47	2.89-3.56
246C	5.59-7.98	1.48-2.11	7.98-10.37	2.11-2.74	10.37-12.77	2.74-3.37
247B2	5.89-8.42	1.56-2.22	8.42-10.94	2.22-2.89	10.94-13.47	2.89-3.56
256C	6.12-8.74	1.62-2.31	8.74-11.36	2.31-3.00	11.36-13.98	3.00-3.69
257B2	5.89-8.42	1.56-2.22	8.42-10.94	2.22-2.89	10.94-13.47	2.89-3.56
262C	6.12-8.74	1.62-2.31	8.74-11.36	2.31-3.00	11.36-13.98	3.00-3.69
272C	6.78-9.69	1.79-2.56	9.69-12.59	2.56-3.33	12.59-15.50	3.33-4.09
277C	6.12-8.74	1.62-2.31	8.74-11.36	2.31-3.00	11.36-13.98	3.00-3.69
279C	6.12-8.74	1.62-2.31	8.74-11.36	2.31-3.00	11.36-13.98	3.00-3.69
287C	6.12-8.74	1.62-2.31	8.74-11.36	2.31-3.00	11.36-13.98	3.00-3.69
289C	6.12-8.74	1.62-2.31	8.74-11.36	2.31-3.00	11.36-13.98	3.00-3.69
297C	6.78-9.69	1.79-2.56	9.69-12.59	2.56-3.33	12.59-15.50	3.33-4.09
299C	6.78-9.69	1.79-2.56	9.69-12.59	2.56-3.33	12.59-15.50	3.33-4.09

Typical Application Description

(relative to work application)

Low	Light utility, construction, nursery and landscaping applications. Load and carry of free flowing, low density materials on firm, smooth surfaces for short distances with minimal grades. Light snow removal.
Medium	Industrial and construction job site applications. Loading from bank or load and carry of low to medium density materials on normal surfaces with low to medium rolling resistance and slight adverse grades. Occasional use of various attachments under normal loading conditions.
High	Continuous industrial, construction and batch plant applications. Loading from tight banks or load and carry of high density materials on rough or very soft surfaces with high rolling resistance and adverse grades. Maximum use of high flow attachments under high loading conditions.

Load Factor Guide

(average engine load factor based on application description for each range)

Low	35%-50%
Medium	50%-65%
High	65%-80%

Owning & Operating Costs

- ⑧ Hourly Fuel Consumption Tables
- Articulated Trucks (Underground)
 - Load Haul Dump Units (LHD'S) (Underground)

ARTICULATED TRUCKS (Underground)

Model	Low		Medium		High	
	liter	U.S. gal	liter	U.S. gal	liter	U.S. gal
AD30	27.0-38.0	7.1-10.0	38.0-45.0	10.0-11.9	45.0-56.0	11.9-14.8
AD45B	35.0-45.0	9.2-11.9	45.0-55.0	11.9-14.5	55.0-65.0	14.5-17.2
AD55	35.0-42.0	9.2-11.1	42.0-57.0	11.1-15.0	57.0-70.0	15.0-18.5

Typical Application Description

(relative to work application)

- Low** Continuous operation at <80% of maximum recommended gross weight. Short to medium haul distances: 300-1000 m (**990-3300 feet**). Well maintained, level haul roads. Considerable amount of idling. Very few tray impacts. Low load factor.
- Medium** Intermittent operation at less than maximum recommended gross weight. Medium to longer haul distances: 1000-5000 m (**3300-16,000 feet**). Varying haul road conditions with some adverse grades. Occasional tray impacts. Medium load factor.
- High** Continuous operation at maximum recommended gross weight. Long haul distances: >5000 m (**>16,000 feet**). Poor haul road conditions with adverse/steep grades. Frequent tray impacts. High load factor.

Load Factor Guide

(average engine load factor based on application description for each range)

- Low** 20%-40%
- Medium** 40%-60%
- High** 60%-80%

LOAD HAUL DUMP UNITS (LHD'S) (Underground)

Model	Low		Medium		High	
	liter	U.S. gal	liter	U.S. gal	liter	U.S. gal
R1300G	11.3-15.1	3.0-4.0	15.1-18.9	4.0-5.0	18.9-30.2	5.0-6.0
R1600G	15.1-22.7	4.0-6.0	22.7-28.3	6.0-7.5	28.3-39.7	7.5-10.5
R1700G	22.7-26.4	6.0-7.0	26.4-34.0	7.0-9.0	34.0-45.4	9.0-12.0
R2900G	30.2-37.8	8.0-10.0	37.8-45.4	10.0-12.0	45.4-56.7	12.0-15.0
R2900G XTRA	33.0-40.0	8.7-10.5	40.0-47.0	10.5-12.4	47.0-59.0	12.4-15.6

Typical Application Description

(relative to work application)

- Low** Dig and carry operation from stockpiles to ground level transfer station. Low density, free flowing ore and waste. Excellent draw point floor surfaces. Short haul distances: 25-100 m (**80-330 feet**). Level roads with good surface conditions. Low load factor.
- Medium** Intermittent development/production loading into trucks/transfer station. Good digging with well shot, low to medium density ore and waste. Average draw point floor surfaces. Medium haul distances: 100-200 m (**330-660 feet**). Poor road surfaces with slightly adverse grades. Medium load factor.
- High** Continuous production loading of trucks at or near maximum load height. Difficult digging. Loading haul trucks. Rough draw point surfaces. Long haul distances: 200-300 m (**660-990 feet**). Poor haul roads with adverse grades. High load factor.

Load Factor Guide

(average engine load factor based on application description for each range)

- Low** 20%-40%
- Medium** 40%-60%
- High** 60%-80%

EXCAVATORS

Model	Low		Medium		High	
	liter	U.S. gal	liter	U.S. gal	liter	U.S. gal
301.5	2.1-2.5	0.55-0.66	2.5-2.9	0.66-0.77	2.9-3.3	0.77-0.87
301.6C	0.9-1.4	0.24-0.35	1.4-1.8	0.35-0.47	1.8-2.3	0.47-0.59
301.8C	0.9-1.4	0.24-0.35	1.4-1.8	0.35-0.47	1.8-2.3	0.47-0.59
302.5C	1.2-1.8	0.31-0.47	1.8-2.4	0.47-0.62	2.4-3.0	0.62-0.78
303 CR/SR	3.4-4.0	0.89-1.07	4.0-4.7	1.07-1.24	4.7-5.4	1.2-1.42
304 CR	4.0-4.8	1.06-1.28	4.8-5.6	1.28-1.49	5.6-6.4	1.49-1.7
305 CR/SR	4.7-5.7	1.24-1.49	5.7-6.6	1.49-1.74	6.6-7.5	1.74-1.99
307D	2.5-3.7	0.7-1.0	3.7-4.9	1.0-1.3	4.9-6.2	1.3-1.6
308D CR	2.5-3.7	0.7-1.0	3.7-4.9	1.0-1.3	4.9-6.2	1.3-1.6
311D RR (Tier 3)	3.5-6.5	0.9-1.7	6.5-9.5	1.7-2.5	9.5-12.8	2.5-3.4
312D (Tier 3)	4.0-7.5	1.1-2.0	7.5-11.5	2.0-3.0	11.5-15.2	3.0-4.0
314D CR (Tier 3)	4.0-7.5	1.1-2.0	7.5-11.5	2.0-3.0	11.5-15.2	3.0-4.0
315D (Tier 3)	5.0-9.5	1.3-2.5	9.5-14.5	2.5-3.8	14.5-19.2	3.8-5.1
319D (Tier 3)	5.5-10.5	1.5-2.8	10.5-15.5	2.8-4.1	15.5-21.0	4.1-5.5
320D (STD Tier 3)	6.0-12.0	1.6-3.2	12.0-18.0	3.2-4.8	18.0-24.0	4.8-6.3
320D (HHP Tier 3)	6.5-12.5	1.7-3.3	12.5-18.5	3.3-4.9	18.5-24.8	4.9-6.6
321D CR (STD Tier 3)	6.0-12.0	1.6-3.2	12.0-18.0	3.2-4.8	18.0-24.0	4.8-6.3
321D CR (HHP Tier 3)	6.5-12.5	1.7-3.3	12.5-18.5	3.3-4.9	18.5-24.8	4.9-6.6
323D (Tier 3)	6.5-12.5	1.7-3.3	12.5-18.5	3.3-4.9	18.5-24.8	4.9-6.6
324D (STD Tier 3)	7.0-14.0	1.8-3.7	14.0-21.0	3.7-5.5	21.0-28.0	5.5-7.4
324D (HHP Tier 3)	8.0-16.0	2.1-4.2	16.0-24.0	4.2-6.3	24.0-32.0	6.3-8.5
324D (STD Tier 2)	6.5-13.5	1.7-3.6	13.5-20.0	3.6-5.3	20.0-26.6	5.3-7.0
324D (HHP Tier 2)	7.5-15.5	2.0-4.1	15.5-23.0	4.1-6.1	23.0-30.4	6.1-8.0
328D CR (Tier 3)	8.5-17.5	2.2-4.6	17.5-26.0	4.6-6.9	26.0-34.5	6.9-9.1
329D (STD Tier 3)	8.0-16.0	2.1-4.2	16.0-24.0	4.2-6.3	24.0-32.0	6.3-8.5
329D (HHP Tier 3)	8.5-17.5	2.2-4.6	17.5-26.0	4.6-6.9	26.0-34.5	6.9-9.1
329D (STD Tier 2)	7.5-15.5	2.0-4.1	15.5-23.0	4.1-6.1	23.0-30.5	6.1-8.1
329D (HHP Tier 2)	8.5-16.5	2.2-4.4	16.5-24.5	4.4-6.5	24.5-33.0	6.5-8.7
336D (Tier 3)	11.5-23.0	3.0-6.1	23.0-34.5	6.1-9.1	34.5-45.5	9.1-12.0
336D (Tier 2)	11.0-21.5	2.9-5.7	21.5-32.5	5.7-8.6	32.5-43.5	8.6-11.5
345D (Tier 3)	15.5-30.5	4.1-8.1	30.5-45.6	8.1-12.0	45.6-61.0	12.0-16.1
345D (Tier 2)	14.5-29.0	3.8-7.7	29.0-43.3	7.7-11.4	43.3-58.0	11.4-15.3
365C (Tier 3)	16.5-33.0	4.4-8.7	33.0-49.2	8.7-13.0	49.2-65.5	13.0-17.3
365C (Tier 2)	15.5-31.0	4.1-8.2	31.0-46.7	8.2-12.3	46.7-62.5	12.3-16.5
374D (Tier 3)	19.0-37.5	5.0-9.9	37.5-56.4	9.9-14.9	56.4-75.5	14.9-19.9
374D (Tier 2)	18.0-35.5	4.8-9.4	35.5-53.6	9.4-14.2	53.6-71.5	14.2-18.9
385C (Tier 3)	20.5-41.0	5.4-10.8	41.1-61.0	10.8-16.1	61.0-81.5	16.1-21.5
385C (Tier 2)	19.5-39.0	5.2-10.3	39.0-58.0	10.3-15.3	58.0-77.5	15.3-20.5
M313D	8.0-12.0	2.1-3.2	12.0-16.0	3.2-4.2	16.0-19.0	4.2-5.0
M315D	9.0-13.0	2.4-3.4	13.0-18.0	3.4-4.8	18.0-21.0	4.8-5.5
M316D	8.0-12.0	2.1-3.2	12.0-17.0	3.2-4.5	17.0-20.0	4.5-5.3
M318D	9.0-13.0	2.4-3.4	13.0-18.0	3.4-4.8	18.0-22.0	4.8-5.8
M322D	11.0-17.0	2.9-4.5	17.0-23.0	4.5-6.1	23.0-26.0	6.0-6.9
M325C MH*	12.9-15.9	3.4-4.2	20.8-23.8	5.5-6.3	23.8-27.6	6.3-7.3
M325C L MH*	14.0-19.0	3.7-5.0	23.0-27.0	6.1-7.1	27.0-32.0	7.1-8.5
W330B MH*	19.0-24.0	5.0-6.3	29.0-33.0	7.7-8.7	34.0-39.0	9.0-10.3
W345B MH*	25.0-30.0	6.6-7.9	38.0-42.0	10.0-11.1	45.0-50.0	11.9-13.2

*If the application of these machines is to be used for scrap handling, the LOW hourly fuel consumption rate would typically apply.

NOTE: Fuel consumption rates for 320D through 385C include machine at idle per load factor definition.

Mini HEX

Typical Application Description

(relative to work application)

- Low Mostly shallow depth urban utility construction where excavator sets pipe and digs in sandy loam or free flowing, low density material. Little traveling and little or no impact.
- Medium Most residential pipeline and cabling applications. Continuous mass excavation and trenching in natural bed clay soils. Some traveling and steady, full throttle operation.
- High Continuous trenching or truck loading in rock or shot rock soils. Most pipeline applications in hard rocky material. Large amount of travel over rough ground. Constant high load factor and high impact.

Load Factor Guide

(average engine load factor based on application description for each range)

- Low 20%-40%
- Medium 40%-60%
- High 60%-80%

300 Series

Typical Application Description

(relative to work application)

- Low Mostly shallow depth urban utility construction where excavator sets pipe and digs less than 50% of the daily work schedule. Sandy loam, free flowing, low density material. Most scrap handling applications. Little traveling and little or no impact.
- Medium Most residential sewer applications. Continuous mass excavation and trenching in natural bed clay soils. Digging 60-85% of the daily work schedule. Most log loading applications. Some traveling and steady, full throttle operation.
- High Continuous trenching or truck loading in rock or shot rock soils. Most pipeline applications in hard rocky material. Digging 90-95% of the daily work schedule. Large amount of travel over rough ground. Working on rock floor with constant high load factor and high impact.

Load Factor Guide

(average engine load factor based on application description for each range)

- Low 20%-40%
- Medium 40%-60%
- High 60%-80%

M-Series

Typical Application Description

(relative to work application)

- Low Urban utility construction application in sandy loam, low density material. Digging less than 50% of the daily work schedule. Rehandling and scrap handling applications.
- Medium Residential sewer applications in natural bed clay. Continuous digging in sandy clay/gravel. Digging 60-85% of the daily work schedule. Site development and lumber yard applications. Most logging applications.
- High Pipeline applications in hard rocky material. Continuous digging in rock/natural bed clay. Digging 90-95% of the daily work schedule. High impact, using hammer, working in forests and quarries.

Load Factor Guide

(average engine load factor based on application description for each range)

- Low 20%-40%
- Medium 40%-60%
- High 60%-80%

FRONT SHOVELS

Model	Low		Medium		High	
	liter	U.S. gal	liter	U.S. gal	liter	U.S. gal
5090	43.0-48.0	11.4-12.7	62.0-68.0	16.4-18.0	71.0-78.0	18.8-20.6
5130B (Tier 1)	—	—	120.2	31.6	160.3	42.2
5230B (Tier 1)	—	—	232.5	61.2	310.0	81.6

Typical Application Description

(relative to work application)

Low Continuous loading in loose banks or stockpile. Light, easy work with, considerable idling. Good underfoot conditions.

Medium Continuous loading in well-shot rock or fairly tight bank. Steady cycling with frequent periods of idle. Good underfoot conditions; dry floor, little impact or sliding on undercarriage. Minimal travel time (3%-6%).

High Continuous loading in poorly-shot rock, virgin or lightly-blasted tight banks. Steady cycling in hard to dig material. Adverse underfoot conditions; rough floors, high impact and/or sliding on undercarriage.

Load Factor Guide

(average engine load factor based on application description for each range)

Low 20%-50%

Medium 50%-80%

High 80%-100%

PIPELAYERS

Model	Low		Medium		High	
	liter	U.S. gal	liter	U.S. gal	liter	U.S. gal
PL61	5.7-11.7	1.5-3.0	9.7-15.1	2.5-4.0	13.2-18.9	3.5-5.0
572R Series 2	8.5-12.3	2.2-3.3	12.3-15.7	3.3-4.2	15.7-19.5	4.2-5.2
583T	11.8-16.9	3.1-4.5	16.9-21.8	4.5-5.8	21.8-26.8	5.8-7.1
587R	11.8-16.0	3.1-4.2	16.0-20.8	4.2-5.5	20.8-25.5	5.5-6.8
587T	15.3-21.9	4.0-5.8	21.9-28.3	5.8-7.5	28.3-34.9	7.5-9.2

Typical Application Description

(relative to work application)

Low Little or no use in mud, water or on rock. Use on level, regular surfaces.

Medium Typical pipelayer use in operating conditions ranging from very good to severe.

High Continuous use in deep mud or water or on rock surfaces.

Load Factor Guide

(average engine load factor based on application description for each range)

Low 35%-50%

Medium 50%-65%

High 65%-80%

Owning & Operating Costs

⑧ Hourly Fuel Consumption Tables

- Wheel Tractor-Scrapers
- Backhoe Loaders

WHEEL TRACTOR-SCRAPERS

Model	Low		Medium		High	
	liter	U.S. gal	liter	U.S. gal	liter	U.S. gal
613G Tier 3	15.0-19.0	4.0-5.0	21.0-25.0	5.5-6.5	27.5-34.0	7.3-9.0
621G Tier 3	26.3-37.6	6.9-9.9	37.6-48.8	9.9-12.9	48.8-60.1	12.9-15.9
623G Tier 3	30.1-41.3	8.0-10.9	41.3-52.6	10.9-13.9	52.6-66.1	13.9-17.5
627G Tier 3	40.2-59.9	10.6-15.8	59.9-79.5	15.8-21.0	79.5-104.7	21.0-27.7
631G Tier 3	33.9-48.5	9.0-12.8	48.5-63.0	12.8-16.6	63.0-77.5	16.6-20.5
637G Tier 3	48.8-72.4	12.9-19.1	72.4-95.9	19.1-25.3	95.9-125.3	25.3-33.1
657G Tier 3	66.3-98.6	17.6-26.1	98.6-130.9	26.1-34.6	130.9-163.3	34.6-43.1

Typical Application Description

(relative to work application)

- Low Level or favorable grades on good haul roads and low rolling resistance. Easy-loading materials, partial loads. No impact. Average use, but with considerable idling.
- Medium Adverse and favorable grades with varying loading and haul road conditions. Long and short hauls, near full. Some impact. Typical road building use.
- High Rough haul roads. Loading heavy clay, continuous high total resistance conditions with steady cycling. Overloading. High impact conditions, such as loading ripped rock.

Load Factor Guide

(average engine load factor based on application description for each range)

- Low 35%-50%
- Medium 50%-65%
- High 65%-80%

BACKHOE LOADERS

Model	Low		Medium		High	
	liter	U.S. gal	liter	U.S. gal	liter	U.S. gal
416D (NA)	6.4-8.3	1.7-2.2	8.3-10.2	2.2-2.7	10.2-12.1	2.7-3.2
416D (T)	7.6-9.5	2.0-2.5	9.5-11.4	2.5-3.0	11.4-13.2	3.0-3.5
416E	7.6-9.5	2.0-2.5	9.5-11.4	2.5-3.0	11.4-13.2	3.0-3.5
420E (T)	7.0	1.8	11.0	2.9	18.1	4.8
422E (T)	6.4-8.3	1.7-2.2	8.3-10.2	2.2-2.7	10.2-12.1	2.7-3.2
424D (NA)	6.4-8.3	1.7-2.2	8.3-10.2	2.2-2.7	10.2-12.1	2.7-3.2
428E (T)	7.6-9.5	2.0-2.5	9.5-11.4	2.5-3.0	11.4-13.2	3.0-3.5
430E (T)	7.7	2.0	12.8	3.4	20.4	5.4
432E (T)	8.1-10.0	2.1-2.6	10.0-11.9	2.6-3.1	11.9-14.2	3.1-3.8
434E (T)	8.1-10.0	2.1-2.6	10.0-11.9	2.6-3.1	11.9-14.2	3.1-3.8
438D	8.9-11.2	2.4-3.0	11.2-13.1	3.0-3.5	13.1-15.3	3.5-4.0
442E (T)	8.9-11.2	2.4-3.0	11.2-13.1	3.0-3.5	13.1-15.3	3.5-4.0
444E (T)	8.9-11.2	2.4-3.0	11.2-13.1	3.0-3.5	13.1-15.3	3.5-4.0
446D (T)	10.6-12.9	2.8-3.4	12.9-15.1	3.4-4.0	15.1-17.4	4.0-4.6
450E	17.0	4.5	17.0	4.5	21.9	5.8

NA = Naturally Aspirated

T = Turbocharged

Backhoe Loaders

Typical Application Description

(relative to work application)

Low Light duty utility applications with intermittent cycles in light to medium soil. Trenching depths less than 1.83 m (**6 feet**).

Medium General utility applications with regular cycles in medium to heavy soil. Dig depths to 3.05 m (**10 feet**). Occasional use of constant flow implements.

High Production applications or digging in rock. Dig depths over 3.05 m (**10 feet**). Long cycle times or regular use of constant flow implements.

Load Factor Guide

(average engine load factor based on application description for each range)

Low 20%-30%

Medium 30%-40%

High 40%-50%

FOREST PRODUCTS

Model	Low		Medium		High	
	liter	U.S. gal	liter	U.S. gal	liter	U.S. gal
FOREST MACHINES						
320D FM	11.5-14.0	3.0-3.7	17.0-19.0	4.5-5.0	20.5-22.5	5.4-6.0
322C LL	25.0-28.0	6.5-7.5	26.0-29.0	7.0-7.5	27.0-30.0	7.5-8.0
324D FM	14.0-19.0	3.7-5.1	23.0-27.0	6.1-7.1	27.0-32.0	7.2-8.5
325C LL	26.0-29.0	7.0-7.5	27.0-30.0	7.0-8.0	29.0-32.0	7.5-8.5
325D FM	14.0-19.0	3.7-5.1	23.0-27.0	6.1-7.1	27.0-32.0	7.2-8.5
330C LL	36.0-40.0	9.5-10.5	37.0-41.0	10.0-11.0	38.0-42.0	10.0-11.0
330D FM	19.0-24.0	5.0-6.3	29.0-33.0	7.7-8.7	34.0-39.0	9.0-10.3
FELLER BUNCHERS						
511 (2290)	25.0-28.0	6.5-7.5	28.0-34.0	7.5-9.0	36.0-42.0	9.5-11.0
521 (2390)	27.0-33.0	7.0-8.5	33.0-36.0	8.5-9.5	36.0-44.0	9.5-11.5
522 (2391)	27.0-33.0	7.0-8.5	33.0-36.0	8.5-9.5	36.0-44.0	9.5-11.5
532 (2491)	28.0-34.0	7.5-9.0	34.0-38.0	9.0-10.0	38.0-45.0	10.0-12.0
541 (2590)	28.0-34.0	7.5-9.0	34.0-38.0	9.0-10.0	38.0-45.0	10.0-12.0
551	28.0-34.0	7.5-9.0	34.0-38.0	9.0-10.0	38.0-45.0	10.0-12.0
552	30.0-34.0	8.0-9.0	34.0-40.0	9.0-10.5	40.0-49.0	10.5-13.0
TRACK SKIDDERS						
517	5.7-13.2	1.5-3.5	13.2-18.9	3.5-5.0	15.0-22.7	4.0-6.0
527	13.2-18.9	3.5-5.0	18.9-23.6	5.0-6.25	23.6-32.2	6.25-8.5
WHEEL SKIDDERS						
525B	10.4-15.1	2.75-4.0	15.1-20.8	4.0-5.5	20.8-32.2	5.5-8.5
535B	10.4-15.1	2.75-4.0	15.1-22.7	4.0-6.0	22.7-34.0	6.0-9.0
545	10.4-15.1	2.75-4.0	15.1-24.6	4.0-6.5	24.6-37.8	6.5-10.0
KNUCKLEBOOM LOADERS						
539	26.0-29.0	6.87-7.66	27.0-30.0	7.13-7.93	29.0-32.0	7.66-8.45
HARVESTERS						
550	*	*	*	*	*	*
570	*	*	*	*	*	*
580	*	*	*	*	*	*
FORWARDERS						
554	*	*	*	*	*	*
574	*	*	*	*	*	*
584	12.0	3.18	14.0	3.70	16.0	4.24

*Insufficient data.

Wheel Skidders

Typical Application Description

(relative to work application)

- Low Intermittent skidding for short distances, no decking. Good underfoot conditions; dry floor, few if any stumps, flat/level terrain with low skidding resistance.
- Medium Continuous turning, steady skidding for medium distances with moderate decking. Good underfoot conditions; dry floor with few stumps, gradual rolling/moderate terrain with medium skidding resistance.
- High Continuous turning, steady skidding for long distances with frequent decking. Poor underfoot conditions; wet floor, numerous stumps, steep terrain with high skidding resistance.

Load Factor Guide — 517

- Low Skidding loads less than 4536 kg (**10,000 lb**) in flat terrain (0-8% grade) with low skidding resistance.
- Medium Skidding loads up to 4536 kg (**10,000 lb**) in moderate terrain (8-30% grade) with medium skidding resistance.
- High Skidding loads over 4536 kg (**10,000 lb**) in steep terrain (over 30% grade) with high skidding resistance.

Load Factor Guide — 525B

- Low Skidding loads less than 4500 kg (**10,000 lb**) in flat terrain (0-5% grade) with low skidding resistance.
- Medium Skidding loads up to 6800 kg (**15,000 lb**) in moderate terrain (5-10% grade) with average skidding resistance.
- High Skidding loads over 6800 kg (**15,000 lb**) in steep terrain (over 10% grade) with high skidding resistance.

Load Factor Guide — 527

- Low Skidding loads less than 6360 kg (**14,000 lb**) in flat terrain (0-8% grade) with low skidding resistance.
- Medium Skidding loads up to 6360 kg (**14,000 lb**) in moderate terrain (8-30% grade) with medium skidding resistance.
- High Skidding loads over 6360 kg (**14,000 lb**) in steep terrain (over 30% grade) with high skidding resistance.

Feller Bunchers

Typical Application Description

(relative to work application)

- Low Harvesting application or intermittent felling and stacking in good underfoot conditions. Flat ground, uniform trees below 255 mm (**10 inches**).
- Medium Harvesting or hot saw application in medium underfoot conditions. Rolling terrain, some trees up to 457 mm (**18 inches**) or some hardwoods.
- High High cycling in poor underfoot conditions, steep terrain, over stumps or fallen trees. Multiple small diameter trees or larger trees 508 mm (**20 inches**) or larger hardwoods.

Load Factor Guide

(average engine load factor based on application description for each range)

- Low 45%-65%
- Medium 66%-85%
- High 86%-98%

Forwarders

Typical Application Description

(relative to work application)

- Low Loading and hauling application in good conditions. Flat ground, concentrated log bunches, single tier log lengths, short haul distances
- Medium Loading and hauling application in medium conditions. Rolling terrain, medium spacing of log bunches, single and two tier log lengths.
- High Loading and hauling application in poor conditions, steep or rocky terrain, scattered log bunches, two tier log lengths, long haul distances.

Load Factor Guide

(average engine load factor based on application description for each range)

- Low 15%-25%
- Medium 25%-35%
- High 35%-45%

OFF HIGHWAY TRUCKS

Model	Low		Medium		High	
	liter	U.S. gal	liter	U.S. gal	liter	U.S. gal
770	20.4-30.6	5.4-8.1	30.6-40.8	8.1-10.8	40.8-51.0	10.8-13.5
772	23.6-35.3	6.2-9.3	35.3-47.1	9.3-12.4	47.1-58.9	12.4-15.6
773F	28.3-42.5	7.5-11.2	42.5-56.6	11.2-15.0	56.6-70.8	15.0-18.7
775F	28.7-43.1	7.6-11.4	43.1-57.4	11.4-15.2	57.4-71.8	15.2-19.0
777D	37.5-56.3	9.9-14.9	56.3-75.0	14.9-19.8	75.0-93.8	19.8-24.8
777F	37.1-55.7	9.8-14.7	55.7-74.2	14.7-19.6	74.2-92.8	19.6-24.5
785C	53.7-80.6	14.2-21.3	80.6-107.5	21.3-28.4	107.5-134.4	28.4-35.5
785D	54.5-81.4	14.4-21.5	81.4-108.6	21.5-28.7	108.6-135.9	28.7-35.9
789C	70.6-105.9	18.7-28.0	105.9-141.2	28.0-37.3	141.2-176.5	37.3-46.6
793D	90.8-136.2	24.0-36.0	136.2-181.6	36.0-48.0	181.6-227	48.0-60.0
793F	96.5-144.8	25.5-38.3	144.8-193.1	38.3-51.0	193.1-241.3	51.0-63.8
797F	147.9-221.8	39.1-58.6	147.9-295.7	58.6-78.1	295.7-369.6	78.1-97.7

NOTE: Load factors above 50% may be experienced in many applications.

Typical Application Description

(relative to work application)

- Low Continuous operation at an average gross weight less than recommended. Excellent haul roads. No overloading, low load factor.
- Medium Continuous operation at an average gross weight approaching recommended. Minimal overloading, good haul roads, moderate load factor.
- High Continuous operation at or above maximum recommended gross weight. Overloading, poor haul roads, high load factor.

Load Factor Guide

(average engine load factor based on application description for each range)

- Low 20%-30%
- Medium 30%-40%
- High 40%-50%

ARTICULATED TRUCKS

Model	Low		Medium		High	
	liter	U.S. gal	liter	U.S. gal	liter	U.S. gal
725	10.6-14.8	2.8-3.9	14.8-20.8	3.9-5.5	20.8-30.1	5.5-8.0
730 Ejector	12.3-17.1	3.3-4.5	17.1-24.5	4.5-6.4	24.2-34.9	6.4-9.2
730	11.7-16.3	3.1-4.3	16.3-23.0	4.3-6.1	23.0-33.2	6.1-8.8
735	16.6-23.1	4.4-6.1	23.1-32.4	6.1-8.6	32.4-46.8	8.6-12.4
740	16.7-23.2	4.4-6.1	23.2-32.6	6.1-8.6	32.6-47.1	8.6-12.5
740 Ejector	17.5-24.4	4.6-6.4	24.4-34.2	6.4-8.6	34.2-49.5	9.0-13.1

Typical Application Description

(relative to work application)

- Low Earthmoving and stockpile use with well matched loading equipment, free flowing material. Large amount of idling, short to medium haul distances on well-maintained level haul roads. Minimum total resistance, few impact loads.
- Medium Typical use in road-building, dam construction, open-pit mining, etc. Normal load and haul times, varying haul road conditions with some adverse grades. Some impact loads.
- High Poorly-matched loading equipment with continuous overloading. Long haul time and continuous use on very poorly maintained haul roads with frequent adverse grades. High rolling resistance, poor traction, high impact loads.

Load Factor Guide

(average engine load factor based on application description for each range)

- Low 20%-30%
- Medium 30%-40%
- High 40%-50%

TELEHANDLERS

Model	Low		Medium		High	
	liter	U.S. gal	liter	U.S. gal	liter	U.S. gal
TH210	5.1-6.8	1.3-1.8	8.5-10.1	2.2-2.6	11.8-13.5	3.1-3.5
TH215	5.1-6.8	1.3-1.8	8.5-10.1	2.2-2.6	11.8-13.5	3.1-3.5
TH220B (59-74 kW/80-99 hp)	5.0-7.0	1.3-1.8	10.0-14.0	2.6-3.7	13.0-17.0	3.4-4.5
TH220B (92 kW/123 hp)	5.0-8.0	1.3-2.1	10.0-16.0	2.6-4.2	13.0-20.0	3.4-5.3
TH330B (59-74 kW/80-99 hp)	5.0-7.0	1.3-1.8	10.0-14.0	2.6-3.7	13.0-17.0	3.4-4.5
TH330B (92 kW/123 hp)	5.0-8.0	1.3-2.1	10.0-16.0	2.6-4.2	13.0-20.0	3.4-5.3
TH340B	5.0-7.0	1.3-1.8	10.0-14.0	2.6-3.7	13.0-17.0	3.4-4.5
TH350B	5.0-7.0	1.3-1.8	10.0-14.0	2.6-3.7	13.0-17.0	3.4-4.5
TH355B	5.0-7.0	1.3-1.8	10.0-14.0	2.6-3.7	13.0-17.0	3.4-4.5
TH360B	5.0-7.0	1.3-1.8	10.0-14.0	2.6-3.7	13.0-17.0	3.4-4.5
TH460B	5.0-7.0	1.3-1.8	10.0-14.0	2.6-3.7	13.0-17.0	3.4-4.5
TH560B (59-74 kW/80-99 hp)	5.0-9.0	1.3-2.4	10.0-15.0	2.6-4.0	13.0-17.5	3.4-4.6
TH560B (92 kW/123 hp)	5.0-9.0	1.3-2.4	10.0-17.0	2.6-4.5	13.0-21.0	3.4-5.5
TH580B	5.0-6.0	1.3-1.6	9.0-10.7	2.4-2.8	16.0-18.3	4.2-4.8

Typical Application Description

(relative to work application)

Low Light to moderate, intermittent, utility applications with frequent periods of idling and limited travel.

Medium General construction applications with moderate amounts of travel.

High Continuous production applications with near capacity loading and extended lifts.

Load Factor Guide

(average engine load factor based on application description for each range)

Low 20%-30%

Medium 30%-40%

High 40%-50%

WHEEL DOZERS/SOIL COMPACTORS/LANDFILL COMPACTORS

Model	Low		Medium		High	
	liter	U.S. gal	liter	U.S. gal	liter	U.S. gal
814F	21.0-25.0	5.5-6.5	26.0-30.0	7.0-8.0	36.0-40.0	9.5-10.5
815F	26.0-30.0	7.0-8.0	36.0-42.0	9.5-11.0	44.0-47.0	11.5-12.5
816F	26.0-30.0	7.0-8.0	36.0-42.0	9.5-11.0	44.0-47.0	11.5-12.5
824H	28.9-33.8	7.9-8.9	39.8-45.8	10.5-12.1	53.7-59.7	14.2-15.8
825H	37.8-43.8	10.0-11.6	53.7-67.3	14.2-17.8	63.7-69.7	16.8-18.4
826H	34.0-35.8	8.4-9.4	39.8-43.8	10.5-11.6	47.8-51.7	12.6-13.6
834H	34.6-43.4	9.1-11.4	48.2-52.2	12.7-13.8	67.6-74.0	17.8-19.5
836H	39.8-43.8	10.5-11.6	47.8-51.7	12.6-14.0	55.7-59.7	14.7-18.0
844	42.0-50.0	11.0-13.0	54.0-62.0	14.0-16.0	65.0-73.0	17.0-19.0
854G	53.0-61.0	14.0-16.0	68.0-76.0	18.0-20.0	83.0-91.0	22.0-24.0

Wheel Dozers

Typical Application Description

(relative to work application)

Low Light utility and stockpile work. Pulling compactors. Dozing loose fill. Considerable idling or travel with no load and no impact.

Medium Production dozing, push loading in clays, sands, silts, loose gravels. Shovel clean-up. Normal compaction.

High Heavy production dozing in rock. Push-loading in rocky, bouldery borrow pits. Heavy landfill compactor work. High impact conditions.

Load Factor Guide

(average engine load factor based on application description for each range)

Low 35%-50%

Medium 50%-65%

High 65%-80%

Soil Compactors/Landfill Compactors

Typical Application Description

(relative to work application)

Low No dozing or very light spreading on a flat or downhill surface. Machine has support equipment dozing and spreading trash while compactor simply travels over flat surface multiple times.

Medium Compactor primary use is compacting already spread material. Compactor assists in dozing and spreading during peak periods of day and possibly working slopes of no steeper than a 4:1.

High Compactor is possibly only machine for operation. Machine will doze and spread material alone and then compact it with multiple passes working on steep slopes and possibly uphill.

Load Factor Guide

(average engine load factor based on application description for each range)

Low 35%-50%

Medium 50%-65%

High 65%-80%

COMPACTION EQUIPMENT

Model	Low		Medium		High	
	liter	U.S. gal	liter	U.S. gal	liter	U.S. gal
CP-323C	8.0-13.0	2.0-3.5	11.0-15.0	3.0-4.0	11.0-19.0	3.0-5.0
CS-323C	8.0-13.0	2.0-3.5	11.0-15.0	3.0-4.0	11.0-19.0	3.0-5.0
CS-423E	11.0-13.0	3.0-3.5	11.0-17.0	3.0-4.5	13.0-19.0	3.5-5.0
CS-431C	8.0-11.0	2.0-3.0	11.0-13.0	3.0-3.5	11.0-15.0	3.0-4.0
CP-433E	11.0-13.0	3.0-3.5	11.0-17.0	3.0-4.5	13.0-19.0	3.5-5.0
CS-433E	11.0-13.0	3.0-3.5	11.0-17.0	3.0-4.5	13.0-19.0	3.5-5.0
CS-531D	11.0-13.0	3.0-3.4	12.0-14.0	3.2-3.7	13.0-16.0	3.4-4.2
CP-533E	10.0-12.0	2.64-3.17	11.0-13.0	2.9-3.4	12.0-15.0	3.2-4.0
CS-533E	10.0-12.0	2.64-3.17	11.0-13.0	2.9-3.4	12.0-15.0	3.2-4.0
CP-563E	12.0-14.0	3.2-3.7	14.0-17.0	3.7-4.5	17.0-20.0	4.5-5.3
CS-563E	12.0-14.0	3.2-3.7	14.0-17.0	3.7-4.5	17.0-20.0	4.5-5.3
CP-573E	12.0-15.0	3.2-4.0	14.0-18.0	3.7-4.8	17.0-21.0	4.5-5.6
CS-573E	12.0-15.0	3.2-4.0	14.0-18.0	3.7-4.8	17.0-21.0	4.5-5.6
CS-583E	15.0-17.0	4.0-4.5	17.0-19.0	4.5-5.0	19.0-23.0	5.0-6.0
CP-663E	15.0-17.0	4.0-4.5	17.0-19.0	4.5-5.0	21.0-22.5	5.5-6.0
CS-663E	15.0-17.0	4.0-4.5	17.0-19.0	4.5-5.0	21.0-22.5	5.5-6.0
CS-683E	17.0-19.0	4.5-5.0	19.0-21.0	5.0-5.5	22.5-24.5	6.0-6.5
CB-214D	2.0-3.0	0.5-1.0	2.5-3.5	0.5-1.0	3.0-4.0	1.0-1.5
CB-224D	2.0-4.0	0.5-1.0	3.0-4.0	0.5-1.0	3.5-4.5	1.0-1.5
CB-225D	2.0-3.0	0.5-1.0	2.5-3.5	0.5-1.0	3.0-4.0	1.0-1.5
CB-334E	3.8-5.7	1.0-1.5	5.7-7.0	1.5-1.8	7.0-10.0	1.8-2.6
CB-335E	3.5-5.5	0.9-1.4	5.5-6.5	1.4-1.7	6.5-9.0	1.7-2.4
CB-434C	11.0-13.0	3.0-3.5	13.0-17.0	3.5-4.5	17.0-19.0	4.5-5.0
CB-434D	5.7-7.6	1.5-2.0	7.6-11.4	2.0-3.0	11.4-15.2	3.0-4.0
CB-534D	5.7-7.6	1.5-2.0	7.6-11.4	2.0-3.0	11.4-15.2	3.0-4.0
CB-54	8.5	2.2	9.4	2.5	11.0	2.9
CB-562D	5.7-7.6	1.5-2.0	7.6-11.4	2.0-3.0	11.4-15.2	3.0-4.0
CB-564D	8.55	2.26	10.45	2.76	13.3	3.51
CB-64	8.5	2.2	9.4	2.5	11.0	2.9
CB-634C	13.0	3.5-4.0	15.0-19.0	4.0-5.0	19.0-21.0	5.0-5.5
PS-150C	8.0-11.0	2.0-3.0	11.0-13.0	3.0-3.5	13.0-15.0	3.5-4.0
PS-200B	11.0	3.0	11.0-13.0	3.0-3.5	13.0-15.0	3.5-4.0
PF-300C	13.0	3.5	15.0-17.0	4.0-4.5	17.0-23.0	4.5-6.0
PS-300C	13.0	3.5	15.0-17.0	4.0-4.5	17.0-23.0	4.5-6.0
PS-360C	17.4-9.8	1.9-2.6	9.8-12.4	2.6-3.3	12.4-14.5	3.3-4.6

Asphalt Compactors

Typical Application Description

(relative to work application)

- Low Asphalt mix, 25-50 mm **(1-2 inch)** lifts. Static finish rolling, all lifts.
- Medium Asphalt mix, 51-100 mm **(2-4 inch)** lifts.
- High Asphalt mix, 101-150 mm **(4-6 inch)** lifts. Prepare granular base lifts.

Vibratory Soil Compactors

Typical Application Description

(relative to work application)

- Low Granular soil not compacted to high density (<95 Proctor). Level ground.
- Medium Granular soil compacted to density (>95 Proctor). Cohesive soil with padded drum and low/normal moisture content. Blading <25%. Hilly ground <3:1 slope.
- High Cohesive soil with padded drum and high moisture content. Blading >25%. Slopes >3:1.

Pneumatic Compactors

Typical Application Description

(relative to work application)

- Low Asphalt mix, all lifts. Intermediate or finish rolling, chip seal. Level ground.
- Medium Asphalt mix, all lifts. Intermediate or finish rolling. Granular base breakdown <100 mm **(<4 inch)**. Moderate grade.
- High Granular base or cold in place breakdown roller >100 mm **(4 inch)** lifts. Intermediate or finish rolling. Steep grades.

Load Factor Guide

(average engine load factor based on application description for each range)

- Low Vibration 30%-50%
- Medium Vibration 50%-80%
- High Vibration 80%-100%

COMPACTION EQUIPMENT — UTILITY COMPACTORS

Model	Low		Medium		High	
	liter	U.S. gal	liter	U.S. gal	liter	U.S. gal
CB14	1.6	0.42	2.0	0.53	2.3	0.61
CB22	4.0	1.06	5.5	1.45	7.0	1.85
CB24, CB24 XT	4.0	1.06	5.5	1.45	7.0	1.85
CC24	3.0	0.79	5.0	1.32	7.0	1.85
CB32	4.0	1.06	5.5	1.45	7.0	1.85
CB34, CB34 XW	2.0-3.2	0.53-0.83	3.2-4.5	0.83-1.19	4.5-6.0	1.19-1.59
CC34	2.0-3.2	0.53-0.83	3.2-4.5	0.83-1.19	4.5-6.0	1.19-1.59

Utility Compactors — CB14, CB22, CB24, CB32, CC24

Typical Application Description

(relative to work application)

Low Asphalt mix, 25-50 mm **(1-2 inch)** lifts. Static finish rolling, all lifts.

Medium Asphalt mix, 25-50 mm **(1-2 inch)** lifts. Normal working conditions with vibe and static.

High Asphalt mix, 25-50 mm **(1-2 inch)** lifts. May include some soil compaction.

Load Factor Guide

(average engine load factor based on application description for each range)

Low Vibration 10-30%

Medium Vibration 30-60%

High Vibration 60-85%

Utility Compactors — CB34, CC34

Typical Application Description

(relative to work application)

Low Asphalt mix, 25-50 mm **(1-2 inch)** lifts. Static finish rolling, all lifts.

Medium Asphalt mix, 51-100 mm **(2-4 inch)** lifts

High Asphalt mix, 101-150 mm **(4-6 inch)** lifts. Prepare granular base lifts

Load Factor Guide

(average engine load factor based on application description for each range)

Low Vibration 20-40%

Medium Vibration 40-70%

High Vibration 80-100%

ASPHALT PAVERS

Model	Low		Medium		High	
	liter	U.S. gal	liter	U.S. gal	liter	U.S. gal
AP-600D	13.3-19.0	3.5-5.0	19.0-24.7	5.0-6.5	32.2-36.0	8.5-9.5
AP-650B	20.8-24.6	5.5-6.5	24.6-28.4	6.5-7.5	32.3-36.0	8.5-9.5
AP-655D	13.3-19.0	3.5-5.0	19.0-24.7	5.0-6.5	32.2-36.0	8.5-9.5
AP-800D	20.8-24.6	5.5-6.5	24.6-28.4	6.5-7.5	32.2-36.0	8.5-9.5
AP-1000D	20.8-24.6	5.5-6.5	24.6-28.4	6.5-7.5	32.2-36.0	8.5-9.5
AP-1050B	19.0-22.5	5.0-6.0	26.5-30.0	7.0-8.0	34.0-38.0	9.0-10.0
AP-1055D	20.8-24.6	5.5-6.5	24.6-28.4	6.5-7.5	32.2-36.0	8.5-9.5
BG-260D	20.8-24.6	5.5-6.5	24.6-28.4	6.5-7.5	32.2-36.0	8.5-9.5
BG-600D	13.3-19.0	3.5-5.0	19.0-24.7	5.0-6.5	32.2-36.0	8.5-9.5
BG-655D	13.3-19.0	3.5-5.0	19.0-24.7	5.0-6.5	32.2-36.0	8.5-9.5
BG-245C	19.0-22.5	5.0-6.0	26.5-30.0	7.0-8.0	34.0-38.0	9.0-10.0
BG-2455D	20.8-24.6	5.5-6.5	24.6-28.4	6.5-7.5	32.2-36.0	8.5-9.5

Typical Application Description

(relative to work application)

Low Narrow width paving, low production.

Medium 3-4 m (10-12 feet) width, 50-75 mm (2-3 inch) lift.

High Wide width, deep lift paving.

Load Factor Guide

(average engine load factor based on application description for each range)

Low 20%-30%

Medium 30%-40%

High 40%-50%

COLD PLANERS

Model	Low		Medium		High	
	liter	U.S. gal	liter	U.S. gal	liter	U.S. gal
PM-201	45.5-60.6	12.0-16.0	60.6-83.4	16.0-22.0	83.4-106.1	22.0-28.0
PM-465	37.0-45.0	10.0-12.0	45.0-57.0	12.0-15.0	60.0-76.0	16.0-20.0
PM-565B	37.0-53.0	10.0-14.0	53.0-68.0	14.0-18.0	72.0-87.0	19.0-23.0

Typical Application Description

(relative to work application)

Low 50 mm (**2 inches**) or less cutting depth, 80% load cycle.

Medium 100 mm (**4 inches**) cutting depth.

High Steady, full depth.

Load Factor Guide

(average engine load factor based on application description for each range)

Low 35%-50%

Medium 50%-65%

High 65%-80%

ROAD RECLAIMERS/SOIL STABILIZERS

Model	Low		Medium		High	
	liter	U.S. gal	liter	U.S. gal	liter	U.S. gal
RM-250C	26.5-34.1	7.0-9.0	34.1-41.6	9.0-11.0	41.6-53.0	11.0-14.0
RM-300	26.5-34.1	7.0-9.0	34.1-41.6	9.0-11.0	41.6-53.0	11.0-14.0
RM-350B	53.1-68.2	14.0-18.0	68.2-83.4	18.0-22.0	83.4-94.8	22.0-25.0
RM-500	45.4-56.7	12.0-15.0	60.5-68.1	16.0-18.0	75.7-87.1	20.0-23.0

Typical Application Description

(relative to work application)

Low 150 mm (**6 inches**) soil/100 mm (**4 inches**) asphalt.

Medium 305 mm (**12 inches**) soil/150 mm (**6 inches**) asphalt.

High 457 mm (**18 inches**) soil/305 mm (**12 inches**) asphalt.

Load Factor Guide

(average engine load factor based on application description for each range)

Low 35%-60%

Medium 60%-80%

High 80%-90%

TRACK LOADERS

Model	Low		Medium		High	
	liter	U.S. gal	liter	U.S. gal	liter	U.S. gal
933C	9.0-11.0	2.5-3.0	11.0-13.0	3.0-3.5	13.0-15.0	3.5-4.0
939C	11.0-13.0	3.0-3.5	13.0-15.0	3.5-4.0	15.0-17.0	4.0-4.5
953D	12.2-19.1	3.2 -5.1	19.1-24.4	5.1-6.4	24.4-29.6	6.4-7.8
963D	15.7-22.5	4.2-5.9	24.7-29.2	6.5-7.7	29.2-36.0	7.7-9.5
973D	25.9-35.5	6.8-9.4	35.5-44.3	9.4-11.7	44.3-52.1	11.7-13.8

Typical Application Description

(relative to work application)

- LowSite clearing of small vegetation, stripping top soil, carrying to stockpile. Backfilling and grading. Intermittent truck loading from stockpile. Free flowing, low density materials with standard bucket. Large amounts of idling. No impact.
- MediumBank excavation, bank or stockpile loading. Intermittent ripping, basement digging of natural bed clays, sands, silts, gravels. Load and carry. Steady full throttle operation.
- HighLoading shot rock, cobbles, glacial till, caliche. Continuous work on rock surfaces. Continuous excavating and loading from bank. High density materials in standard bucket. Land clearing and steel mill work. Large amount of ripping in tight, rocky materials. High impact conditions.

Load Factor Guide

(average engine load factor based on application description for each range)

- Low35%-50%
- Medium50%-65%
- High65%-80%

WHEEL LOADERS AND INTEGRATED TOOLCARRIERS

Model	Low		Medium		High	
	liter	U.S. gal	liter	U.S. gal	liter	U.S. gal
904H	4.4-6.3	1.16-1.66	6.3-8.2	1.66-2.17	8.2-10.1	2.17-2.67
906H	3.8	1.01	7.6	2.01	11.4	3.02
907H	3.8	1.01	7.6	2.01	11.4	3.02
908H	4.3	1.14	8.6	2.28	12.9	3.42
914G, IT14G	5.0-6.5	1.0-2.0	8.0-10.5	2.0-2.5	11.5-13.0	3.0-3.5
924H, 924Hz	3.5-5.8	0.9-1.5	5.8-8.1	1.5-2.1	8.1-15.0	2.1-3.9
928H, 928Hz	3.8-6.2	1.0-1.6	6.2-8.5	1.6-2.2	8.5-15.4	2.2-4.0
930H	3.8-6.2	1.0-1.6	6.2-8.5	1.6-2.2	8.5-15.4	2.2-4.0
938H, IT38H	4.7-7.5	1.2-2.0	7.5-10.8	2.0-2.9	10.8-15.8	2.9-4.2
950H	7.1-10.3	1.9-2.7	10.3-13.3	2.7-3.5	13.3-16.4	3.5-4.3
962H, IT62H	8.0-11.0	2.1-2.9	11.0-13.9	2.9-3.7	13.9-17.0	3.7-4.5
966H	8.7-12.5	2.3-3.3	12.5-16.1	3.3-4.3	16.1-19.9	4.3-5.3
972H	12.4-16.9	3.3-4.5	16.9-21.2	4.5-5.6	21.2-25.7	5.6-6.8
980H	14.0-20.4	3.7-5.4	20.4-26.4	5.4-7.0	26.4-32.7	7.0-8.6
988H	34.2-43.0	8.8-11.0	45.3-50.7	12.2-13.2	65.1-70.6	17.1-18.8
990H	47.2-55.5	12.3-14.4	63.2-70.9	16.4-18.5	83.2-90.9	21.6-23.6
992K	53.0-75.7	14.0-20.0	75.7-98.4	20.0-26.0	98.4-121.0	26.0-32.0
993K	61.3-87.4	16.2-23.1	87.4-113.6	23.1-30.0	113.6-140.0	30.0-37.0
994F	87.0-123.0	23.0-32.5	123.0-160.0	32.5-42.2	160.0-197.0	42.2-52.0

Compact Wheel Loaders
Typical Application Description

- (relative to work application)
- Low Light industrial or construction site duties. Moving light loads with bucket or pallet forks. Not continuous duty, considerable idle time. Machine could be working on average 2 hours or less per day.
 - Medium Intermittent aggregate truck loading from stockpile, hopper charging or load and carry on firm, smooth surfaces for short distances with minimal grades. Free flowing, low density materials. Light utility, industrial and construction applications. Light snowplowing.
 - High Continuous truck loading from stockpile and hopper charging. Loading from bank or load and carry on normal surfaces with low to medium rolling resistance and slight adverse grades. Low to medium density materials in properly sized bucket. Assumes normal travel distances associated with high productivity stockpile load-out and batch plant applications.

- Load Factor Guide**
(average engine load factor based on application description for each range)
- Low 35%-50%
 - Medium 50%-65%
 - High 65%-80%

Small, Medium and Large Wheel Loaders and Integrated Toolcarriers
Typical Application Description

- (relative to work application)
- Low Intermittent aggregate truck loading from stockpile, hopper charging or load and carry on firm, smooth surfaces for short distances with minimal grades. Free flowing, low density materials. Light utility, industrial and construction applications. Light snowplowing. Most logging applications where there is considerable idling.
 - Medium Continuous truck loading from stockpile and hopper charging. Loading from bank or load and carry on normal surfaces with low to medium rolling resistance and slight adverse grades. Low to medium density materials in properly sized bucket. Assumes normal travel distances associated with high productivity stockpile load-out and batch plant applications.
 - High Loading shot rock (large loaders) from a face. Steady loading from very tight banks. Continuous work on rough or very soft surfaces with high rolling resistance. Load and carry in hard digging material with longer travel distances on poor surfaces with adverse grades. Handling high density materials with counterweighted machine.

- Small and Large Wheel Loaders**
Load Factor Guide
(average engine load factor based on application description for each range)
- Low 35%-50%
 - Medium 50%-65%
 - High 65%-80%

- Medium Wheel Loader and Integrated Toolcarrier**
Load Factor Guide
(average engine load factor based on application description for each range)
- Low 35%-50%
 - Medium 50%-65%
 - High 65%-80%

9

**PLANNED MAINTENANCE (PM)
LUBE OILS, FILTERS, GREASE, LABOR**

Planned Maintenance (PM) costs should be developed by the Cat dealer, with customer input for the specific application.

PM costs include the parts and labor at the intervals specified in the Operation and Maintenance Manuals provided for each machine. PM costs for each machine may vary slightly depending upon factors required or specified by the customer. See your local Cat dealer to develop the specific PM cost per hour estimate for your machine and application.

10a

TIRES
(Line Item 10a)

Tire costs are an important part of the hourly cost of any wheel machine. Tire costs are also one of the most difficult to predict with many variables. The best estimate for tire costs are obtained when tire life estimates are based upon actual customer experience, and are used with prices the machine owner actually pays for the replacement tires.

For cases in which tire experience is not available, use the following tire life estimator curves.

Tire Life Estimators

- Curves do not allow for additional life from recapping. They assume new tires run to destruction, but this is not necessarily recommended.
- Based on standard machine tires. Optional tires will shift these curves either up or down.
- Sudden failure (blow out) due to exceeding Ton-MPH (tkm/h) limitations is not considered. Nor are premature failures due to puncture.
- Application Descriptions/Zones:

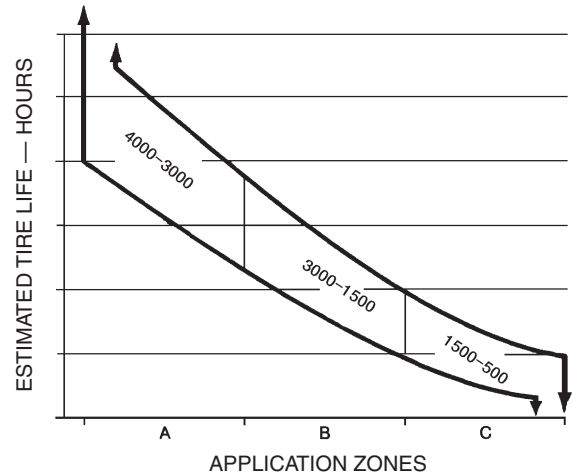
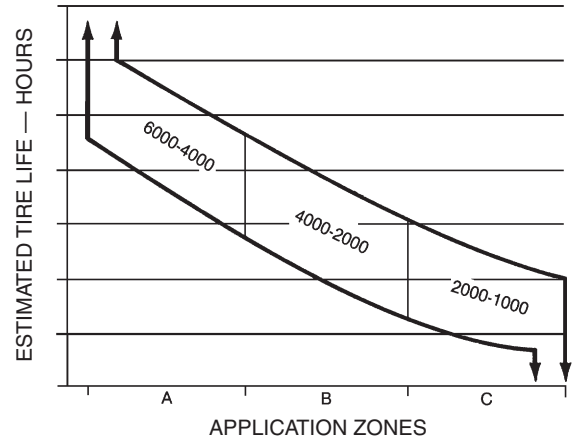
Low/Zone A: almost all tires actually wear through the tread from abrasion.

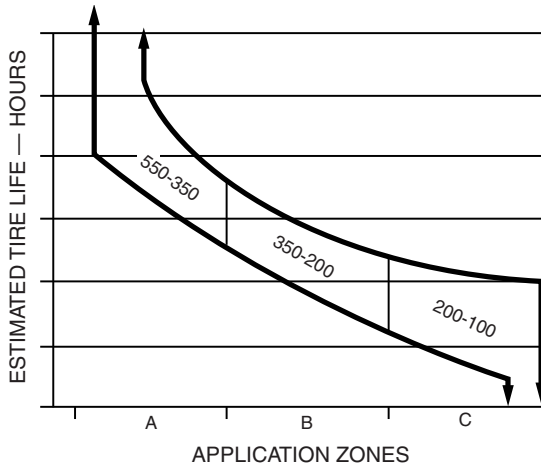
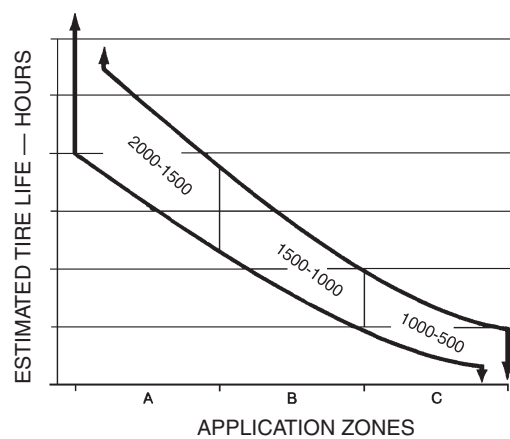
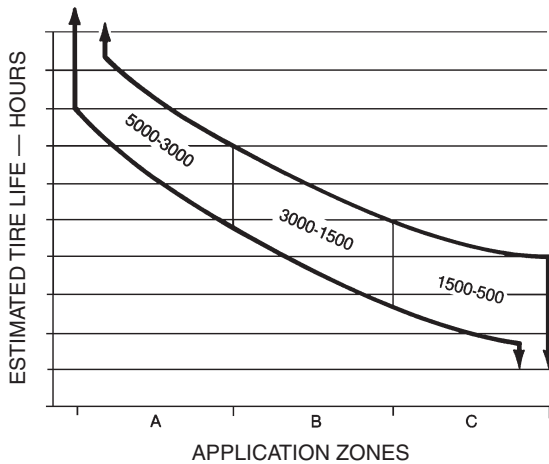
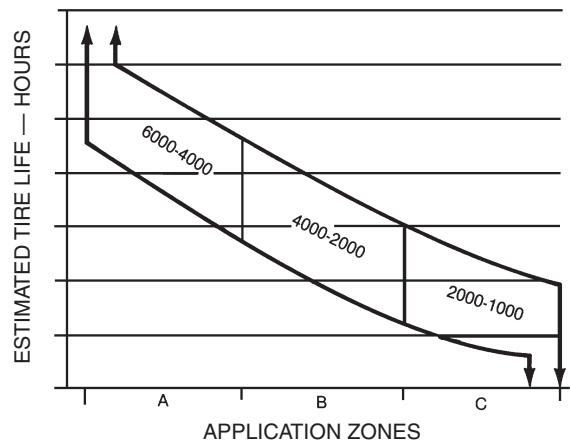
Medium/Zone B: tires wear out normally but others fail prematurely due to rock cuts, impacts and non-repairable punctures.

High/Zone C: few, if any, tires wear through the tread due to non-repairable damages, usually from rock cuts, impacts and continuous overloading.

NOTE: Tire life can often be increased by using extra tread and extra deep tread tires.

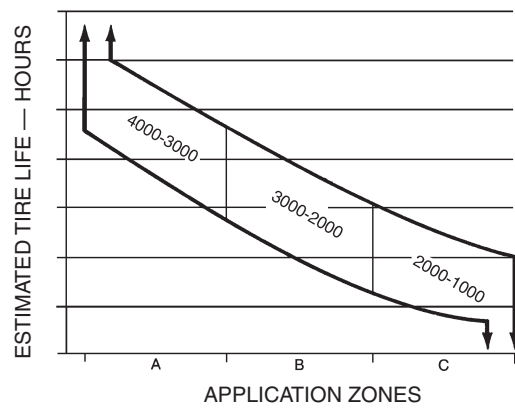
NOTE: Premature failure could occur at any time due to puncture.

MOTOR GRADERS

SKIDDERS


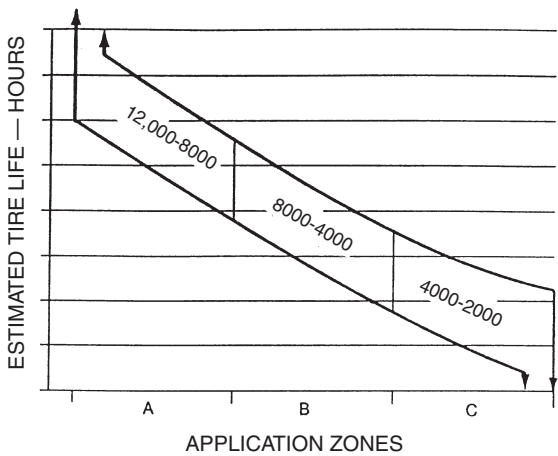
SKID STEER LOADERS**LOAD HAUL DUMP UNITS****WHEEL TRACTOR-SCRAPERS****CONSTRUCTION AND MINING TRUCKS****Key:**

- Zone A — Almost all tires actually wear through the tread due to abrasion.
- Zone B — Some tires wear out normally while others fail prematurely due to rock cuts, impacts and non-repairable punctures.
- Zone C — Few, if any, tires wear through the tread because of non-repairable damages, usually from rock cuts, impacts or continuous overloading.

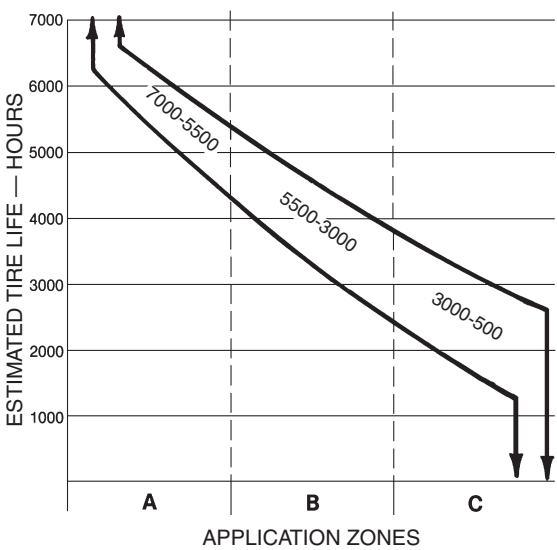
UNDERGROUND TRUCKS



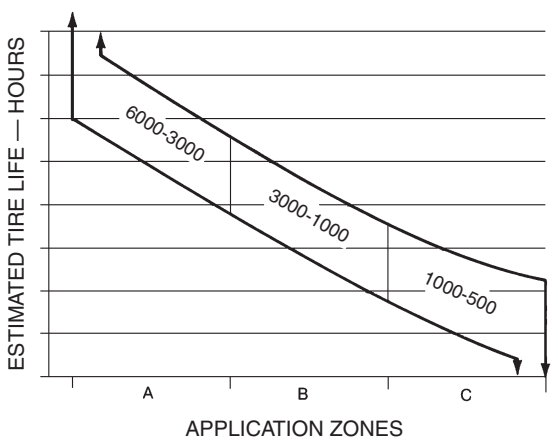
TRACTORS/WAGONS



ARTICULATED TRUCKS



WHEEL TRACTORS
WHEEL LOADERS



- Key:**
- Zone A — Almost all tires actually wear through the tread due to abrasion.
 - Zone B — Some tires wear out normally, others fail prematurely due to rock cuts, impacts, and non-repairable punctures.
 - Zone C — Few, if any, tires wear through the tread because of non-repairable damages, usually from rock cuts, impacts, or continuous overloading.

Application Tire Life	Tires Cost Per Hour — Basic Factors		
	Zone A 8000-5000	Zone B 5000-2500	Zone C 2500-500
Model 990 II 992G 994D	\$20-\$40	\$30-\$80	\$60-\$400

GOODYEAR LIFE ESTIMATING SYSTEM

As an additional assist in estimating *hauling unit* tire life, Goodyear Tire and Rubber Co. has furnished the following information which is included here with their permission. READ THE PREAMBLE CAREFULLY.

“... at present, there is no completely accurate, fool-proof method of forecasting tire life. Tire engineers have many theoretical methods ... but these generally are so involved and time consuming that they are impractical for field use.

“However, the tire industry has made many surveys of tire performance and arrived at a system which can give rough *estimates* of tire life. Studies done by the major tire companies and by at least two major equipment manufacturers are in close agreement.

“The table [which follows] shows how to apply this system ...”

ESTIMATED TIRE SERVICE LIFE OF HAULING UNITS (Trucks and Scrapers)

No.	Condition	Factor
I	Maintenance	
	Excellent	1.090
	Average	0.981
	Poor	0.763
II	Speeds (Maximum)	
	16 km/h ~ 10 mph	1.090
	32 km/h ~ 20 mph	0.872
	48 km/h ~ 30 mph	0.763
III	Surface Conditions	
	Soft Earth — No Rock	1.090
	Soft Earth — Some Rock	0.981
	Well Maintained — Gravel Road	0.981
	Poorly Maintained — Gravel Road	0.763
	Blasted — Sharp Rock	0.654
IV	Wheel Positions	
	Trailing	1.090
	Front	0.981
	Driver (Rear Dump)	0.872
	(Bottom Dump)	0.763
	(Self Propelled Scraper)	0.654

No.	Condition	Factor
V	Loads (See No. VIII note)	
	T&RA/ETRTO* Recommended Loading	1.090
	20% Overload	0.872
	40% Overload	0.545
VI	Curves	
	None	1.090
	Medium	0.981
	Severe	0.872
VII	Grades (Drive Tires Only)	
	Level	1.090
	5% Max.	0.981
	15% Max.	0.763
VIII	Other Miscellaneous Combinations (See note below)	
	None	1.090
	Medium	0.981
	Severe	0.872
	Condition VIII is to be used when overloading is present in combination with one or more of the primary conditions of maintenance, speeds, surface conditions and curves. The combination of severe levels in these conditions, together with an overload, will create a new and more serious condition which will contribute to early tire failure to a larger extent than will the individual factors of each condition.	

*Tire and Rim Association/European Tire and Rim Technical Organization.

Type of Tire	Base Average Life		
	Hours	km	Miles
E-3 Std. Bias Tread	2510	40 400	25,100
E-4 Bias Xtra Tread	3510	56 500	35,100
E-4 Radial Xtra Tread	4200	67 600	42,000

Using Base Hours (or Miles), multiply by the appropriate factor for *each* condition to obtain approximate estimated hours (or miles) as the final product.

Example: An off-highway truck equipped with E-4 drive tires running on a well maintained haul road having easy curves and minimum grades and receiving “average” tire maintenance attention but being 20% overloaded:

Condition: I II III IV V VI VII VIII
 Factor: $0.981 \times 0.872 \times 0.981 \times 0.872 \times 0.872 \times 0.981 \times 0.981 \times 0.981$
 $\times 3510$ base hours = 2114 hours (say 2100 hours)

As can be seen, this system requires the careful application of strictly subjective judgments, and can be expected to result in conservative estimates. Keep in mind, however, **that the system is offered only as an aid in estimating and not as a rigid set of rules.**

On the other hand, if tire life on a given job is considered less than satisfactory, an analysis of these factors may point to conditions which can be improved to the betterment of tire life.

Replacement tire prices should always be obtained from local tire company sources.

Since tires are considered a wear item in this method of estimating owning and operating costs, total tire replacement cost is deducted from machine delivered price to arrive at a net figure for depreciation purposes. Outlay for tires is then included as an item in operating costs:

$$\text{Hourly Tire Cost} = \frac{\text{Replacement Cost of Tires}}{\text{Estimating Tire Life in Hours}}$$

Recapping can sometimes lower hourly tire cost. Considerations are availability of molds, local recapping costs, and experience with recap life.

10b

UNDERCARRIAGE

(Line Item 10b)

Undercarriage expense can be a major portion of the operating costs for track-type machines, and these costs can vary *independently* of basic machine costs. That is, the undercarriage can be employed in an extremely abrasive, high-wear environment while the basic machine may be in an essentially easy application, and vice-versa. For that reason, it is recommended that the hourly cost of undercarriage be calculated separately as a wear item rather than being included in the repair costs for the basic machine.

Three primary conditions affect probable life-expectancy of track-type undercarriage:

1. **Impact.** The most measurable effect of impact is structural — that is bending, chipping, cracking, spalling, roll-over, etc., and problems with hardware and pin and bushing retention.

Impact ratings:

High — Non-penetrable hard surfaces with 150 mm (6") or higher bumps.

Moderate — Partially penetrable surfaces and bumps of 75-150 mm (3-6") height.

Low — Completely penetrable surfaces (which provide full shoe plate support) with few bumps.

2. **Abrasiveness.** The tendency of the underfoot materials to grind away the wear surfaces of track components.

Abrasiveness ratings:

High — Saturated wet soils containing a high proportion of hard, angular or sharp sand or rock particles.

Moderate — Slightly or intermittently damp soils containing a low proportion of hard, angular or sharp particles.

Low — Dry soils or rock containing a low proportion of hard, angular or sharp sand or rock chip particles.

Impact and abrasiveness in combination can accelerate wear rates beyond their individual effects when considered alone, thus further reducing component life. This should be taken into account in determining impact and abrasiveness ratings or, if preferred, the combination can be included in selecting the "Z" factor.

3. **"Z" factor.** Represents the combined effect on component life of the many intangible environmental, operational and maintenance considerations on a given job.

Environment and Terrain. Earth which may not be abrasive itself can pack in sprocket teeth, causing mis-match and high stress as the teeth engage the bushings. Corrosive chemicals in the materials being moved or in the natural soil can affect wear rates, while moisture and temperature can exaggerate the effect. Temperature alone can play its own role — hot slag and hard-frozen soils being but the extremes. Constant sidehill work can increase wear on the sides of components.

Operation. Some operator practices tend to increase track wear and cost if not controlled on the job. Such practices include high-speed operation, particularly in reverse; tight turns or constant corrections in direction; and stalling the tractor under load forcing the tracks to slip.

Maintenance. Good maintenance — proper track tension, daily cleaning when working in sticky materials, etc. — combined with periodic wear measurement and timely attention to recommended services (CTS) can extend component life and lower costs by minimizing the effects of these and other adverse conditions.

While impact and abrasion should not be too difficult to judge, selection of the proper “Z” factor will require careful analysis of job conditions such as weather, tendency for soil packing, side-hill loading, corrosive environment, etc.; operational factors such as high-speed reverse, amount of travel, tight turns, track slippage under overload, etc.; and maintenance considerations such as proper tensioning, use of Custom Track Service, etc.

Selection of the “Z” multiplier is strictly a matter of judgement and common sense, but its effect on cost can be the difference between profit on a controlled job and heavy loss where control is allowed to slip. To assist in arriving at an appropriate value for the “Z” factor, consider that proper maintenance — or the lack thereof — will represent about 50% of its effect, environment and terrain 30%, and operator practices 20%. For large excavators the amount of travel is the critical part of the “Z” factor. A good operator working under good field conditions can be counterbalanced by poor maintenance practices to yield a fairly high “Z” factor. On the other hand, close attention to maintenance, tension and alignment can more than offset a bad underfoot condition resulting in severe sprocket packing, and lead to selection of a moderate to low “Z” factor. Obviously, flexibility in selection of a “Z” factor has been built into the system, and use of this flexibility is encouraged. Further, a considerable measure of control can be maintained over the “Z” factor, and any reduction of its effects is money in the bank. Your Cat dealer CTS man can be invaluable in this endeavor as well as helping you establish a comprehensive undercarriage cost control program.

Estimating Undercarriage Cost

The guide below gives a basic factor for the various track-type machines and a series of conditions multipliers to modify the basic cost according to the anticipated impact, abrasive and miscellaneous (“Z”) conditions under which the unit will be operating.

- Step 1. Select machine and its corresponding basic factor.
- Step 2. Determine range for impact, abrasiveness and “Z” conditions.
- Step 3. Add selected conditions multipliers and apply sum to basic factor.

The result will be the estimated hourly cost for undercarriage in that application.

Undercarriage Basic Factors			
Model		Basic Factor	
5230B		20.1	
D11T		18.0	
5130B		15.9	
D10T		13.3	
5110B		11.7	
D9T		10.6	
D8T		9.0	
973C, 589, D7R Series 2 LGP		10.1	
D7R Series 2, 963D, 583T, D6R Series 3 LGP, D7R XR Series 2		8.5	
385C, 5090B		6.8	
D6R Series 3, 953D, 572R, 527		6.6	
365C Tier 2		6.5	
345C Tier 2		5.6	
D5N LGP, D6 SR, D6N XL, 517		5.3	
330D Tier 2		4.7	
D3K (All), D4K (All), D5K (All), 939C, PL61		3.9	
325D Tier 2		3.6	
314C, 315D, 318C, 322C		3.2	
320D		2.7	
307D, 308D, 311D, 312D		2.3	
Conditions Multipliers			
	Impact	Abrasiveness	“Z”
High	0.3	0.4	1.0
Moderate	0.2	0.2	0.5
Low	0.1	0.1	0.2

Example: D10T in high impact, non-abrasive material with a moderate “Z” factor.

$$\begin{aligned}
 \text{D10T Basic Factor} &= 13.3 \\
 \text{Multipliers:} \quad &I = 0.3 \\
 &A = 0.1 \\
 &Z = 0.5
 \end{aligned}$$

$$\text{U.C. cost} = 13.3 (0.3 + 0.1 + 0.5) = \mathbf{\$11.97/\text{hour}}$$

NOTE: 1. Conditions Multipliers may be selected in any combination. Thus, a multiplier of 0.4 (all low-range multipliers) represents the best of the best, while 1.7 (all high range multipliers) would be the worst of the worst conditions.

2. The hourly undercarriage cost estimate resulting from this method will be made up of *approximately* 70% parts cost and 30% labor charges. The cost of undercarriage components is based on published U.S. Consumers List Prices and may be adjusted as needed for import duties, exchange rates, etc. outside the United States. Labor has been figured at \$60.00 (U.S.) per shop hour.
3. For further information and guidance, refer to the current issue of the Caterpillar Custom Track Service Handbook.
4. This formula for estimating undercarriage cost should not be used for tractors working in stockpile coal handling applications. Undercarriage costs are nominal in stockpile coal handling, and using this formula will result in estimating cost substantially above actual costs.

11

REPAIR COSTS

(Line Item 11)

Repair cost per hour should be developed by the Cat dealer, with customer input for the specific machine application and requirements.

As with PM cost per hour, repair costs are significantly affected by the specific application and situation. Several important variables must be provided by the customer and the local Cat dealer. This will enable a calculated cost per hour that is specific to the machine conditions and customer needs.

Machine applications, operating conditions, ownership periods, component life, and maintenance attention determine repair costs. In any specific application, actual cost experience on similar machines and applications provides the best basis for establishing the hourly repair cost.

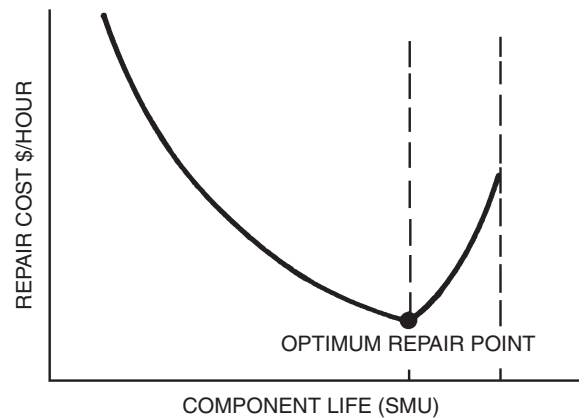
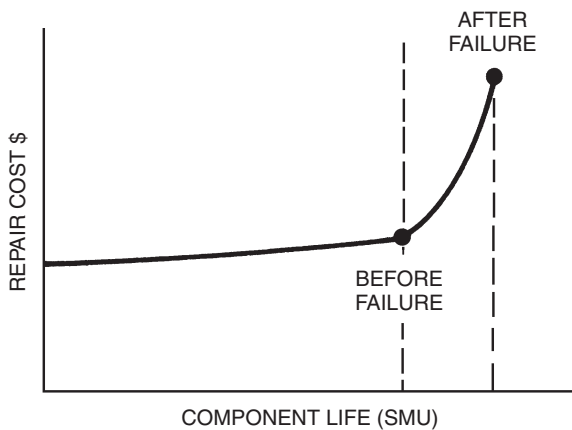
Repairs and component lives are normally the largest single item in operating costs and include all parts and direct labor (except operator's wages) chargeable to the machine. Shop overhead can be absorbed in general overhead or charged to machines as a percent of direct labor cost, whichever is the owner's normal practice.

Hourly repair costs for a single machine normally follow an upward staircase pattern since major outlays for repairs usually come in spurts. However, when broad averages are considered, the staircase becomes a smooth, upward curve. Since this hourly repair cost curve starts low and gradually rises over time, hourly operating costs must be adjusted upward as the unit ages. Alternatively an average repair cost can be used which provides a straight line graph. Most owners prefer the average method, and it is the one suggested here.

Since repair costs are low initially and rise gradually, averaging them produces extra funds at first which are reserved to cover future higher costs.

Your Cat dealer has the ability to make more accurate repair cost estimates and we suggest you use their experience and expertise if you need help in estimating operating costs.

As stated, repair costs are affected by application, operating conditions, ownership period, maintenance, and age of the equipment. The most significant effects on cost will be those factors affecting major component life. A second significant factor is whether the repair is performed before or after catastrophic failure. Repair before a major component fails can be one-third of an after failure repair with only a moderate sacrifice in life (see graphs). Oil analysis and other diagnostic tools, maintenance inspections and indicators, and operator notes are vital to determine the optimum repair point and thereby achieving lower hourly repair costs. Maintenance practices are significant because they affect component longevity and the percentage of scheduled, before failure repairs.



Owning & Operating Costs

- 12 Special Wear Items
 - 15 Operator's Hourly Wage
- Owning & Operating Examples
- Track-Type Tractor

12

SPECIAL WEAR ITEMS

(Line Item 12 and Subsection 12A)

All costs for high-wear items such as cutting edges, ripper tips, bucket teeth, body liners, router bits, etc., and welding costs on booms and sticks should be included here. These costs will vary widely depending on applications, materials and operating techniques. Consult your Cat dealer Parts Department for estimated life under your job conditions.

15

OPERATOR'S HOURLY WAGE

(Line Item 15)

This item should be based on local wage scales and should include the hourly cost of fringe benefits.

EXAMPLES OF FIGURING OWNING AND OPERATING COSTS

(The following two examples are for illustrative purposes only. The intent is to show how the worksheets could be filled out. The PM and Repair costs should be developed by your local Cat dealer.)

Example I: ESTIMATING HOURLY OWNING AND OPERATING COSTS OF A TRACK-TYPE TRACTOR

Assume a power shift track-type tractor with straight bulldozer, hydraulic control, tilt cylinder and three-shank ripper, is purchased by a contractor for \$135,000, delivered price at job site.

Application will be production dozing of bank gravel. Minimal ripping will be required to loosen material.

In the following calculations, refer as necessary to the source material already reviewed.

OWNING COSTS —

To Determine Residual Value at Replacement

Enter delivered price, \$135,000, in space (A). (See example form at end of this discussion.) Since the machine being considered is a track-type tractor, no tires are involved. This particular owner's experience is that at trade-in time, the tractor will be worth approximately 35% of its original value. This \$47,250 trade-in value is entered in space (B) leaving a net of \$87,750 to be recovered through work.

Enter the net value to be recovered through work in space (C).

Indicated ownership period is 7 years with annual usage of 1200 hours per year or 8400 hours of total ownership usage.

Divide the Net Value from space (C), \$87,750, by Ownership Usage, 8400 hours, and enter result \$10.45 in space (D).

Interest, Insurance, Taxes

In this example, local rates are assumed as follows:

Interest	16%
Insurance	1%
Taxes	1%
	18%

Using the following formula:

N = 7:

$$\frac{\left[\frac{135,000 (7 + 1) + 47,250 (7 - 1)}{2 \times 7} \right] \times 0.16}{1200} = 12.99$$

Enter \$12.99 in space (E).

Insurance and property taxes can also be calculated using the same formula as shown for the interest cost, and entering them on lines 5 and 6.

Items 3b, 4, 5 and 6 can now be added and the result, \$25.06 entered in space (H) Total Hourly Owning Costs.

OPERATING COSTS —

Fuel

See fuel consumption tables. The intended application, production dozing, indicates a medium load factor. Assume that the estimated fuel consumption from the table is 17 liter/hr (4.5 U.S. gal/hr.). Cost of fuel in this locality is \$0.34/liter (\$1.25/U.S. gal.).

Consumption		Unit Cost		Total
17 liter/hr	×	\$0.34 liter	=	\$5.78
4.5 gal/hr	×	\$1.25 gal.	=	\$5.63

Enter this figure in space (I).

Planned Maintenance (PM) Cost per Hour

Use PM cost per hour estimate developed by your local Cat dealer. (For this example assume cost per hour is \$2.30) Enter this figure in space (J) on line 9.

Tires

Since this example considers a track-type tractor, space (K) is left blank.

Undercarriage

Our estimating reference gives an undercarriage cost Basic Factor of 6.6 for this tractor. It is anticipated that with some ripping on the job, impact loading of track components will be medium, indicating an "I" multiplier of 0.2. The gravel-sand mix in the bank, being dry, should be only moderately abrasive for an "A" multiplier of 0.2. In analyzing the miscellaneous conditions: there is enough clay in the bank to produce some packing of the sprockets; the operator is careful, but is forced into some tight turns because of space limitations; there is good drainage in the pit; track tension is checked weekly; and all track-type equipment on the job is enrolled in the Custom Track Service program. Accordingly, the "Z" multiplier is judged to be somewhat greater than low level — 0.3 in this case.

It should be noted that in applying particularly the "Z" factor, rather wide flexibility is provided and was used in the above example. Such flexibility is intended and its use encouraged.

Then:

$$\text{Cost per hour} = \text{Basic Factor} \times (\text{I} + \text{A} + \text{Z})$$

$$\text{Basic Factor} = 6.6$$

$$\text{Conditions Multipliers: I} = 0.2$$

$$\text{A} = 0.2$$

$$\text{Z} = 0.3$$

$$\text{Cost per hour } 6.6 (0.2 + 0.2 + 0.3) = \$4.62 \text{ which is entered in space (L).}$$

Repair Cost per Hour

Use the Repair cost per hour estimate developed by your local Cat dealer. (For this example assume cost per hour is \$6.12) Enter this figure in space (M) on line 11.

Special Items

Assuming the tractor is equipped with a three-shank ripper and an "S" dozer, allowance must be made for ripper tips, shank protectors, and dozer cutting edges.

Assume your knowledge of the operation indicates the ripper will be used only about 20% of total tractor operating time. Estimated tip life while in use is 30 hours. Therefore, tips will be replaced:

$$\frac{30 \text{ Hours}}{0.20} = \text{each } 150 \text{ hours of tractor operation}$$

Shank protector life is estimated at three times tip life or 450 hours of tractor operation.

Cutting edge life is estimated to be 500 hours.

Using local prices for these items, hourly costs are estimated as follows:

$$\text{Tips: } \frac{3 @ \$35.00 \text{ ea.}}{150 \text{ hr.}} = \$0.70 \text{ per hour}$$

$$\text{Shank Protectors: } \frac{3 @ \$55.00 \text{ ea.}}{450 \text{ hr.}} = \$0.37 \text{ per hour}$$

$$\text{Cutting Edges: } \frac{\$125 \text{ per set}}{500 \text{ hr.}} = \$0.25 \text{ per hour}$$

The total of these, \$1.32; is entered in space (N).

Items 8, 9, 10b, 11 and 12 can now be added and the result, \$19.99, is entered in space (O), Total Hourly Operating Costs.

Operator's Hourly Wage

Assume this is \$25.00 including fringe benefits. This figure is entered in space (P).

Total Owning Costs, Total Operating Costs and Operator's Hourly Wage are now added together and the result, \$67.01, is entered in space (Q). The itemized estimate of Hourly Owning and Operating Costs is now complete.

Example II: ESTIMATING HOURLY OWNING AND OPERATING COSTS OF A WHEELED VEHICLE

With only a few simple changes, owning and operating costs for a wheeled vehicle are calculated using the same format as that used for the Track-Type Tractor. Only the differences will be explained as we look at example calculations for a wheel loader.

OWNING COSTS —**To Determine Residual Value at Replacement**

Enter delivered price in space (A). The cost of tires is deducted since they will be treated as a wear item. For purposes of illustration, the Wheel Loader is estimated to have a potential 48% trade-in value (B) at the end of the 5 year/7500 hour ownership usage, leaving a net value to be recovered through work of \$34,320 (C).

Interest, Insurance, Taxes

Refer to the formulas using the same rates as before and 1500 operating hours per year. The result \$4.22 is applied to the interest cost (E).

Insurance and property taxes can also be calculated using the same formula as shown for the interest cost.

The sum of lines 3b, 4, 5 and 6 gives the total hourly owning cost, line 7.

OPERATING COSTS —**Fuel**

See the fuel consumption tables and apply the actual cost of purchasing fuel in the project area (I).

Planned Maintenance (PM) Cost per Hour

Use PM cost per hour estimate developed by your local Cat dealer. (For this example assume cost per hour is \$2.10.) Enter this figure in space (J) on line 9.

Tires

Use the tire replacement cost and the best estimate of tire life based on experience and anticipated job conditions.

Repair Cost per Hour

Use the Repair cost per hour estimate developed by your local Cat dealer. (For this example assume cost per hour is \$3.39.) Enter this figure in space (M) on line 11.

Special Items

Ground engaging tools, welding, etc. are covered here. Use current costs for cutting edges and similar items. Use your best estimate of the hours of life which can be expected from them based on previous experience in like materials. Enter the total on line 12.

The total of lines 8 through 13 represents hourly operating costs.

Operator's Hourly Wage

To give a true picture of operator cost, include fringe benefits as well as direct hourly wages (line 15).

TOTAL O&O

The total of lines 7, 13 and 15 is the total hourly owning and operating cost of the machine. Keep in mind that this is an estimate and can change radically from project to project. For the greatest accuracy, the hourly cost reflected in actual on-the-job cost records should be used.

HOURLY OWNING AND OPERATING COST ESTIMATE

DATE _____

	Estimate #1	Estimate #2
A—Machine Designation	Track-type Tractor	Wheel Loader
B—Estimated Ownership Period (Years)	<u>7</u>	<u>5</u>
C—Estimated Usage (Hours/Year)	<u>1200</u>	<u>1500</u>
D—Ownership Usage (Total Hours)(B × C)	<u>8400</u>	<u>7500</u>
OWNING COSTS	(1)	(2)
1. a. Delivered Price (P), to the Customer (including attachments) ..	<u>135,000 (A)</u>	<u>70,000</u>
b. Less Tire Replacement Cost if desired	<u>N/A</u>	<u>4000</u>
c. Delivered Price Less Tires	<u>135,000</u>	<u>66,000</u>
2. Less Residual Value at Replacement (S)	(35 %) <u>47,250 (B)</u>	(48 %) <u>31,680</u>
(See subsection 2A on back)		
3. a. Net Value to be recovered through work	<u>87,750 (C)</u>	<u>34,320</u>
(line 1c less line 2)		
b. Cost Per Hour:		
$\frac{\text{Net Value}}{\text{Total Hours}}$ (1) $\frac{87,750}{8400}$ (2) $\frac{34,320}{7500}$	<u>10.45 (D)</u>	<u>4.58</u>
4. Interest Costs $\frac{P(N + 1) + S(N - 1)}{2N} \times \text{Simple Int. \% Rate}$		
N = No. Yrs. _____ Hours/Year =		
(1) $\frac{[135,000 (7 + 1)] + [47,250 (7 - 1)]}{2 \times 7} \times 0.16$	(2) $\frac{[66,000 (5 + 1)] + [31,680 (5 - 1)]}{2 \times 5} \times 0.16$	
<u>1200</u> Hours/Yr. =	<u>1500</u> Hours/Yr. =	
	<u>12.99 (E)</u>	<u>5.58</u>
5. Insurance $\frac{P(N + 1) + S(N - 1)}{2N} \times \text{Insurance \% Rate}$		
N = No. Yrs. _____ Hours/Year =		
(1) $\frac{[135,000 (7 + 1)] + [47,250 (7 - 1)]}{2 \times 7} \times 0.01$	(2) $\frac{[66,000 (5 + 1)] + [31,680 (5 - 1)]}{2 \times 5} \times 0.01$	
<u>1200</u> Hours/Yr. =	<u>1500</u> Hours/Yr. =	
	<u>0.81 (F)</u>	<u>0.35</u>
(Optional method when Insurance cost per year is known)		
Ins. \$ _____ Per Yr. ÷ _____ Hours/Yr. =		

Estimating form continues next page

Estimate #1

Estimate #2

6. Property Tax $\frac{P(N+1) + S(N-1)}{2N} \times \text{Tax Rate \%}$
 N = No. Yrs. $\frac{\text{Hours/Year}}{\text{Hours/Year}} =$

(1) $\frac{[135,000 (7+1)] + [47,250 (7-1)]}{2 \times 7} \times 0.01$ (2) $\frac{[66,000 (5+1)] + [31,680 (5-1)]}{2 \times 5} \times 0.01$
 $\frac{1200 \text{ Hours/Yr.}}{1200 \text{ Hours/Yr.}} = \frac{1500 \text{ Hours/Yr.}}{1500 \text{ Hours/Yr.}} =$

0.81 (G)

0.35

(Optional method when Property Tax cost per year is known)

Property Tax \$ _____ Per Yr. $\div$ _____ Hours/Yr. =

7. TOTAL HOURLY OWNING COST

(add lines 3b, 4, 5 and 6)

25.06 (H)

10.86

OPERATING COSTS

8. Fuel: Unit Price $\times$ Consumption

(1) $\frac{1.25}{1.25} \times \frac{4.50}{2} =$

(2) $\frac{1.25}{1.25} \times \frac{2}{2} =$

5.63 (I)

2.50

9. Planned Maintenance (PM)-Lube Oils, Filters, Grease, Labor:

(contact your local Cat dealer)

2.30 (J)

2.10

10. a. Tires: Replacement Cost $\div$ Life in Hours

Cost (1) $\frac{N/A}{N/A}$ (2) $\frac{4000}{3500}$

Life 3500

(K)

1.14

b. Undercarriage

(Impact + Abrasiveness + Z Factor) $\times$ Basic Factor

(1) $(0.2 + 0.2 + 0.3) = 0.7 \times 6.6 =$

(2) $(\text{Total}) \times (\text{Factor}) =$

4.62 (L)

11. Repair Cost (Per Hour)

(contact your local Cat dealer)

6.12 (M)

3.39

12. Special Wear Items: Cost $\div$ Life

(See subsection 12A on back)

1.32 (N)

0.60

13. TOTAL OPERATING COSTS

(add lines 8, 9, 10a (or 10b), 11 and 12)

19.99 (O)

9.73

14. MACHINE OWNING PLUS OPERATING

(add lines 7 and 13)

45.05

20.59

15. OPERATOR'S HOURLY WAGE (include fringes)

25.00 (P)

25.00

16. TOTAL OWNING AND OPERATING COST

70.05 (Q)

45.59

SUBSECTION 2A: Residual Value at Replacement

Gross Selling Price	(est. #1) (____%)	_____	(est. #2) (____%)	_____
Less: a. Commission		_____		_____
b. Make-ready costs		_____		_____
c. Inflation during ownership period*		_____		_____
Net Residual Value		47,250	(35 %)	31,680 (48 %) of original delivered price
(Enter on line 2)				

*When used equipment auction prices are used to estimate residual value, the effect of inflation during the ownership period should be removed to show in constant value what part of the asset must be recovered through work.

**SUBSECTION 12A: Special Items
 (cutting edges, ground engaging tools, bucket teeth, etc.)**

(1)	Cost	Life	Cost/Hour	(2)
1.	105	÷ 150	= 0.70	1. 120 ÷ 200 = 0.60
2.	165	÷ 450	= 0.37	2. _____ ÷ _____ = _____
3.	125	÷ 500	= 0.25	3. _____ ÷ _____ = _____
4.	_____	÷ _____	= _____	4. _____ ÷ _____ = _____
5.	_____	÷ _____	= _____	5. _____ ÷ _____ = _____
6.	_____	÷ _____	= _____	6. _____ ÷ _____ = _____
Total			(1) 1.32	(2) 0.60

(Enter total on line 12)

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SELECTION, APPLICATION, MAINTENANCE

Proper tire selection, application and maintenance continue to be the most important factors in earthmoving economics. Wheel tractors, loaders, scrapers, trucks, motor graders, etc. are earthmoving equipment whose productivity and payload unit cost may depend more on tire performance than any other factor.

Off-the-road tires must operate under a wide variety of conditions ranging from dry “potato dirt” through wet severe shot rock. Speed conditions vary from less than 1 mph average to 72 km/h (45 mph). Gradients may vary from 75% favorable to 30% adverse. Climatic conditions, operator skills, maintenance practices, etc. all may have a profound effect on tire life and unit costs.

Although one specific tire construction may be acceptable in a variety of applications, no one tire can meet all requirements on any one machine and perhaps not even one job. The many differences in tire requirements on earthmoving machines have resulted in a wide variety of tread and casing designs being made available. The optimum tire selection for a specific machine on a given job should be a joint decision between the user and tire supplier. Several tire manufacturers have technical and application representatives in the field for proper guidance in tire selection.

When job conditions change, it may be desirable to select a different tire configuration to meet the new requirements.

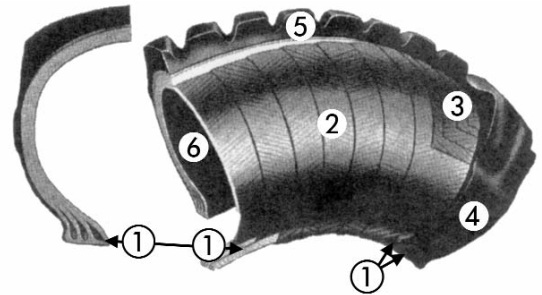
TIRE CONSTRUCTION

The pneumatic tire is essentially a flexible pressure vessel utilizing structural members (nylon, steel cable, etc.) to contain the hoop tension resulting from the inflation pressure. Rubber is utilized as a protective coating and sealant over the structural members and makes up the tread pattern which provides the wearing medium at the ground interface. The following brief explanation of the various tire constructions will assist you in selecting tires for your specific application.

Two distinct tire constructions approved on all Cat machines are the BIAS PLY and RADIAL PLY tires. Radial tires are designated by an “R” while a “.” represents a Bias constructed tire. For example, a 45/65-45 tire would be of Bias construction and a 45/65R45 would be of Radial construction. The following is a brief explanation of the principal features of these two constructions.

Bias Ply

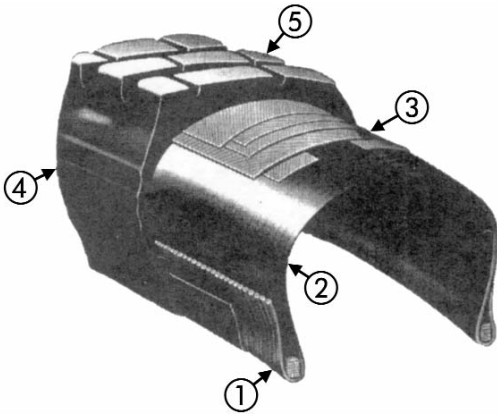
1. *Beads* — The tire beads consist of steel wire-bundles (3 or 4 in larger tires) which are forced laterally by tire inflation pressure to wedge the tire firmly on the rim’s tapered bead seat. The nylon plies tie into the bead bundles. The forces inherent in the tire are transmitted from the rim through the bead bundles into the nylon.
2. *Body plies* — Layers of rubber-cushioned nylon cord comprise the tire casing. Alternating plies of cord cross the tread centerline at an angle (bias). The term “ply rating” is an index of tire strength and not the actual number of tire plies.



Bias Ply Construction

3. *Breakers or tread plies* — These, if used, are confined to the tire’s tread area and are intended to improve casing strength and provide additional protection to the body plies. Some “work” tires employ steel breakers or belts to further protect the casing.
4. *Sidewalls* — These are the protective rubber layers covering the body plies in the sidewall.
5. *Tread* — The wearing part of the tire that contacts the ground. It transmits the machine weight to the ground and provides traction and flotation.
6. *Inner liner* — This is the sealing medium that retains the air and, combined with the “O” ring seal and rim base, eliminates the need for inner tubes and flaps.
7. *Tubes and flaps (not shown)* — Required if the tire is not of tubeless construction with an inner liner.
8. *Undertread* — Protective rubber cushion lying between tread and body ply.

Radial Ply



Radial Ply Construction

1. *Beads* — A single bead bundle of steel cables or steel strip (spiraled like a clock spring) comprise the bead at each rim interface.
2. *Radial casing* — This consists of a single layer or ply of steel cables laid archwise (on the radian) bead to bead.
3. *Belts* — Several layers or plies of steel cable form the belts which underlie the tread area around the tire circumference. The cable in each belt crosses the tread centerline at an angle with the angle being reversed from the preceding belt.
4. *Sidewalls*.
5. *Tread*.
6. *Undertread* — Protective rubber cushion lying between tread and steel belts.

Bias and Radial Tire Advantages

	Bias	Radial
Tread Life		X
Heat Resistance		X
Cut Resistance — Tread		X
Cut Resistance — Side Wall	X	X
Traction		X
Flotation		X
Stability	X	
Fuel Economy		X
Repairability		X

TIRE TYPES

Off-the-road tires are classified by application in one of the following three categories:

1. *Transport tire* — For earthmoving machines that transport material such as trucks and wheel tractors.
2. *Work tire* — Normally applied to slow moving earth-moving machines such as graders and loaders.
3. *Load and carry* — Wheel loaders engaged in transporting as well as digging.

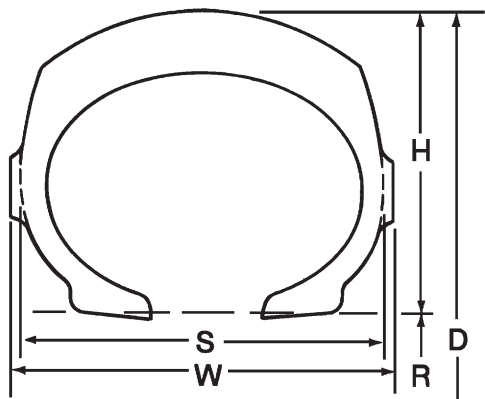
TIRE SIZE NOMENCLATURE

Tire size nomenclature is derived from the approximate cross section width and rim diameter typically in the format of Tire Width, Aspect Ratio, and Rim Diameter (example: 45/65-45). Available tire types include:

1. A wide base tire has a section height to section width ratio in the range of 0.83. As an example, a 29.5-25 tire has an approximate cross section width of 749 mm (29.5") (first number) and a rim diameter of 635 mm (25") (second number).
2. A conventional tire has a section height to section width ratio in the range of 0.96. As an example, a 24.00R35 tire has an approximate cross section width of 610 mm (24") (first number) and a rim diameter of 889 mm (35") (second number).
3. A low profile tire has a section height to section width ratio in the range of 0.65. As an example, a 45/65-45 tire has an approximate cross section width of 1143 mm (45") (first number), a 65% aspect ratio designated as 65 (second number), and a rim diameter of 1143 mm (45") (third number).

If designated 45/65 R39, then the R denotes radial construction.

When comparing a wide base tire to a standard base tire, a larger first number on a wide base tire with the same rim diameter does not mean the wide base is larger in overall diameter. For example, the 18.00-25 conventional tire is larger in diameter than the 20.5-25 wide base tire. The 18.00-25 is comparable in overall diameter to the 23.5-25 wide base tire.



Tire cross-section

- D = Tire Overall Diameter
- R = Nominal Rim Diameter
- H = Tire Section Height
- S = Tire Section Width
- W = Tire Width (includes ornamental ribs)
- $\frac{H}{S}$ = Aspect Ratio

CODE IDENTIFICATION FOR
OFF-HIGHWAY TIRES

The tire industry has adopted a code identification system to be used for off-the-road tires. This identification system will reduce the confusion caused by the trade names for each type of tire offered by each tire manufacturer. The industry code identification is divided into six main categories by types of service as follows:

- C — Compactor Service
- E — Earthmover Service
- G — Grader Service
- L — Loader and Dozer Service
- LS — Log-Skidder Service
- F — Industrial
- R — Agricultural Tractor
- I — Agricultural Implement

The sub-categories are designated by numerals, as follows:

Code Identification		% Tread Depth
Compactor		
C-1	Smooth	100
C-2	Grooved	100
Earthmover		
E-1	Rib	100
E-2	Traction	100
E-3	Rock	100
E-4	Rock Deep Tread	150
E-7	Flotation	80
Grader		
G-1	Rib	100
G-2	Traction	100
G-3	Rock	100
G-4	Rock Deep Tread	150
Loader and Dozer		
L-2	Traction	100
L-3	Rock	100
L-4	Rock Deep Tread	150
L-5	Rock Extra Deep Tread	250
L-3S	Smooth	100
L-4S	Smooth Deep Tread	150
L-5S	Smooth Extra Deep Tread	250
L-5/L-5S	Half Tread Extra Deep	250
Log-Skidders		
LS-1	Regular Tread	100
LS-2	Intermediate Tread	125
LS-3	Deep Tread	150
HF-4	Extra Deep Tread	250
Industrial		
F-3	Traction Tread	
Agricultural Tractor		
R-1	Regular Tread	
R-3	Shallow Tread	
R-4	Industrial Tractor	
Agricultural Implement		
I-3	Tractor Tread	

Tire and Rim Assoc. Code	Tread Type	FIRESTONE	GOODYEAR DUNLOP	BRIDGESTONE	MICHELIN
Compactor					
C-1	Smooth Compactor		SMC-1A	RR	COMPACTEUR
C-2	Grooved Compactor			AL2	
Earthmover					
E-1	Rib		HRR-1A XDR-1A		
E-2	Traction	Super Ground Grip	GP-2B GP-3D AT-2 AT-2A RL-2F SGL-2A	VKT VSB VHB VFT VHS VSW	XGC X-CRANE XMH (S) XSNOPUS 170E XS XR XTLA
E-3	Rock	Super Rock Grip E67	GP-2B GP-3D HRL-3A HRL-3B HRL-3C HRL-3F RL-3 RL-3+ RL-3A RL-3F RL-3J RT-3A RT-3B WRL-3A	VLT VMT VJT VEL VRL VRD VRF WL RL	XK XR XMS XH XADN XAD65-1 SUPER E3 X-TRACTION RD S XTS XDM X-STRADDLE
E-4	Rock Deep Tread	Super Rock Grip Deep Tread	GP-4B GP-4B AT GP-4D HRL-4A HRL-4B MRL-4B, F RL-4 RL-4A RL-4B RL-4F RL-4H RL-4HII RL-4J RL-4JII RL-4L RL-4M+ RT-4A	VLTS VSNT VMTS VMTP VZTS VZTP VELSL VELS VRLS VRDP VRPS VRQP RLS ELS2	XDT XDR XRS XADT X SUPER TERRAIN AD XDM XHAUL XHAUL S XHD1 XKD1 X-QUARRY X-QUARRY S X-TRACTION RD
E-5	Rock Extra Deep Tread				
E-7	Flotation		EAW-7A SAW-7A SHY-7A SR-7A SRB-7A SRB-7A, 7B	VSJ SCP2	

Tire and Rim Assoc. Code	Tread Type	FIRESTONE	GOODYEAR DUNLOP	BRIDGESTONE	MICHELIN
Grader					
G-1 G-2	Rib Traction	Super Ground Grip Road Builder	RBG-1A GP-2B GP-3D AS-3A ASG-2A AT-2A RL-2+ RL-2F SG-2A SG-2B SGG-2A SGL D/L-2A	RG FG GL VKT VSW VUT	XTL X SNOPLUS XGLA2 XR
G-3	Rock		GP-2B GP-3D HRL D/L-3A RKG-3A RKG-3C RL-3J RT-3B	RL	XH XLD L3
G-4	Rock Deep Tread	Super Rock Grip Deep Tread Road Builder	GP-4B GP-4B AT GP-4D SGG-4B		XLD D1 XLD SUPER L3
G-5	Rock Extra Deep Tread		HRL D/L-5A		XLD D2
Soil Compactor					
R-1	Regular Tread	Super All Traction II Super All Traction			
R-3	Shallow Tread	All Non-Skid Tractor	SFT105		

Tire and Rim Assoc. Code	Tread Type	TRIANGLE	EUROTIRE	YOKOHAMA	BELSHINA
Compactor					
C-1	Smooth Compactor				
C-2	Grooved Compactor				
Earthmover					
E-1	Rib	TM518 TL508 TB516	Y11 U11 U12 U14	Y67 RB31	FT-116AM BEL-102 FT-117 FT-115
E-2	Traction				
E-3	Rock				
E-4	Rock Deep Tread				
E-5	Rock Extra Deep Tread				
E-7	Flotation				
Grader					
G-1	Rib	TL508			
G-2	Traction				
G-3	Rock				
G-4	Rock Deep Tread				
G-5	Rock Extra Deep Tread				

Tire and Rim Assoc. Code	Tread Type	FIRESTONE	GOODYEAR DUNLOP	BRIDGESTONE	MICHELIN
Log Skidder					
LS-1 LS-2	Intermediate	Forestry Special CRC Forestry Special Severe Service		TGS	
LS-3 HF-4	Deep Extra Deep				
Loader and Dozer					
L-2	Traction	Super Ground Grip LD	GP-2B GP-3D AT-2 AT-2A RL-2F SGL D/L-2A SPT9 ET91 ET91-2	VUT VKT VSW GL FG	XLT XGL 2 XF X SNOPLUS M&S XMCA
L-3	Rock	Super Rock Grip LD	GP-2B GP-3D ELV-3A HRL D/L-3A HRL D/L-3B HRL D/L-3C HRL-3A RL-3 RL-3F RL-3J RT-3B	VLT VMT VJT VTS RL VL2	XH A XH A2 XLD L3 XKA XZSL
L-4	Rock Deep Tread	Super Rock Grip Deep Tread LD	AMS DMS D/L-4/15C AMS-4/5A GP-4B GP-4B AT GP-4C GP-4D HRL D/L-4/15C HRL D/L-4A HRL D/L-4G NRL D/L-4A NRL NDL D/L-4/15C RL-4K	VLTS VSNT VSNL RLS NL	XKD1 XLD D1 XLD SUPER L3

Tire and Rim Assoc. Code	Tread Type	FIRESTONE	GOODYEAR DUNLOP	BRIDGESTONE	MICHELIN
Loader and Dozer (cont'd)					
L-5	Rock Extra Deep Tread	Super Deep Tread LD	AMS D/L-5/8H AMS D/L-5/9A AMS DMS D/L-4/15C AMS-5/11F AMS-5/15C AMS-5/8F DRL D/L-5A HRL D/L-5A HRL D/L-5B NRL D/L-5A NRL NDL D/L-5/15C RL-5C,E,F RL-5K RL-5S RT-5C	VSDT VSDL DL	XLD D2 X MINE D2
L-3S	Smooth Tread	Plain Tread LD	SM-3A SMO D/L-3A		
L-4S	Smooth Deep Tread	Plain Tread LD	NSM D/L-4B SMO D/L-4A, B SMO-4B		
L-5S	Smooth Extra Deep Tread	Plain Tread LD Plain LD UMS	NSM D/L-5B SM-5A SMO D/L-5A, B SMO-5A, B, C	VSMS STMS	XSMD 2
L-5/L-5S	Half Smooth	Half Tread LD		DL2	
Backhoe Loader					
F-3	Industrial Multiple- Rib Tread	Industrial Special			
I-3	Traction Tread	Super Traction Loader			
R-4	Drive Wheel, Industrial Tractor Tread	All Traction Utility	SG Lug IT525 Industrial Sure Grip		XMCL

Tire and Rim Assoc. Code	Tread Type	TRIANGLE	EUROTIRE	YOKOHAMA
Log Skidder				
LS-1	Intermediate Deep Extra Deep			
LS-2				
LS-3				
HF-4				
Loader and Dozer				
L-2	Traction	TL508	F-220	RB31
L-3	Rock	TB516 TL612		
L-4	Rock Deep Tread		Euro 50	Y524
L-5	Rock Extra Deep Tread			
L-3S	Smooth Tread			
L-4S	Smooth Deep Tread			
L-5S	Smooth Extra Deep Tread			
L-5/L-5S	Half Smooth			

Tire and Rim Assoc. Code	Tread Type	NOKIAN	BELSHINA	PIRELLI
Log Skidder				
LS-1 LS-2 LS-3 HF-4	Intermediate			
Loader and Dozer				
L-2 L-3 L-4 L-5 L-3S L-4S L-5S L-5/L-5S	Traction Rock Rock Deep Tread Rock Extra Deep Tread Smooth Tread Smooth Deep Tread Smooth Extra Deep Tread Half Smooth	Loader Grip TL	FBEL-283	RM99

RADIAL TIRE IDENTIFICATION

Code Identification for Michelin Tires

All Michelin earthmover tires are radial construction, designated by the “X” marking. They contain a single steel radial ply with a series of steel belts placed around the tire’s circumference which reinforce and stabilize the tread.

Following are the tread designs currently available from Michelin with the different internal constructions depending on the application.

- Type A4** Particularly resistant to cuts, tread tearing and abrasion on very rough surfaces.
- Type A** Particularly resistant to cuts, tread tearing and abrasion at average speeds which are higher than those for A4 (above).
- Type B4** Compromise solution between abrasion resistance and average speed on rough surfaces (available in sizes 49 inch rim diameter and above).
- Type B** Higher resistance to internal heat generation on surfaces which are not particularly rough.
- Type C4** For running on long cycles at high speeds on well maintained roads.
- Type C** Very high resistance to high average speeds on long cycles run on well maintained roads.

The current combinations of tread patterns, construction, and tread depths offered, and primary TRA codes are:

Tread Design	Tread Compounds				Primary TRA Code(s)
	Type A4	Type A	Type B	Type C	
X MINE D2		X			L-5
XAD 65-1			X		E-3
XADN			X		E-3
XADT			X		E-4
XDC			X	X	E-3
XDM		X	X		E-3, E-4
XDR	X	X	X	X	E-4
XDT	X	X	X	X	E-4
XGLA2		X			G-2, L-2
XH		X			G-3, E-2, E-3
X-HAUL			X		E-4
XK		X	X		E-3
XKD1	X	X	X		E-4
XLD		X			G-3, L-3
XLD D1		X			L-4
XLD D2		X			L-5
XLISSE					C-1
XMH				X	E-2
XMS		X	X		E-3
X-QUARRY			X		E-4
XR			X	X	E-3, L-3
XRS			X		E-4
XSMD2+		X			L-5S
XSNPLUS		X			L-2, G-2
XTL		X			G-2, L-2
X-TRACTION					
RD (X)			X		E-4
XTS			X		E-3

Since Michelin radial tires contain a single steel casing ply, they utilize the industry method of designating radial tire strength in terms of “stars.” Their system consists of a one star, two star, and three star rating as an indication of the tire’s carrying capacity. The one star is the lightest construction, generally used on work and slow moving transport machines. Two star tires are used on most medium and high speed transport machines. Three star construction provides the greatest carrying capacity for a given size and is only available in small standard base tires.

This combination of tread designs and types of construction provides a range of radial tires which cover most earthmoving applications. We recommend that in applying steel radial tires to your machines you provide all site condition data to the tire manufacturer. Obtain their recommendations as to which tire will provide the most economical operation.

Code Identification for Goodyear Radial Tires

All Goodyear steel radial earthmover tires have been designated *Unisteel* followed by a three or four digit alpha-numeric code that identifies the particular tread. For example, for a RL-2+, RL stands for Rock Lug and indicates that the upper sidewall has rock protection. The number in the code corresponds to the tire industry identification system (2-traction, 3-rock, etc). The fourth digit, if any, is used to designate tread design differences for the same basic tread type.

Following are the radial tread designs currently available from Goodyear with the compound and construction types depending on the application.

Compound Description	Compound Code
Heat Resistant	2
Standard Abrasion Resistant	4
Ultra Abrasion Resistant	6
Construction Description	Construction Code
Standard	S
Heavy Duty	H
Extra Heavy Duty	HW
Steel Breakers	J
Heavy Undertread	U
Low Angle Belts	SL

Tread Design	Compound Code			Primary TRA Code(s)
	2S	4S	6S	
AT-2A	X	X	X	E-2, L-2, G-2
GP-2B	X	X	X	E-2, E-3, G-2, G-3, L-2, L-3
GP-3D	X	X	X	E-2, E-3, G-2, G-3, L-2, L-3
GP-4B AT	X	X	X	E-4, G-4, L-4
GP-4D	X	X	X	E-4, G-4, L-4
RL-2+	X	X	X	G-2
RL-2F	X	X	X	E-2, G-2, L-2
RL-3	X	X	X	E-3, L-3
RL-3+	X	X	X	E-3
RL-3A	X	X	X	E-3
RL-3F		X		E-3, L-3
RL-3J	X	X	X	E-3, G-3, L-3
RL-4	X	X	X	E-4
RL-4A	X	X	X	E-4
RL-4B	X	X	X	E-4
RL-4F	X	X	X	E-4
RL-4H	X	X	X	E-4
RL-4HII	X	X	X	E-4
RL-4J	X	X	X	E-4
RL-4JII	X	X	X	E-4
RL-4K		X	X	L-4
RL-4M+	X	X	X	E-4
RL-5K		X	X	L-5
RT-3A	X	X		E-3
RT-3B			X	E-3, G-3, L-3
RT-4A	X	X	X	E-4

A star rating system instead of the ply rating system indicates the casing strength of radial tires. These symbols indicate the recommended inflation for a particular tire load. Following the star rating code is Goodyear’s Custom Compound and Construction code. For a tire designated “2S” the 2 indicates a heat resistant compound and the S indicates standard construction. The higher the number the greater the abrasion and cut resistance with a corresponding lower TKPH/TMPH rating.

Code Identification for Bridgestone Radial Tires

The Bridgestone steel radial earthmover has been designated as V-Steel. Following are the radial tread designs currently available from Bridgestone with the compound and construction types depending on the application.

Bridgestone Compound and Structure Codes

1A	Standard
2A	Cut-Resistant
2V	Special Cut Resistant (Steel Breaker)
2Z	Special Cut Resistant (Side Steel Breaker)
3A	Heat-Resistant
E	Earthmover
G	Grader
D	Loader and Dozer
S	Logging

Tread Design	Tread Name	Compound/ Structure Codes					TRA Code(s)
		1A	2A	2V	2Z	3A	
VEL	V-Steel E-Lug					X	E-3
VELS	V-Steel E-Lug S	X	X			X	E-4
VELSL	V-Steel E-Lug S (Long Haul)						E-4
VFT	V-Steel F-Traction	X				X	E-2
VHB	V-Steel H-Block						E-2
VHS	V-Steel H-Service						E-2
VJT	V-Steel J-Traction						E-3, L-3
VKT	V-Steel K-Traction	X	X				E-2, G-2, L-2
VLT	V-Steel L-Traction	X	X				E-3, L-3
VLTS	V-Steel L-Traction S			X			E-4, L-4
VMT	V-Steel M-Traction	X	X			X	E-3, L-3
VMTS	V-Steel M-Traction Premium	X	X				E-4
VRD	V-Steel Rock Deep	X				X	E-3
VRDP	V-Steel Rock Deep Premium	X	X			X	E-4
VRF	V-Steel Rock Fast						E-3
VRL	V-Steel R-Lug	X	X			X	E-3
VRLS	V-Steel R-Lug S	X	X			X	E-4
VRPS	V-Steel Rock Premium Service						E-4
VRQP	V-Steel Rock Quarry Premium		X				E-4
VSJ	V-Steel S-Block		X			X	E-2
VSDL	V-Steel D-Lug		X				L-5
VSDT	V-Steel Super Deep Traction		X				L-5
VSJ	V-Steel Jamal						E-7
VSMS	V-Steel Smooth Tread-MS		X	X			L-5S
VSNL	V-Steel N-Lug		X				L-4
VSNT	V-Steel N-Traction		X				E-4, L-4
VSW	V-Steel Snow Wedge		X				E-2, G-2, L-2
VT	V-Steel Traction- Stability		X				L-3
VUT	V-Steel U-Traction		X				G-2, L-2
VZTP	V-Steel Z-Traction Premium						E-4
VZTS	V-Steel Z-Traction S	X	X			X	E-4

The casing strength, i.e., load carrying capacity of tire is indicated by star rating system; 1-star, 2-star and 3-star. Bridgestone's Off-the-Road tires are designed and produced to meet the commonly accepted international standards, those set by the TRA (Tire and Rim Association) in the U.S.A., by the ETRTO (European Tire and Rim Technical Organization) in Europe and/or by the JATMA (Japan Automobile Tire Manufacturers' Association) in Japan. Where differences exist between the TRA, ETRTO and JATMA standards, Bridgestone selects the most appropriate.

TON-KILOMETER PER HOUR (TKPH)

Tire selection and machine operating practices have, in some cases, become the critical factors in the over-all success of earthmoving ventures. One of the most serious problems occur when tires are operated at temperatures above their capabilities. Separation and related failures occur. To help you avoid temperature related failures, Caterpillar has been instrumental in developing the *Ton-Kilometer Per Hour* (TKPH), also known as *Ton-Mile Per Hour* (TMPH), method of rating tires. The formula to convert a TKPH rating to a TMPH rating is:

$$\text{TMPH} = \text{TKPH} \times 0.685$$

Heat and Tire Failure

Tire manufacturing requires heat in the vulcanizing process converting crude rubber and additives into a homogeneous compound. The heat required is typically above 132° C (270° F).

A tire also generates heat as it rolls and flexes. Heat generated faster than it can be radiated into the atmosphere gradually builds within the tire and reaches maximum level at the outermost ply or belt.

Over time, enough heat can develop from overflexing to actually reverse the vulcanizing process or “revert” the rubber causing ply separation and tire failure. Only a brief time at reversion temperature initiates the failure. Experience shows that few pure heat separation cases occur. Most so-called heat separations are in tires operating below the reversion level.

As a tire’s operating temperature increases the rubber and textiles within significantly lose strength. The tire becomes more susceptible to failures from cornering, braking, impact, cut through, fatigue and heat separation. If operating tires at higher temperatures is absolutely necessary, it is essential the machines be operated to reduce the probability of premature tire failure. No hard cornering without superelevation, no panic braking, etc.

The TKPH formula was developed to predict tire temperature buildup. The system is a method of rating tires in proportion to the amount of work they can do from a temperature standpoint. It utilizes the product of *load* $\times$ *speed* to derive an index of the tire temperature buildup. Even at or below a tire’s TKPH, failures may be initiated by overstressing the tires.

It is possible by using a needle type pyrometer to measure temperature at any desired point within the tire casing. However, the instrumentation and the technique does not lend itself to general field use. The greatest difficulty is locating the thickest (therefore the hottest) tread bar in any given tire using giant calipers. The tire must then be drilled along the centerline of this bar from shoulder to shoulder at 52 mm (2") intervals. These 3.18 mm (1/8") diameter holes extend down through the tread and undertread to the topmost reinforcement. This procedure is fully described under SAE Recommended practice J1015.

The TKPH rating system as given in this SAE specification is approved by most tire manufacturers. Michelin, in addition to providing TKPH ratings has developed their own speed/load carrying rating system and we recommend that Michelin be consulted where high tire temperatures are a concern.

Heat generation in a specific tire at recommended pressure depends on three factors:

- the weight the tire is carrying (flex per revolution),
- the speed the tire is traveling over the ground (flexures over a period of time), and
- the air temperature surrounding the tire (ambient temperature) and road surface temperature.

Once a tire manufacturer has determined a tire’s temperature characteristics and expressed them in TKPH, the above listed specific job conditions can be used to determine any tire’s maximum work capacity. These conditions provide on site ability to predict and avoid costly tire separations.

Ton-Kilometer-Per-Hour Rating System

The tire TKPH can be matched to the site TKPH as well as compared with TKPH values of different makes and types of tires.

TKPH Job Rate

Average Tire Load × Average Speed for the shift

Average Tire Load

$$\frac{\text{“Empty” tire load} + \text{“loaded” tire load}}{2}$$

Average Speed

$$\frac{\text{Round trip distance in kilometers} \times \text{number of trips}}{\text{Total Hours (in the shift)}}$$

For excessive haul length (32 kilometers or more) consult your tire representative for modification to the TKPH value.

To use in the United States Customary System, change kilometers to miles and use short tons.

It should be noted that prolonged operation at high casing temperatures can fatigue the nylon at the flex points in the sidewalls.

The following are the most recent TKPH ratings as made available by Goodyear, Michelin and Bridgestone, and are subject to change on their part at any time. Other tire manufacturers' TKPH ratings will be included in future handbook editions when and if made available. For latest TKPH ratings, consult specific tire manufacturer at time of machine and/or tire purchase.

Load-and-Carry TKPH (TMPH)

The wheel loader, when used in load-and-carry applications, may encounter temperature problems similar to those normally associated only with tires on scrapers, trucks and wagons. **Do not place the vehicle in load-and-carry applications without first consulting the tire manufacturer, or obtaining maximum load and speed ratings and pressure recommendations from the tire manufacturer.**

Conventional and Radial Steel Cord Tire Options

Tire options now provide types to operate in conditions ranging from rock and abrasive materials, to jobs with high speed hauls in good materials.

The best tire type can be different for the drive tires than for other tires on the same machine. TKPH (TMPH) should be calculated for all tires.

TIRE DRIVE-AWAY RECOMMENDATIONS

Heat separation can be a problem during machine delivery and moving machines from one job to another. Whenever roading earthmoving machines, *check your supplier for the tire manufacturer's recommended speed limitations on the specific tires involved.*

Some tire manufacturers also recommend that vehicles equipped with extra tread depth or special compounded tires should not be roaded without their specific approval. Our tests support this recommendation, especially for L-3, L-4, E-4 and L-5 tires.

TKPH (TMPH) RATINGS

AT 38° C (100° F) AMBIENT TEMPERATURE

For Haul Lengths of 32 km (20 miles) or Less One Way

Maximum Speed Not to Exceed 48 km (30 miles) per Hour

Because of the variance between specific tires it is recommended that at the time of purchase you check with your tire supplier for the manufacturer's specific TKPH (TMPH) ratings for the tires purchased.

GOODYEAR RADIAL PLY CONSTRUCTION CONVENTIONAL SIZES

Industry Code		E-3																	
Tread Design		GP-2B			GP-3D			RL-2+			RL-3+			RT-3A			RT-3A+		
Custom Code		2S	4S	6S	2S	4S	6S	2S	4S	6S	2S	4S	6S	2S	4S	6S	2S	4S	6S
17.5R25	TKPH TMPH	200 135	150 105	140 95				150 100	110 75										
18.00R33	TKPH TMPH																		
21.00R33	TKPH TMPH																		
23.5R25	TKPH TMPH	260 175	200 135	170 115				200 135	150 100										
24.00R35	TKPH TMPH										440 300	340 230	260 180						
26.5R25	TKPH TMPH	280 195	230 155	190 130				230 155	170 115										
27.00R49	TKPH TMPH	600 410	500 340	300 205															
29.5R25	TKPH TMPH	340 235	270 185	230 155				270 185	200 140										
29.5R29	TKPH TMPH																		
33.00R51	TKPH TMPH																		
33.25R29	TKPH TMPH													420 285	320 220				
37.00R57	TKPH TMPH																		
40.00R57	TKPH TMPH																		
40.5/75R39	TKPH TMPH	580 400	450 305	350 240													550 375	420 290	320 220
46/90R57	TKPH TMPH																		
750/65R25	TKPH TMPH				240 162	180 120	110 78	230 155	170 115	110 75									

TKPH (TMPH) RATINGS
AT 38° C (100° F) AMBIENT TEMPERATURE
For Haul Lengths of 32 km (20 miles) or Less One Way
Maximum Speed Not to Exceed 48 km (30 miles) per Hour

Because of the variance between specific tires it is recommended that at the time of purchase you check with your tire supplier for the manufacturer's specific TKPH (TMPH) ratings for the tires purchased.

GOODYEAR RADIAL PLY CONSTRUCTION CONVENTIONAL SIZES

Industry Code	E-4																	
	RL-4B			RL-4			RL-4B			RL-4H			RL-4J			RL-4JII		
Tread Design																		
Custom Code	2S	4S	6S	2S	4S	6S	2S	4S	6S	2S	4S	6S	2S	4S	6S	2S	4S	6S
17.5R25 TKPH TMPH																		
18.00R33 TKPH TMPH	230 155	175 120	130 90										230 155	175 120	130 90			
21.00R33 TKPH TMPH	300 205	230 160	190 127															
23.5R25 TKPH TMPH																		
24.00R35 TKPH TMPH	390 270	300 205	230 160										390 270	300 205	230 160			
26.5R25 TKPH TMPH																		
27.00R49 TKPH TMPH				580 400	445 305		550 375	420 290	330 225	500 345	385 265	295 300	500 340	400 275	240 165	500 340	400 275	240 165
29.5R25 TKPH TMPH																		
29.5R29 TKPH TMPH																		
33.00R51 TKPH TMPH										685 470	525 360	365 250				685 470	525 360	365 250
33.25R29 TKPH TMPH																		
37.00R57 TKPH TMPH										960 655	715 490	460 315						
40.00R57 TKPH TMPH							1150 785	870 600	530 360									
40.5/75R39 TKPH TMPH																		
46/90R57 TKPH TMPH	1200 825	920 630	540 370															
750/65R25 TKPH TMPH																		

TKPH (TMPH) RATINGS

AT 38° C (100° F) AMBIENT TEMPERATURE

For Haul Lengths of 32 km (20 miles) or Less One Way

Maximum Speed Not to Exceed 48 km (30 miles) per Hour

Because of the variance between specific tires it is recommended that at the time of purchase you check with your tire supplier for the manufacturer's specific TKPH (TMPH) ratings for the tires purchased.

GOODYEAR RADIAL PLY CONSTRUCTION CONVENTIONAL SIZES

Industry Code	E-4									G-4			L-4			L-5		
Tread Design	RT-4A			RT-4A+			GP-4B AT			GP-4C			RL-4K			RL-5KI		
Custom Code	2S	4S	6S	2S	4S	6S	2S	4S	6S	2S	4S	6S	2S	4S	6S	2S	4S	6S
17.5R25	TKPH																	
	TMPH																	
18.00R33	TKPH	230	180	140														
	TMPH	160	125	94														
21.00R33	TKPH																	
	TMPH																	
23.5R25	TKPH						200	150	130	200	150	130					80	70
	TMPH						135	104	90	135	104	90					55	50
24.00R35	TKPH				400	300	240											
	TMPH				275	210	165											
26.5R25	TKPH						210	160	130									
	TMPH						147	109	91									
27.00R49	TKPH				570	440	340											
	TMPH				390	300	235											
29.5R25	TKPH						240	190	150					130	120		100	100
	TMPH						165	130	105					90	85		70	65
29.5R29	TKPH																120	110
	TMPH																80	75
33.00R51	TKPH																	
	TMPH																	
33.25R29	TKPH																	
	TMPH																	
37.00R57	TKPH																	
	TMPH																	
40.00R57	TKPH																	
	TMPH																	
40.5/75R39	TKPH																	
	TMPH																	
46/90R57	TKPH																	
	TMPH																	
750/65R25	TKPH																	
	TMPH																	

TKPH (TMPH) RATINGS
AT 38° C (100° F) AMBIENT TEMPERATURE
For Haul Lengths of 32 km (20 miles) or Less One Way
Maximum Speed Not to Exceed 48 km (30 miles) per Hour

Because of the variance between specific tires it is recommended that at the time of purchase you check with your tire supplier for the manufacturer's specific TKPH (TMPH) ratings for the tires purchased.

BRIDGESTONE RADIAL PLY CONSTRUCTION CONVENTIONAL SIZES

Industry Code		E-2						E-3											
Tread Design		VKT			VFT			VMT			VJT			VLT			VRL		
Custom Code		E1A	E2A	E3A	E1A	E2A	E3A	E1A	E2A	E3A	E1A	E2A	E3A	E1A	E2A	E3A	E1A	E2A	E3A
17.5R25	TKPH TMPH		95 65					144 99											
18.00R33	TKPH TMPH																		
21.00R33	TKPH TMPH																		
23.5R25	TKPH TMPH	263 180	205 140						190 130			190 130							
24.00R35	TKPH TMPH																		
26.5R25	TKPH TMPH							293 201	220 151			220 151							
27.00R49	TKPH TMPH					557 382	804 551												
29.5R25	TKPH TMPH	376 258	310 212												266 182				
29.5R29	TKPH TMPH	401 275	330 226																
33.00R51	TKPH TMPH																		
33.25R29	TKPH TMPH													476 326	349 239		435 298	319 218	
37.00R57	TKPH TMPH																		
37.25R35	TKPH TMPH	644 441	530 363											569 390	417 286		563 386	413 283	
40.00R57	TKPH TMPH																		
40.5/75R39	TKPH TMPH													682 467	500 342		675 462	495 339	
46/90R57	TKPH TMPH																		
750/65R25	TKPH TMPH														225 154				
59/80R63	TKPH TMPH																		

NOTE: For cycle lengths of 5 km (3 miles) or less (round trip), multiply the TKPH (TMPH) value in this table by 1.12.
Additional tread compounds are available to meet specific TKPH (TMPH).

TKPH (TMPH) RATINGS

AT 38° C (100° F) AMBIENT TEMPERATURE

For Haul Lengths of 32 km (20 miles) or Less One Way

Maximum Speed Not to Exceed 48 km (30 miles) per Hour

Because of the variance between specific tires it is recommended that at the time of purchase you check with your tire supplier for the manufacturer's specific TKPH (TMPH) ratings for the tires purchased.

BRIDGESTONE RADIAL PLY CONSTRUCTION CONVENTIONAL SIZES

Industry Code		E-4											
Tread Design		VMTS			VELS			VMTP			VRQP		
Custom Code		E1A	E2A	E3A	E1A	E2A	E3A	E1A	E2A	E3A	E1A	E2A	E3A
17.5R25	TKPH TMPH												
18.00R33	TKPH TMPH	246 168	199 136		211 145	170 116	246 168	229 157	185 127			122 84	
21.00R33	TKPH TMPH							293 201	237 162				
23.5R25	TKPH TMPH												
24.00R35	TKPH TMPH	418 286	338 232	489 335				388 266	314 215				
26.5R25	TKPH TMPH												
27.00R49	TKPH TMPH	492 337	398 273						361 247	522 358			
29.5R25	TKPH TMPH												
29.5R29	TKPH TMPH												
33.00R51	TKPH TMPH												
33.25R29	TKPH TMPH												
37.00R57	TKPH TMPH												
37.25R35	TKPH TMPH												
40.00R57	TKPH TMPH				940 644	773 529	1117 765						
40.5/75R39	TKPH TMPH												
46/90R57	TKPH TMPH												
750/65R25	TKPH TMPH												
59/80R63	TKPH TMPH												

NOTE: For cycle lengths of 5 km (3 miles) or less (round trip), multiply the TKPH (TMPH) value in this table by 1.12.
Additional tread compounds are available to meet specific TKPH (TMPH).

TKPH (TMPH) RATINGS
AT 38° C (100° F) AMBIENT TEMPERATURE
For Haul Lengths of 32 km (20 miles) or Less One Way
Maximum Speed Not to Exceed 48 km (30 miles) per Hour

Because of the variance between specific tires it is recommended that at the time of purchase you check with your tire supplier for the manufacturer's specific TKPH (TMPH) ratings for the tires purchased.

BRIDGESTONE RADIAL PLY CONSTRUCTION CONVENTIONAL SIZES

Industry Code		E-4											
Tread Design		VRLS			VLTS			VSNT			VRDP		
Custom Code		E1A	E2A	E3A	E1A	E2A	E3A	E1A	E2A	E3A	E1A	E2A	E3A
17.5R25	TKPH TMPH												
18.00R33	TKPH TMPH												
21.00R33	TKPH TMPH	281 192	227 155										
23.5R25	TKPH TMPH					161 110							
24.00R35	TKPH TMPH	388 266	314 215	453 310									
26.5R25	TKPH TMPH					186 127			165 113				
27.00R49	TKPH TMPH	513 351	415 284	600 411									
29.5R25	TKPH TMPH					225 154			220 151				
29.5R29	TKPH TMPH								232 159				
33.00R51	TKPH TMPH	603 413	496 340	717 491									
33.25R29	TKPH TMPH												
37.00R57	TKPH TMPH	845 579	694 475	1009 691									
37.25R35	TKPH TMPH												
40.00R57	TKPH TMPH												
40.5/75R39	TKPH TMPH												
46/90R57	TKPH TMPH										968 663	796 545	1150 788
750/65R25	TKPH TMPH					195 134							
59/80R63	TKPH TMPH										1515 1038	1228 841	1773 1214

NOTE: For cycle lengths of 5 km (3 miles) or less (round trip), multiply the TKPH (TMPH) value in this table by 1.12.
Additional tread compounds are available to meet specific TKPH (TMPH).

TKPH (TMPH) RATINGS
AT 38° C (100° F) AMBIENT TEMPERATURE
For Haul Cycles Less than 5 km (3 miles) Round Trip

Because of the variance between specific tires it is recommended that at the time of purchase you check with your tire supplier for the manufacturer's specific TKPH (TMPH) ratings for the tires purchased.

MICHELIN RADIAL PLY CONSTRUCTION CONVENTIONAL SIZES

Industry Code		E-2	E-3			E-4						
Tread Design		XV	XR	XK	XKD1	X-QUARRY	X-QUARRY S	XDT			X-HAUL	X-HAUL S
Type		C	B	B	A			A4	A	B		
18.00R33	TKPH TMPH	436 299	305 209		157 108	122 84	116 114	157 108	192 132	262 179	262 179	
21.00R33	TKPH TMPH											280 192
24.00R35	TKPH TMPH	740 507	518 355	474 325		207 142	281 192	266 182	326 223	444 304	355 243	
27.00R49	TKPH TMPH	1090 747						392 269	480 329	654 448		
33.00R51	TKPH TMPH							558 382	682 467	930 637		
37.00R57	TKPH TMPH											
40.00R57	TKPH TMPH											
50/80R57	TKPH TMPH											
56/80R63	TKPH TMPH											
59/80R63	TKPH TMPH											

NOTE: Consult Michelin for TKPH (TMPH) rating on haul cycles greater than 5 km (3 miles).
Additional tread compounds are available to meet specific TKPH (TMPH).

TKPH (TMPH) RATINGS
AT 38° C (100° F) AMBIENT TEMPERATURE
For Haul Cycles Less than 5 km (3 miles) Round Trip

21

Because of the variance between specific tires it is recommended that at the time of purchase you check with your tire supplier for the manufacturer's specific TKPH (TMPH) ratings for the tires purchased.

MICHELIN RADIAL PLY CONSTRUCTION CONVENTIONAL SIZES

Industry Code	Tread Design	E-4								
		XDR					XDR S			X-TRACTION RD
Type		A	B4	B	C4	C	B4	B	C4	A4 B
18.00R33	TKPH TMPH									
21.00R33	TKPH TMPH									
24.00R35	TKPH TMPH									
27.00R49	TKPH TMPH	392 269	480 329	597 388						392 269 654 448
33.00R51	TKPH TMPH	496 340	620 425	744 510						
37.00R57	TKPH TMPH	678 464	848 581	1018 697	1145 784	1272 871				
40.00R57	TKPH TMPH	768 526	960 658	1152 789	1296 888	1440 986				
50/80R57	TKPH TMPH		1168 800		1518 1040	1285 880				
56/80R63	TKPH TMPH	1229 842	1536 1052	1843 1262	2150 1473					
59/80R63	TKPH TMPH	1267 868	1584 1085	1901 1302	2218 1519		1901 1302	2218 1519	2535 1736	

NOTE: Consult Michelin for TKPH (TMPH) rating on haul cycles greater than 5 km (3 miles).
Additional tread compounds are available to meet specific TKPH (TMPH).

TKPH (TMPH) RATINGS

AT 38° C (100° F) AMBIENT TEMPERATURE

For Haul Cycles Less than 5 km (3 miles) Round Trip

Because of the variance between specific tires it is recommended that at the time of purchase you check with your tire supplier for the manufacturer's specific TKPH (TMPH) ratings for the tires purchased.

MICHELIN RADIAL PLY CONSTRUCTION CONVENTIONAL SIZES

Industry Code		E-4							
Tread Design		X-TRACTION S RD		XDC			XDM		
Type		A	B	B4	C	C4	B4	C	C4
18.00R33	TKPH TMPH								
21.00R33	TKPH TMPH								
24.00R35	TKPH TMPH								
27.00R49	TKPH TMPH	589 403	763 523						
33.00R51	TKPH TMPH			1054 722	1209 828	1395 968			
37.00R57	TKPH TMPH								
40.00R57	TKPH TMPH						1056 723	1248 855	1440 986
50/80R57	TKPH TMPH								
56/80R63	TKPH TMPH								
59/80R63	TKPH TMPH								

NOTE: Consult Michelin for TKPH (TMPH) rating on haul cycles greater than 5 km (3 miles).
Additional tread compounds are available to meet specific TKPH (TMPH).

TKPH (TMPH) RATINGS
AT 38° C (100° F) AMBIENT TEMPERATURE
For Haul Cycles Less than 5 km (3 miles) Round Trip

21

Because of the variance between specific tires it is recommended that at the time of purchase you check with your tire supplier for the manufacturer's specific TKPH (TMPH) ratings for the tires purchased.

MICHELIN RADIAL PLY CONSTRUCTION WIDE BASE SIZES

Industry Code	E-3			E-4
Tread Design	XTS	XMS		XRS
Type		B	A	
29.5R29 TKPH	348			
TMPH	239			
33.25R29 TKPH	429			
TMPH	294			
37.25R35 TKPH	540			415
TMPH	370			284
40.5/75R39 TKPH		766	500	
TMPH		525	342	

NOTE: Consult Michelin for TKPH (TMPH) rating on haul cycles greater than 5 km (3 miles).

ISO LOAD INDEX SPEED SYMBOL
AT 38° C (100° F) AMBIENT TEMPERATURE
For Haul Cycles Greater than 5 km (3 miles) Round Trip

Because of the variance between specific tires it is recommended that at the time of purchase you check with your tire supplier for the manufacturer's specific TKPH (TMPH) ratings for the tires purchased.

MICHELIN RADIAL PLY CONSTRUCTION WIDE BASE SIZES

Industry Code	E-3	E-3 (DT)	E-3	E-4
Tread Design	XADN	XADT	XAD65-1	X SUPER TERRAIN
23.5R25	185B*	185B		185B
26.5R25	193B	193B		193B
29.5R25	200B*	200B		200B
650/65R25 Super E3			180B	
750/65R25 Super E3			190B	
850/65R25 Super E3			196B	

*E Speed option available via special field request.

TIRE AND RIM ASSOCIATION RATINGS

While the TKPH (TMPH) Rating System provides a method to determine the tire’s work capacity, Tire and Rim Association Ratings provide a guide for evaluating a tire’s structural capacity. These two rating systems should be used in conjunction to evaluate tire performance.

TIRE SELECTION

Selecting the optimum tire for a given application is particularly critical for earthmoving. The machines have the capability to outperform the tires and, unless proper practices are observed, very costly premature tire failures can occur. Job conditions vary greatly throughout the world, as well as within any given job site, and selecting the optimum tire requires careful consideration of all factors involved. In general, the tire manufacturer should be consulted before making the selection for any given application. In some cases, the tire manufacturer can fabricate tires specifically tailored for a given job site.

For those applications where wear is extremely slow, especially as a result of only occasional operation throughout the year, the cheapest lightweight tire needs to be given strong consideration.

As job conditions become severe, the following factors should be evaluated in selecting a tire:

Transport or Load-and-carry —

- TKPH (TMPH) (primary consideration)
- Minimum approved star/ply rating or greater
- Largest optional size
- Thickest tread commensurate with TKPH (TMPH)
- Most cut resistant tread commensurate with TKPH (TMPH)
- Belted construction

Grader —

- Tire load rating suitable for maximum equipped machine weight (See Tire Load Worksheet on next page)
- Application specific tire (snow, construction, road maintenance, mining, general purpose, all season)
- Bias or radial based on initial cost, puncture resistance, rolling resistance, life to retread/repair

Loader or Dozer —

- Minimum approved ply rating or greater
- Largest optional size
- Thickest tread
- Thickest available undertread
- Buttressed shoulder
- Most cut resistant tread
- Belted construction
- Lowest aspect ratio

All tires should be operated at the tire manufacturer’s recommended inflation pressure for a given application. Inflation pressure should be checked every working day with an accurate gauge. This gauge should be checked against a known standard such as a dead weight tester at least once a month.

Excess loads may result from factors such as varying material density, field modifications to equipment, mud accumulation, load transfer, etc. Only under these conditions may the actual in service tire load exceed the rated machine load. When excess loads are encountered, cold inflation pressures **must** be increased to compensate for higher loads. Increase tire inflation pressure 2% for each 1% increase in load.

	Maximum Excess Load	Pressure
Bias Ply	15%	30%
Radial Ply	7%	14%

The above loads will result in reduced tire performance and must be approved by the tire manufacturer.

The use of chains is difficult to justify except under a few conditions. Chains are very costly and heavy, and require more maintenance than most operations can provide. On some models sufficient clearance does not exist for chains with all tire combinations. Extensive modifications may be required if chains are needed for the job.

Foam filling tires is normally not recommended due to high cost and lack of local filling facilities. Its use should be confined to loader and dozer applications where penetrations occur almost daily. If foam is used be sure to adhere to recommended equivalent pressures of nitrogen and use highest available ply rating. Consult tire manufacturer for specific warranty concerns.

Tire Load Worksheet (Motor Graders)

Tire positions (top view)



A Machine information:

Base operating weight (kg) (1a) = _____
 Rear operating weight (%) (2a) = _____
 Front operating weight (%) (3a) = _____

B Tire loads:

Weight on rear tire before attachments (kg) (1b) = $\frac{(1a) \times (2a)}{4}$ = _____ (Tires # 1, 2, 3, 4)
 Weight on front tire before attachments (kg) (2b) = $\frac{(1a) \times (3a)}{2}$ = _____ (Tires # 5, 6)

C Attachment information (reference Caterpillar Price List):

Attachment Type	Tires affected	Attachment weight distribution
Ripper	1, 2, 3, 4	25% per tire
Push Block	5, 6	50% per tire
Front blade (any type)	5, 6	62% per tire
Mid-Mount Scarifier	5, 6	40% per tire
	1, 2, 3, 4	5% per tire
Snow Wing	6	34% per tire
	3, 4	55% per tire

Attachment #1

Attachment type: _____

Attachment weight (kg) (1c) = _____

Tire positions affected (see chart)

Tire #1	Tire #2	Tire #3	Tire #4	Tire #5	Tire #6

Attachment weight distribution per tire (see chart)

(2c) = _____

Attachment weight per tire (kg) = (1c) × (2c)

(3c) = _____

Attachment #2

Attachment type: _____

Attachment weight (kg) (4c) = _____

Tire positions affected (see chart)

Tire #1	Tire #2	Tire #3	Tire #4	Tire #5	Tire #6

Attachment weight distribution per tire (see chart)

(5c) = _____

Attachment weight per tire (kg) = (4c) × (5c)

(6c) = _____

Attachment #3

Attachment type: _____

Attachment weight (kg) (7c) = _____

Tire positions affected (see chart)

Tire #1	Tire #2	Tire #3	Tire #4	Tire #5	Tire #6

Attachment weight distribution per tire (see chart)

(8c) = _____

Attachment weight per tire (kg) = (7c) × (8c)

(9c) = _____

NOTE: Repeat for additional attachments if needed.

D Sum of attachment weights and Total weight per tire (kg)

	Tire #1	Tire #2	Tire #3	Tire #4	Tire #5	Tire #6
(1d) = (3c) + (6c) + (9c) =						
(2d) = (1d) + [(1b) or (2b)] =						

E Controlling tire weight = maximum value from (2d)

(1e) = _____ kg

F Summary

- Choose a tire with a rated load capacity equal to or greater than the controlling tire weight = Tire rating > (1f)
- Attachments may cause the maximum weight per tire to exceed tire capacity. In these cases the tire supplier should be consulted.
- Contact your tire supplier for machine specific inflation pressures to ensure compensation for different tire loads.

TIRE SELECTION GUIDE

Material	Road or Ground Condition	Treads		
		Trucks and Wheel Tractor-Scrapers	Wheel Tractors or Wheel Loaders	Graders*
Silt and clay: – No rock. – High moisture content.	Good varying to poor. High rolling resistance.	Traction Type (E-2).	Traction Type (L-2).	Traction Type (G-2).
Silt and clay: – Some rock. – Variable moisture content.	Good varying to poor.	Rock-type (E-3) best unless traction is a problem — then use traction tires (E-2). Rock-type offers more resistance to cutting.	Rock-type (L-3, L-4, L-5) best unless traction is a problem — then use traction tires (L-2). Rock-type offers more resistance to cutting.	Rock-type (G-3, G-4) best unless traction is a problem — then use traction tires (G-2). Rock-type offers more resistance to cutting.
Silty/clayey gravel/sand: – Low moisture content.	Excellent to good. Firm surface.	Rock-type (E-3, E-4) offers better wear.	Rock-type (L-3, L-4, L-5) offers better wear.	Rock-type (G-3, G-4, L-3, L-4, L-5) offers better wear.
Silty/clayey gravel/sand: – High moisture content.	Poor, rutted, pot holes.	Rock-type (E-3, E-4).	Rock-type (L-3, L-4, L-5).	Rock-type (G-3, G-4, L-3, L-4, L-5).
Blasted rock.	Hard surface, rough.	Rock-type (E-4).	Rock-type (L-5, L-5S).	Rock-type (G-4, L-4, L-5).
Sand – Very low silt/clay content.	Good to fair surface.	Rock-type (E-3) or Flotation (E-7) if possible with low pressure. Creates minimum soil disturbance resulting in improved flotation.	Rock-type (L-3, L-3S) with low pressure. Creates minimum soil disturbance resulting in improved flotation.	Rock-type (G-3) with low pressure. Creates minimum soil disturbance resulting in improved flotation.

*NOTE: In some cases, an L type tire is appropriate for use on a Grader application, consult your tire supplier for proper tire selection.

RECOMMENDED MOUNTING LUBRICANTS
FROM SUPPLIERS

The following table documents tire supplier recommendations for Tire Mounting Compounds.

Tire Mounting Compounds
Tire-Slick
Michelin “Tigre 80” Grease
REMA Tiptop
Fuchs Silkolene
IZY-SEEL

TIRE SUPPLIER RECOMMENDED COLD
INFLATION PRESSURES

The following tables present commonly found Caterpillar and the *tire suppliers’* recommended cold inflation pressures for tires on Cat machines. For inflation pressures of tire suppliers not listed please obtain them directly from the respected supplier.

The inflation pressure is based on a ready-to-work vehicle weight, rated payload, and average operating conditions. **Pressures for each application may need to be varied from those shown and should always be obtained from your tire supplier.**

Pressures for all tires apply to rib, traction, rock, deep tread, and super deep tread tires.

NOTE: Caterpillar recommends using dry nitrogen (N₂) gas for both tire inflation and pressure adjustments on all current and past production machines.

EXCAVATORS

For complete tire data and inflation pressures, see the Excavator section in this handbook.

Optimal pressures may vary depending on specific applications and working conditions. Always consult your local tire supplier for operating pressures.

STANDARD COLD INFLATION PRESSURES
SKIDDERS — Bias Ply

Model	Tire Size	Ply Rating	Inflation Pressure			
			Front		Rear	
			kPa	psi	kPa	psi
525C	30.5L-32	20	240	35	240	35
	30.5L-32	26	310	45	310	45
	DH35.5LB32	20	210	30	210	30
	DH35.5LB32	24	240	35	240	35
535C	30.5L-32	20	240	35	240	35
	30.5L-32	26	310	45	310	45
	DH35.5LB32	20	210	30	210	30
	DH35.5LB32	24	240	35	240	35
545C	30.5L-32	20	240	35	240	35
	30.5L-32	26	310	45	310	45
	DH35.5LB32	20	240	30	240	30
	DH35.5LB32	24	240	35	240	35

Tires

Standard Cold Inflation Pressures

- Skid Steer Loaders — Bias and Bias Belted
- Telehandlers

Optimal pressures may vary depending on specific applications and working conditions. Always consult your local tire supplier for operating pressures.

SKID STEER LOADERS — Bias and Bias Belted

Model	Tire Size	Ply Rating	Inflation Pressure							
			Galaxy Beefy Baby		Caterpillar Premium Conventional		Caterpillar XD (Extreme Duty)		Michelin XZSL	
			kPa	psi	kPa	psi	kPa	psi	kPa	psi
216B2	10-16.5	8, 10 for XD	345	50	410	60	345	50	310	45
226B2	10-16.5	8, 10 for XD	345	50	410	60	345	50	310	45
236B2	12-16.5	10, 14 for XD	310	45	310	45	345	50	310	45
232B2	10-16.5	8, 10 for XD	345	50	410	60	345	50	380	55
242B2	10-16.5	8, 10 for XD	345	50	410	60	345	50	380	55
	12-16.5	10, 14 for XD	310	45	310	45	345	50	310	45
252B2	12-16.5	10, 14 for XD	310	45	310	45	345	50	345	50
246C	12-16.5	10, 14 for XD	310	45	310	45	345	50	345	50
256C	12-16.5	10, 14 for XD	310	45	310	45	345	50	345	50
262C	12-16.5	10, 14 for XD	310	45	310	45	345	50	345	50
272C	12-16.5	10, 14 for XD	310	45	310	45	345	50	345	50

TELEHANDLERS

Model	Tire Size	Ply Rating	Inflation Pressure	
			kPa	psi
TL642	13.00 x 24	12	448	65
TL943	13.00 x 24	12	448	65
TL1055	14.00 x 24	12	448	65
TL1255	14.00 x 24	12	448	65
TH255	12.00 x 16.5	12	551	80
	14.00 x 17.5	10	482	70
TH406	15.5/80 – 24 400/80R24 460/70R24 15.5 – 25 15.5/80 – 24	16 16	See machine OMM for operating pressures.	
TH407	15.5/80 – 24 400/80R24 440/80R24 460/70R24 500/70R24 15.5 – 25 15.5/80 – 24	16 16		

- Backhoe Loaders (Front/Rear)
- Paving Products — Bias Ply and Radial Pneumatic Tires

Optimal pressures may vary depending on specific applications and working conditions. Always consult your local tire supplier for operating pressures.

BACKHOE LOADERS (Front)

Tire Size	Ply/Speed Symbol	Inflation Pressure	
		kPa	psi
11Lx16 (F-3)	12	441	64
12.5/80-18 (I-3)	12	372	54
340/80R18	143 A8	400	58
15-19.5	12	414	60

BACKHOE LOADERS (Rear)

Tire Size	Ply/Speed Symbol	Inflation Pressure	
		kPa	psi
16.9-24 (R-4)	10	221	32
19.5-24 (R-4)	12	234	34
19.5L-R24	157 A8	317	46
16.9-28 (R-4)	12	262	38
18.4-26 (R-4)	12	262	38
440/80R24	154 A8 161 A8	317 269	46 39
440/80R28	156 A8	317	46
440/80-28 (R-4)	12	317	46
480/80-26 (R-4)	12	317	46
21L-24 (R-4)	16 18	276 310	40 45
500/70R24	164 A8	400	58

**PAVING PRODUCTS —
Bias Ply and Radial Pneumatic Tires**

Model	Tire Size	Ply/ Strength Rating	Inflation Pressure ^{1, 2, 3}	
			kPa	psi
CS323C	11.2 – 24	6	179	26
	11.2 – 24	8	248	36
CP323C	11.2 – 24	8	248	36
CS423E	14.9 – 24	6	138	20
	14.9 – 24	8	179	26
CS433E	14.9 – 24	6	138	20
	14.9 – 24	8	179	26
CP433E	14.9 – 24	8	179	26
CS54	23.1 – 26	8	110	16
CS56	23.1 – 26	8	110	16
CP56	23.1 – 26	8	110	16
CS64	23.1 – 26	8	110	16
	23.1 – 26	12	165	24
CP64	23.1 – 26	12	165	24
CS74	23.1 – 26	8	110	16
	23.1 – 26	12	165	24
CS76	23.1 – 26	12	165	24
CP76	23.1 – 26	12	165	24
AP600D	16.00 – 24 445/95R25	12 ★★	552	80
AP1000D	18.00 – 25	16	345	50
	445/95R25	★★	552	80
BG-260D	18.00 – 25	16	379	55
	445/95R25	★★	552	80
PS150C	8.50/90 – 15	6	345	50
	7.50 – 15	12	758	110
	7.50 – 15	14	862	125
PS360C	14/70 – 20	12	448	65
	14/70 – 20	20	758	110
RM300	28L – 26 (Front)	16	241	35
	18.4 – 30 (Rear)	12	221	32
RM500	26.5 – 25 (Front)	20	345	50
	23.1 – 26 (Rear)	16	241	35

¹Inflation pressures are maximum rated tire pressures.

²Pressure varies with application for Pneumatic Tire Compactors (PS).

³Consult your local tire supplier for operating pressures.

Tires

Standard Cold Inflation Pressures

- Motor Graders — Bias and Radial Ply

Optimal pressures may vary depending on specific applications and working conditions. Always consult your local tire supplier for operating pressures.

MOTOR GRADERS — Bias Ply*

Model	Tire Size	Ply Rating	Inflation Pressure							
			Goodyear				Bridgestone/Firestone			
			Front		Rear		Front		Rear	
			kPa	psi	kPa	psi	kPa	psi	kPa	psi
120M	13.00-24	12					241	35	345	50
	14.00-24	12, 16	172	25	248	36	207	30	276	40
	17.5-25	12, 16	172	25	228	33	207	30	241	35
12M	14.00-24	12, 16	172	25	276	40	207	30	276	40
	17.5-25	12, 16	172	25	248	36	207	30	241	35
140M	14.00-24	12, 16	172	25	303	44	207	30	276	40
	17.5-25	12, 16	172	25	276	40	207	30	276	40
160M	14.00-24	12, 16	200	29	303	44	207	30	276	40
	17.5-25	16	200	29	352	51	207	30	276	40
14M	16.00-24	16	172	25	324	47	172	25	310	45
	20.5-25	16, 20	172	25	303	44	241	35	379	55
16M	18.00-25	16					207	30	241	35
	23.5-25	16, 20	172	25	276	40	207	30	241	35
24M	29.5-29	28					241	35	310	45

*Refer to Tire Load Worksheet to determine proper ply rating.

MOTOR GRADERS — Radial Ply

Model	Tire Size	Strength Rating	Inflation Pressure									
			Michelin				Goodyear				Bridgestone	
			Front		Rear		Front		Rear		Front	Rear
			kPa	psi	kPa	psi	kPa	psi	kPa	psi	kPa	psi
120M	13.00R24	★	310	45	345	50						
	14.00R24	★	241	35	276	40	248	36	303	44	241	35
	17.5R25	★	207	30	241	35	200	29	248	36	207	30
12M	13.00R24	★	276	40	345	50	303	44	400	58		
	14.00R24	★	207	30	310	45	228	33	324	47	241	35
	17.5R25	★	207	30	241	35	200	29	276	40	207	30
140M	14.00R24	★	207	30	310	45	248	36	352	51	241	35
	17.5R25	★	241	35	310	45	200	29	276	40	207	30
160M	14.00R24	★	241	35	310	45	248	36	372	54	241	35
	17.5R25	★	207	30	276	40	228	33	303	44	207	30
14M	16.00R24	★	241	35	345	50	248	36	372	54	241	35
	20.5R25	★	207	30	276	40	200	29	303	44	207	30
16M	23.5R25	★, ★★	207	30	276	40	172	25	303	44	207	30
24M	29.5R29	★, ★★	310	45	379	55	324	47	372	54	310	45

Optimal pressures may vary depending on specific applications and working conditions. Always consult your local tire supplier for operating pressures.

WHEEL TRACTOR-SCRAPERS — Bias Ply

Model	Tire Size	Ply Rating	Inflation Pressure							
			Goodyear				Bridgestone/Firestone			
			Front		Rear		Front		Rear	
			kPa	psi	kPa	psi	kPa	psi	kPa	psi
613G	23.5-25	16, 20	324	47	324	47	345	50	345	50
621G	29.5-29	28, 34	427	62	427	62				
	33.25-29	26, 32	400	58	276	40	379	55	379	55
623G	33.25-29	26, 32	400	58	372	54	379	55	379	55
627G	33.25-29	26, 32	400	58	400	58	379	55	379	55
631G	37.25-35	36, 42	427	62	372	54	448	65	448	65
637G	37.25-35	36	448	65	427	62				

WHEEL TRACTOR-SCRAPERS — Radial Ply

Model	Tire Size	Strength Index	Inflation Pressure							
			Michelin				Goodyear			
			Front		Rear		Front		Rear	
			kPa	psi	kPa	psi	kPa	psi	kPa	psi
613G	23.5R25	★, ★★	379	55	345	50	372	54	372	54
621G	29.5R29	★★	483	70	414	60	572	83	572	83
	33.25R29	★★	448	65	379	55	448	65	352	51
623G	29.5R29	★★							517	75
	33.25R29	★★	483	70	414	60	448	65	448	65
627G	29.5R29	★★							517	75
	33.25R29	★★	517	75	448	65	448	65	448	65
631G	37.25R35	★★	552	80	483	70	476	69	427	62
637G	37.25R35	★★	552	80	483	70	524	76	476	69
657G	40.5/75R39	★★	586	85	517	75	600	87	600	87

Tires

Standard Cold Inflation Pressures

- Articulated Trucks — Radial Ply
- Construction and Mining Trucks and Tractors — Radial Ply

Optimal pressures may vary depending on specific applications and working conditions. Always consult your local tire supplier for operating pressures.

ARTICULATED TRUCKS — Radial Ply

Model	Tire Size	Ply Rating	Inflation Pressure											
			Michelin						Goodyear					
			Front		Center		Rear		Front		Center		Rear	
			kPa	psi	kPa	psi	kPa	psi	kPa	psi	kPa	psi	kPa	psi
725	23.5R25 750/65R25	★★	345	50	379	55	379	55	372	54	372	54	379	55
		★★	276	40	310	45	310	45					310	45
730	23.5R25 750/65R25	★★	414	60	448	65	448	65	372	54	448	65	414	60
		★★	310	45	345	50	345	50	303	44	352	51	345	50
730 EJ	750/65R25	★★	345	50	379	55	379	55	276	40	400	58	400	58
735	26.5R25 850/65R25	★★	448	65	448	65	448	65	448	65	400	58	400	58
		★★	345	50	345	50	345	50					483	70
740	29.5R25 850/65R25	★★	379	55	414	60	414	60	372	54	372	54	448	65
		★★	379	55	414	60	414	60					414	60
740 EJ	29.5R25	★★	379	55	448	65	448	65	324	47	427	65	427	62

CONSTRUCTION AND MINING TRUCKS — Radial Ply

Model	Tire Size	Strength Index	Inflation Pressure									
			Michelin				Goodyear				Bridgestone	
			Front		Rear		Front		Rear		Front	Rear
			kPa	psi	kPa	psi	kPa	psi	kPa	psi	kPa	psi
770	18.00R33	★★, ★★★	752	109	752	109	800	116	800	116	800	116
772	21.00R33	★★	703	102	703	102	703	102	703	102	689	100
773F	24.00R35	★★	703	102	703	102	676	98	600	87	689	100
775F	24.00R35	★★	703	102	703	102	703	102	703	102	689	100
777D	27.00R49	★★	703	102	703	102	724	105	724	105	689	100
777F	27.00R49	★★	703	102	703	102	724	105	724	105	689	100
785C	33.00R51	★★	703	102	703	102	800	116	800	116	724	105
785D	33.00R51	★★	703	102	703	102	800	116	800	116	724	105
789C	37.00R57	★★	655	95	655	95	752	109	752	109	724	105
793D	40.00R57 46/90R57	★★	703	102	752	109	752	109	752	109	724	105
		★★					752	109	752	109	689	100
793F	40.00R57 46/90R57 50/80R57	★★	752	109	752	109						
		★★					772	112	724	105	689	100
		★★	655	95	655	95						
797F	59/80R63	★★	703	102	703	102					Consult Bridgestone	

Optimal pressures may vary depending on specific applications and working conditions. Always consult your local tire supplier for operating pressures.

WHEEL LOADERS — Bias and Bias Belted

Model	Tire Size	Strength Index	Inflation Pressure ¹							
			Goodyear				Bridgestone/Firestone			
			Front		Rear		Front		Rear	
			kPa	psi	kPa	psi	kPa	psi	kPa	psi
904H	12-16.5 33-15.5x16.5	10 12					241	35	172	25
914G	15.5-25 17.5-25	12 12								
924H	17.5-25 20.5-25	12 12	352 248	51 36	248 207	36 30				
924Hz	17.5-25 20.5-25	12 12								
928Hz	17.5-25 20.5-25 23.1-26	12 12 14								
930H	17.5-25 20.5-25 23.1-26	12 12 14								
938H	20.5-25	16, 20	400	58	276	40	310	45	207	30
950H	23.5-25	16, 20	400	54	276	40	345	50	207	30
962H	23.5-25	16, 20	427	62	276	40	379	55	241	35
966H	26.5-25	20, 26	448	65	276	40	414	60	276	40
972H	26.5-25	20, 26	476	69	303	44	448	65	276	40
980H	29.5-25	22, 28	427	62	276	40	586	85	379	55
988H	35/65-33	42	627	91	427	62	655	95	414	60
990H	41.25/70-39	42	552	80	352	51	586	85	414	60
992K	45/65-45	58	469	95	503	73	724	105	483	70
993K	50/65-51	62					724	105	483	70
994F	49.5/85-57	76					724	105	483	70
	50/80-57	68					724	105	483	70
	52/80-57	68								
	53.5/85-57	76	600	87	400	58	724	105	483	70
	58/85-57	84					724	105	483	70

¹For pressures not listed, consult your local tire supplier for operating pressures.

Tires

- Standard Cold Inflation Pressures
- Log Loaders — Bias and Bias Belted
 - Integrated Toolcarriers — Bias and Bias Belted

Optimal pressures may vary depending on specific applications and working conditions. Always consult your local tire supplier for operating pressures.

LOG LOADERS — Bias and Bias Belted

Model	Tire Size	Strength Index	Inflation Pressure							
			Goodyear				Bridgestone/Firestone			
			Front		Rear		Front		Rear	
			kPa	psi	kPa	psi	kPa	psi	kPa	psi
IT14G	15.5-25 17.5-25	12 12					Consult Bridgestone/Firestone			
924H Versalink	17.5-25 20.5-25	12 12	352	51	248	36				
930H Versalink	20.5-25	12								
938H	20.5-25	16, 20	400	58	276	40	310	45	207	30
950H	23.5-25	20	372	54	276	40	345	50	207	30
966H	26.5-25	20, 26	448	65	276	40	414	60	276	40
980H	29.5-25	28	427	62	276	40	586	85	379	55
988H	35/65-33	42					655	95	414	60

NOTE: Contact your tire supplier to obtain or confirm proper Log Loader pressures.

INTEGRATED TOOLCARRIERS — Bias and Bias Belted

Model	Tire Size	Strength Index	Inflation Pressure							
			Goodyear				Bridgestone/Firestone			
			Front		Rear		Front		Rear	
			kPa	psi	kPa	psi	kPa	psi	kPa	psi
IT14G	15.5-25 17.5-25		310 276	45 40	207 172	30 25	Consult Bridgestone/Firestone			
924H Versalink	17.5-25 20.5-25		310 276	45 40	241 207	35 30				
930H Versalink	20.5-25		276	40	207	30				
IT38H	20.5-25		400	58	276	40	379	55	276	40
IT62H	23.5-25		372	54	248	36	345	50	207	30

NOTE: Contact your tire supplier to obtain or confirm pressures.

Optimal pressures may vary depending on specific applications and working conditions. Always consult your local tire supplier for operating pressures.

WHEEL LOADERS — Radial Ply

Model	Tire Size	Strength Index	Inflation Pressure											
			Michelin				Goodyear				Bridgestone			
			Front		Rear		Front		Rear		Front		Rear	
906H	340/80R18	★	kPa	psi	kPa	psi	kPa	psi	kPa	psi	kPa	psi	kPa	psi
	405/70R18	★									317	46	317	46
	335/80R18	★	310	45	207	30								
	340/80R18	★	276	40	207	30								
908H	375/75R20	★	276	40	207	30								
914G	17.5R25	★	241	35	207	30					414	60	276	40
924H	17.5R25	★	276	40	207	30					414	60	310	45
	550/65R25	★												
	20.5R25	★	276	40	207	30	324	47	228	33	414	60	276	40
924Hz	17.5R25	★									414	60	310	45
	20.5R25	★	276	40	207	30					414	60	276	40
928Hz	17.5R25	★	345	55	207	30								
	20.5R25	★	276	40	207	30					414	60	310	45
	600/65R25	★	276	45	207	30								
930H	17.5R25	★	345	50	207	30					483	70	310	45
	20.5R25	★	276	40	207	30					414	60	310	45
	600/65R25	★	276	45	207	30								
938H	20.5R25	★	345	50	207	30	448	65	303	44	310	45	207	30
	550/65R25	★	379	55	241	35								
	650/65R25	★	276	40	207	30					276	40	172	25
950H	23.5R25	★, ★★	310	45	207	30	476	69	303	44	345	50	207	30
	650/65R25	★	379	55	207	30								
	750/65R25	★	345	50	207	30					310	45	172	25
962H	23.5R25	★, ★★	345	50	207	30	476	69	303	44	379	55	241	35
966H	26.5R25	★, ★★	414	60	241	35	448	65	303	44	414	60	276	40
	750/65R25	★	379	55	241	35								
972H	26.5R25	★, ★★	448	65	241	35	476	69	303	44	448	65	276	40
	750/65R25	★	379	55	241	35								
980H	29.5R25	★, ★★	517	75	276	40	503	73	303	44	586	85	379	55
988H	35/65R33	★, ★★	586	85	414	60	627	91	427	62	793	115	524	76
990H	45/65R39	★	586	85	345	50	552	80	352	51	621	90	483	70
992K	45/65R45	★	621	90	414	60								
	45/65R45	★★					655	95	503	73	724	105	483	70
993K	50/65R51	★★	621	90	414	60					724	105	483	70
994F	55/80R57	★	703	102	586	85								
	55.5/80R57	★★									724	105	483	70

NOTE: Bridgestone/Firestone inflation pressure for Giant Loader Tires (992K and above) are in reference to applications without chains. For use with chains please consult your Bridgestone/Firestone representative.

Tires

- Standard Cold Inflation Pressures
- Log Loaders — Radial Ply
 - Integrated Toolcarriers — Radial Ply

Optimal pressures may vary depending on specific applications and working conditions. Always consult your local tire supplier for operating pressures.

LOG LOADERS — Radial Ply

Model	Tire Size	Strength Index	Inflation Pressure							
			Michelin				Goodyear			
			Front		Rear		Front		Rear	
			kPa	psi	kPa	psi	kPa	psi	kPa	psi
IT14G	15.5R25	★	414	60	276	40			345	50
	17.5R25	★	345	50	207	30	414	60	345	50
924H	17.5R25	★	414	60	207	30	427	62	276	40
	20.5R25	★	310	45	207	30	324	47	228	33
	550/65R25	★	310	45	207	30	324	47	228	33
930H	20.5R25	★	379	55	207	30	414	60	345	50
	650/65R25	★	310	45	207	30			414	60
938H	20.5R25	★	414	60	276	40	448	65	303	44
	550/65R25	★	414	60	241	35				
	600/65R25	★								
	650/65R25	★	345	50	207	30				
950H	23.5R25	★, ★★	414	60	276	40	476	69	303	44
	650/65R25	★	345	50	241	35			345	50
	750/65R25	★	276	40	207	30				
966H	26.5R25	★, ★★	414	60	276	40	448	65	303	44
	750/65R25	★	414	60	276	40			414	60
980H	29.5R25	★, ★★	517	75	276	40	503	73	303	44
988H	35/65R33	★, ★★	621	90	414	60	800	116	600	87
									655	95
									414	60

NOTE: Contact your tire supplier to obtain or confirm proper Log Loader pressures.

INTEGRATED TOOLCARRIERS — Radial Ply

Model	Tire Size	Strength Index	Inflation Pressure							
			Michelin				Goodyear			
			Front		Rear		Front		Rear	
			kPa	psi	kPa	psi	kPa	psi	kPa	psi
IT14G	15.5R25	★	276	40	207	30			345	50
	17.5R25	★	241	35	207	30	414	60	207	30
924H	17.5R25	★	345	50	207	30	414	60	345	50
	20.5R25	★	310	45	207	30	414	60	345	50
	550/65R25	★	276	40	207	30			414	60
930H	17.5R25	★	345	50	207	30	414	60	345	50
	20.5R25	★	276	40	207	30	414	60	345	50
	550/65R25	★							414	60
	600/65R25	★	310	45	207	30				
IT38H	20.5R25	★	276	40	207	30	427	62	276	40
IT62H	23.5R25	★	276	40	207	30	427	62	345	50
									207	30

NOTE: Contact your tire supplier to obtain or confirm pressures.

Optimal pressures may vary depending on specific applications and working conditions. Always consult your local tire supplier for operating pressures.

WHEEL TRACTORS — Bias Ply

Model	Tire Size	Ply Rating or Strength Index	Inflation Pressure							
			Goodyear				Bridgestone/Firestone			
			Front		Rear		Front		Rear	
			kPa	psi	kPa	psi	kPa	psi	kPa	psi
814F2	23.5-25	12, 20	248	36	228	33				
824H	29.5-25	22, 28	248	36	248	36	276	40	276	40
834H	35/65-33	24, 30, 42	324	47	324	47	345	50	345	50
844H	41.25/70-39	34, 42	303	44	303	44	414	60	414	60
854K	45/65-45	58	400	58	400	58	517	75	448	65

WHEEL TRACTORS — Radial Ply

Model	Tire Size	Ply Rating or Strength Index	Inflation Pressure							
			Michelin		Goodyear		Bridgestone			
			Front		Rear		Front		Rear	
			kPa	psi	kPa	psi	kPa	psi	kPa	psi
814F2	23.5R25 26.5R25	★ ★	310 276	45 40	310 276	45 40				
824H	29.5R25	★, ★★	276	40	276	40	303	44	303	44
834H	35/65R33 875/65R33	★ ★★	379	50	379	50	400 400	58 58	400 400	58 58
844H	45/65R39	★	379	55	345	50	400	58	400	58
854K	45/65R45 45/65R45	★ ★★	483	60	483	60	427	62	427	62

Optimal pressures may vary depending on specific applications and working conditions. Always consult your local tire supplier for operating pressures.

UNDERGROUND MINING — Bias and Radial Ply

LOAD – HAUL – DUMP			Inflation Pressure							
Model	Tire Size	Ply Rating	Bridgestone Bias				Bridgestone Radial			
			Front		Rear		Front		Rear	
			kPa	psi	kPa	psi	kPa	psi	kPa	psi
R1300G	17.5R25 17.5-25	★★ 20	689	100	586	85	689	100	586	85
R1600G	18.00R25 18.00-25	★★ 32	676	100	414	60	689	100	407	60
R1700G	26.5R25 26.5-25	★★ 36	621	90	414	60	621	90	414	60
R2900G	29.5R29 35/65R33 29.5-29	★, ★★ ★★ 34	586	85	414	60	621 655	90 95	414 414	60 60
ARTICULATED TRUCKS										
AD30	26.5R25	★, ★★					586	85	621	90
AD45B	29.5R29	★, ★★					655	90	655	95
AD55B	35/65R33	★★					648	95	648	95

BIAS PLY TIRES

RADIAL PLY TIRES

Tire Size	Weight Increase Per Tire		Mixing Proportions				Weight Increase Per Tire		Mixing Proportions			
			CaCl		Water				CaCl		Water	
	kg	lb	kg	lb	L	gal	kg	lb	kg	lb	L	gal
13.00-24TG	188	414	55	122	132	35	185	407	57	125	128	34
14.00-24TG	215	475	63	140	151	40	256	565	79	173	179	47
15.5-25	192	423	56	125	136	36	224	493	69	151	155	41
16.00-24TG	333	735	98	217	234	62	355	783	109	240	246	65
17.5-25	262	577	77	170	185	49	311	686	95	210	216	57
18.00-25	454	1002	134	296	322	85	502	1107	154	340	348	92
18.4-34	417	919	123	272	295	78	—	—	—	—	—	—
20.5-25	405	892	119	263	284	75	448	987	137	303	310	82
23.1-26	522	1151	154	340	367	97	—	—	—	—	—	—
23.5-25	585	1291	173	382	412	109	633	1396	194	428	439	116
24.5-32	703	1549	207	458	496	131	—	—	—	—	—	—
26.5-25	758	1671	224	494	533	141	841	1853	258	568	583	154
26.5-29	752	1658	222	490	530	140	928	2045	284	627	644	170
28L-26	709	1563	209	462	500	132	—	—	—	—	—	—
29.5-25	970	2139	286	632	685	181	1073	2368	328	723	745	197
29.5-29	1050	2315	310	684	738	195	1190	2623	365	804	825	218
29.5-35	1159	2556	344	758	821	217	1286	2835	394	869	892	236
30.5L-32	874	1928	258	570	617	163	—	—	—	—	—	—
33.25-35	1485	3275	439	968	1048	277	1592	3508	487	1074	1105	292
37.25-35	1712	3775	505	1115	1211	320	2128	4692	653	1439	1476	390
38-39	1870	4123	552	1218	1317	348	—	—	—	—	—	—
35/65-33	1339	2953	396	873	942	249	1430	3152	438	967	992	262
40/65-39	2077	4580	614	1353	1465	387	2194	4836	673	1483	1522	402
41.25/70-39	1897	4183	561	1236	1336	353	—	—	—	—	—	—
45/65-45	2548	5617	753	1659	1794	474	—	—	—	—	—	—

NOTE: Ballast weight for bias ply tires from Goodyear data, radial ply weights from Michelin data. Contact your tire supplier for additional information. Under abnormal tire wear conditions, ballasting of rear tires may be desirable. Ballasting of front tires also should only be done where extremely rapid tire wear rates are encountered. Excessive weight will reduce machine performance.

NOTE: Fillage beyond 75% of tire enclosed volume is not recommended. With liquid ballasting, inflation pressure must be checked at least once per day.

NOTE: 1.6 kg (3½ lb) Calcium Chloride per gallon water. Solution weighs 4.6 kg (10.15 lb) per gallon.

NOTE: Total machine mass including all attachments in operating condition, all reservoirs at full capacity and ballasted tires must not exceed certification mass listed on the ROPS certification label.

NOTE: Special air to water valves are required for liquid filled tires.

MINING AND EARTHMOVING

22

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INTRODUCTION

This section explains the earthmoving principles used to determine machine productivity. It shows how to calculate production on-the-job or estimate production off-the-job.

Machine performance is usually measured on an hourly basis in terms of machine productivity and machine owning and operating cost. Optimum machine performance can be expressed as follows:

$$\text{Lowest cost per ton} = \frac{\text{Lowest Possible Hourly Costs}}{\text{Highest Possible Hourly Productivity}}$$

ELEMENTS OF PRODUCTION

Production is the hourly rate at which material is moved. Production can be expressed in various units:

Metric

Bank Cubic Meters — BCM — bank m³
 Loose Cubic Meters — LCM — loose m³
 Compacted Cubic Meters — CCM — compacted m³
 Tonnes

English

Bank Cubic Yards — BCY — bank yd³
 Loose Cubic Yards — LCY — loose yd³
 Compacted Cubic Yards — CCY — compacted yd³
 Tons

For most earthmoving and material handling applications, production is calculated by multiplying the quantity of material (load) moved per cycle by the number of cycles per hour.

$$\text{Production} = \text{Load/cycle} \times \text{cycles/hour}$$

The load can be determined by

- 1) load weighing with scales
- 2) load estimating based on machine rating
- 3) surveyed volume divided by load count
- 4) machine payload measurement system

Generally, earthmoving and overburden removal for coal mines are calculated by volume (bank cubic meters or bank cubic yards). Metal mines and aggregate producers usually work in weight (tons or tonnes).

Volume Measure — Material volume is defined according to its state in the earthmoving process. The three measures of volume are:

- BCM (BCY) — one cubic meter (yard) of material as it lies in the natural bank state.
- LCM (LCY) — one cubic meter (yard) of material which has been disturbed and has swelled as a result of movement.
- CCM (CCY) — one cubic meter (yard) of material which has been compacted and has become more dense as a result of compaction.

In order to estimate production, the relationships between bank measure, loose measure, and compacted measure must be known.

Swell — Swell is the percentage of original volume (cubic meters or cubic yards) that a material increases when it is removed from the natural state. When excavated, the material breaks up into different size particles that do not fit together, causing air pockets or voids to reduce the weight per volume. For example to hold the same weight of one cubic unit of bank material it takes 30% more volume (1.3 times) after excavation. (Swell is 30%.)

$$1 + \text{Swell} = \frac{\text{Loose cubic volume for a given weight}}{\text{Bank cubic volume for the same given weight}}$$

$$\text{Bank} = \frac{\text{Loose}}{(1 + \text{Swell})}$$

$$\text{Loose} = \text{Bank} \times (1 + \text{Swell})$$

Example Problem:

If a material swells 20%, how many loose cubic meters (loose cubic yards) will it take to move 1000 bank cubic meters (1308 bank cubic yards)?

$$\begin{aligned} \text{Loose} &= \text{Bank} \times (1 + \text{Swell}) = \\ &1000 \text{ BCM} \times (1 + 0.2) = 1200 \text{ LCM} \\ &1308 \text{ BCY} \times (1 + 0.2) = 1570 \text{ LCY} \end{aligned}$$

How many bank cubic meters (yards) were moved if a total of 1000 loose cubic meters (1308 yards) have been moved? Swell is 25%.

$$\begin{aligned} \text{Bank} &= \text{Loose} \div (1 + \text{Swell}) = \\ &1000 \text{ LCM} \div (1 + 0.25) = 800 \text{ BCM} \\ &1308 \text{ LCY} \div (1 + 0.25) = 1046 \text{ BCY} \end{aligned}$$

Load Factor — Assume one bank cubic yard of material weighs 3000 lb. Because of material characteristics, this bank cubic yard swells 30% to 1.3 loose cubic yards when loaded, with no change in weight. If this 1.0 bank cubic yard or 1.3 loose cubic yards is compacted, its volume may be reduced to 0.8 compacted cubic yard, and the weight is still 3000 lb.

Instead of dividing by 1 + Swell to determine bank volume, the loose volume can be multiplied by the load factor.

If the percent of material swell is known, the load factor (L.F.) may be obtained by using the following relationship:

$$\text{L.F.} = \frac{100\%}{100\% + \% \text{ swell}}$$

Load factors for various materials are listed in the Tables Section of this handbook.

To estimate the machine payload in bank cubic yards, the volume in loose cubic yards is multiplied by the load factor:

$$\text{Load (BCY)} = \text{Load (LCY)} \times \text{L.F.}$$

The ratio between compacted measure and bank measure is called shrinkage factor (S.F.):

$$\text{S.F.} = \frac{\text{Compacted cubic yards (CCY)}}{\text{Bank cubic yards (BCY)}}$$

Shrinkage factor is either estimated or obtained from job plans or specifications which show the conversion from compacted measure to bank measure. Shrinkage factor should not be confused with percentage compaction (used for specifying embankment density, such as Modified Proctor or California Bearing Ratio [CBR]).

Material Density — Density is the weight per unit volume of a material. Materials have various densities depending on particle size, moisture content and variations in the material. The denser the material the more weight there is per unit of equal volume. Density estimates are provided in the Tables Section of this handbook.

$$\text{Density} = \frac{\text{Weight}}{\text{Volume}} = \frac{\text{kg (lb)}}{\text{m}^3 (\text{yd}^3)}$$

$$\text{Weight} = \text{Volume} \times \text{Density}$$

A given material's density changes between bank and loose. One cubic unit of loose material has less weight than one cubic unit of bank material due to air pockets and voids. To correct between bank and loose use the following equations.

$$1 + \text{Swell} = \frac{\text{kg/BCM}}{\text{kg/LCM}} \text{ or } \frac{\text{lb/BCY}}{\text{lb/LCY}}$$

$$\text{lb/LCY} = \frac{\text{lb/BCY}}{(1 + \text{Swell})}$$

$$\text{lb/BCY} = \text{lb/LCY} \times (1 + \text{Swell})$$

Fill Factor — The percentage of an available volume in a body, bucket, or bowl that is actually used is expressed as the fill factor. A fill factor of 87% for a hauler body means that 13% of the rated volume is not being used to carry material. Buckets often have fill factors over 100%.

Example Problem:

A 14 cubic yard (heaped 2:1) bucket has a 105% fill factor when operating in a shot sandstone (4125 lb/BCY and a 35% swell).

- What is the loose density of the material?
 - What is the usable volume of the bucket?
 - What is the bucket payload per pass in BCY?
 - What is the bucket payload per pass in tons?
- $\text{lb/LCY} = \text{lb/BCY} \div (1 + \text{Swell}) = 4125 \div (1.35) = 3056 \text{ lb/LCY}$
 - $\text{LCY} = \text{rated LCY} \times \text{fill factor} = 14 \times 1.05 = 14.7 \text{ LCY}$
 - $\text{lb/pass} = \text{volume} \times \text{density lb/LCY} = 14.7 \times 3056 = 44,923 \text{ lb}$
 $\text{BCY/pass} = \text{weight} \div \text{density lb/BCY} = 44,923 \div 4125 = 10.9 \text{ BCY}$
 or bucket LCY from part b $\div (1 + \text{Swell}) = 14.7 \div 1.35 = 10.9 \text{ BCY}$
 - $\text{tons/pass} = \text{lb} \div 2000 \text{ lb/ton} = 44,923 \div 2000 = 22.5 \text{ tons}$

Example Problem:

Construct a 10,000 compacted cubic yard (CCY) bridge approach of dry clay with a shrinkage factor (S.F.) of 0.80. Haul unit is rated 14 loose cubic yards struck and 20 loose cubic yards heaped.

- How many bank yards are needed?
- How many loads are required?

$$\text{a) } \text{BCY} = \frac{\text{CCY}}{\text{S.F.}} = \frac{10,000}{0.80} = 12,500 \text{ BCY}$$

$$\begin{aligned} \text{b) } \text{Load (BCY)} &= \text{Capacity (LCY)} \\ &\times \text{Load factor (L.F.)} = 20 \times 0.81 \\ &= 16.2 \text{ BCY/Load} \end{aligned}$$

(L.F. of 0.81 from Tables)

$$\begin{aligned} \text{Number of} \\ \text{loads required} &= \frac{12,500 \text{ BCY}}{16.2 \text{ BCY/Load}} = 772 \text{ Loads} \end{aligned}$$

• • •

Soil Density Tests — There are a number of acceptable methods that can be used to determine soil density. Some that are currently in use are:

Nuclear density moisture gauge
 Sand cone method
 Oil method
 Balloon method
 Cylinder method

All these except the nuclear method use the following procedure:

1. Remove a soil sample from bank state.
2. Determine the volume of the hole.
3. Weigh the soil sample.
4. Calculate the bank density kg/BCM (lb/BCY).

The nuclear density moisture gauge is one of the most modern instruments for measuring soil density and moisture. A common radiation channel emits either neutrons or gamma rays into the soil. In determining soil density, the number of gamma rays absorbed and back scattered by soil particles is *indirectly* proportional to the soil density. When measuring moisture content, the number of moderated neutrons reflected back to the detector after colliding with hydrogen particles in the soil is *directly* proportional to the soil's moisture content.

All these methods are satisfactory and will provide accurate densities when performed correctly. Several repetitions are necessary to obtain an average.

NOTE: Several newer methods have been successfully applied, along with weigh scales to determine volume and loose density of material moved in hauler bodies. These measurements include photogrammatic and laser scanning technologies.

- Load Weighing
- Time Studies
- Example (English)

FIGURING PRODUCTION ON-THE-JOB

Load Weighing — The most accurate method of determining the actual load carried is by weighing. This is normally done by weighing the haul unit one wheel or axle at a time with portable scales. Any scales of adequate capacity and accuracy can be used. While weighing, the machine should be level to reduce error caused by weight transfer. Enough loads should be weighed to provide a good average. Machine weight is the sum of the individual wheel or axle weights.

The weight of the load can be determined using the empty and loaded weight of the unit.
Weight of

load = gross machine weight – empty weight

To determine the bank cubic measure carried by a machine, the load weight is divided by the bank-state density of the material being hauled.

$$BCY = \frac{\text{Weight of load}}{\text{Bank density}}$$

Times Studies — To estimate production, the number of complete trips a unit makes per hour must be determined. First obtain the unit's cycle time with the help of a stop watch. Time several complete cycles to arrive at an average cycle time. By allowing the watch to run continuously, different segments such as load time, wait time, etc. can be recorded for each cycle. Knowing the individual time segments affords a good opportunity to evaluate the balance of the spread and job efficiency. The following is an example of a scraper load time study form. Numbers in the white columns are stop watch readings; numbers in the shaded columns are calculated:

Total Cycle Times (less delays)	Arrive Cut	Wait Time	Begin Load	Load Time	End Load	Begin Delay	Delay Time	End Delay
	0.00	0.30	0.30	0.60	0.90			
3.50	3.50	0.30	3.80	0.65	4.45			
4.00	7.50	0.35	7.85	0.70	8.55	9.95	1.00	10.95
4.00	12.50	0.42	12.92	0.68	13.60			

NOTE: All numbers are in minutes

This may be easily extended to include other segments of the cycle such as haul time, dump time, etc. Haul roads may be further segmented to more accurately define performance, including measured speed traps. Similar forms can be made for pushers, loaders, dozers, etc. *Wait Time* is the time a unit must wait for another unit so that the two can function together (haul unit waiting for pusher). *Delay*

Time is any time, other than wait time, when a machine is not performing in the work cycle (scraper waiting to cross railroad track).

To determine trips-per-hour at 100% efficiency, divide 60 minutes by the average cycle time less all wait and delay time. Cycle time may or may not include wait and/or delay time. Therefore, it is possible to figure different kinds of production: measured production, production without wait or delay, maximum production, etc. For example:

Actual Production: includes all wait and delay time.

Normal Production (without delays): includes wait time that is considered normal, but no delay time.

Maximum Production: to figure maximum (or optimum) production, both wait time and delay time are eliminated. The cycle time may be further altered by using an optimum load time.

Example (English)

A job study of a Wheel Tractor-Scraper might yield the following information:

- Average wait time = 0.28 minute
- Average load time = 0.65
- Average delay time = 0.25
- Average haul time = 4.26
- Average dump time = 0.50
- Average return time = 2.09
- Average total cycle = 8.03 minutes
- Less wait & delay time = 0.53
- Average cycle 100% eff. = 7.50 minutes

Weight of haul unit empty — 48,650 lb

Weights of haul unit loaded —

Weighing unit #1 — 93,420 lb

Weighing unit #2 — 89,770 lb

Weighing unit #3 — 88,760 lb

$$271,950 \text{ lb};$$

$$\text{average} = 90,650 \text{ lb}$$

1. Average load weight = 90,650 lb – 48,650 lb = 42,000 lb
2. Bank density = 3125 lb/BCY
3. Load =
$$\frac{\text{Weight of load}}{\text{Bank density}}$$
$$= \frac{42,000 \text{ lb}}{3125 \text{ lb/BCY}} = 13.4 \text{ BCY}$$
4. Cycles/hr =
$$\frac{60 \text{ min/hr}}{\text{Cycle time}} = \frac{60 \text{ min/hr}}{7.50 \text{ min/cycle}} = 80 \text{ cycles/hr}$$
5. Production = Load/cycle × cycles/hr
(less delays) = 13.4 BCY/cycle × 8.0 cycles/hr
= 107.2 BCY/hr

Example (Metric)

A job study of a Wheel Tractor-Scraper might yield the following information:

Average wait time	= 0.28 minute
Average load time	= 0.65
Average delay time	= 0.25
Average haul time	= 4.26
Average dump time	= 0.50
Average return time	= 2.09
Average total cycle	= 8.03 minutes
Less wait & delay time	= 0.53
Average cycle 100% eff.	= 7.50 minutes

Weight of haul unit empty — 22 070 kg

Weights of haul unit loaded —

Weighing unit #1	— 42 375 kg
Weighing unit #2	— 40 720 kg
Weighing unit #3	— 40 260 kg

123 355 kg;
 average = 41 120 kg

1. Average load weight = 41 120 kg – 22 070 kg = 19 050 kg
2. Bank density = 1854 kg/BCM
3. Load = $\frac{\text{Weight of load}}{\text{Bank density}}$
 $= \frac{19\,050\text{ kg}}{1854\text{ kg/BCM}} = 10.3\text{ BCM}$
4. Cycles/hr = $\frac{60\text{ min/hr}}{\text{Cycle time}} = \frac{60\text{ min/hr}}{7.50\text{ min/cycle}} = 80\text{ cycles/hr}$
5. Production = Load/cycle × cycles/hr
 (less delays) = 10.3 BCM/cycle × 8.0 cycles/hr
 = 82 BCM/hr

• • •

NOTE: The Cat Cycle Timer Program software uses laptop computers in place of stopwatches, organizes the data, and allows study results to be printed.

ESTIMATING PRODUCTION OFF-THE-JOB

It is often necessary to estimate production of earthmoving machines which will be selected for a job. As a guide, the remainder of the section is devoted to discussions of various factors that may affect production. Some of the figures have been rounded for easier calculation.

Rolling Resistance (RR) is a measure of the force that must be overcome to roll or pull a wheel over the ground. It is affected by ground conditions and load — the deeper a wheel sinks into the ground, the higher the rolling resistance. Internal friction and tire flexing also contribute to rolling resistance. Experience has shown that minimum resistance is 1%-1.5% (see Typical Rolling Resistance Factors in Tables section) of the gross machine weight (on tires). A 2% base resistance is quite often used for estimating. Resistance due to tire penetration is approximately 1.5% of the gross machine weight for each inch of tire penetration (0.6% for each cm of tire penetration). Thus rolling resistance can be calculated using these relationships in the following manner:

RR = 2% of GMW + 0.6% of GMW per cm tire penetration

RR = 2% of GMW + 1.5% of GMW per inch tire penetration

It's *not* necessary for the tires to actually penetrate the road surface for rolling resistance to increase above the minimum. If the road surface flexes under load, the effect is nearly the same — the tire is always running “uphill”. Only on very hard, smooth surfaces with a well compacted base will the rolling resistance approach the minimum.

When actual penetration takes place, some variation in rolling resistance can be noted with various inflation pressures and tread patterns.

NOTE: When figuring “pull” requirements for track-type tractors, rolling resistance applies only to the trailed unit's *weight on wheels*. Since tracktype tractors utilize steel wheels moving on steel “roads”, a tractor's rolling resistance is relatively constant and is accounted for in the Drawbar Pull rating.

- Grade Resistance
- Total Resistance
- Traction

Grade Resistance is a measure of the force that must be overcome to move a machine over unfavorable grades (uphill). Grade assistance is a measure of the force that assists machine movement on favorable grades (downhill).

Grades are generally measured in percent slope, which is the ratio between vertical rise or fall and the horizontal distance in which the rise or fall occurs. For example, a 1% grade is equivalent to a 1 m (ft) rise or fall for every 100 m (ft) of horizontal distance; a rise of 4.6 m (15 ft) in 53.3 m (175 ft) equals an 8.6% grade.

$$\frac{4.6 \text{ m (rise)}}{53.3 \text{ m (horizontal distance)}} = 8.6\% \text{ grade}$$

$$\frac{15 \text{ ft (rise)}}{175 \text{ ft (horizontal distance)}} = 8.6\% \text{ grade}$$

Uphill grades are normally referred to as adverse grades and downhill grades as favorable grades. Grade resistance is usually expressed as a positive (+) percentage and grade assistance is expressed as a negative (–) percentage.

It has been found that for each 1% increment of adverse grade an additional 10 kg (20 lb) of resistance must be overcome for each metric (U.S.) ton of machine weight. This relationship is the basis for determining the Grade Resistance Factor which is expressed in kg/metric ton (lb/U.S. ton):

$$\begin{aligned} \text{Grade Resistance Factor} &= 10 \text{ kg/m ton} \times \% \text{ grade} \\ &= 20 \text{ lb/U.S. ton} \times \% \text{ grade} \end{aligned}$$

Grade resistance (assistance) is then obtained by multiplying the Grade Resistance Factor by the machine weight (GMW) in metric (U.S.) tons.

$$\text{Grade Resistance} = \text{GR Factor} \times \text{GMW in metric (U.S.) tons}$$

Grade resistance may also be calculated using percentage of gross weight. This method is based on the relationship that grade resistance is approximately equal to 1% of the gross machine weight for 1% of grade.

$$\text{Grade Resistance} = 1\% \text{ of GMW} \times \% \text{ grade}$$

Grade resistance (assistance) affects both wheel and track-type machines.

Total Resistance is the combined effect of rolling resistance (wheel vehicles) and grade resistance. It can be computed by summing the values of rolling resistance and grade resistance to give a resistance in kilogram (pounds) force.

$$\text{Total Resistance} = \text{Rolling Resistance} + \text{Grade Resistance}$$

Total resistance can also be represented as consisting completely of grade resistance expressed in percent grade. In other words, the rolling resistance component is viewed as a corresponding quantity of additional adverse grade resistance. Using this approach, total resistance can then be considered in terms of percent grade.

This can be done by converting the contribution of rolling resistance into a corresponding percentage of grade resistance. Since 1% of adverse grade offers a resistance of 10 kg (20 lb) for each metric or (U.S.) ton of machine weight, then each 10 kg (20 lb) of resistance per ton of machine weight can be represented as an additional 1% of adverse grade. Rolling resistance in percent grade and grade resistance in percent grade can then be summed to give Total Resistance in percent or Effective Grade. The following formulas are useful in arriving at Effective Grade.

$$\begin{aligned} \text{Rolling Resistance (\%)} &= 2\% + 0.6\% \text{ per cm tire penetration} \\ &= 2\% + 1.5\% \text{ per inch tire penetration} \end{aligned}$$

$$\begin{aligned} \text{Grade Resistance (\%)} &= \% \text{ grade} \\ \text{Effective Grade (\%)} &= \text{RR (\%)} + \text{GR (\%)} \end{aligned}$$

Effective grade is a useful concept when working with Rimpull-Speed-Gradeability curves, Retarder curves, Brake Performance curves, and Travel Time curves.

Traction — is the driving force developed by a wheel or track as it acts upon a surface. It is expressed as usable Drawbar Pull or Rimpull. The following factors affect traction: weight on the driving wheel or tracks, gripping action of the wheel or track, and ground conditions. The coefficient of traction (for any roadway) is the ratio of the maximum pull developed by the machine to the total weight on the drivers.

$$\text{Coeff. of traction} = \frac{\text{Pull}}{\text{weight on drivers}}$$

Therefore, to find the usable pull for a given machine:

$$\text{Usable pull} = \text{Coeff. of traction} \times \text{weight on drivers}$$

Example: Track-Type Tractor

What usable drawbar pull (DBP) can a 26 800 kg (59,100 lb) Track-type Tractor exert while working on firm earth? on loose earth? (See table section for coefficient of traction.)

Answer:

Firm earth — Usable DBP =

$$0.90 \times 26\,800 \text{ kg} = 24\,120 \text{ kg}$$

$$(0.90 \times 59,100 \text{ lb} = 53,190 \text{ lb})$$

Loose earth — Usable DBP =

$$0.60 \times 26\,800 \text{ kg} = 16\,080 \text{ kg}$$

$$(0.60 \times 59,100 \text{ lb} = 35,460 \text{ lb})$$

If a load required 21 800 kg (48,000 lb) pull to move it, this tractor could move the load on firm earth. However, if the earth were loose, the tracks would spin.

NOTE: D8R through D11R Tractors may attain higher coefficients of traction due to their suspended undercarriage.

Example: Wheel Tractor-Scraper

What usable rimpull can a 621F size machine exert while working on firm earth? on loose earth? The total loaded weight distribution of this unit is:

Drive unit

Scraper unit

wheels: 23 600 kg

wheels: 21 800 kg

(52,000 lb)

(48,000 lb)

Remember, use weight on drivers only.

Answer:

Firm earth — $0.55 \times 23\,600 \text{ kg} = 12\,980 \text{ kg}$

$$(0.55 \times 52,000 \text{ lb} = 28,600 \text{ lb})$$

Loose earth — $0.45 \times 23\,600 \text{ kg} = 10\,620 \text{ kg}$

$$(0.45 \times 52,000 \text{ lb} = 23,400 \text{ lb})$$

On firm earth this unit can exert up to 12 980 kg (28,600 lb) rimpull without excessive slipping. However, on loose earth the drivers would slip if more than 10 620 kg (23,400 lb) rimpull were developed.



Altitude — Specification sheets show how much pull a machine can produce for a given gear and speed when the engine is operating at rated horsepower. When a standard machine is operated in high altitudes, the engine may require derating to maintain normal engine life. This engine derating will produce less drawbar pull or rimpull.

The Tables Section gives the altitude derating in percent of flywheel horsepower for current machines. It should be noted that some turbocharged engines can operate up to 4570 m (15,000 ft) before they require derating. Most machines are engineered to operate up to 1500-2290 m (5000-7500 ft) before they require deration.

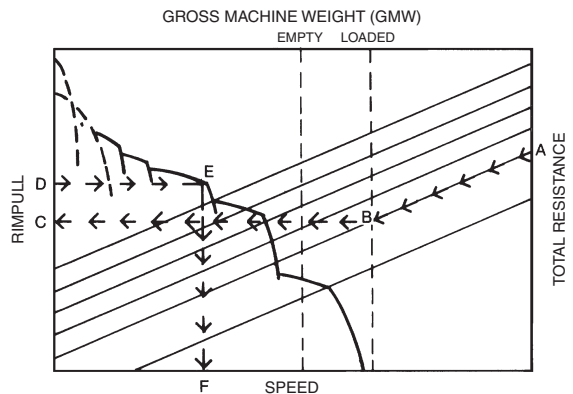
The horsepower deration due to altitude must be considered in any job estimating. The amount of

power deration will be reflected in the machine's gradeability and in the load, travel, and dump and load times (unless loading is independent of the machine itself). Altitude may also reduce retarding performance. Consult a Caterpillar representative to determine if deration is applicable. Fuel grade (heat content) can have a similar effect of derating engine performance.

The example job problem that follows indicates one method of accounting for altitude deration: by increasing the appropriate components of the total cycle time by a percentage equal to the percent of horsepower deration due to altitude. (i.e., if the travel time of a hauling unit is determined to be 1.00 minute at full HP, the time for the same machine derated to 90% of full HP will be 1.10 min.) This is an approximate method that yields reasonably accurate estimates up to 3000 m (10,000 feet) elevation.

Travel time for hauling units derated more than 10% should be calculated as follows using Rimpull-Speed-Gradeability charts.

1) Determine total resistance (grade plus rolling) in percent.



2) Beginning at point A on the chart follow the total resistance line diagonally to its intersection, B, with the vertical line corresponding to the appropriate gross machine weight. (Rated loaded and empty GMW lines are shown dotted.)

3) Using a straight-edge, establish a horizontal line to the left from point B to point C on the rimpull scale.

4) Divide the value of point C as read on the rimpull scale by the percent of total horsepower available after altitude deration from the Tables Section. This yields rimpull value D higher than point C.

- Job Efficiency
- Example Problem (English)

5) Establish a horizontal line right from point D. The farthest right intersection of this line with a curved speed range line is point E.

6) A vertical line down from point E determines point F on the speed scale.

7) Multiply speed in kmh by 16.7 (mph by 88) to obtain speed in m/min (ft/min). Travel time in minutes for a given distance in feet is determined by the formula:

$$\text{Time (min)} = \frac{\text{Distance in m (ft)}}{\text{Speed in m/min (ft/min)}}$$

The Travel Time Graphs in sections on Wheel Tractor-Scrapers and Construction & Mining Trucks can be used as an alternative method of calculating haul and/or return times.

The following example provides a method to manually estimate production and cost. Today, computer programs, such as Caterpillar's Fleet Production and Cost Analysis (FPC), provide a much faster and more accurate means to obtain those application results.

Example problem (English)

A contractor is planning to put the following spread on a dam job. What is the estimated production and cost/BCY?

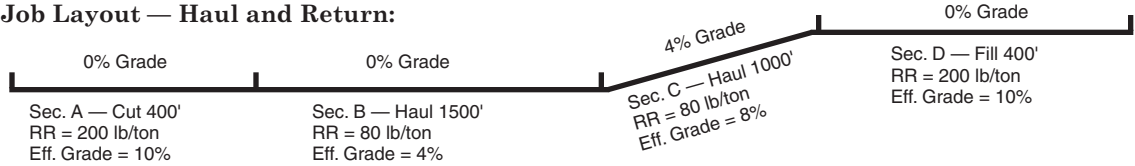
Equipment:

- 11 — 631G Wheel Tractor-Scrapers
- 2 — D9T Tractors with C-dozers
- 2 — 12H Motor Graders
- 1 — 825G Tamping Foot Compactor

Material:

- Description — Sandy clay; damp, natural bed
- Bank Density — 3000 lb/BCY
- Load Factor — 0.80
- Shrinkage Factor — 0.85
- Traction Factor — 0.50
- Altitude — 7500 ft

Job Layout — Haul and Return:



Total Effective Grade = RR (%) ± GR (%)

- Sec. A:** Total Effective Grade = 10% + 0% = 10%
- Sec. B:** Total Effective Grade = 4% + 0% = 4%
- Sec. C:** Total Effective Grade = 4% + 4% = 8%
- Sec. D:** Total Effective Grade = 10% + 0% = 10%

Job Efficiency is one of the most complex elements of estimating production since it is influenced by factors such as operator skill, minor repairs and adjustments, personnel delays, and delays caused by job layout. An approximation of efficiency, if no job data is available, is given below.

Operation	Working Hour	Efficiency Factor
Day	50 min/hr	0.83
Night	45 min/hr	0.75

These factors do not account for delays due to weather or machine downtime for maintenance and repairs. You must account for such factors based on experience and local conditions.

1. Estimate Payload:

Est. load (LCY) × L.F. × Bank Density = payload
31 LCY × 0.80 × 3000 lb/BCY = 74,400 lb payload

2. Establish Machine Weight:

- Empty Wt. — 102,460 lb or 51.27 tons
- Wt. of Load — 74,400 lb or 37.2 tons
- Total (GMW) — 176,860 lb or 88.4 tons

3. Calculate Usable Pull (traction limitation):

Loaded: (weight on driving wheels = 54%) (GMW)

Traction Factor × Wt. on driving wheels =
0.50 × 176,860 lb × 54% = 47,628 lb

Empty: (weight on driving wheels = 69%) (GMW)

Traction Factor × Wt. on driving wheels =
0.50 × 102,460 lb × 69% = 35,394 lb

4. Derate for Altitude:

Check power available at 7500 ft from altitude deration table in the Tables Section.

- 631G — 100% 12H — 83%
- D9T — 100% 825G — 100%

Then adjust if necessary:

Load Time — controlled by D9T, at 100% power, no change.

Travel, Maneuver and Spread time — 631G, no change.

5. Compare Total Resistance to Tractive Effort on haul:

Grade Resistance —

$$\begin{aligned} \text{GR} &= \text{lb/ton} \times \text{tons} \times \text{adverse grade in percent} \\ \text{Sec. C:} &= 20 \text{ lb/ton} \times 88.4 \text{ tons} \times 4\% \text{ grade} = \\ &7072 \text{ lb} \end{aligned}$$

Rolling Resistance —

$$\begin{aligned} \text{RR} &= \text{RR Factor (lb/ton)} \times \text{GMW (tons)} \\ \text{Sec. A:} &= 200 \text{ lb/ton} \times 88.4 \text{ tons} = 17,686 \text{ lb} \\ \text{Sec. B:} &= 80 \text{ lb/ton} \times 88.4 \text{ tons} = 7072 \text{ lb} \\ \text{Sec. C:} &= 80 \text{ lb/ton} \times 88.4 \text{ tons} = 14,144 \text{ lb} \\ \text{Sec. D:} &= 200 \text{ lb/ton} \times 88.4 \text{ tons} = 17,686 \text{ lb} \end{aligned}$$

Total Resistance —

$$\begin{aligned} \text{TR} &= \text{RR} + \text{GR} \\ \text{Sec. A:} &= 17,686 \text{ lb} + 0 = 17,686 \text{ lb} \\ \text{Sec. B:} &= 7072 \text{ lb} + 0 = 7072 \text{ lb} \\ \text{Sec. C:} &= 7072 \text{ lb} + 6496 \text{ lb} = 14,144 \text{ lb} \\ \text{Sec. D:} &= 17,686 \text{ lb} + 0 = 17,686 \text{ lb} \end{aligned}$$

Check usable pounds pull against maximum pounds pull required to move the 631G.

Pull usable ... 47,628 lb loaded

Pull required ... 17,686 lb maximum total resistance

Estimate travel time for haul from 631G (loaded) travel time curve; read travel time from distance and effective grade.

Travel time (from curves):

$$\begin{aligned} \text{Sec. A:} &0.60 \text{ min} \\ \text{Sec. B:} &1.00 \\ \text{Sec. C:} &1.20 \\ \text{Sec. D:} &0.60 \end{aligned}$$

$$3.40 \text{ min}$$

NOTE: This is an estimate only; it does not account for all the acceleration and deceleration time, therefore it is not as accurate as the information obtained from a computer program.

6. Compare Total Resistance to Tractive Effort on return:

Grade Assistance —

$$\begin{aligned} \text{GA} &= 20 \text{ lb/ton} \times \text{tons} \times \text{negative grade in percent} \\ \text{Sec. C:} &= 20 \text{ lb/ton} \times 51.2 \text{ tons} \times 4\% \text{ grade} = \\ &4096 \text{ lb} \end{aligned}$$

Rolling Resistance —

$$\begin{aligned} \text{RR} &= \text{RR Factor} \times \text{Empty Wt (tons)} \\ \text{Sec. D:} &= 200 \text{ lb/ton} \times 51.2 \text{ tons} = 10,240 \text{ lb} \\ \text{Sec. C:} &= 80 \text{ lb/ton} \times 51.2 \text{ tons} = 4091 \text{ lb} \\ \text{Sec. B:} &= 80 \text{ lb/ton} \times 51.2 \text{ tons} = 4091 \text{ lb} \\ \text{Sec. A:} &= 200 \text{ lb/ton} \times 51.2 \text{ tons} = 10,240 \text{ lb} \end{aligned}$$

Total Resistance —

$$\begin{aligned} \text{TR} &= \text{RR} - \text{GA} \\ \text{Sec. D:} &= 10,240 \text{ lb} - 0 = 10,240 \text{ lb} \\ \text{Sec. C:} &= 4096 \text{ lb} - 4096 \text{ lb} = 0 \\ \text{Sec. B:} &= 4096 \text{ lb} - 0 = 4096 \text{ lb} \\ \text{Sec. A:} &= 10,240 \text{ lb} - 0 = 10,240 \text{ lb} \end{aligned}$$

Check usable pounds pull against maximum pounds pull required to move the 631G.
 Pounds pull usable ... 35,349 lb empty
 Pounds pull required ... 10,240 lb
 Estimate travel time for return from 631G empty travel time curve.

Travel time (from curves):

$$\begin{aligned} \text{Sec. D:} &0.40 \text{ min} \\ \text{Sec. C:} &0.55 \\ \text{Sec. B:} &0.80 \\ \text{Sec. A:} &0.40 \\ &\hline &2.15 \text{ min} \end{aligned}$$

7. Estimate Cycle Time:

$$\begin{aligned} \text{Total Travel Time (Haul plus Return)} &= 5.55 \text{ min} \\ \text{Adjusted for altitude: } 100\% \times 5.55 \text{ min} &= 5.55 \text{ min} \\ \text{Load Time} &0.7 \text{ min} \\ \text{Maneuver and Spread Time} &0.7 \text{ min} \\ \text{Total Cycle Time} &6.95 \text{ min} \end{aligned}$$

8. Check pusher-scraper combinations:

Pusher cycle time consists of load, boost, return and maneuver time. Where actual job data is not available, the following may be used.

Boost time = 0.10 minute

Return time = 40% of load time

Maneuver time = 0.15 minute

Pusher cycle time = 140% of load time + 0.25 minute

$$\begin{aligned} \text{Pusher cycle time} &= 140\% \text{ of } 0.7 \text{ min} + 0.25 \text{ minute} \\ &= 0.98 + 0.25 = 1.23 \text{ minute} \end{aligned}$$

Scraper cycle time divided by pusher cycle time indicates the number of scrapers which can be handled by each pusher.

$$\begin{aligned} &\frac{6.95 \text{ min}}{1.23 \text{ min}} = 5.65 \end{aligned}$$

- Example Problem (English)
- Example Problem (Metric)

Each push tractor is capable of handling five plus scrapers. Therefore the two pushers can adequately serve the eleven scrapers.

9. Estimate Production:

$$\begin{aligned}\text{Cycles/hour} &= 60 \text{ min} \div \text{Total cycle time} \\ &= 60 \text{ min/hr} \div 6.95 \text{ min/cycle} \\ &= 8.6 \text{ cycles/hr}\end{aligned}$$

$$\begin{aligned}\text{Estimated load} &= \text{Heaped capacity} \times \text{L.F.} \\ &= 31 \text{ LCY} \times 0.80 \\ &= 24.8 \text{ BCY}\end{aligned}$$

$$\begin{aligned}\text{Hourly unit production} &= \text{Est. load} \times \text{cycles/hr} \\ &= 24.8 \text{ BCY} \times 8.6 \text{ cycles/hr} \\ &= 213 \text{ BCY/hr}\end{aligned}$$

$$\begin{aligned}\text{Adjusted production} &= \text{Efficiency factor} \times \text{hourly production} \\ &= 0.83 (50 \text{ min hour}) \times 213 \text{ BCY} \\ &= 177 \text{ BCY/hr}\end{aligned}$$

$$\begin{aligned}\text{Hourly fleet production} &= \text{Unit production} \times \text{No. of units} \\ &= 177 \text{ BCY/hr} \times 11 \\ &= 1947 \text{ BCY/hr}\end{aligned}$$

10. Estimate Compaction:

$$\begin{aligned}\text{Compaction requirement} &= \text{S.F.} \times \text{hourly fleet production} \\ &= 0.85 \times 1947 \text{ BCY/hr} \\ &= 1655 \text{ CCY/hr}\end{aligned}$$

Compaction capability (given the following):

$$\begin{aligned}\text{Compacting width, 7.4 ft} & \quad (W) \\ \text{Average compacting speed, 6 mph} & \quad (S) \\ \text{Compacted lift thickness, 7 in} & \quad (L) \\ \text{No. of passes required, 3} & \quad (P)\end{aligned}$$

$$\begin{aligned}\text{825G production} &= \\ \text{CCY/hr} &= \frac{W \times S \times L \times 16.3}{P} \quad (\text{conversion constant}) \\ &= \frac{7.4 \times 6 \times 7 \times 16.3}{3} \\ &= 1688 \text{ CCY/hr}\end{aligned}$$

Given the compaction requirement of 1655 CCY/hr, the 825G is an adequate compactor match-up for the rest of the fleet. However, any change to job layout that would increase fleet production would upset this balance.

11. Estimate Total Hourly Cost:

631G	@ \$65.00/hr × 11 units	\$715.00
D9T	@ 75.00/hr × 2 units	150.00
12H	@ 15.00/hr × 2 units	30.00
825G	@ 40.00/hr × 1 unit	40.00
Operators	@ 20.00/hr × 16 men	320.00

Total Hourly Owning and Operating Cost	\$1,255.00
--	------------

12. Calculate Performance:

$$\begin{aligned}\text{Cost per BCY} &= \frac{\text{Total cost/hr}}{\text{Production/hr}} \\ &= \frac{\$1,255.00}{1947 \text{ BCY/hr}} \\ &= 64¢ \text{ BCY}\end{aligned}$$

NOTE: Ton-MPH calculations should be made to judge the ability of the tractor-scraper tires to operate safely under these conditions.

13. Other Considerations:

If other equipment such as rippers, water wagons, discs or other miscellaneous machines are needed for the particular operation, then these machines must also be included in the cost per BCY.



Example problem (Metric)

A contractor is planning to put the following spread on a dam job. What is the estimated production and cost/BCM?

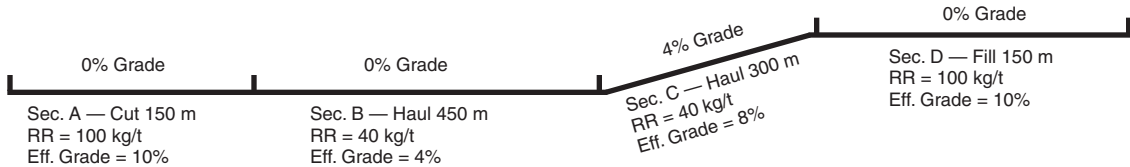
Equipment:

- 11 — 631G Wheel Tractor-Scrapers
- 2 — D9T Tractors with C-dozer
- 2 — 12H Motor Graders
- 1 — 825G Tamping Foot Compactor

Material:

- Description — Sandy clay; damp, natural bed
- Bank Density — 1770 kg/BCM
- Load Factor — 0.80
- Shrinkage Factor — 0.85
- Traction Factor — 0.50
- Altitude — 2300 meters

Job Layout — Haul and Return:



22

Total Effective Grade = RR (%) ± GR (%)

Sec. A: Total Effective Grade = 10% + 0% = 10%

Sec. B: Total Effective Grade = 4% + 0% = 4%

Sec. C: Total Effective Grade = 4% + 4% = 8%

Sec. D: Total Effective Grade = 10% + 0% = 10%

1. Estimate Payload:

Est. load (LCM) × L.F. × Bank Density = payload
 $24 \text{ LCM} \times 0.80 \times 1770 \text{ kg/BCM} = 34\,000 \text{ kg payload}$

2. Machine Weight:

Empty Wt. — 46 475 kg or 46.48 metric tons

Wt. of Load — 34 000 kg or 34 metric tons

Total (GMW) — 80 475 kg or 80.48 metric tons

3. Calculate Usable Pull (traction limitation):

Loaded: (weight on driving wheels = 54%) (GMW)

Traction Factor × Wt. on driving wheels =

$0.50 \times 80\,475 \text{ kg} \times 54\% = 21\,728 \text{ kg}$

Empty: (weight on driving wheels = 69%) (GMW)

Traction Factor × Wt. on driving wheels =

$0.50 \times 46\,475 \text{ kg} \times 69\% = 16\,034 \text{ kg}$

4. Derate for Altitude:

Check power available at 2300 m from altitude deration table in the Tables Section.

631G — 100% 12H — 83%

D9T — 100% 825G — 100%

Then adjust if necessary:

Load Time — controlled by D9T, at 100% power, no change.

Travel, Maneuver and Spread time — 631G, no change.

5. Compare Total Resistance to Tractive Effort on haul:

Grade Resistance —

$\text{GR} = 10 \text{ kg/metric ton} \times \text{tons} \times \text{adverse grade in percent}$

Sec. C: $= 10 \text{ kg/metric ton} \times 80.48 \text{ metric tons} \times 4\% \text{ grade} = 3219 \text{ kg}$

Rolling Resistance —

$\text{RR} = \text{RR Factor (kg/mton)} \times \text{GMW (metric tons)}$

Sec. A: $= 100 \text{ kg/metric ton} \times 80.48 \text{ metric tons} = 8048 \text{ kg}$

Sec. B: $= 40 \text{ kg/metric ton} \times 80.48 \text{ metric tons} = 3219 \text{ kg}$

Sec. C: $= 40 \text{ kg/metric ton} \times 80.48 \text{ metric tons} = 3219 \text{ kg}$

Sec. D: $= 100 \text{ kg/metric ton} \times 80.48 \text{ metric tons} = 8048 \text{ kg}$

Total Resistance —

$\text{TR} = \text{RR} + \text{GR}$

Sec. A: $= 8048 \text{ kg} + 0 = 8048 \text{ kg}$

Sec. B: $= 3219 \text{ kg} + 0 = 3219 \text{ kg}$

Sec. C: $= 3219 \text{ kg} + 3219 \text{ kg} = 6438 \text{ kg}$

Sec. D: $= 8048 \text{ kg} + 0 = 8048 \text{ kg}$

Check usable kilogram force against maximum kilogram force required to move the 631G.

Force usable ... 21 728 kg loaded

Force required ... 8048 kg maximum total resistance

Estimate travel time for haul from 631G (loaded) travel time curve; read travel time from distance and effective grade.

Travel time (from curves):

Sec. A: 0.60 min

Sec. B: 1.00

Sec. C: 1.20

Sec. D: 0.60

3.40 min

NOTE: This is an estimate only; it *does not account for all the acceleration and deceleration time*, therefore it is not as accurate as the information obtained from a computer program.

6. Compare Total Resistance to Tractive Effort on return:

Grade Assistance —

$\text{GA} = 10 \text{ kg/mton} \times \text{metric tons} \times \text{negative grade in percent}$

Sec. C: $= 10 \text{ kg/metric ton} \times 46.48 \text{ metric tons} \times 4\% \text{ grade} = 1859 \text{ kg}$

Rolling Resistance —

RR = RR Factor × Empty Wt.

$$\text{Sec. D:} = 100 \text{ kg/metric ton} \times 46.48 \text{ metric tons} \\ = 4648 \text{ kg}$$

$$\text{Sec. C:} = 40 \text{ kg/metric ton} \times 46.48 \text{ metric tons} \\ = 1859 \text{ kg}$$

$$\text{Sec. B:} = 40 \text{ kg/metric ton} \times 46.48 \text{ metric tons} \\ = 1859 \text{ kg}$$

$$\text{Sec. A:} = 100 \text{ kg/metric ton} \times 46.48 \text{ metric tons} \\ = 4648 \text{ kg}$$

Total Resistance —

TR = RR + GA

$$\text{Sec. D:} = 4648 \text{ kg} - 0 = 4648 \text{ kg}$$

$$\text{Sec. C:} = 1859 \text{ kg} - 1859 \text{ kg} = 0$$

$$\text{Sec. B:} = 1859 \text{ kg} - 0 = 1859 \text{ kg}$$

$$\text{Sec. A:} = 4648 \text{ kg} - 0 = 4648 \text{ kg}$$

Check usable kilogram force against maximum force required to move the 631G.

Kilogram force usable ... 16 034 kg empty

Kilogram force required ... 4645 kg

Estimate travel time for return from 631G empty travel time curve.

Travel time (from curves):

$$\text{Sec. D: } 0.40 \text{ min}$$

$$\text{Sec. C: } 0.55$$

$$\text{Sec. B: } 0.80$$

$$\text{Sec. A: } 0.40$$

$$\underline{2.15 \text{ min}}$$

7. Estimate Cycle Time:

$$\text{Total Travel Time (Haul plus Return)} = 5.55 \text{ min}$$

$$\text{Adjusted for altitude: } 100\% \times 5.55 \text{ min} = 5.55 \text{ min}$$

$$\text{Load Time} \quad \quad \quad 0.7 \text{ min}$$

$$\text{Maneuver and Spread Time} \quad \quad \underline{0.7 \text{ min}}$$

$$\text{Total Cycle Time} \quad \quad \quad 6.95 \text{ min}$$

8. Check pusher-scraper combinations:

Pusher cycle time consists of load, boost, return and maneuver time. Where actual job data is not available, the following may be used.

$$\text{Boost time} = 0.10 \text{ minute}$$

$$\text{Return time} = 40\% \text{ of load time}$$

$$\text{Maneuver time} = 0.15 \text{ minute}$$

$$\text{Pusher cycle time} = 140\% \text{ of load time} + 0.25 \text{ minute}$$

$$\text{Pusher cycle time} = 140\% \text{ of } 0.7 \text{ min} + 0.25 \text{ minute} \\ = 0.98 + 0.25 = 1.23 \text{ minute}$$

Scraper cycle time divided by pusher cycle time indicates the number of scrapers which can be handled by each pusher.

$$\frac{6.95 \text{ min}}{1.23 \text{ min}} = 5.65$$

Each push tractor is capable of handling five plus scrapers. Therefore the two pushers can adequately serve the eleven scrapers.

9. Estimate Production:

$$\begin{aligned} \text{Cycles/hour} &= 60 \text{ min} \div \text{Total cycle time} \\ &= 60 \text{ min/hr} \div 6.95 \text{ min/cycle} \\ &= 8.6 \text{ cycles/hr} \end{aligned}$$

$$\begin{aligned} \text{Estimated load} &= \text{Heaped capacity} \times \text{L.F.} \\ &= 24 \text{ LCM} \times 0.80 \\ &= 19.2 \text{ BCM} \end{aligned}$$

$$\begin{aligned} \text{Hourly unit production} &= \text{Est. load} \times \text{cycles/hr} \\ &= 19.2 \text{ BCM} \times 8.6 \text{ cycles/hr} \\ &= 165 \text{ BCM} \end{aligned}$$

$$\begin{aligned} \text{Adjusted production} &= \text{Efficiency factor} \times \text{hourly production} \\ &= 0.83 (50 \text{ min hour}) \times 165 \text{ BCM} \\ &= 137 \text{ BCM/hour} \end{aligned}$$

$$\begin{aligned} \text{Hourly fleet production} &= \text{Unit production} \times \text{No. of units} \\ &= 137 \text{ BCM/hr} \times 11 \text{ units} \\ &= 1507 \text{ BCM/hr} \end{aligned}$$

10. Estimate Compaction:

$$\begin{aligned} \text{Compaction requirement} &= \text{S.F.} \times \text{hourly fleet production} \\ &= 0.85 \times 1507 \text{ BCM/hr} \\ &= 1280 \text{ CCM/hr} \end{aligned}$$

Compaction capability (given the following):

$$\text{Compacting width, } 2.26 \text{ m} \quad \quad \quad (\text{W})$$

$$\text{Average compacting speed, } 9.6 \text{ km/h} \quad (\text{S})$$

$$\text{Compacted lift thickness, } 18 \text{ cm} \quad (\text{L})$$

$$\text{No. of passes required, } 3 \quad \quad \quad (\text{P})$$

825G production =

$$\begin{aligned} \text{CCM/hr} &= \frac{\text{W} \times \text{S} \times \text{L} \times 10}{\text{P}} (\text{conversion factor}) \\ &= \frac{2.26 \times 9.6 \times 18 \times 10}{3} \\ &= 1302 \end{aligned}$$

Given the compaction requirement of 1280 CCM/h, the 825G is an adequate compactor match-up for the rest of the fleet. However, any change to job layout that would increase fleet production would upset this balance.

11. Estimate Total Hourly Cost:

631G	@ \$65.00/hr × 11 units	\$715.00
D9T	@ 75.00/hr × 2 units	150.00
12H	@ 15.00/hr × 2 units	30.00
825G	@ 40.00/hr × 1 unit	40.00
Operators	@ 20.00/hr × 16 men	320.00

Total Hourly Owning and
 Operating Cost \$1,255.00

12. Calculate Performance:

$$\begin{aligned}
 \text{Cost per BCM} &= \frac{\text{Total cost/hr}}{\text{Production/hr}} \\
 &= \frac{\$1,255.00}{1507 \text{ BCM/hr}} \\
 &= 83¢/\text{BCM}
 \end{aligned}$$

NOTE: Ton-km/h calculations should be made to judge the ability of the tractor-scraper tires to operate safely under these conditions.

13. Other Considerations:

If other equipment such as rippers, water wagons, discs or other miscellaneous machines are needed for the particular operation, then these machines must also be included in the cost per BCM.

SOFTWARE NOTE: The Cat DOZSIM program can provide a valuable tool for production dozing applications. Motor Grader Calculator can be used to determine the number of graders required to maintain haul roads, given a set of site parameters.

SYSTEMS

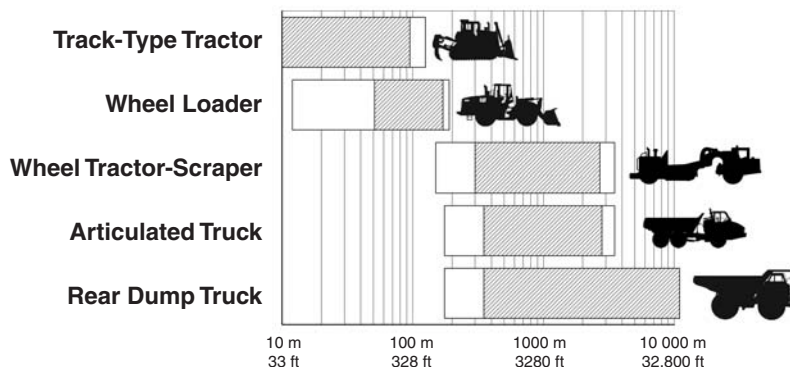
Caterpillar offers a variety of machines for different applications and jobs. Many of these separate machines function together in mining and earthmoving systems.

- Bulldozing with track-type tractors
- Load-and-Carry with wheel loaders
- Scrapers self-loading, elevator, auger, or push-pull configurations, or push-loaded by track-type tractors
- Articulated trucks loaded by excavators, track loaders or wheel loaders
- Off-highway trucks loaded by shovels, excavators or wheel loaders

Haul System Selection: In selecting a hauling system for a project, there may seem to be more than one “right” choice. Many systems may meet the distance, ground conditions, grade, material type, and production rate requirements. After considering all of the different factors, one hauling system usually provides better performance and better potential for lowest cost per ton or BCY/BCM. This makes it critical for the dealer and customer to work together to get accurate information for their operation or project. Caterpillar is committed to providing the correct earthmoving system to match the customer's specific needs.



GENERAL LOADED HAUL DISTANCES FOR MOBILE SYSTEMS



LOADED HAUL DISTANCE

PRODUCTION ESTIMATING

Loading Match — Loading tools have a production range that varies with material, bucket configuration, target size, operator skill and load area conditions. The loader/truck matches given in the following table are with the typical number of passes and production range.

Your Cat dealer can provide advice and estimates based on your specific conditions.

Cat Earthmoving and Mining Systems Production/50 Min. Hr.

Tonnes	Tons	Loading Tool	Passes	Target
2270/2450	2500/2700	994F HL	7	793D/F
2450/2700	2700/3000	994F	5	789C
2270/2450	2500/2700	994F HL	6	789C
2450/2700	2700/3000	994F	4	785C/785D
1800/2000	2000/2200	993K HL	6	785C/785D
1800/2000	2000/2200	993K	4	777D/777F
1530/1710	1700/1900	992K	4-5	777D/777F
1180/1360	1300/1500	990H	3-4	773F
800/1000	880/1100	988H	3-4	769D
2720/2900	3000/3200	5230B ME*	7	793D/F
2540/2720	2800/3000	5230B FS*	8	793D/F
2630/2810	2900/3100	5230B ME*	6	789C
2450/2630	2700/2900	5230B FS*	6	789C
2540/2720	2800/3000	5230B ME*	5	785C/785D
2360/2540	2600/2800	5230B FS*	5	785C/785D
1900/2100	2100/2300	5130B ME*	7	785C/785D
1700/1900	1700/2100	5130B FS*	7	785C/785D
1800/2000	2000/2200	5130B ME*	5	777D/777F
1540/1810	1700/2000	5130B FS*	5	777D/777F
910/1090	1000/1200	385 LL ME	7	773F
730/820	800/1000	5090B FS*	7	773F
730/910	800/1000	385 LL ME	5	770
630/820	700/900	5090B FS*	5	770

FUEL CONSUMPTION AND PRODUCTIVITY

Fuel efficiency is the term used to relate fuel consumption and machine productivity. It is expressed in units of material moved per volume of fuel consumed. Common units are cubic meters or tonnes per liter of fuel (cubic yards or tons/gal). Determining fuel efficiency requires measuring both fuel consumption and production.

Measuring fuel consumption involves tapping into the vehicle's fuel supply system — without contaminating the fuel. The amount of fuel consumed during operation is then measured on a weight or volumetric basis and correlated with the amount of work the machine has done. Cat machines equipped with VIMS™ system can record fuel consumed with relative accuracy, given the engine is performing close to specifications.

Cat Aggregate Systems Production/50 Min. Hr.

Tonnes	Tons	Loading Tool	Passes	Target
1530/1710	1700/1900	992K	4-5	777D/777F
1450/1630	1600/1800	992K	3	775F
1090/1270	1200/1400	990H	4	775F
910/1180	1000/1300	990H	3-4	773F
700/900	770/990	988H	4-5	773F
800/1000	880/1100	988H	4	772
540/730	600/800	980H HL	6	772
700/900	770/990	988H	3	770
450/630	500/700	980H HL	5	770
1500/1800	1700/2000	5130B FS*	5	777D/777F
1270/1450	1400/1600	5130B FS*	4	775F
1180/1360	1300/1500	5130B FS*	3	773F
630/900	700/900	5090B FS*	7	773F
730/910	800/1000	5090B FS*	5	772
630/820	700/900	5090B FS*	4	770

*5000 Series Front Shovels and Mass Excavators are no longer produced. This information is included for reference only.

FORMULAS AND RULES OF THUMB

$$\begin{aligned}\text{Production, hourly} &= \text{Load (BCM)/cycle} \times \text{cycles/hr} \\ &= \text{Load (BCY)/cycle} \times \text{cycles/hr}\end{aligned}$$

$$\text{Load Factor (L.F.)} = \frac{100\%}{100\% + \% \text{ swell}}$$

$$\begin{aligned}\text{Load (bank measure)} &= \text{Loose cubic meters (LCM)} \times \text{L.F.} \\ &= \text{Loose cubic yards (LCY)} \times \text{L.F.} \\ &\quad \text{Compacted cubic meters (or yards)}\end{aligned}$$

$$\text{Shrinkage Factor (S.F.)} = \frac{\text{Bank cubic meters (or yards)}}{\text{Compacted cubic meters (or yards)}}$$

$$\text{Density} = \text{Weight/Unit Volume}$$

$$\text{Load (bank measure)} = \frac{\text{Weight of load}}{\text{Bank density}}$$

$$\begin{aligned}\text{Rolling Resistance Factor} &= 20 \text{ kg/t} + (6 \text{ kg/t/cm} \times \text{cm}) \\ &= 40 \text{ lb/ton} + (30 \text{ lb/ton/inch} \times \text{inches})\end{aligned}$$

$$\begin{aligned}\text{Rolling Resistance} &= \text{RR Factor (kg/t)} \times \text{GMW (tons)} \\ &= \text{RR Factor (lb/ton)} \times \text{GMW (tons)}\end{aligned}$$

$$\begin{aligned}\text{Rolling Resistance (general estimation)} &= 2\% \text{ of GMW} + 0.6\% \text{ of GMW per cm tire penetration} \\ &= 2\% \text{ of GMW} + 1.5\% \text{ of GMW per inch tire penetration}\end{aligned}$$

$$\% \text{ Grade} = \frac{\text{vertical change in elevation (rise)}}{\text{corresponding horizontal distance (run)}}$$

$$\begin{aligned}\text{Grade Resistance Factor} &= 10 \text{ kg/m ton} \times \% \text{ grade} \\ &= 20 \text{ lb/ton} \times \% \text{ grade}\end{aligned}$$

$$\begin{aligned}\text{Grade Resistance} &= \text{GR Factor (kg/t)} \times \text{GMW (tons)} \\ &= \text{GR Factor (lb/ton)} \times \text{GMW (tons)}\end{aligned}$$

$$\text{Grade Resistance} = 1\% \text{ of GMW} \times \% \text{ grade}$$

Total Resistance

$$= \text{Rolling Resistance (kg or lb)} + \text{Grade Resistance (kg or lb)}$$

$$\text{Total Effective Grade (\%)} = \text{RR (\%)} + \text{GR (\%)}$$

Usable pull (traction limitation)

$$\begin{aligned}&= \text{Coeff. of traction} \times \text{weight on drivers} \\ &= \text{Coeff. of traction} \times (\text{Total weight} \times \% \text{ on drivers})\end{aligned}$$

$$\begin{aligned}\text{Pull required} &= \text{Rolling Resistance} + \text{Grade Resistance} \\ &= \text{Total Resistance}\end{aligned}$$

$$\text{Total Cycle Time} = \text{Fixed time} + \text{Variable time}$$

Fixed time: See respective machine production section.

$$\text{Variable time} = \text{Total haul time} + \text{Total return time}$$

$$\begin{aligned}\text{Travel Time} &= \frac{\text{Distance (m)}}{\text{Speed (m/min)}} \\ &= \frac{\text{Distance (ft)}}{\text{Speed (fpm)}}\end{aligned}$$

$$\text{Cycles per hour} = \frac{60 \text{ min/hr}}{\text{Total cycle time (min/cycle)}}$$

$$\text{Adjusted production} = \text{Hourly production} \times \text{Efficiency factor}$$

$$\text{No. of units required} = \frac{\text{Hourly production required}}{\text{Unit hourly production}}$$

$$\text{No. of scrapers a pusher will load} = \frac{\text{Scraper cycle time}}{\text{Pusher cycle time}}$$

$$\text{Pusher cycle time (min)} = 1.40 \text{ Load time (min)} + 0.25 \text{ min}$$

$$\begin{aligned}\text{Grade Horsepower} &= \frac{\text{GMW (kg)} \times \text{Total Effective Grade} \times \text{Speed (km/h)}}{273.75} \\ &= \frac{\text{GMW (lb)} \times \text{Total Effective Grade} \times \text{Speed (mph)}}{375}\end{aligned}$$

STOCKPILE COAL HANDLING

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INTRODUCTION

Efficient methods have been developed for handling and storing coal with mobile equipment. Generally, a power plant or other industrial facility which uses coal, meets its daily requirements with incoming coal shipments and will maintain an emergency stockpile or deadpile. The deadpile is designed to meet the burn requirements during any interruption of coal shipments. Interruptions may include inclement weather, carrier strikes, scheduling problems, etc.

The deadpile will contain approximately a 90 day supply of coal and is constructed by thoroughly compacting lifts, or layers, of coal approximately 15 cm (6 in) thick. Thorough compaction of the entire stockpile, including the sides, eliminates air spaces, reducing the possibility of spontaneous combustion.

Reclaiming the deadpiled coal is critical when incoming shipments are not able to satisfy the burn requirements. Four basic types of mobile equipment are available for stockpiling and reclaiming coal — track-type tractors, wheel dozers, wheel loaders, and wheel tractor-scrapers. Each type has its own specific advantages. The equipment selected must be able to meet the maximum hourly burn rate.

MACHINE SELECTION

Track-Type Tractors

Track-type tractors continue to be the most widely used machines for coal handling operations. Equipped with a U-shaped coal dozer, they are suitable for meeting high production requirements over dozing distances of less than 152 m (500 ft). Their tractive capabilities and gradeability permit them to

operate on the sides of the stockpile and surge pile which often prove inaccessible to other types of equipment. They can also remove snow and frost penetrated coal from the stockpile surface so that rubber-tired equipment can work efficiently.

Wheel Dozers

These machines, with their long wheel base, low center of gravity, and articulated design, offer good stability and maneuverability. They have the ability to travel at a higher speed than the track-type tractor, moving easily from one area of operation to another, and provide greater compactive effort with fewer passes. They are capable of performing some utility functions. However, their coefficient of traction is less than that of track-type tractors. The most efficient dozing distance for the wheel dozers is usually less than 152 m (500 ft).

Coal scoops are also available for wheel dozers and may improve production under certain operating conditions.

Wheel Loaders

As dozing and hauling distances increase, wheel loaders are able to effectively move coal in load-and-carry operations. Since coal is a relatively light material, the loaders should be equipped with larger buckets sized for coal density. Versatility and mobility allow them to perform a variety of tasks, both on and off the stockpile. They can load trucks or railcars, dig out bottom ash and boiler slag from the ash storage areas, and move railcars within the vicinity of the power plant. Generally wheel loaders are more efficient than track or wheel dozers at distances of 122 m (400 ft) or more.

Coal Bowl Wheel Tractor-Scrapers

Coal Bowl Wheel Tractor-Scrapers are typically used for building and maintaining coal stockpiles and hauling coal to the supply system at coal power plants. The self-loading capability, large capacity, coal pile compaction, and high speed of Coal Bowl Wheel Tractor-Scrapers make them the tool of choice for moving coal both short and long distances. Coal Bowl Wheel Tractor-Scrapers are available in the 637G and 657G tandem engine models. Please reference section 8 of this handbook for more information on Coal Bowl Wheel Tractor-Scrapers.

HOW TO EQUIP

Counterweighting

While larger blades or buckets allow for greater production, counterweighting is often necessary to improve the machine’s balance and handling capability. For track-type tractors, a rear counterweight is recommended. Wheel machines use various methods to add weight. For example, scoop dozers use front counterweights, and wheel machines often use tire ballast. Below is a weight comparison of the Caterpillar standard U-blade to the Coal Dozer, along with the recommended counterweight for D11T, D10T, D9T, D8T, and 834H.

COAL STOCKPILE BLADE WEIGHT COMPARISON/
COUNTERWEIGHTING

Model	U-Blade		Coal Dozer/ Scoop		Counterweight	
	kg	lb	kg	lb	kg	lb
D11T	11 608	25,590	11 340	25,000	4989	11,000
D10T	6188	13,643	6440	14,200	2928	6456
D9T	4179	9214	4490	9900	3142	6926
D8T	2825	6228	3200	7050	2749	6060
834H	2994	6600	3630	8000	75% CaCl ₂ in all tires —	
*834H with Scoop			8700	19,180	5360	11,816

Weights include blade or scoop only. The change in machine weight is determined by adding or subtracting the difference between the two blades. Counterweight or ballast may also need to be considered.

Track Shoe Width

Track shoes are an important consideration since shoe width determines tractive capability and compaction. Depending on the coal being stockpiled, the utility company will often have a strong preference concerning track shoe width. Basically, utilities stockpiling low rank or sub-bituminous rank lignite coal usually prefer the standard shoe width for maximum compactive effort to reduce the possibility of spontaneous combustion.

Utilities burning medium or high rank bituminous coals are not as concerned with spontaneous combustion and sometimes prefer a wider shoe that allows increased tractive capability on loose or less densely compacted coal stockpiles.

Tires

Many utility companies have established a tire preference for wheel machines. Normally a radial tire allows for the maximum tire print in the stockpile surface providing the best traction.

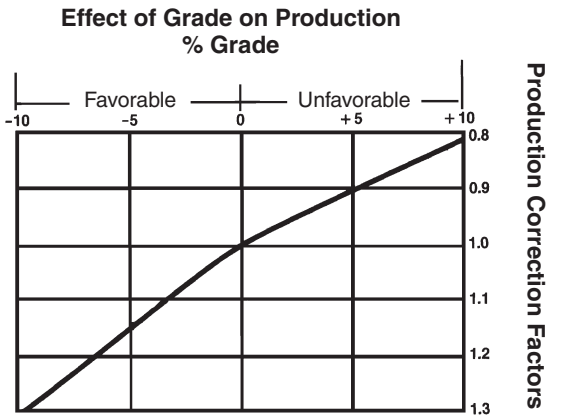
Tire pressure may be of equal importance to tire selection. Tests with hydro-inflated (liquid ballasting) tires indicate that inflation pressure of approximately 275 kPa (40 psi) improves machine performance over higher inflation pressure. Lower than 275 kPa (40 psi) is not recommended for hydro-inflated tires. (For more hydro-inflation information see the Tire section.)

Other

The 834H’s performance may be improved in the varying underfoot conditions of a coal stockpile with the use of a Detroit NoSPIN differential. This differential provides added tractive capability on all coal piles, particularly loose coal.

PRODUCTION FACTORS

1. *The effect of grade* — dozer production will increase 3% for each 1% of favorable grade and decrease 2% for each 1% of adverse grade up to grades of 10%. The graph below exemplifies this point.



As a rule of thumb, track-type tractors can negotiate grades of about 60% in loose coal. Wheel dozers can negotiate grades up to 25% on fairly well compacted coal.

2. *Slot dozing*, which consists of dozing repeatedly in the same tracks, will increase production. The deeper the slot, the greater the increase in production. Obviously this will disrupt the surface of the pile; however it does provide maximum production.

Slot Condition	Slot Depth	Increase in Production
Slight	60 cm ~ 2 ft	10%
Consistent	60 cm-1.5 m ~ 2-5 ft	25%
Very Consistent	Over 1.5 m ~ Over 5 ft	30% +

3. *Relative traction* — machines will provide greater tractive effort as the compaction beneath them increases.

Condition	Machine	Coefficient of Traction
Well Compacted Coal	Track-type Wheel	*0.75-0.80 0.40-0.50
Loose Coal	Track-type Wheel	*0.60 0.30-0.40

*D11T, D10T, D9T and D8T will often achieve a higher coefficient of traction due to their suspended undercarriage.

4. *Rolling Resistance* of rubber tired equipment will decrease as the compaction of the coal beneath the machines increases. Here are total rolling resistances on various surfaces.

	kg/Metric Ton	lb/U.S. Ton
● Main travel area from loading area to stockpile traveled and maintained.	29	65
● Travel over the compacted deadpile.	36	80
● Travel over thin lifts of uncompacted coal on the deadpile.	54	120
● Travel on loose piles under stacking conveyor or on a windrow.	90- 136	200- 300

5. *The degree of compaction required* — for medium and high rank bituminous coal, track-type tractors will normally provide ample compaction to prevent fires. For low rank coals, such as sub-bituminous and lignite, rubber tired machines, pneumatic compactors or sealing may be required to prevent fires. The following table illustrates the compaction that is possible if the coal is spread in thin lifts and the machine makes a sufficient number of passes over the entire lift surface.

Machine	kg/m³	lb/ft³	lb/yd³
Track-Type Tractors	960-1160	60-72	1620-1950
Wheel Dozers	1040-1200	65-75	1750-2030
Wheel Loaders	1040-1250	65-78	1750-2110
Wheel Tractor-Scrapers	1100-1280	68-80	1840-2160

ESTIMATING HOURLY PRODUCTION

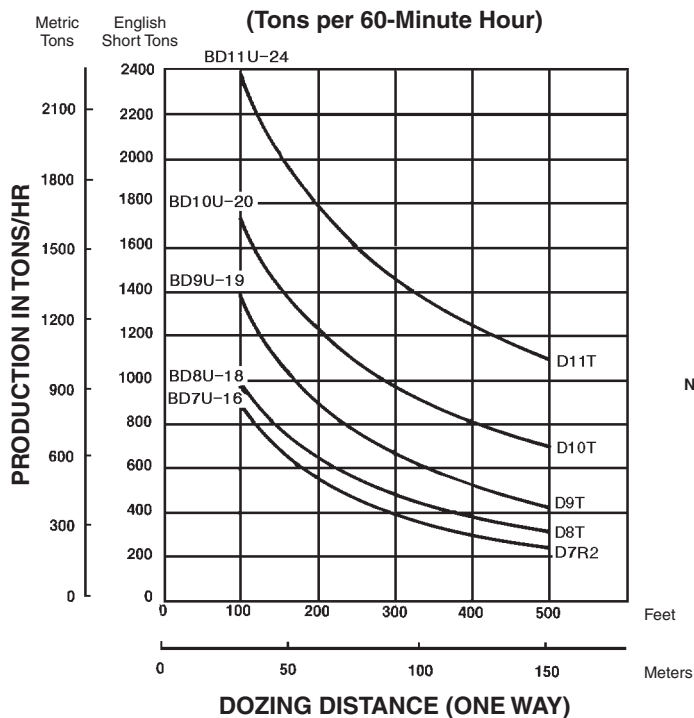
The following graphs may be used for estimating the hourly production of machines handling mixed bituminous coal. The graphs are based on 100% machine efficiency under normal job conditions and average operator; they do not take into account adverse grades, downtime, wait time, poor traction, etc. These production estimates should be evaluated in light of individual job conditions and efficiency. Moreover, a job efficiency correction factor should be applied to the production estimate shown when using these graphs.

To estimate travel times for a specific machine refer to the performance graphs or charts in the appropriate model section of this book.

NOTE: Capacities and production curves on the next pages are based on bituminous coal with a density of 890 kg/m³ or 1500 lb/yd³ or 55 lb/ft³. For sub-bituminous coal with a density of 800 kg/m³ or 1350 lb/yd³ or 50 lb/ft³ multiply tonnage figure by 0.90. For lignite with an average density of 710 kg/m³ or 1200 lb/yd³ or 45 lb/ft³ multiply tonnage figure by 0.80.

Track-Type Tractors Estimated Production
with U-Blade (Coal Dozer)

- Factors:
- Mixed Bituminous Coal
 - Storage and Reclamation
 - 0% Grade
 - 0.80 Coefficient of Traction



Tractor	U-Blade			Blade Capacities			
	Model	m	ft	Metric tons	U.S. tons	m ³	yd ³
D11T	BD11U-24	7.32	24'	66.7	73.5	74.9	98.0
D10T	BD10U-20	6.10	20'	40.85	45.0	45.9	60.0
D9T	BD9U-19	5.79	19'	32.6	35.9	37.0	48.0
D8T	BD8U-18	5.49	18'	19.0	21.0	21.4	28.0
D7R2	BD7U-16	4.88	16'	14.28	15.75	16.05	21.0
D6R	BD6U	4.27	14'	8.84	9.75	9.9	13.0

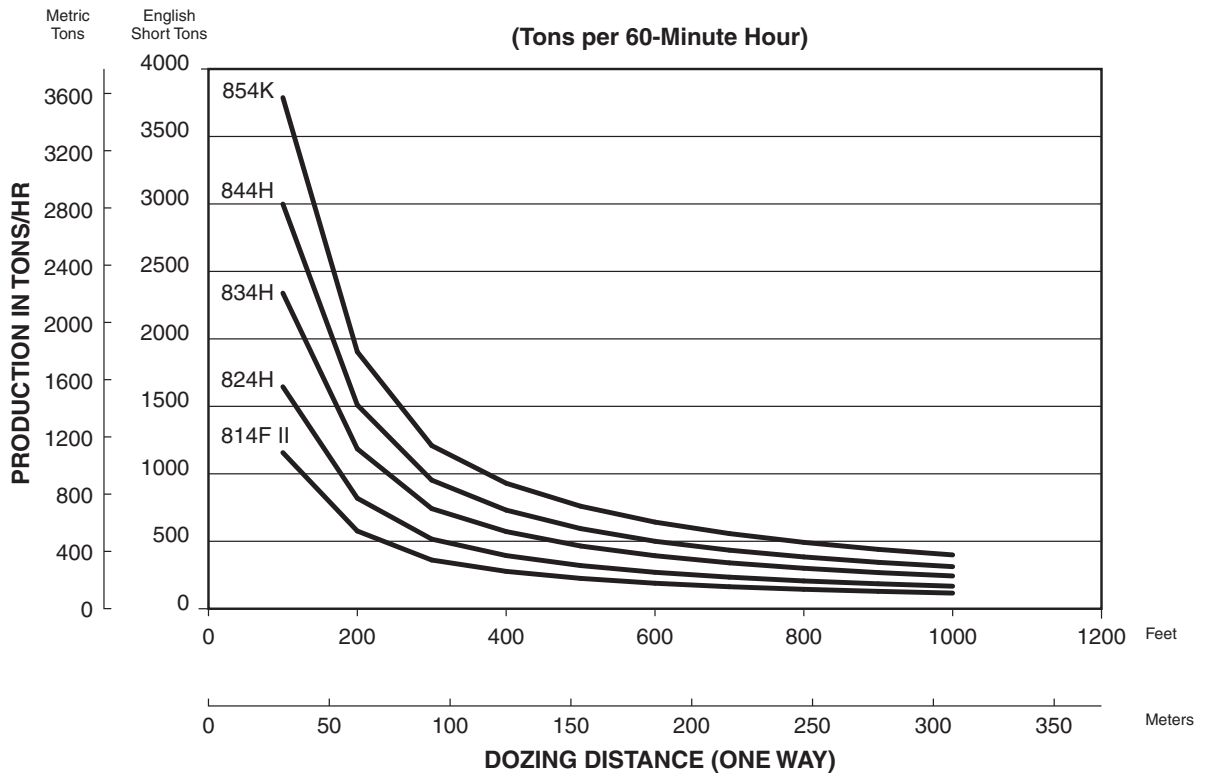
Refer to Track-Type Tractor/Bulldozer section for additional special attachment specifications.

Wheel Dozers Estimated Production with U-Blade (Coal Dozer)

Factors:

- Mixed Bituminous Coal
- Storage and Reclamation
- 0% Grade
- 0.80 Coefficient of Traction

NOTE: This chart is based on numerous field studies made under varying job conditions. Refer to correction factors following these charts.



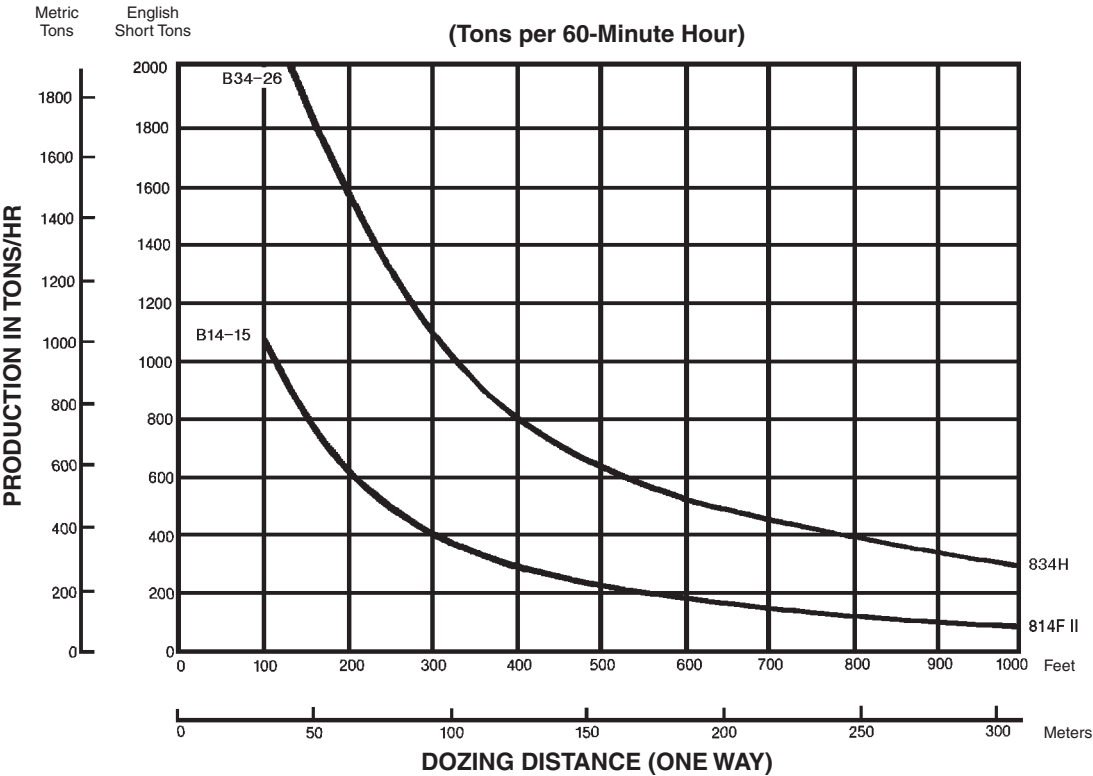
Tractor	U-Blade			Blade Capacities			
	Model	m	ft	Metric tons	U.S. tons	m ³	yd ³
854K	153-2113	7.20	23'8"	38.19	42.26	44.7	58.2
844H	153-2111	5.84	19'2"	26.23	29.02	30.7	40.2
834H	BD834U-20	6.17	20'3"	18.80	20.80	22.0	29.0
824H	BD824U-15	4.79	15'9"	14.20	15.70	16.1	21.0
814F II	BD814U-14	4.32	14'2"	9.40	10.30	11.0	14.0

NOTE: Blade capacities in tons figured using weight of coal at 890 kg/m³ (1500 lb/yd³).

Refer to Track-Type Tractor/Bulldozer section for additional special attachment specifications.

Wheel Dozers Estimated Production
with Coal Scoop

- Factors:
- Mixed Bituminous Coal
 - Storage and Reclamation
 - 0% Grade
 - 0.80 Coefficient of Traction



Tractor	Coal Scoop			Scoop Capacities (Lift and Carry)				Doze Capacities			
	Model	m	ft	Metric tons	U.S. tons	m ³	yd ³	Metric tons	U.S. tons	m ³	yd ³
834H	B34-26	5.3	17'4"	18.3	20.2	19.9	26	37.5	41.25	37.5	49
814F II	B14-15	3.7	12'3"	8.2	9.0	11.5	15	16.3	18.0	19.1	25

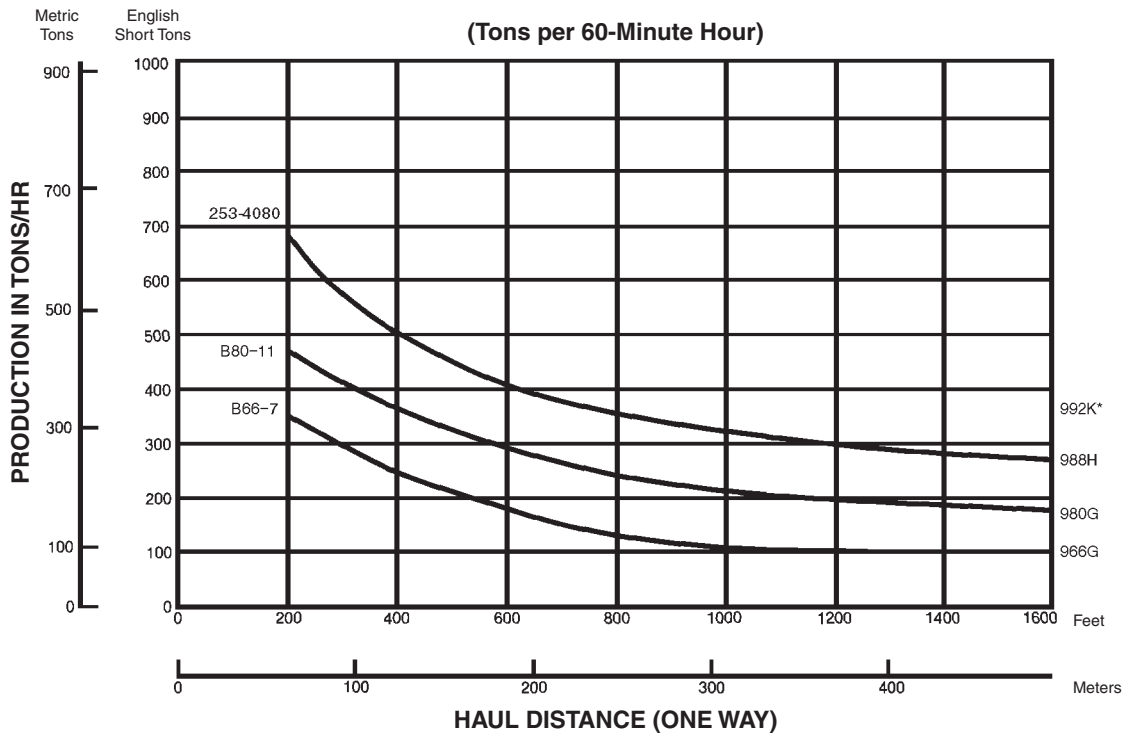
Refer to Track-Type Tractor/Bulldozer section for additional special attachment specifications.

Wheel Loaders Estimated Production
with Coal Bucket

Factors:

- Mixed Bituminous Coal
- Storage and Reclamation
- 0% Grade
- 0.80 Coefficient of Traction

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Loader	Coal Bucket	Bucket Capacities			
	Model	Metric tons	U.S. tons	m ³	yd ³
992K	294-9020	16.83	18.61	19.11	25.00
	275-9590	20.19	22.33	22.93	30.00
988H	253-4080	11.44	12.65	12.99	17.00
980G	B80-11	7.30	8.10	8.20	10.75
966G	B66-7	4.80	5.30	5.50	7.25

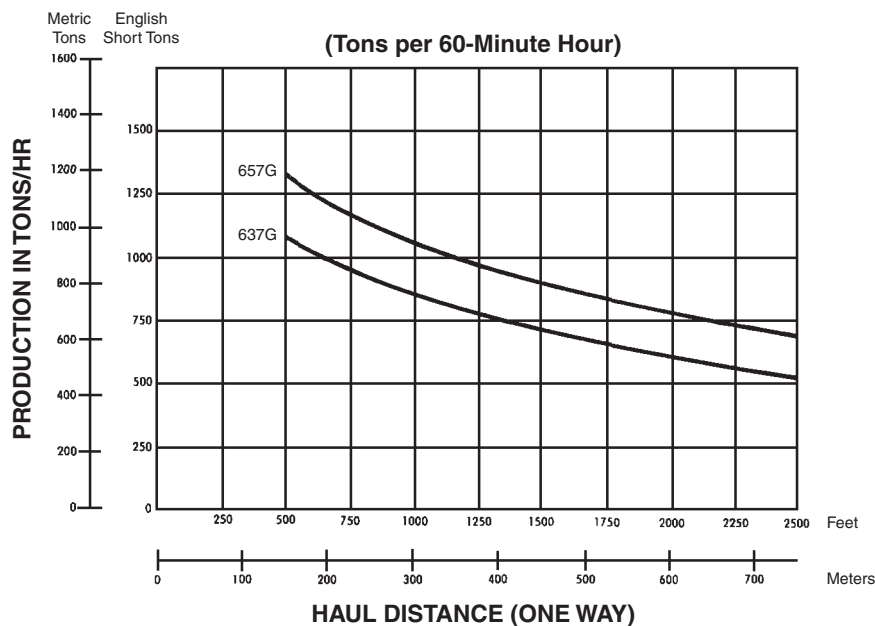
*Information unavailable at time of printing.

NOTE: Bucket capacities include bottom cutting edge in tons figured using weight of coal at 890 kg/m³ (1500 lb/yd³).

Wheel Tractor-Scrapers Estimated Production

Factors:

- Mixed Bituminous Coal
- Storage and Reclamation
- 0% Grade
- 0.50 Coefficient of Traction



Coal Scraper	Bowl Capacities									
	Metric tons	U.S. tons	Struck		1:1		2:1		3:1	
			m³	yd³	m³	yd³	m³	yd³	m³	yd³
657G	49.9	55	45	59	56	73	50	65	47	62
637G	34.5	38	31	41	38	50	34	45	37	44

Average fixed time to load, maneuver and dump:
657G — 1.12 min.
637G — 1.10 min.

NOTE:

- The 657G Coal Scraper is 1049 mm (41.3") longer and bowl sides and apron are 1080 mm (42.5") higher than its earthmoving counterpart.
- The 637G Coal Scraper is 762 mm (30") longer and bowl sides, apron and ejector are 915 mm (36") higher than its earthmoving counterpart.
- The rimpull, travel times, and retarder performance for the coal scrapers are the same as for the standard machines. See Wheel Tractor-Scrapers section for charts and graphs.

Example Problem

A coal-fired utility company has a coal requirement of approximately 315 metric tons (350 tons) per hour. Specify the coal handling machine that will satisfy this demand.

Conditions:

Lignite Coal 710 kg/m³ (1200 lb/yd³)

90 m (300 ft) push distance

5% adverse grade

50 minute hour operation efficiency

Solution:

Calculate the D9T's production equipped with the BD9U-19 Coal U-Blade by using the D9T production curve. Start at 90 m (300 ft) and read up to the D9T production line, then over to the left to determine its maximum hourly production of 612 metric tons (675 tons).

Since the graphs are based on a 890 kg/m³ (1500 lb/yd³) coal density, this production figure has to be adjusted to reflect lignite coal:

Coal density correction factor = $710/890$ (1200/1500) = 0.8.

Obtain the production correction factor for the 5% adverse grade from the chart: 0.9.

The correction factor for the 50 minute hour is $50/60 = 0.83$.

Now calculate the adjusted D9T hourly production using the correction factors:

Metric $612 \times .8 \times .9 \times .83 = 366$ tons/hour

English $675 \times .8 \times .9 \times .83 = 403$ tons/hour

The D9T falls in the required production range. For short periods of peak power capacity, production could be increased by slot dozing.

Production for the D10T, 824H and 834H can be calculated using the same method.

D10T

Metric $850 \times .8 \times .9 \times .83 = 508$ tons/hour

English $935 \times .8 \times .9 \times .83 = 559$ tons/hour

824H

Metric $400 \times .8 \times .9 \times .83 = 239$ tons/hour

English $440 \times .8 \times .9 \times .83 = 263$ tons/hour

834H

Metric $689 \times .8 \times .9 \times .83 = 412$ tons/hour

English $760 \times .8 \times .9 \times .83 = 454$ tons/hour

Therefore, the D9T or 834H could most economically satisfy the production requirements.

LAND CLEARING

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Land clearing must be treated more as an art than a science because production rates and methods vary greatly from one area to another. This section deals with the many variables in clearing and includes methods, equipment and procedures to determine productivity rates.

VARIABLES AFFECTING CLEARING OPERATIONS

Vegetative Growth — Factors affecting production and therefore cost, include the number of trees, size of trees, wood density, root systems, vines and undergrowth. These factors can be estimated by a “tree-count” as discussed under “Job Survey.”

End Use of Land — Since different end uses require different degrees of clearing (i.e. highways, dams, tree crops, row crops, etc.), this is one of the most important factors to consider in choosing the proper clearing method and equipment.

Soil Conditions or Bearing Capacity — Factors affecting clearing operations include topsoil depth, soil type, moisture content, and the presence of rocks and stones.

Topography — Grade and terrain factors such as steep slopes, ditches, swampy areas, boulders and even ant hills greatly affect the normal operation of some equipment.

Rainfall and Climate — Usually all phases of land clearing from cutting to burning are concerned to some degree with temperature changes and the amount of rainfall during the clearing operation.

Job Specifications — Specifications dictate the degree of clearing to be done, area size, completion dates, method of debris disposal, soil conservation and other factors which affect method and equipment selection.

JOB SURVEYS

Knowledge of rainfall and climate, end use of the land, and job specifications can be obtained from records, surveys, engineering studies, and written specifications. You should personally review the land to be cleared to gain other necessary and valuable information.

The survey should include a study of general topography and soil conditions. Note such problem factors as hills, rocks, or swamps which would significantly affect production or which would require special treatment.

Cruise the area to be cleared and determine the acreage of each vegetative type (i.e. upland woods, low timberlands, swamps). Make at least three tree counts at random for each vegetation type. To conduct these counts, randomly locate two points 100 meters (328 feet) apart. Count and measure vegetative growth along a straight line between these points for a width of about 5 meters (16 feet) on both sides. This gives the population of 1/10 hectare (1/4 acre).

1. Density of vegetation less than 30 cm (12 in) diameter
 - Dense — 1480 trees/hectare or more (600 trees/acre)
 - Medium — 990-1480 trees/hectare (400-600 trees/acre)
 - Light — less than 990 trees/hectare (400 trees/acre)
2. Presence of hardwoods expressed in percent
3. Presence of heavy vines
4. Average number of trees per hectare (2.47 acres) in each of the following ground level diameter size ranges:
 - Less than 30 cm (1 ft)
 - 31 cm-60 cm (1-2 ft)
 - 61 cm-90 cm (2-3 ft)
 - 91 cm-120 cm (3-4 ft)
 - 121 cm-180 cm (4-6 ft)
5. Sum of diameter of all trees per hectare (2.47 acres) above 180 cm (6 ft) in diameter at ground level.

CLEARING METHODS AND EQUIPMENT

Methods for Initial Felling — There are several methods indicating the degree of clearing for initial felling and several types of equipment for use with each method. Equipment use in different size vegetation and different size areas is summarized in the table on the next page. This information should serve only as a rough guideline in selecting equipment. The economical land area for each type of equipment will vary with the capital cost of equipment and moving cost. It is also affected by whether there are alternate uses for equipment such as using tractors for other construction work or tillage.

Land Clearing Machines — Job size, severity of job such as tree size, and time limit to complete will influence machine selection. Some machines, such as the D6T, D7R Series 2 and D8T are more suited for this type work than others, but imagination and resourcefulness can allow the use of other types of machines in specific applications. For example, loaders are used more today in raking and piling operations than ever before.

Operator Protection and Machine Guarding — Daily production has been estimated to increase 20% when cab guards are used. Cabs designed specifically for clearing are available from Rome and other auxiliary equipment manufacturers.

The radiator, engine, and underside of the tractor must be well protected. Perforated hoods, screens, crankcase guards and hydraulic cylinder guards are generally recommended.

Generally speaking, lower cost clearing can be done with larger tractors if the amount of clearing involved is sufficient to merit the initial investment in the bigger machine. Because most clearing work requires frequent direction changes, a power shift transmission should be standard equipment. The direct drive transmission tractor is recommended when the tractor is used principally in constant drawbar work such as chaining or pulling a disc harrow. In most applications, a winch should also be considered on one of every three tractors in a fleet.

EQUIPMENT SELECTION TABLE

	UPROOTING	CUTTING AT OR ABOVE GROUND LEVEL	KNOCKING TO THE GROUND	INCORPORATING INTO THE SOIL
LIGHT CLEARING — Vegetation up to 5 cm (2 in) diameter				
Small areas 4 hectares (10 acres)	Bulldozer blade	Wheel-mounted circular saws	Bulldozer blade	Moldboard plows, disc plows, disc harrows
Medium areas 40 hectares (100 acres)	Bulldozer blade	Heavy duty sickle mowers [up to 3.7 cm (1½ in) diameter] tractor-mounted circular saws, suspended rotary mowers	Bulldozer blade, rotary mowers; flail-type rotary cutters; rolling brush cutters	Moldboard plows; disc plows, disc harrows
Large areas 400 hectares (1000 acres)	Bulldozer blade, root rake, grubber, root plow, anchor chain drawn between two crawler tractors; rails	—	Rolling brush cutter; flail- type cutter; anchor chain drawn between two crawler tractors; rails	Undercutter with disc; moldboard plows; disc plows; disc harrows
INTERMEDIATE CLEARING — Vegetation 5 to 20 cm (2 to 8 in) diameter				
Small areas 4 hectares (10 acres)	Bulldozer blade	Wheel-mounted circular saws	Bulldozer blade	Heavy-duty disc plow; disc harrow
Medium areas 40 hectares (100 acres)	Bulldozer blade	Tractor-mounted circular saws, single scissor type tree shears	Bulldozer blade, rolling brush cutter [up to 12 cm (5 in) diameter], rotary mower [up to 10 cm (4 in) diameter]	Heavy-duty disc plow; disc harrow
Large areas 400 hectares (1000 acres)	Shearing blade, angling (tilted) bulldozer blade, rakes, anchor chain drawn between two crawler tractors, root plow	Shearing blade (angling or V-type)	Bulldozer blade, flail-type rotary cutter, anchor chain	Bulldozer blade with duty harrow
LARGE CLEARING — Vegetation 20 cm (8 in) diameter or larger				
Small areas 4 hectares (10 acres)	Bulldozer blade	—	Bulldozer blade	—
Medium areas 40 hectares (100 acres)	Shearing blade, angling (tilted), knockdown beam, rakes, tree stumper	Shearing blade (angling or V-type), tree shear [up to 70 cm (26 in) softwood; 35 cm (14 in) hardwood], shearing blade — power saw combination	Bulldozer blade	—
Large areas 400 hectares (1000 acres)	Shearing blade, angling (tilted), tree pusher, rakes, tree stumper, anchor chain with ball drawn between two crawler tractors	Shearing blade (angling or V-type), shearing blade — power saw combination	Anchor chain with ball drawn between two crawler tractors. [Use dozer blade for trees over 18 cm (7 in).]	—

NOTE: The most economical size area for each type of equipment will vary with the relative cost of capital equipment versus labor. It is also affected by whether there are alternate uses for equipment such as using tractors for tillage.

PRODUCTION ESTIMATING

GENERAL — CONSTANT SPEED OPERATIONS

Production is the hourly clearing rate usually expressed in hectares or acres.

For many land clearing operations, production is calculated by multiplying the tractor speed by the width of cut and converting to hectares or acres per hour.

Metric system:

The base formula is:

$$\frac{\text{Width of cut (meters)} \times \text{speed (km/h)}}{10} = \text{hectares/h}$$

When an efficiency of 82.5% is used, the formula becomes:

$$\frac{\text{Width of cut (m)} \times \text{speed (km/h)} \times .825}{10} = \text{hectares/h}$$

English measure:

$$\frac{\text{Width of cut (ft)} \times \text{speed (mph)}}{43,560 \text{ (ft}^2\text{)}} = \text{acres/hr}$$

The American Society of Agricultural Engineers formula for estimating hourly production of a constant speed operation is based on 82.5% efficiency. With this efficiency, the formula becomes:

$$\frac{\text{Width of cut (ft)} \times \text{speed (mph)} \times .825}{43,560 \text{ (ft}^2\text{)}} = \text{acres/hr}$$

Width of cut is the effective working width of the equipment and may not be the same as its rated width. Working width should be measured on the job but can be estimated when necessary.

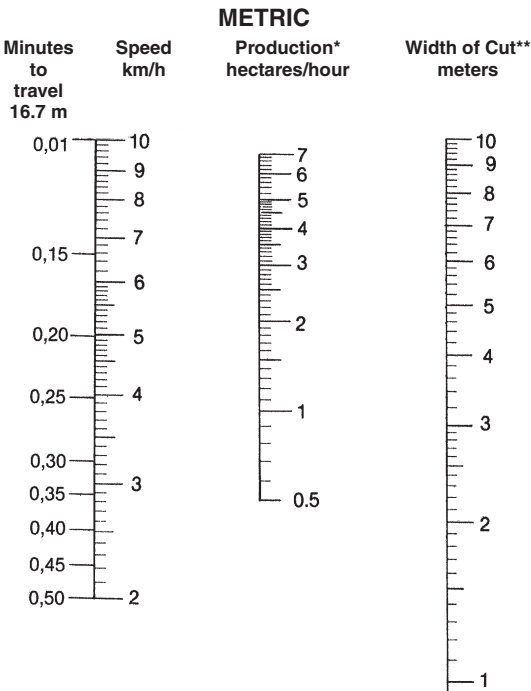
The actual machine speed can be determined by measuring the amount of time to travel a given distance. When using the metric system, the time to travel 16.7 meters or a multiple thereof, can be converted into kilometers per hour.

$$\frac{1.0}{\text{(Time in min. to travel 16.7 meters)}} = \text{speed (km/h)}$$

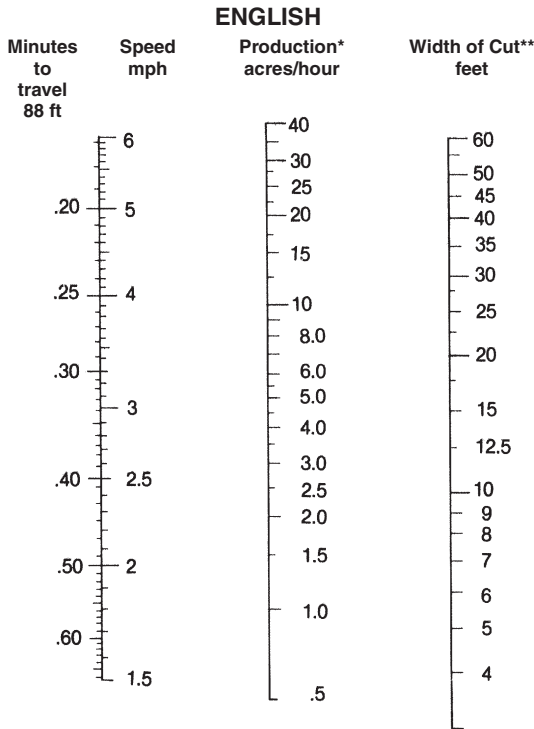
Since 88 ft/min. equals one mph, the lapsed time to travel 88 ft, or a multiple of 88 ft, can easily be converted into miles per hour.

$$\frac{1.0}{\text{(Time in min. to travel 88 ft)}} = \text{speed (mph)}$$

The following nomographs in both the Metric and English systems convert speed and width of cut directly into acres or hectares per hour at 82.5% efficiency without the need for calculations.



*Based on 82.5% efficiency.
**When width of cut exceeds 10 meters, use a multiple of the width of cut and increase production proportionately.



*Based on 82.5% efficiency.

**When width of cut exceeds 60 feet, use a multiple of the width of cut and increase production proportionately.

CUTTING PRODUCTION ESTIMATING

Most land clearing operations such as bulldozing, cutting, grubbing, raking and piling are not performed at constant speed. Because off-the-job production is difficult to estimate for these operations, Rome Industries has developed formulas for estimating cutting and piling time. These formulas take into consideration variable prime mover speeds through a factor, "B", the base time for each tractor to cover one hectare (2.47 acres) of light material.

To estimate **tractor cutting time per hectare** (2.47 acres) on a specific land clearing job, apply the factors shown in the following table, together with data obtained from the job survey, in the formula:

$$T = X [A(B) + M_1N_1 + M_2N_2 + M_3N_3 + M_4N_4 + DF]$$

where

T = Time per hectare (2.47 acres) in minutes

X = Hardwood or density factor affecting total time

A = Density or vine presence factor affecting base time

B = Base time for each tractor per hectare (2.47 acres)

M = Minutes per tree in each diameter range

N = Number of trees per hectare (2.47 acres) in each diameter range obtained from field survey

D = Sum of diameter in 30 cm (1 ft) increments of all trees per hectare (2.47 acres) above 180 cm (6 ft) in diameter at ground level obtained from field survey

F = Minutes per 30 cm (1 ft) of diameter for trees above 180 cm (6 ft) in diameter.

Hardwoods affect over-all or total time as follows:

75-100% hardwoods: Add 30% to total time (X = 1.3)

25-75% hardwoods: No change (X = 1.0)

0-25% hardwoods: Subtract 30% from total time (X = 0.7)

Production Factors for Felling with Rome K/G Blades

Tractor	Base Minutes per hectare (2.47 acres) "B"	Diameter Range				Dia. above 180 cm per 30 cm (6' per foot) "F"
		30-60 cm (1-2 ft) "M ₁ "	60-90 cm (2-3 ft) "M ₂ "	90-120 cm (3-4 ft) "M ₃ "	120-180 cm (4-6 ft) "M ₄ "	
165 hp	85	0.7	3.4	6.8	—	—
230 hp	58	0.5	1.7	3.3	10.2	3.3
305 hp	45	0.2	1.3	2.2	6.0	1.8
405 hp	39	0.1	0.4	1.3	3.0	1.0

Explanation of columns in table:

Tractor — Based on current model tractors (power shift when applicable) working on reasonably level terrain (below 10% grade) with good footing, no stones, average mixture of soft and hard woods. Tractor is in proper operating condition, blade is sharp, and properly adjusted.

Base Minutes — The base figures represent the number of minutes required for each tractor to cover a hectare (2.47 acres) of light material where no trees require splitting or other individual treatment. Time required is affected by the density of material less than 30 cm (1 ft) in diameter and the presence of vines.

- dense — 1480 trees/hectare (600 or more trees/acre): Add 100% to base time (A = 2.0)
- medium — 990-1480 trees/hectare (400-600 trees/acre): No change (A = 1.0)
- light — less than 990 trees/hectare (400 trees/acre): Subtract 30% from total time (A = 0.7)

- Cutting
- Piling

Presence of heavy vines: Add 100% to base time (A=2.0). Very heavy vines add 300% to base time. (A=3.0)

Dia. Range — M₁ represents minutes required to cut trees from 31-60 cm (1-2 ft) in diameter at ground level.

- M₂ same for trees 61-90 cm (2-3 ft) diameter.
- M₃ same for trees 91-120 cm (3-4 ft) diameter.
- M₄ same for trees 121-180 cm (4-6 ft) diameter.

For Dia. above 180 cm (6 ft) — The figures in this column represent size the number of minutes required per 30 cm (1 ft) of diameter for each tractor to cut trees above 180 cm (6 ft) in diameter. Thus, to fell a 240 cm (8 ft) diameter tree would require 8 × 1.8 or approximately 14.4 minutes with a D8T.

Example problem:

Calculate the felling production of a D8T with K/G Blade in these conditions: reasonably level terrain, firm ground, well drained, 85% hardwoods with heavy vines and the following average tree count per hectare (2.47 acre):

Diameter Range	Less than 30 cm (1 ft) "B"	31-60 cm (1-2 ft) "N ₁ "	61-90 cm (2-3 ft) "N ₂ "	91-120 cm (3-4 ft) "N ₃ "	121-180 cm (4-6 ft) "N ₄ "	Sum Dia's Above 180 cm (6 ft) "D"
Number of Trees	1100	35	6	6	4	488 cm (16 ft)

Solution:

$$T = X [A(B)+M_1N_1+M_2N_2+M_3N_3+M_4N_4+DF]$$
$$T = 1.3 [2.0 (45)+0.2 (35)+1.3 (6)+2.2 (6)+6 (4)+16 (1.8)]$$
$$= 1.3 (90+7+7.8+13.2+24+28.8)$$
$$= 1.3 (170.8)$$
$$= 222 \text{ minutes/hectare (90 min/acre)}$$



Where the job requires grubbing trees and stumps greater than 30 cm (1 ft) in diameter at the same time the trees are sheared, use the same basic procedure as defined above including the variables for the presence of hardwoods. After time per hectare (acre) in minutes has been determined, increase the over-all or total time by 25%.

Where the job requires re-entering the area (after all trees have been sheared) to remove stumps with a tilted shearing blade or stump, increase the total time by 50%.

PILING PRODUCTION ESTIMATING

A procedure has also been developed for estimating piling production for a tractor equipped with a K/G blade or rake.

To estimate tractor hours per hectare (acre) on a specific land clearing job, apply the factors shown in the following table with data obtained from the job survey, in the formula:

- $T = B+M_1N_1+M_2N_2+M_3N_3+M_4N_4+DF$
where
T = Time per hectare (2.47 acre) in minutes.
B = Base time for each tractor per hectare (2.47 acre).
M = Minutes per tree in each diameter range.
N = Number of trees per hectare (2.47 acre) in each diameter range obtained from field cruise.
D = Sum of diameter in 30 cm (1 ft) increments of all trees per hectare (2.47 acre) above 180 cm (6 ft) in diameter at ground level obtained from field cruise.
F = Minutes per 30 cm (1 ft) of diameter for trees above 180 cm (6 ft) in diameter.

Production Factors for Piling in Windrows*

Tractor	Base Minutes per hectare (2.47 acres) "B"	Diameter Range				Dia. above 180 cm per 30 cm (6' per foot) "F"
		30-60 cm (1-2 ft) "M ₁ "	60-90 cm (2-3 ft) "M ₂ "	90-120 cm (3-4 ft) "M ₃ "	120-180 cm (4-6 ft) "M ₄ "	
165 hp	157	0.5	1.0	4.2	—	—
230 hp	125	0.4	0.7	2.5	5.0	—
305 hp	111	0.1	0.5	1.8	3.6	0.9
405 hp	97	0.08	0.1	1.2	2.1	0.3

*May be used with most types of raking tools and angled shearing blade. Windrows to be spaced approximately 61 meters (200 feet) apart.

Explanation of columns in table:

Tractor — Production with tractor working alone based on current model tractors (power shift when applicable) working on reasonably level (below 10% grade) terrain with good footing, no stones, average mixture of soft and hard woods. The tractor is in proper operating condition. Decrease total time by 25-50% depending on the number and size of trees when using three or more tractors in combination.

Base Minutes — The base figures represent the number of minutes required for each tractor to cover a hectare (2.47 acres) of light material.

Dia. Range — M_1 represents minutes required to pile trees from 31-60 cm (1-2 ft) diameter at ground level.

M_2 same for trees 61-90 cm (2-3 ft) diameter.

M_3 same for trees 91-120 cm (3-4 ft) diameter.

M_4 same for trees 121-180 cm (4-6 ft) diameter.

For Dia. above 180 cm (6 ft) — The figures in this column represent for each tractor size the number of minutes required per 30 cm (1 ft) of diameter to pile trees above 180 cm (6 ft) in diameter. Thus, to pile a 240 cm (8 ft) diameter tree would require 8×0.9 or approximately 7.2 minutes with a D8T tractor.

Where the job requires piling of grubbed trees and stumps greater than 30 cm (1 ft) in diameter, use the same basic procedure defined above and then increase over-all or total time by 25%.

In dense small diameter brush with few or no large trees, or when cutting is vine entangled, reduce the base time by 30%.

Example problem:

Calculate the windrow piling production of a D7R Series 2 with Rake in level terrain, no grubbing, and average mixture of hardwoods and softwoods where the average tree count per hectare (2.47 acres) is:

Diameter Range	Less than 30 cm (1 ft) "B"	31-60 cm (1-2 ft) "N ₁ "	61-90 cm (2-3 ft) "N ₂ "	91-120 cm (3-4 ft) "N ₃ "	121-180 cm (4-6 ft) "N ₄ "	Sum Dia's Above 180 cm (6 ft) "D"
Number of Trees	1100	35	6	6	2	0

Solution:

$$\begin{aligned} T &= B + M_1 N_1 + M_2 N_2 + M_3 N_3 + M_4 N_4 + DF \\ &= 125 + 0.4 (35) + 0.6 (6) + 2.5 (6) + 5.0 (2) + [DF=0] \\ &= 42.6 \\ &= 177.6 \text{ minutes/hectare (72 min/acre)} \end{aligned}$$

● ● ●

To find the number of machines required for each operation, use the formula:

$$\text{Hr/hectare (acre)} \times \text{number of hectares (acres)} = \text{number of machines needed}^*$$

*Average machine production for all operation in hr/hectare (acre).

24

To cost estimate each method or phase of operation, use this calculation:

$$\text{Owning and Operating cost/hr} \times \text{hr/hectare (acre)} \times \text{number of hectares (acres)} = \text{cost}$$

Because of the many variables that increase or decrease production, these formulas should be considered only as guidelines in arriving at a rough production estimate. This estimate should be tempered by personal judgment based on past experience and personal knowledge of the area.

BLADE RAKES

Tractor Model and Dozer		6A	D6T 6S	6S LGP	7A	D7R Series 2 7S	7S LGP
Raking Width	m ft	3.3 10'10"	2.62 8'6"	3.3 10'10"	3.72 12'3"	3.18 10'5"	3.66 12'
Opening at Tooth Tips	mm in	356 14"	305 12"	310 12.22"	381 15"	381 15"	381 15"
Tooth Penetration	mm ft/in	432 17"	457 18"	406 16"	559 1'10"	559 1'10"	559 1'10"
Total Weight	kg lb	718 1585	675 1490	825 1820	1144 2525	1100 2420	1119 2470

RAKES FOR WHEEL LOADERS

Wheel Loader Model and Rake Type		914G II Loader Rake	924H Loader Rake	928H Loader Rake	930H Loader Rake	950H/ 962H Loader Rake	966H/ 972H Loader Rake
Raking Width	mm ft	2210 7'3"	2489 8'2"	2845 9'4"	2845 9'4"	3048 10'0"	3353 11'0"
Tooth Penetration	mm ft	762 2'6"	646 2'1"	740 2'5"	650 2'2"	965 3'2"	1143 3'9"
Opening at Tooth Tips	mm in	318 12.75"	305 12"	305 12"	356 14"	298 11.75"	330 13"
Rake Weight	kg lb	770 1700	1038 2284	1378 3032	1460 3212	1590 3500	2210 4880

RAKES FOR TRACK LOADERS

Track Loader Model and Rake Type		953D Loader Rake	963D Loader Rake
Raking Width	mm ft	2845 9'4"	2388 7'10"
Tooth Penetration	mm ft	635 2'1"	635 2'1"
Opening at Tooth Tips	mm in	298 11.75"	330 13"
Rake Weight	kg lb	1450 3200	1450 3200

This listing is not all-inclusive. Contact your Cat dealer for special attachment needs.

WASTE HANDLING

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INTRODUCTION

An increasing volume of refuse is generated by every person, commercial entity and household day after day ... 365 days a year. Disposal of this waste is a major problem worldwide. Increased governmental legislation designed to protect the environment and rising transportation and land acquisition costs have made waste disposal a significant user of earthmoving and specialty mobile equipment.

TRANSFER STATIONS

TRANSFER STATIONS, MRF'S, (MATERIAL RECOVERY FACILITIES) SORTING STATIONS, RECYCLING STATIONS

Changing attitudes in waste applications

The growth in transfer stations has increased as the amount of material that is being recycled or otherwise diverted from landfill disposal has increased. As a result transfer stations, MRF's, (material recovery facilities), sorting stations and recycling stations, are becoming a more important part of the waste stream. As the number of disposal sites continues to decline and/or move further away from city centers, the number of transfer stations must increase to accommodate and redirect waste to the appropriate disposal facilities.

Primary role

- Transfer stations, are designed to consolidate the loads of several delivery vehicles into long-haul transfer trailer or rail haul units. On average 2–5 inbound loads for transfer trailers and 5 or more for rail haul units can be consolidated into one outbound load. As a result transfer stations offer cost savings over direct haul to the landfill.
- MRF's, Sorting Stations, and Recycling Stations are designed to divert recyclable materials from the waste stream. Depending whether the material is pre-sorted, co-mingled, or MSW (municipal solid waste), the goal is to divert recyclable material for re-consumption and lower the amount of waste placed into the landfill thereby extending the landfills natural life.
- Safety is a major concern in today's Waste Industry Transfer Stations, Sorting Stations, MRF's, and Recycling Stations, all help reduce primary road and landfill traffic, by helping reduce smaller waste trucks and public traffic, leading to improved safety for everyone.

Types of transfer stations

The two most popular styles of transfer stations in North America are top loading and compaction. While there are many different types of transfer stations, most operate out of these two designs.

Top loading systems are the most common and simplest to operate. Five types of top loading arrangements include direct loading, full separation, half-separation, floor loading, and surge pit. Depending on the type of transfer station, wheel loaders, track loaders, track-type tractors, compactors, and excavators, can be utilized alone or together in systems providing quick efficient waste handling.

Compaction transfer stations provide hydraulic compaction either prior to, or during the loading of the hauling vehicle. It is important to note this type of transfer station can utilize all of the same design features of the platform design except for the direct load and half-separation designs.

Material Recovery Facility (MRF's), Sorting Stations, and Recycling Stations

A well-coordinated recycling program can reduce volume going to the landfill by up to 50% or more. The types of facility designs that sort recyclables out of the waste stream are:

1. *Recycling Facility* — Recyclables are separated at the source prior to being loaded into the haul vehicle. At the recycling station, the materials are unloaded, stored, sold and shipped to be remanufactured or recycled.
2. *Clean MRF's* — A "clean" MRF accepts source-separated recyclable material from residential and commercial sources delivered in separate collection vehicles.
3. *"Dirty" MRF* — A dirty MRF accepts mixed waste that later may be sorted for recycling; or source-separated waste that is delivered in the same collection vehicle (i.e. blue bag systems)
4. *Sorting Stations* — some transfer stations are designed for some waste diversion and recycling from mixed waste streams, and are normally described as 'sorting' stations.

Typical Applications for Transfer Stations, Recycling Centers, MRF's, and Sorting Stations

There is a wide range of variability in transfer station applications and operations. Therefore, depending on facility size, amount of material handled, type of transfer station, etc., a wide variety of machines could be utilized.

Typically, residential and commercial waste trucks deposit the waste onto a tipping platform. A wheel loader then stockpiles it, loads it into the transfer trailers/rail units or moves it onto a conveyor or belt line for recycling. Some transfer stations utilize a hydraulic excavator to help sort, top off, and compact the material into the transfer trailer/rail units.

"Volumetric consolidation of material" is a method that is increasingly becoming more popular within transfer stations throughout the U.S. Volumetric consolidation of material prior to load-out helps maximize the allowable weight carried by each haul unit. Common machines used for material consolidation are, track-type tractors and track loaders. These machines are normally equipped with track shoes that help in shredding, compression, and compaction. Compactors can be used for material reduction and are normally aided by a combination of either wheel loaders and/or excavators.

For transfer, recycling, and sortings stations, and MRF's a vast amount of support equipment is utilized. These range from, skid steer loaders, backhoe loaders, compact wheel loaders, IT's, and small/medium wheel loaders.

EQUIPMENT SELECTION

As in the landfill application, the largest single cost for daily operation in transfer stations, etc., is purchasing, operating, and maintaining the equipment. Undersized, inadequate or unreliable equipment results in higher maintenance and repair costs and improper operations.

Equipment in transfer stations and related applications perform these functions.

1. **Stockpiling the waste** once it is dumped onto the tip platform or in the surge pit. Machines used could be wheel loaders, track loaders, or track-type tractors, or any combination of these.
2. **Loading the waste** into the transfer trailers or rail cars. Material is either pushed, loaded and carried, or grappled into the transport vehicles. Wheel loaders, track loaders, track-type tractors, excavators, or any combination of these can be utilized.
3. **Support equipment** for all the different styles of transfer stations, recycling stations, sorting stations, and MRF's is a must. IT wheel loaders equipped with brooms, forks, specialty buckets, etc. can increase production and efficiency of the tip floors and load out areas. Skid steers, backhoe loaders, telehandlers and small compact equipment, with couplers and versatile attachments, can perform many necessary duties from clean up to load out.
4. **Reducing volume of material** is accomplished by continuous running over the waste, turning the waste over, and 'working' the waste. This type of operation compacts and shreds the waste allowing for less volume but higher weights in on road or rail haul transfer vehicles. Compactors, track-type tractors, and track-type loaders, equipped with wheels or undercarriages specifically designed to densify the waste, are normally utilized in this type of application.

Machine Selection Factors

As in landfill applications, selecting the type, size, quantity, and combination of machines required in transfer stations and other sorting applications is determined by the following parameters.

1. Amount and type of waste to be handled daily — (daily tonnage) — again, machines should be spec'd towards peak times.
2. Type and size of the facility — top loading/compaction and the various floor arrangements possible.
3. Facility/load out dynamics
 - a. floor size — dimensions of the tip area, load out area, surge pit and storage area
 - b. ceiling height
 - c. haul unit specifications for load out
 - d. traffic patterns
4. Densification/compaction requirements for necessary load out tonnage's.
5. Supplemental tasks performed during the total workday.
6. Budget
7. Growth

Track-Type Tractors

Track-type tractors are designed and guarded to accommodate all waste applications. Used primarily to aid spreading and compaction on landfills, track-type tractors offer another alternative for densification and waste movement in large transfer stations. Most track-type tractors are used in surge pit style transfer stations. In this application, waste can be dumped on a second level below the main tipping floor. The track-type tractor then works the waste, spreading, densifying, and loading haul vehicles for the trip to the landfill. This design is used when maximum volume reduction is required and/or when peak rate of waste exceeds the available floor space.

- Track Loaders
- Landfill Compactors
- Wheel Loaders

Track Loaders

Track loaders are designed and guarded for many different types of waste applications. Because of its versatility, the track loader can perform several different functions within the transfer station. The machine's weight compacts the waste reducing volume and increasing density. This allows haul vehicles to obtain the maximum weight permissible for road or rail. They can either work alone, or in tandem with wheel loaders or excavators to load the haul vehicles. Equipping track loaders with multi-purpose buckets increases their versatility in allowing the operator to selectively grapple items for sorting and disposal.

Landfill Compactors*

Landfill compactors are specialized pieces of equipment primarily designed for spreading and compacting large volumes of waste in a landfill environment. However, in some instances around the world where transfer stations have a large enough working area and densification of the waste is an operational goal, Landfill compactors are being utilized.

Landfill compactors offer two major advantages.

1. They are already configured and guarded to work in a waste environment.
2. They are capable of achieving superior compaction levels as compared to other mobile equipment.

Although Landfill compactors are not typically viewed as a primary piece of transfer station equipment, they are occasionally being used and may offer an alternative solution to a transfer station operator. Please consider maximum density, weight needed in the hauler, tip floor size and possible contact by the compactor.

*For this type of application, it is not recommended to use any steel wheeled compactor larger than the 826.

Wheel Loaders

Wheel loaders are often one of the primary tools used in transfer stations to load and separate refuse. Almost all styles of transfer stations will utilize a wheel loader either on their tip floor, load out area, or as a support piece of equipment. Wheel loaders perform a variety of tasks such as, stockpiling of waste on the tip floor, feeding belts for the sorting line, top loading haul vehicles either same level, half separated, or full separation, and clean up around the facility. These machines are normally equipped with a wide variety of buckets, attachments, and tires. A good knowledge of the facility, its waste stream, and its limiting factors is needed for proper machine selection.

Depending on the size and design of the facility, amount and type of waste stream, and type of job the machine needs to perform, there are several models available for machine selection. Waste Handling Packages are offered on our large to medium wheel loader line and limited waste handling guarding packages are offered on our smaller wheel loaders.

Care should be taken in sizing your equipment for your peak periods, and your peak and support needs.

- **Compact wheel loaders (902-908)** — Normally utilized in small tonnage recycling stations, and support machines where maneuverability in cramped areas is needed.
- **Small wheel loaders (914G-930H)** — Used for maneuverability in stockpiling, sorting, and loading of types of material in transfer, recycling, and sorting stations. Also used as support and backup machines in larger applications.
- **Medium — large wheel loaders (938H-988H)** — Utilized for waste movement on tip floors and load out areas, the size, weight to horsepower ratios, and many options make these machines the work horse of the recycling, transfer, and sorting stations.
- **IT's or Integrated ToolCarriers (IT14G-IT62H)** — IT machines offer maneuverability and versatility in many different recycling, transfer, and sorting station applications. A wide variety of main and support attachments can be utilized daily for many different jobs to be performed around these facilities.

Wheel Loader/IT Operating Recommendations

Tons per Day Volume	Clean MRF/ Recycling	Dirty MRF Sorting Station	Waste Transfer Station	C and D Transfer Station	C and D MRF
0-100	902-930	924-930	924-930	930-950 ^b	930-966
100-350	914-924 ^a	924-930 ^a	924-930 ^a	950-966 ^d	950-966 ^d
350-500	930-938	924-938	950-966	966-980	966-980 ^a
500-1000	930-938 ^a	938-950 ^a	950-966 ^c	966-980 ^{a,e}	980 ^e
1000-1500	938-950 ^e	938-966 ^e	966-980 ^d	966-980 ^{d,e}	980 ^{d,e}
1500-2000	950-966 ^e	966-980 ^e	966-980 ^d	966-980 ^{d,e}	980 ^e
2000-2500	950-966 ^e	966-980 ^{d,e}	966-980 ^{d,e}	966-980 ^e	980 ^e
2500-3000	950-966 ^e	966-980 ^e	966-980 ^e	966-980 ^e	980 ^e
3000 Plus	966-980 ^e	980 ^e	980 ^e	980 ^e	980 ^e

C and D = Construction and Demolition

Special Considerations

All Machine Families — standard, IT (Integrated Toolcarrier), and custom product quick couplers should be considered available (contact dealer).

MRF — (Material Recovery Facility) — Clean and Dirty.

Clean MRF/Recycling — source separated material — no damaging material involved.

Dirty MRF/Sorting Station — non-separated material — has to be sorted — could involve moving damaging material.

a = Multiple machines recommended (contact your local Cat dealership for recommendations)

b = Depends on type and density of C and D material

c = Waste stream mixture may require multiple machines

d = Operating hours may require additional machines

e = Multiple machines required

Additional Considerations

All facilities are different and require special considerations when ordering and specifying equipment. Types of attachments/buckets and operating hours will dictate type of equipment and size necessary. Machine weight has to balance power for best traction on slick floors.

Front light guards, hinged crankcase guards, and power train guards (standard on the 938H, 950H, and 966H) help protect machine parts.

Optional guarding attachments available for the 924H, 930H, and IT38H include: windshield guards, engine crankcase guards, light guards, radiator guards and tilt cylinder guards for the 924H high lift.



Hydraulic and Wheeled Excavators

Hydraulic excavators are often found in recycling, transfer, and sorting stations as a primary tool for loading transfer trailers, railcars, waste compaction and for presorting material being loaded onto the sorting conveyors. The main advantages of an excavator in this role are its fast cycle times, its ability to maneuver within confined spaces, and the versatility of the many work tools with which a hydraulic excavator can be equipped. Certain tools are ideal when sorting or separating refuse is necessary, while others can be used for simple, high-production loading and compaction.

When sizing an excavator, it is important to take into account the daily tonnage of an operation as well as facility constraints, such as ceiling height and floor size. While no official “waste handling arrangement” is currently available for excavators, Caterpillar has configured excavators for many heavy-duty applications and all of the components that would ideally suit a machine to a transfer station application are available.

Wheeled hydraulic excavators add the benefits of greater speed for moving about the transfer station and therefore can be positioned to work in virtually any area of the transfer station within minutes.

They can also be equipped with an optional 1.2 m (4'0") fixed or 1.95 m (6'6") hydraulic cab riser for improved capability to see down in the “hole” when loading through the floor or seeing into trailers positioned at the same ground level as the wheeled excavator.

LANDFILLS

The most commonly accepted way to dispose of refuse is to bury it in a landfill. A landfill protects the environment by disposing solid waste on land in an engineered cell. Building a cell involves spreading the waste in thin layers, compacting it to the smallest practical volume, covering it with soil by the end of each working day, and compacting the cover material. Proper equipment selection and operating technique can maximize refuse and cover compaction and extend the operational landfill life.

LANDFILL METHODS

There are three basic landfill methods:

In the *area* method, waste is usually deposited at the toe of the previously compacted cell and then spread and compacted. This method is attractive for landfills receiving over 450 metric tons (500 tons) of refuse per day because it reduces truck unloading congestion. Cover material is normally handled by articulated trucks or wheel tractor-scrappers from nearby borrow sites.

The *trench* method is normally found at smaller landfills where the ground water table is deep. A trench is excavated and refuse is deposited and compacted within it. Excavated material becomes the cover material. Since the trench working face is narrow, truck congestion can occur. This method is usually attractive to landfills receiving under 450 metric tons (500 tons) of refuse per day.

The *ramp* method combines the characteristics of both area and trench designs. Refuse is dumped, spread and compacted on existing slopes and covered with material excavated directly in front of the working face. The excavated area becomes part of the next cell. This is a good way for a landfill to begin operation with a minimum of equipment expenditures.

EQUIPMENT SELECTION

A landfill's largest single cost for daily operation is purchasing, operating and maintaining the mobile equipment. Undersized, inadequate or unreliable equipment results in breakdowns, higher operating costs and improper landfill operation.

Landfill equipment performs three distinct functions:

1. Waste handling and compaction equipment dispose of the waste. Track-type tractors, track loaders, and landfill compactors are the primary machines.
2. Cover material handling machines provide daily cover requirements. If supplying cover material is a machine's sole function at a landfill, it can be selected on the basis of normal earthmoving considerations, such as material characteristics, distance to borrow areas, volume to be transported, and other basic earthmoving principles, i.e., maximizing earth movement in the least amount of time at the lowest cost per yard.
3. Support equipment includes motor graders, backhoe loaders, hydraulic excavators, water trucks, air compressors, service vehicles, water pumps, generators and any other necessary equipment.

Track-Type Tractors

The track-type tractor is the most popular and versatile machine on a landfill. They not only spread and compact refuse and cover material, they also prepare the site, rip cover material, build haul roads, knock down trees, remove stumps, and work in virtually all weather conditions. They are well-suited for all three landfill methods (area, ramp, and trench).

The crawler tractor can achieve compaction densities of 475 to 590 kg/m³ (800-1000 lb/yd³). Maximum compaction is achieved when it works on a 3:1 or less slope, permitting the grousers to rip and tear while pushing and compacting waste up-slope. Economic limit of cover or waste movement by a track-type tractor is normally under 90 m (300 ft).

- Track Loaders
- Wheel Loaders
- Landfill Compactors
- Wheel Tractor-Scrapers
- Articulated Trucks

Waste Handling Landfills

Track Loaders

Track loaders are highly versatile allowing them to perform many applications. Small landfills under 135 metric tons (150 tons) per day generally utilize a minimum amount of equipment. Track loaders can serve both the waste handling and cover material functions.

The track loader is an ideal machine for the trench method. Since the bucket does not extend outside the tracks, it can obtain full compaction to the trench walls. Rippers can be attached to handle frozen cover material. Compaction densities are similar to or slightly higher than the track-type tractor — 475 to 590 kg/m³ (800-1000 lb/yd³). Many people believe track loaders equipped with single grouser shoes provide maximum demolition and compaction densities. Loading the bucket during compaction passes increases weight helping achieve higher densities.

Equipping track loaders with multi-purpose buckets increases their versatility in single machine applications, allowing the operator to selectively grapple items out of the working face.

Landfill Compactors

Landfill compactors are specialized pieces of equipment effective in spreading and compacting large volumes of waste. Compactors offer higher operational speeds than track machines. This is the recommended machine if more than one spreading and compaction machine is needed and waste does not have to be pushed more than 90 m (300 ft).

Landfill compactors over 20 410 kg (45,000 lb) operating weight achieve the highest compaction levels — from 710 to 950 kg/m³ (1200-1600 lb/yd³).

Landfill compactors normally operate on slopes no steeper than 4:1 due to reduced compaction and operational safety. Compactors should not be used to excavate cover material.

Wheel Loaders

Although not recommended as a waste handling and compaction machine, wheel loaders are used by those communities sharing a single machine which travels from landfill to landfill. Versatility and mobility are the primary wheel loader advantages. In landfills over 272 metric tons (300 tons) per day, wheel loaders will sometimes be used to perform general clean-up tasks.

Wheel Tractor-Scrapers

A scraper can be used to excavate trenches for site preparation, but usually performs a cover operation at a landfill and is most economical at distances over 185 m (600 ft). A scraper should be selected as if it were performing a typical earthmoving job.

Preferably, the scraper unloads the cover material close to the working face, either at the base or top. The cover material is then spread by the machine(s) working on the refuse. This reduces the possibility of tire damage from driving over the refuse. Foam filled tires are not recommended for scrapers due to the high travel speeds. Since excavating and transporting cover material is a major expense at a landfill, scrapers with work alone capability have been the most popular.

Articulated Trucks

Articulated trucks are versatile, highly maneuverable, all-weather haulers that can negotiate poor underfoot conditions and tight spaces normally found in landfills. In combination with a variety of loading tools, articulated trucks typically work in site preparation, cell construction, hauling cover material, and are economically effective at haul distances ranging from 0.1 km-5 km (600 ft-3 miles). In dump configuration, cover material can be dumped close to the face and spread by other machines. In ejector configuration, articulated trucks provide on-the-go dumping and can operate in soft material and on side-slopes that would not be suitable for machines in dump configuration. In addition, Cat articulated trucks are available in a range of container handler and refuse body configurations for specialized landfill applications.

Machine Selection Factors

Selecting the type, size, quantity, and combination of machines required to spread, compact, and cover varying daily refuse volumes is determined by the following parameters:

- 1. Amount and type of waste to be handled (daily tonnage)
- 2. Amount and type of soil cover to be handled
- 3. Distance cover material to be transported
- 4. Weather conditions
- 5. Compaction requirements
- 6. Landfill method utilized
- 7. Supplemental tasks
- 8. Budget
- 9. Growth

A. *Daily tonnage and type of waste* — Amount of waste produced by a community is the major variable in selecting the appropriate size machine. The chart serves as a guideline in sizing a landfill machine. For example, if a community generates approximately 180 metric tons (200 tons) of refuse per day, a D6 or 953 and a 816F2 Landfill Compactor should be considered. See **Machine Tonnage and Usage Selection Guide** chart on next page.

Type of waste to be handled will strongly influence machine selection. The major solid waste components for a community should be identified and the proper machine chosen based on the type of waste and the compaction desired. For example, if the site receives a high proportion of noncompactible heavy industrial waste (rocks, bricks, concrete, reinforcing rod, etc.) a compactor might not achieve normal compaction densities and the pushing and tractive ability of a track-type tractor may be needed. However, tracked machines have more difficulty compacting bulk waste, trees, road materials, iron, and telephone poles than a landfill compactor.

On average, each American generates 2 kg (4.5 lb) of waste per day. While waste composition varies from location to location, even within a community, the following figures are representative of the waste stream in the U.S.:

2003 Total U.S. Waste Generation*	
Paper	35.2
Yard Waste	12.1
Food	11.7
Plastics	11.3
Metals	8
Rubber, Leather, Textiles	7.4
Glass	5.3
Wood	5.8
Other	3.4

*Before Recycling.

Courtesy U.S. EPA

NOTE: Moisture content can have a significant effect on weight characteristics. Field tests have indicated moisture content can vary from 10-80% during dry and wet seasons.

Machine Tonnage and Usage Selection Guide	D7R Series 2										
	D6T	D7R Series 2	D8T	D9T	D10T	953	963	973	816F2	826H	836H
0 to 45.3 Metric Tons Per Day (0 to 50 Tons Per Day)											
MSW Landfills	×					×					
MSW/Other Landfills	×					×					
Construction and Demolition Landfills		×						×			
45.3 to 136 Metric Tons Per Day (50 to 150 Tons Per Day)											
MSW Landfills	×					×					
MSW/Other Landfills	×					×			×		
Construction and Demolition Landfills		×						×		×	
136 to 227 Metric Tons Per Day (150 to 250 Tons Per Day)											
MSW Landfills	×					×					
MSW/Other Landfills	×					×			×		
Construction and Demolition Landfills		×	×					×		×	
227 to 317.5 Metric Tons Per Day (250 to 350 Tons Per Day)											
MSW Landfills	×					×	×		×		
MSW/Other Landfills		×				×	×		×		
Construction and Demolition Landfills			×	×				×		×	
317.5 to 453.6 Metric Tons Per Day (350 to 500 Tons Per Day)											
MSW Landfills		×					×		×	×	
MSW/Other Landfills		×					×		×	×	
Construction and Demolition Landfills			×	×				×			×
453.6 to 680.4 Metric Tons Per Day (500 to 750 Tons Per Day)											
MSW Landfills		×					×			×	
MSW/Other Landfills		×	×				×			×	
Construction and Demolition Landfills				×				×	×		×
680.4 to 907.2 Metric Tons Per Day (750 to 1000 Tons Per Day)											
MSW Landfills			×				×				×
MSW/Other Landfills			×				×	×			×
Construction and Demolition Landfills			×	×				×			×
907.2 to 2721 Metric Tons Per Day (1000 to 3000 Tons Per Day)											
MSW Landfills			×					×			×
MSW/Other Landfills			×	×				×			×
Construction and Demolition Landfills			×	×				×			×
2721 Plus Metric Tons Per Day (3000 PLUS Tons Per Day)											
MSW Landfills			×	×	×			×			×
MSW/Other Landfills			×	×	×			×			×
Construction and Demolition Landfills			×	×	×			×			×

B. Amount and type of cover material to be handled —Landfill size, type, and methods of operation vary dramatically from site to site. The type of cover material utilized is important. The utilization of Alternative Daily Cover (ADC) is highly recommended to reduce the loss of valuable airspace. The current trend is for landfill managers to track cover material as closely as they do airspace and maintenance.

When discussing and working with cover material, it needs to be broken down into the three segments: daily, intermediate, and final. No matter what your requirements are, most landfill operators agree that daily cover should be no more than approx. 10-12% of the entire lift (smaller tonnage landfills might see as high as 15-18%). No matter how much is used, it is recommended, if possible, to remove the daily cover before adding new waste each day. This will benefit airspace utilization as well as gas and leachate migration. When dealing with intermediate cover or higher than normal “deck” cover, once again, it is critical to remove as much of this cover before adding any new waste (not removing this type of cover leads to a higher possibility of leachate springs and subsequent fines). Total combination of daily cover and intermediate cover if not removed, could end up totaling more than 25%-35% of your total landfill airspace utilization, which is meant for waste, not dirt.

C. Distance cover material is to be transported will have a large effect on cover equipment selection. Whether working with daily, intermediate, or final cover, the following economic limits or guidelines are recommended for cover material movement. The quantity of material to be moved, the time available, and possible maintenance results, must also be considered when using these guidelines.

Track-type tractor	0-61 m	(0-200 ft)
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Track loader

– push and spread	0-61 m	(0-200 ft)
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– load, carry, and spread	0-150 m	(0-500 ft)
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(Type of material/application should be considered for excessive track wear)

Wheel loader	0-185 m	(0-600 ft)
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Wheel tractor-scraper	over 185 m	(over 600 ft)
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Articulated trucks	over 185 m	(over 600 ft)
--------------------	------------	---------------

D. Weather conditions — when working in inclement weather, the tractive capability of a track-type machine may be necessary for poor underfoot conditions or to rip frozen cover material.

E. Compaction requirements — are becoming critical as extended landfill life is sought. If high density is desired, then a compactor may be necessary.

The following pages contain features, specifications and work tools for Cat Waste Handling machines. Additional information regarding drawbar pull/rimpull vs. groundspeed, controls, ground pressures, production estimating for these machines as well as specifications and performance information for Wheel Tractor Scrapers and Articulated Trucks can be found in their respective Performance Handbook sections.

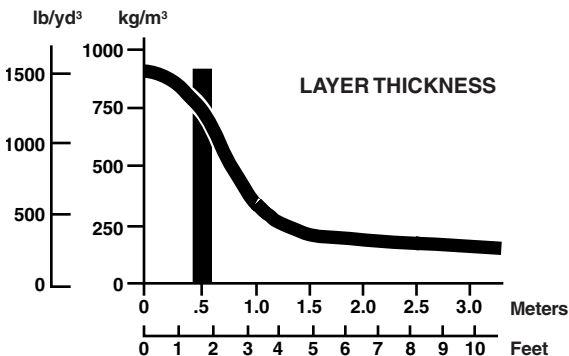
REFUSE DENSITIES

Generally, loose residential and commercial refuse weighs 150-180 kg/m³ (250-300 lb/yd³). A refuse collection vehicle will increase this density to 237-415 kg/m³ (400-700 lb/yd³). In-place landfill density can vary from 355-890 kg/m³ (600-1500 lb/yd³), depending on the compactive effort applied to the refuse. Landfill sites that accept a high percentage of demolition waste can have densities up to 1485 kg/m³ (2500 lb/yd³). Cover material will generally raise fill densities 60-120 kg/m³ (100-200 lb/yd³) over the figures given above.

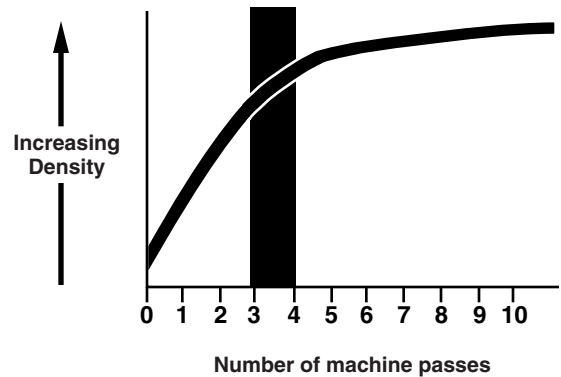
	Weight of Refuse	
	kg/m ³	lb/yd ³
Loose Refuse:	150-180	250-300
Packer Truck:	237-415	400-700
Fill Density:	355-890	600-1500
Refuse and Cover:	415-1009	700-1700

FACTORS GOVERNING COMPACTION

Assuming equal machine weight, regardless of the type of machine, the following factors (1-4) affect compaction:



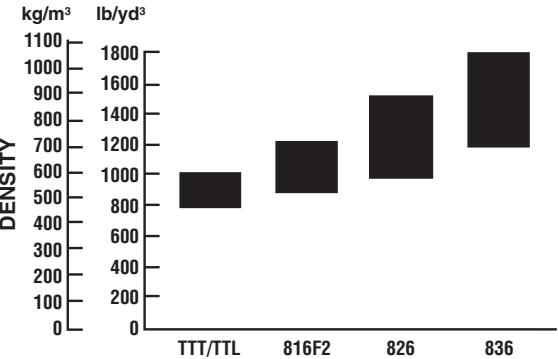
1. Refuse Layer Thickness — The depth of each compacted layer is perhaps the single most important controllable factor influencing density. To obtain maximum density, waste should be spread and compacted in layers **not exceeding a depth of 610 mm (2 ft)**. Thicker layers will reduce the density that a machine can develop in a given number of passes. (Density figures shown do not



- include cover material.)
2. Number of passes made over the refuse also affects density. Regardless of the type of machine used, the unit should make 3-4 passes to achieve optimum density. The following graph illustrates that more than four passes result in little additional compactive effort. The added expense of additional passes is not justified by the incremental increase in density.
3. Slope — Maximum compactive effort by a track-type unit is achieved by working the waste on a slope of 3:1 or less. Track-type machines achieve higher densities by grinding and shredding the refuse into smaller pieces as they climb a slope. Just the opposite is true for landfill compactors, the flatter the slope the better. This is because the weight of the landfill compactor is more efficiently utilized and concentrated when working on a flat surface. Landfill compactors that are used on slight slopes achieve a higher compaction density due to shearing stress that aids shredding and better blending of material.

COMPACTION COMPARISON ESTIMATE

The following graph may be used as a rule of thumb for the compactive ranges of various types of landfill machines if proper operating technique is employed.



EXAMPLE OF INCREASED COMPACTION
ON POTENTIAL LANDFILL LIFE

Landfill refuse capacity	1 530 000 m³ (2,000,000 yd³)
Operating days	260
Daily volume	365 metric tons (400 tons)
Yearly volume	94 328 metric tons (104,000 tons)

Compaction	Landfill Life	Gain
590 kg/m³ 1000 lb/yd³	9.6 years	0
710 kg/m³ 1200 lb/yd³	11.5 years	1.9 years
830 kg/m³ 1400 lb/yd³	13.4 years	3.8 years
950 kg/m³ 1600 lb/yd³	15.3 years	5.7 years
1070 kg/m³ 1800 lb/yd³	17.2 years	7.6 years

COMPUTER AIDED EARTHMOVING
SYSTEMS (CAES)

The Computer Aided Earth Moving System (CAES) is a landfill management system designed for the landfill industry. CAES is designed to enable landfill personnel to maximize machine productivity and job efficiency, conserve airspace, manage cover material, improve machine utilization, collect survey data and more by combining high precision GPS technology with a wireless mobile communications system. Planning and design operations can be transmitted to the machines onboard computer, which shows the machine location relative to the design area, current surface, and final design surface, (waste and cover). Landfill operators achieve maximum compaction effectiveness by making only the necessary number of passes over the waste. Working CAESultra as a team concept with Compactors, Track-type tractors

and cover machines will increase your airspace utilization, while reducing survey time and amount of unnecessary work. Additionally, CAES permits the recording of site-specific storage areas such as hazardous waste, medical, industrial, organic, or other materials that require special handling or a geographic record of their placement. CAES provides numerous reporting and recording features allowing landfill personnel to have real time information about landfill operations enabling them to make informative operational decisions. All of this is monitored and managed in the landfill office with CAESultra Office Software.

In this example, each 120 kg (200 lb) increase in refuse density results in an additional 1.9 years of landfill life. Also this example is exclusive of cover requirements.

COMPACTOR PRODUCTION GUIDELINES

Model	Tons/Day		Tons/Hr	
	Metric	U.S.	Metric	U.S.
836H	1016	1000	127	125
826H	813	800	102	100
816F2	508	500	63.5	62.5

All models are pushing refuse 61 m (200 ft) spreading and making 3 to 4 passes to compact. A pass is defined as: A machine traveling over the refuse one time in one direction on flat level ground. Adverse (uphill) or favorable (downhill) grades will effect the above production figures.

- F. *Landfill method utilized* — impacts the equipment needed. The area method, which is generally suited for flat or gradual sloping surfaces will get maximum compaction effort with a compactor. The trench method may require a track loader due to its excavating and tractive capabilities.
- G. *Supplemental tasks* — should be reviewed before selecting a landfill machine. Will the machine be required for site clearing, maintaining access roads, excavating, etc.? Auxiliary duties may require additional machine capability and/or attachments. If versatility is the key consideration, a track-type machine again becomes the logical choice.
- H. *Budget* — Smaller landfill operations with limited budgets may have to consider single machine versatility ahead of specialized machines or multiple units.
- I. *Growth* — Future increases in refuse volume must be considered to properly size machines.

LANDFILL ESTIMATING

Example Problem #1

A professional engineer has developed a small, rural landfill master plan. The local legislative regulatory agency has approved the plan and site.

Assume:

Waste generation: 2.04 kg/day (4.5 lb/day) per person

Waste collection: 6 days/week

Topography: flat

Land availability:

area has several suitable sites at nominal price

Population served: 30,000

Projected population in 3 years: 40,000

Current daily refuse volume: ?

Type of refuse: mostly household, some commercial

Operation: propose 8 hours/day, 5½ days/week

Present equipment: none — new site

What would your comments and recommendations be on the following?:

- Probable amount of refuse generated daily?
- Type of machine for the proposed Landfill?
- Size of machine for the proposed Landfill?

Solution

- The current incoming waste stream can be determined to be 2.04 kg/day (4.5 lb/day) per person × 30,000 people = 61.2 metric tons (67.5 tons) daily. You must now multiply that daily generation rate by 7 for the total weekly generation, and divide by the number of days that the waste is collected (6). Therefore, your waste collection per day will be (61.2 tons/day × 7 days)/6 days of collection = 71.4 metric tons (78.7 tons) collected daily.

The same equation can be used to determine the three year projected waste stream of 40,000 residents to be 81.6 metric tons (90 tons) generated daily, 95.2 metric tons (105 tons) collected each day.

- Track loader — excavating ability, single machine application based on tonnage requirements.
- 953C handle current refuse, and has extra capacity for future growth. Small compactor if additional compaction is required.

Example Problem #2

Existing landfill has been in operation for several years.

Assume:

Type of operation: area fill

Cover material: suitable material within 90 m (300 ft)

Current daily refuse volume: 500 metric tons (550 tons)

Anticipated daily refuse volume in 3 years: 680 metric tons (750 tons)

Type of refuse: household, commercial, large amount of brush and building demolition debris

Land availability: limited, very expensive

Available Refuse Volume: 3 249 125 m³ (4,250,000 yd³)

Operation: 8 hours/days, 5½ days/week

Present equipment: D8 (3 years old)

What would your comments and recommendations be on the following:

- What range of in-place densities could be expected using a track-type tractor; a Cat steel wheeled landfill compactor?
- What effect does machine selection have on site life?
- What are the advantages and limitations of steel wheeled landfill compactors?
- What are the advantages and limitations of track-type units?
- How many machines should be used on the site?
- What type should they be?
- What size should they be?

Solution

- a. The Track-Type Tractor will achieve 475 to 595 kg/m³ (800 to 1000 lb/yd³) in-place density. The Cat steel wheeled landfill compactor will achieve 595 to 830 kg/m³ (1000 to 1400 lb/yd³) in-place density.
- b. There are 3 249 125 m³ (4,250,000 yd³) available. 500 metric tons (550 tons) per day is how many m³ (yd³)? Assume a minimum density of 475 kg/m³ (800 lb/yd³).

$$500 \text{ metric tons/day} \times \frac{1000 \text{ kg/metric ton}}{475 \text{ kg/m}^3} = 1052 \text{ m}^3/\text{day}$$

$$550 \text{ tons/day} \times \frac{2000 \text{ lb/ton}}{800 \text{ lb/yd}^3} = 1375 \text{ yd}^3/\text{day}$$

$$5.5 \text{ days/week} \times 52 \text{ weeks/year} = 286 \text{ days/year}$$

$$\begin{aligned} \text{Yearly volume: } 1052 \times 286 &= 300\,872 \text{ m}^3 \\ 1375 \times 286 &= 393,250 \text{ yd}^3 \end{aligned}$$

Landfill life at this density:

$$\frac{3\,250\,000 \text{ m}^3}{300\,872 \text{ m}^3/\text{year}} = \frac{4,250,000 \text{ yd}^3}{393,250 \text{ yd}^3/\text{year}} = 10.8 \text{ years}$$

Similar calculations are performed to generate the following tables.

500 METRIC TONS/DAY (550 TONS/DAY)		
Density		Landfill Life (years)
kg/m ³	lb/yd ³	
475	800	10.8
595	1000	13.5
715	1200	16.2
835	1400	18.9
950	1600	21.6

680 METRIC TONS/DAY (750 TONS/DAY)		
Density		Landfill Life (years)
kg/m ³	lb/yd ³	
475	800	7.9
595	1000	9.9
715	1200	11.9
835	1400	13.9
950	1600	15.9

From the tables we determine that a track-type tractor, at 500 metric tons per day (550 tons/day), will provide 13.5 landfill life years at 595 kg/m³ (1000 lb/yd³). Compaction will extend that life 5.4 years to 18.9 years at 835 kg/m³ (1400 lb/yd³).

Proper compaction techniques are necessary to achieve the higher refuse densities and increase landfill life.

- c. Advantages: Provides highest compaction densities extending landfill life.

Limitations: Specialty unit designed to spread and compact — does not excavate virgin material economically, but can handle stockpile cover material.

- d. Advantages: most versatile unit, well suited to site preparation, finishing and access road construction and maintenance; all weather machines with excellent tractive ability.

Limitation: compaction — cannot achieve the in-place refuse densities of the specialized landfill compactors.

- e. Minimum of two. Additional equipment would depend on supplemental tasks.

- f. Track-type tractor — for earthmoving and refuse spreading work; steel wheeled compactor-quantity of refuse and land cost would justify.

- g. D8 — keeping existing unit; D9 — when new tractor is necessary; 826H — with large amount of demolition debris and brush and projected increase in tonnage would justify 826H over 816F2.

NOTE: Ballasting the wheels on Cat Landfill Compactors to increase machine weight and achieve higher compaction densities is not recommended. Landfills are high rimpull applications. Ballasting the wheels will significantly increase machine weight but decrease overall performance when traveling on the fill. Also, wheels are not necessarily air tight or leak proof.

Cat Waste Handling Track-Type Tractor modifications are purpose built and installed at the original manufacturing facility prior to shipment.

Features:

- **Hinged heavy duty radiator doors** are guarded to prevent excessive trash build-up. Quick release handles allow easy access for cleaning.
- **Final drive, pivot shaft, and idler seal guarding** helps prevent wire, cable and similar material from winding around components and damaging seals.
- **Striker bars for front, rear and ripper (all optional)** keep trash from damaging fenders, fuel and hydraulic tanks or other sheet metal.
- **Lighting protection.** Front lights are mounted on top of bulldozer lift cylinders. Rear lights are ROPS mounted.
- **AMOCs Waste Handling Arrangement radiator** with 6 fins/inch. (Required on D6T through D10T, not available for D6N.)
- **Flexxaire fan** is mandatory option for D6T and D7R Series 2, not available for D6N.
- **Elevated sprocket** removes final drives from wear environment and eliminates impact loading for extended power train life.
- **Sheet metal guarding** near track and on dozer tilt hoses.
- **Fuel tank guards** keep trash from damaging fuel and hydraulic tanks or other sheet metal.
- **Clamshell guards** — a non-rotating guard installed over the final drives to help prevent wire wrap. Guards include inspection plates, not available for D6N and D6T EAME.
- **Reversible hydraulic demand fan** required for D8T, D9T, D10T, not available for D6N.
- **Heavy duty steps and grab handles** resist damage from landfill debris.
- **Center-shaped center hole track shoes (optional)** help keep track clean during machine operation.
- **Blade trash racks (optional)** prevent blade spill-over and damage to cylinders or radiator guard.
- **95 amp ducted alternator available on D6T, D7R Series 2, D8T, D9T, D10T** insures adequate current is available to maintain battery and operate accessories.
- **Elevated prescreener** to remove engine air inlet from debris environment. Larger surface area to resist plugging. Turbine precleaner is optional.
- **Cat turbine precleaner optimax dual-stage precleaner** removes large particulates from incoming air before they reach the air filter, helps extend filter life. (Optional on D6T through D10T.)
- **ROPS mounted air conditioning** helps prevent condenser core plugging. Provides full utilization of jacket water cooling system by avoiding additional heat load from radiator mounted condenser.
- **Laminated thermal shields** cover the exhaust stack inside the engine compartment, hot-side of the turbocharger, and the exhaust manifold. These shields reduce surface temperatures well below the flash point of most common combustibles encountered. (Optional on D6T through D8. Standard on D9T, D10T, not available for D6N.)
- **Chassis Guards.**
- **Sealed belly guards.**
- **Perforated engine enclosures** standard on D6T, D7R Series 2, D8T, D9T, and D10T. This configuration is unavailable when Sound Suppression is ordered.
- **Carrier rollers** not recommended.



D6N XL



D6N LGP



D6T WHA

MODEL	D6N XL		D6N LGP		D6T WHA	
Flywheel Power	111.8 kW	150 hp	111.8 kW	150 hp	138 kW	185 hp
Operating Weight (Power Shift Differential Steer)* SU Blade	—		—		18 393 kg	40,550 lb
Engine Model	C6.6 ACERT		C6.6 ACERT		C9 ACERT	
Rated Engine RPM	2200		2200		1850	
No. of Cylinders	6		6		6	
Bore	105 mm	4.13"	105 mm	4.13"	112 mm	4.4"
Stroke	127 mm	5.0"	127 mm	5.0"	149 mm	5.9"
Displacement	6.6 L	403 in ³	6.6 L	403 in ³	8.8 L	537 in ³
Track Rollers (Each Side)	7		8		6	
Width of Standard Track Shoe	610 mm	2'0"	840 mm	2'9"	560 mm	1'10"
Length of Track on Ground	2581 mm	8'6"	3117 mm	10'3"	2.67 m	8'9"
Ground Contact Area (with Std. Shoe)	3.15 m ²	4882 in ²	5.24 m ²	8122 in ²	2.98 m ²	4620 in ²
Track Gauge	1.89 m	6'2"	2.16 m	7'1"	1.88 m	6'2"
GENERAL DIMENSIONS:						
Height (Stripped Top)**	—		—		2.38 m	7'10"
Height (To Top of ROPS Canopy)	3.04 m	10'0"	3.14 m	10'4"	3.20 m	10'6"
Height (To Top of ROPS Cab)	3.10 m	10'2"	3.20 m	10'6"	3.19 m	10'5"
Overall Length (without Blade)	3.74 m	12'3"	4.17 m	13'8"	3.86 m	12'8"
with S Blade	—		—		4.90 m	16'1"
with SU Blade	5.16 m	16'11"	—		5.10 m	16'9"
with VPAT Blade	4.90 m	16'1"	5.37 m	17'7"	—	
with Angle Blade	—		—		5.01 m	16'5"
Width (Over Trunnion)	2.63 m	8'8"	—		2.64 m	8'8"
Width (without Trunnion — Std. Track)	2.50 m	8'2"	—		2.44 m	8'0"
Ground Clearance	394 mm	1'4"	507 mm	1'8"	383 mm	1'3"
Blade Types and Widths:						
Straight	—		—		3.36 m	11'0"
Angle Straight	—		—		4.17 m	13'8"
Full 25° Angle	—		—		3.78 m	12'5"
Semi-U	3.19 m	10'6"	—		3.26 m	10'8"
VPAT (Variable pitch, angle, and tilt) straight	3.27 m	10'9"	4.08 m	13'5"	—	
Fuel Tank Refill Capacity	299 L	79 U.S. gal	299 L	79 U.S. gal	424 L	112 U.S. gal

* Operating Weight includes ROPS canopy, operator, lubricants, coolant, full fuel tank, hydraulic controls and fluid, straight dozer with tilt, horn, back-up alarm, retrieval hitch and front pull hook.

** Height (stripped top) — without ROPS canopy, exhaust, pre-cleaner, seat back or other easily removed encumbrances.



MODEL	D6T XL WHA		D6T XW WHA		D6T LGP WHA	
Flywheel Power	149 kW	200 hp	149 kW	200 hp	149 kW	200 hp
Operating Weight (Power Shift Differential Steer)* SU Blade	20 148 kg	44,420 lb	20 739 kg	45,723 lb	21 783 kg	48,024 lb
Engine Model	C9 ACERT		C9 ACERT		C9 ACERT	
Rated Engine RPM	1850		1850		1850	
No. of Cylinders	6		6		6	
Bore	112 mm	4.4"	112 mm	4.4"	112 mm	4.4"
Stroke	149 mm	5.9"	149 mm	5.9"	149 mm	5.9"
Displacement	8.8 L	537 in ³	8.8 L	537 in ³	8.8 L	537 in ³
Track Rollers (Each Side)	7		7		8	
Width of Standard Track Shoe:	560 mm	1'10"	760 mm	2'6"	915 mm	3'0"
VPAT	560 mm	1'10"	760 mm	2'6"	810 mm	2'10"
Length of Track on Ground	2.87 m	9'5"	2.87 m	9'5"	3.28 m	10'9"
Ground Contact Area (with Std. Shoe)	3.22 m ²	4972 in ²	4.36 m ²	6780 in ²	5.99 m ²	9288 in ²
VPAT	3.22 m ²	4972 in ²	4.36 m ²	6780 in ²	5.31 m ²	8256 in ²
Track Gauge	1.88 m	6'2"	2.03 m	6'8"	2.29 m	7'6"
VPAT	2.13 m	7'0"	2.29 m	7'6"	2.29 m	7'6"
GENERAL DIMENSIONS:						
Height (Stripped Top)**	2.38 m	7'10"	2.38 m	7'10"	2.43 m	8'0"
Height (To Top of ROPS Canopy)	3.20 m	10'6"	3.20 m	10'6"	3.25 m	10'8"
Height (To Top of ROPS Cab)	3.20 m	10'6"	3.20 m	10'6"	3.25 m	10'8"
Overall Length (without Blade)	3.86 m	12'8"	3.86 m	12'8"	4.25 m	13'11"
with S Blade	—	—	—	—	5.47 m	17'11"
with SU Blade	5.33 m	17'6"	5.33 m	17'6"	—	—
with VPAT Blade	5.27 m	17'4"	5.27 m	17'4"	5.97 m	19'7"
with Angle Blade	5.21 m	17'1"	5.21 m	17'1"	—	—
Overall Length (VPAT)	3.86 m	12'8"	3.86 m	12'8"	4.25 m	13'11"
with S Blade	—	—	—	—	5.47 m	17'11"
with SU Blade	5.33 m	17'6"	5.33 m	17'6"	—	—
with VPAT Blade	5.27 m	17'4"	5.27 m	17'4"	5.97 m	19'7"
with Angle Blade	5.21 m	17'1"	5.21 m	17'1"	—	—
Width (Over Trunnion)	2.64 m	8'8"	2.95 m	9'8"	3.43 m	8'8"
Width (without Trunnion — Std. Track)	2.44 m	8'0"	2.74 m	9'0"	3.15 m	10'4"
Ground Clearance	383 mm	1'3"	383 mm	1'3"	433 mm	1'5"
Blade Types and Widths:						
Straight	—	—	—	—	4.06 m	13'4"
Angle Straight	4.17 m	13'8"	4.20 m	13'9"	—	—
Full 25° Angle	3.78 m	12'5"	3.81 m	12'6"	—	—
Semi-U	3.26 m	10'8"	3.56 m	11'8"	—	—
VPAT (Variable pitch, angle, and tilt) straight	3.88 m	12'9"	4.16 m	13'8"	4.16 m	13'8"
VPAT Full 25° Angle	3.55 m	11'8"	3.81 m	12'6"	3.81 m	12'6"
Fuel Tank Refill Capacity	424 L	112 U.S. gal	424 L	112 U.S. gal	424 L	112 U.S. gal

* Operating Weight includes ROPS canopy, operator, lubricants, coolant, full fuel tank, hydraulic controls and fluid, straight dozer with tilt, horn, back-up alarm, retrieval hitch and front pull hook.

** Height (stripped top) — without ROPS canopy, exhaust, pre-cleaner, seat back or other easily removed encumbrances.



MODEL	D7R Series 2 WHA		D7R XR Series 2 WHA		D7R LGP Series 2 WHA		D8R WHA	
Flywheel Power	179 kW	240 hp	179 kW	240 hp	179 kW	240 hp	228 kW	305 hp
Operating Weight:* Power Shift Differential Steer	28 108 kg	61,912 lb	28 764 kg	63,357 lb	30 328 kg	66,802 lb	37 630 kg	82,880 lb
Engine Model	3176C SCAC		3176C SCAC		3176C SCAC		3406E TA	
Rated Engine RPM	2100		2100		2100		2100	
No. of Cylinders	6		6		6		6	
Bore	125 mm	4.92"	125 mm	4.92"	125 mm	4.92"	137 mm	5.4"
Stroke	140 mm	5.5"	140 mm	5.5"	140 mm	5.5"	165 mm	6.5"
Displacement	10.3 L	629 in ³	10.3 L	629 in ³	10.3 L	629 in ³	14.6 L	893 in ³
Track Rollers (Each Side)	7		8		7		8	
ERF†	—		—		9		—	
Width of Standard Track Shoe	560 mm	1'10"	610 mm	2'0"	914 mm	3'0"	560 mm	1'10"
Length of Track on Ground	2.89 m	9'5"	3.05 m	10'0"	3.16 m	10'5"	3.21 m	10'6"
Ground Contact Area (w/Std. Shoe)	3.22 m ²	4996 in ²	3.72 m ²	5768 in ²	5.78 m ²	8960 in ²	3.57 m ²	5544 in ²
Track Gauge	1.98 m	6'6"	1.98 m	6'6"	2.24 m	7'4"	2.08 m	6'10"
GENERAL DIMENSIONS:								
Height (Stripped Top)**	2.56 m	8'5"	2.56 m	8'5"	2.74 m	9'0"	2.67 m	8'9"
Height (To Top of ROPS Canopy)	3.53 m	11'7"	3.53 m	11'7"	3.52 m	11'6"	3.51 m	11'6"
Height (To Top of ROPS Cab)	3.43 m	11'2"	3.43 m	11'2"	3.58 m	11'9"	3.45 m	11'3"
Overall Length (with SU Blade)***	—	—	—	—	—	—	6.91 m	22'8"
(without Blade)	—	—	—	—	—	—	4.93 m	16'2"
Overall Length (with S Blade)	5.69 m	18'8"	5.81 m	19'1"	5.78 m	19'0"	—	—
(without Blade)	4.67 m	15'4"	4.67 m	15'4"	4.67 m	15'4"	—	—
Width (Over Trunnion)	2.87 m	9'5"	2.87 m	9'5"	3.37 m	11'1"	3.05 m	10'0"
Width (without Trunnion — Std. Shoe)	2.54 m	8'4"	2.59 m	8'6"	3.15 m	10'4"	2.70 m	8'8"
Ground Clearance	414 mm	16.3"	414 mm	16.3"	496 mm	1'7.5"	606 mm	1'11"
Blade Types and Widths:								
Straight	3.52 m	11'7"	3.32 m	11'7"	4.55 m	14'11"	—	—
Angle Straight	4.50 m	14'9"	4.50 m	14'9"	—	—	4.99 m	16'4"
Full 25° Angle	4.12 m	13'6"	4.12 m	13'6"	—	—	4.52 m	14'10"
Universal	3.98 m	13'1"	3.98 m	13'1"	—	—	4.26 m	14'0"
Semi-U	3.69 m	12'2"	3.69 m	12'2"	—	—	3.94 m	12'11"
Fuel Tank Refill Capacity	479 L	127 U.S. gal	479 L	127 U.S. gal	479 L	127 U.S. gal	625 L	165 U.S. gal

* Operating Weight includes ROPS canopy, operator, lubricants, coolant, full fuel tank, hydraulic controls and fluid, straight dozer with tilt, horn, back-up alarm, retrieval hitch and front pull hook.

— D8R equipped with track guides, ROPS/FOPS cab, single shank ripper and SU blade.

** Height (stripped top) — without ROPS canopy, exhaust, seat back or other easily removed encumbrances.

*** Includes drawbar.

† ERF — Extended Track Roller Frame. Extends frame 366 mm (14.4"), adds 3 track sections and 2 rollers/side.

**MODEL****D8T WHA****D9T WHA****D10T WHA**

Flywheel Power	231 kW	310 hp	306 kW	410 hp	433 kW	580 hp
Operating Weight*	—		—		65 764 kg	
Power Shift Differential Steer	38 660 kg	85,150 lb	49 567 kg	109,180 lb	—	
Engine Model	C15 ACERT		C18 ACERT		C27 ACERT	
Rated Engine RPM	1850		1800		1800	
No. of Cylinders	6		8		12	
Bore	137 mm	5.4"	145 mm	5.7"	137 mm	5.4"
Stroke	172 mm	6.75"	183 mm	7.2"	152 mm	6"
Displacement	15.2 L	928 in ³	18.1 L	1106 in ³	27 L	1649 in ³
Track Rollers (Each Side)	8		8		8	
Width of Standard Track Shoe	560 mm	1'10"	610 mm	2'0"	610 mm	2'0"
Length of Track on Ground	3.21 m	10'6"	3.47 m	11'5"	3.88 m	12'9"
Ground Contact Area (w/Std. Shoe)	3.58 m ²	5544 in ²	4.24 m ²	6569 in ²	4.74 m ²	7347 in ²
Track Gauge	2.08 m	6'10"	2.25 m	7'5"	2.55 m	8'4"
GENERAL DIMENSIONS:						
Height (Stripped Top)**	2.67 m	8'9"	3.00 m	9'10"	3.22 m	10'7"
Height (To Top of ROPS Canopy)	3.46 m	11'4"	3.99 m	13'1"	4.34 m	14'3"
Height (To Top of ROPS Cab)	3.46 m	11'4"	3.82 m	12'6"	4.07 m	13'4"
Overall Length (with Blade and Ripper)	—		—		9.26 m	
(without Blade and Ripper)	—		—		5.33 m	
Overall Length (with SU Blade)***	6.09 m	20'0"	6.63 m	21'10"	7.50 m	24'8"
(without Blade)	4.64 m	15'2"	4.91 m	16'1"	5.33 m	17'6"
Width (Over Trunnion)	3.05 m	10'0"	3.30 m	10'10"	3.72 m	12'2"
Width (without Trunnion — Std. Shoe)	2.64 m	8'8"	2.87 m	9'5"	3.16 m	10'4"
Ground Clearance	618 mm	2'0"	596 mm	1'11" ■	615 mm	2'0"
Blade Types and Widths:						
Angle Straight	4.99 m	16'4"	—		—	
Full 25° Angle	4.52 m	14'10"	—		—	
Universal	4.26 m	14'0"	4.65 m	15'3"	5.26 m	17'3"
Semi-U	3.94 m	12'11"	4.31 m	14'2"	—	
Fuel Tank Refill Capacity	643 L	170 U.S. gal	889 L	235 U.S. gal	1109 L	293 U.S. gal

* Operating Weight includes ROPS canopy, operator, lubricants, coolant, full fuel tank, hydraulic controls and fluids, semi universal blade with tilt, back-up alarm, seat belts, lights, rigid drawbar and front towing device.

— D8T and D9T equipped with track guides, ROPS/FOPS cab, single shank ripper and SU blade.

— D10T includes 10 SU blade single shank ripper and ROPS cab.

** Height (stripped top) — without ROPS canopy, exhaust, seat back or other easily removed encumbrances.

*** Includes drawbar.

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MODEL	D6T, D6T XL and D6T LGP			
	6SU		6SU XL	
Type	Semi Universal		Semi Universal	
Blade Capacities w/Trash Rack*	11.2 m ³	14.3 yd ³	11.2 m ³	14.3 yd ³
Weight, Shipping** (Dozer)	3026 kg	6657 lb	3026 kg	6657 lb
Tractor and Dozer Dimensions:				
A Length (Blade Straight)	5.31 m	17'5"	5.55 m	18'2"
Blade Dimensions:				
B Width (including std. end bits)	3.26 m	10'8"	3.26 m	10'8"
C Height	2019 mm	6'7"	2019 mm	6'7"
D Max. Digging Depth	473 mm	18.6"	459 mm	18.1"
E Ground Clearance @ Full Lift	1104 mm	3'7.5"	1195 mm	3'11.1"
F Manual Tilt	670 mm	2'2.4"	670 mm	2'2.4"
G Max. Pitch	+5.3°–4.8°		+5.3°–4.8°	
H Max. Hydraulic Tilt	743 mm	2'5.3"	743 mm	2'5.3"
J Hydraulic Tilt (Manual Brace Centered)	408 mm	16.1"	408 mm	16.1"

* Blade capacities as determined by SAE J1265.

Notice that the capacity of the U-blade is the volume carried by a straight blade of the same dimensions plus the volume included in the "cup" of the U-blade. It is intended for **relative comparisons of dozer sizes**, and not for predicting capacities or productivities in actual field conditions.

** Shipping Weight — Total Bulldozer Arrangement includes: Blade, push arms or C-frame, braces, cylinders, lines, trunnions and lift cylinder mountings.

MODEL	D6T, D6T XL and D6T LGP			
	6S LGP		6SU XW	
Type	Straight		Semi Universal	
Blade Capacities*	9.4 m ³	12.3 yd ³	11.2 m ³	14.3 yd ³
Weight, Shipping** (Dozer)	2840 kg	6262 lb	3026 kg	6657 lb
Tractor and Dozer Dimensions:				
A Length (Blade Straight)	5.71 m	18'9"	—	
Blade Dimensions:				
B Width (including std. end bits)	4.04 m	13'3"	3.56 m	11'8"
C Height	1101 mm	3'7.3"	2019 mm	6'7"
D Max. Digging Depth	655 mm	2'1.2"	459 mm	18.1"
E Ground Clearance @ Full Lift	1083 mm	3'6.6"	1195 mm	3'11"
F Manual Tilt	632 mm	2'0.9"	670 mm	2'2.4"
G Max. Pitch	+5.3°–4.8°		+5.3°–4.8°	
H Max. Hydraulic Tilt	701 mm	2'3.6"	743 mm	2'5.3"
J Hydraulic Tilt (Manual Brace Centered)	385 mm	15.2"	743 mm	2'5.3"

* Blade capacities as determined by SAE J1265.

Notice that the capacity of the U-blade is the volume carried by a straight blade of the same dimensions plus the volume included in the "cup" of the U-blade. It is intended for **relative comparisons of dozer sizes**, and not for predicting capacities or productivities in actual field conditions.

** Shipping Weight — Total Bulldozer Arrangement includes: Blade, push arms or C-frame, braces, cylinders, lines, trunnions and lift cylinder mountings.

MODEL	D7R Series 2 and D7R LGP Series 2			
	7S		7SU	
Type	Straight		Semi Universal	
Blade Capacities*	10.9 m ³	14.2 yd ³	14.0 m ³	18.4 yd ³
Weight, Shipping** (Dozer)	4028 kg	8861 lb	4083 kg	8982 lb
Tractor and Dozer Dimensions:				
A Length (Blade Straight)	5.81 m	19'1"	6.03 m	19'9"
Blade Dimensions:				
B Width (including std. end bits)	3.90 m	12'10"	3.69 m	12'1"
C Height	1971 mm	6'6"	2133 mm	7'0"
D Max. Digging Depth	527 mm	1'8.7"	527 mm	1'8.7"
E Ground Clearance @ Full Lift	1145 mm	3'9.1"	1145 mm	3'9.1"
G Max. Pitch Adjustment	+3.1°–3.9°		+3.1°–3.9°	
H Max. Hydraulic Tilt	845 mm	2'9.3"	799 mm	2'7.4"
J Hydraulic Tilt (Manual Brace Centered)	501 mm	1'7.7"	474 mm	18.6"

* Blade capacities as determined by SAE J1265.

Notice that the capacity of the U-blade is the volume carried by a straight blade of the same dimensions plus the volume included in the "cup" of the U-blade. It is intended for **relative comparisons of dozer sizes**, and not for predicting capacities or productivities in actual field conditions.

** Shipping Weight — Total Bulldozer Arrangement includes: Blade, push arms or C-frame, braces, cylinders, lines, trunnions and lift cylinder mountings.

MODEL	D7R Series 2 and D7R LGP Series 2			
	7U		7S LGP	
Type	Universal		Straight	
Blade Capacities*	16.8 m ³	22 yd ³	12.3 m ³	16.1 yd ³
Weight, Shipping** (Dozer)	4402 kg	9684 lb	4113 kg	9061 lb
Tractor and Dozer Dimensions:				
A Length (Blade Straight)	6.27 m	20'7"	5.81 m	19'1"
Blade Dimensions:				
B Width (including std. end bits)	3.98 m	13'1"	4.50 m	14'9"
C Height	2162 mm	7'1"	1971 mm	6'6"
D Max. Digging Depth	527 mm	1'8.7"	668 mm	2'2.3"
E Ground Clearance @ Full Lift	1145 mm	3'9.1"	1153 mm	3'9.4"
G Max. Pitch Adjustment	+3.1°–3.9°		+3.0°–3.9°	
H Max. Hydraulic Tilt	861 mm	2'9.9"	686 mm	2'3"
J Hydraulic Tilt (Manual Brace Centered)	511 mm	1'8.1"	426 mm	16.8"

* Blade capacities as determined by SAE J1265.

Notice that the capacity of the U-blade is the volume carried by a straight blade of the same dimensions plus the volume included in the "cup" of the U-blade. It is intended for **relative comparisons of dozer sizes**, and not for predicting capacities or productivities in actual field conditions.

** Shipping Weight — Total Bulldozer Arrangement includes: Blade, push arms or C-frame, braces, cylinders, lines, trunnions and lift cylinder mountings.

MODEL	D8T WHA					
Type	8SU		8U		8SU LGP	
Blade Capacities*	20 m³	26.1 yd³	24.8 m³	32.4 yd³	21.1 m³	27.6 yd³
Dozer Weight**	5466 kg	12,025 lb	6313 kg	13,888 lb	5624 kg	12,400 lb
Tractor and Dozer Dimensions:						
Length Blade Straight	6.39 m	21'0"	6.79 m	22'3"	6.39 m	21'0"
Blade Dimensions:						
Width including std. end bits	3.94 m	12'11"	4.26 m	14'0"	4.52 m	14'10"
Height	2464 mm	8'1"	2515 mm	8'3"	2465 mm	8'1"
Maximum Dig Depth	582 mm	1'10.9"	582 mm	1'10.9"	582 mm	1'10.9"
Ground Clearance at full raise	1231 mm	4'0.5"	1231 mm	4'0.5"	1231 mm	4'1"
Maximum Hydraulic Tilt	951 mm	3'1.4"	1028 mm	3'4.5"	—	

MODEL	D9T WHA				D10T WHA	
Type	9SU		9U		10U	
Blade Capacities*	28.8 m³	37.6 yd³	33.5 m³	43.8 yd³	48.9 m³	63.9 yd³
Dozer Weight**	6964 kg	15,353 lb	8059 kg	17,751 lb	—	
Tractor and Dozer Dimensions:						
Length Blade Straight	6.84 m	22'5"	7.18 m	23'7"	8.01 m	26'3"
Blade Dimensions:						
Width including std. end bits	4.31 m	14'2"	4.65 m	15'3"	5.26 m	17'3"
Height	2845 mm	9'4"	2845 mm	9'4"	3174 mm	10'5"
Maximum Dig Depth	606 mm	1'11.9"	606 mm	1'11.9"	679 mm	2'2.5"
Ground Clearance at full raise	1422 mm	4'8"	1422 mm	4'8"	1497 mm	4'10.9"
Maximum Hydraulic Tilt	940 mm	3'1"	1014 mm	3'3.9"	1074 mm	3'6.3"

*Blade capacities, weights and heights include 762 mm (2'6") trash rack on D8T blades, 914 mm (3'0") trash rack on D9T blades, and 1067 mm (3'6") trash rack on D10T blades.
**Total bulldozer arrangement includes blade with trash rack, pusharms, braces, cylinders, lines, trunnions and lift cylinder mountings.

Features:

- **Unmatched versatility** — excavates, loads, carries, covers, dozes, spreads, compacts, shreds, sorts, grapples — a true all purpose machine. Performs well as a one-machine fleet, a support machine or an all-around backup unit.
- **Demolition applications** — The Waste Handling Arrangement (963C and 973C Waste Demolition Specials) can also be used in demolition or demolition transfer stations when properly equipped with the extra guarding required for this severe environment.
- **Special guard** protects the final drive seals, pivot shafts and idlers from debris that can wrap around and damage these components.
- **Cat Turbine Precleaner** with prescreener to prevent airborne debris from clogging engine air intake.
- **Additional heavy duty guarding** helps protect sheet metal and machine components from damage in waste handling applications.
- **Improved serviceability** — swing open doors, guards and air coolers give quick access for cleaning debris and servicing.
- **Hinged, heavy duty radiator guard** with quick release “T” handles allows for easy access to clean the radiator.
- **Debris Barrier Package** protects machine from material entering engine and other compartments.
- **Lamp guard group** protects front and rear lamps with bolt on grids.
- **Optional rear striker bars** keep trash from climbing the track and damaging fenders.
- **Optional final drive abrasion guards** are available in two-piece or four-piece sections to protect the final drive case from premature wear from abrasion or gouging.
- **Optional single grouser, trapezoidal-shaped center hole track shoes** provide maximum traction. The center holes allow sprocket to punch out dirt and debris, best choice for landfill applications.
- **Flexxaire engine cooling fan** (optional on 973C) manually or automatically changes direction to purge accumulated debris from the radiator.
- **SystemOne™** undercarriage system is a Caterpillar exclusive that matches the customer requirements of longevity and reliability and enables the owner to get higher profitability and a better return on investment. This revolutionary undercarriage significantly reduces the Owning & Operating costs and has been totally redesigned. This feature offers a dramatic increase in reliability for this most demanding application.
- **Cab and Operator Comfort** — Standard air suspension seat, air conditioning, adjustable steering pedals, storage area, and excellent visibility enable the operator to be more comfortable in this application for better profitability.



MODEL	953D WHA		963D WHA		973C WHA	
Flywheel Power	110 kW	148 hp	141 kW	189 hp	178 kW	239 hp
Operating Weight*	15 595 kg	34,381 lb	21 000 kg	46,305 lb	27 803 kg	61,295 lb
Engine Model	C6.6 ACERT		C6.6 ACERT		C9 ACERT	
Rated Engine RPM	2000		2000		2000	
Bore	105 mm	4"	105 mm	4.13"	112 mm	4.41"
Stroke	127 mm	5"	127 mm	5"	149 mm	5.87"
No. Cylinders	6		6		6	
Displacement	6.6 L	402.7 in ³	6.6 L	402.7 in ³	8.8 L	537 in ³
Speeds, Forward/Reverse:						
1st	0-10 km/h	0-6.2 mph	0-10 km/h	0-6.2 mph	0-10 km/h	0-6.2 mph
2nd	Infinitely		Infinitely		Infinitely	
3rd	Variable		Variable		Variable	
Hydraulic Cycle Time, Bucket Empty, in Seconds:						
Raise	6.1		5.9		6.7	
Dump	3.1		3.7		1.5	
Lower (Empty, Float Down)	3.2		2.2		2.9	
Track Rollers (Each Side)	6		6		7	
Width of Standard Track Shoes	480 mm	19"	550 mm	21.6"	500 mm	19.7"
Length of Track on Ground	2323 mm	91.4"	2543 mm	100.1"	2930 mm	115"
Ground Contact Area (with Standard Shoes)	2.3 m ²	3565 in ²	2.8 m ²	4340 in ²	2.93 m ²	4542 in ²
Ground Pressure	65.5 kPa	9.5 psi	71.5 kPa	10.3 psi	93.1 kPa	13.5 psi
Ground Clearance	436 mm	17.2"	483 mm	19"	457 mm	17.9"
Track Gauge	1800 mm	71"	1850 mm	72.8"	2080 mm	82"
Width without Bucket	2280 mm	89.7"	2400 mm	94.5"	2580 mm	102"
Fuel Tank Refill Capacity	285 L	75.3 U.S. gal	336.5 L	88.8 U.S. gal	430 L	113 U.S. gal
Hydraulic System Refill Capacity	124 L	32.8 U.S. gal	166 L	43.8 U.S. gal	159 L	42 U.S. gal

*Includes GP landfill bucket with bolt-on adapters, long tips and segments.

See Wheel Loader section of this book for summary of S.A.E. Guidelines for Loader Specifications, to which Caterpillar adheres.

MULTI-PURPOSE LANDFILL BUCKETS

Machine Model	953D		963D		973C	
Bucket Model	B53-3ML 293-1974		B63-4ML 286-0049		B73-6ML 271-7028	
Capacity, rated (Refuse)	2.1 m ³	2.75 yd ³	2.7 m ³	3.5 yd ³	4.1 m ³	5.36 yd ³
Capacity, rated (Earth)	1.5 m ³	2 yd ³	1.8 m ³	2.4 yd ³	2.68 m ³	3.5 yd ³
Width	2536 mm	99.84"	2573 mm	101.30"	2816 mm	110.87"
Height	1677 mm	66.02"	1750 mm	68.90"	1945 mm	76.57"
Depth	1433 mm	56.41"	1537 mm	60.51"	1608 mm	63.30"
Teeth — Optional	8		8		8	
Clearance @ 45° dump	2738 mm	9'0"	2870 mm	9'5"	3121 mm	10'3"
Reach @ 45° dump	961 mm	3'2"	1013 mm	3'4"	1220 mm	4'0"
Digging Depth	147 mm	5.7"	161 mm	6.3"	200 mm	7.9"
Weight (approx.)	1668 kg	3678 lb	2206 kg	4864 lb	3189 kg	7032 lb

GENERAL PURPOSE LANDFILL BUCKETS

Machine Model	953D		963D		973C	
Bucket Model	B53-3ML 264-1911		B63-4ML 264-4742		B73-6ML 269-8041	
Capacity, rated (Refuse)	2.3 m ³	3.0 yd ³	3.1 m ³	4.1 yd ³	4.7 m ³	6.1 yd ³
Capacity, rated (Earth)	1.75 m ³	2.29 yd ³	2.3 m ³	3.0 yd ³	3.5 m ³	4.6 yd ³
Width	2458 mm	96.77"	2612 mm	102.83"	2854 mm	112"
Height	1607 mm	63.2"	1778 mm	70"	1936 mm	76.22"
Depth	1450 mm	57.1"	1480 mm	58.3"	1541 mm	60.6"
Teeth — Optional	8		8		8	
Clearance @ 45° dump	2855 mm	9'0"	3155 mm	10'4"	3121 mm	10'3"
Reach @ 45° dump	999 mm	3'3"	1147 mm	3'9"	1220 mm	4'0"
Digging Depth	85 mm	5.7"	161 mm	6.3"	200 mm	7.9"
Weight (approx.)	1266 kg	2792 lb	1888 kg	4163 lb	1957 kg	4314 lb

Features:

- **Caterpillar designed and manufactured power train** ... for optimum match, performance and efficiency. Responsive Cat diesel engine. Single-lever planetary power shift. All-wheel drive.
- **Center-point articulation** ... excellent maneuverability. Front and rear drums track, so material is chopped and compacted twice each pass.
- **Protective guarding** ... helps keep trash from damaging machine components.
- **Cat landfill blades** spread refuse and cover material ... built strong to handle the wide range of refuse encountered in landfills.
- **Operator comfort and convenience** ... sound suppressed cab with pressurized and filtered air circulation system. Adjustable suspension seat. Electronic Monitoring System and gauge package is standard. Optional air conditioner available.
- **Striker bars** ... standard on 816F2, 826H and 836H, prevents refuse from being carried over the rear wheels.
- **Smooth wheel option** ... If our tip selection does not meet your needs, consider our Cat smooth steel wheel. We test and build a Cat system. Engineers who work together with our power train, structures and manufacturing engineers design and manufacture our wheels in the same facility in which the machines are designed and built. This ensures the entire system is complemented by each component. If you alter components, you could compromise a system that was designed and tested for peak performance. If a wheel is produced that does not meet our design specifications and does not balance the load over our final drives, it could reduce the life of the bearing substantially and wear out other components creating unnecessary downtime. This also allows our standard axle guard system to work with the components for which it was designed.

Specifications

● Rimpull

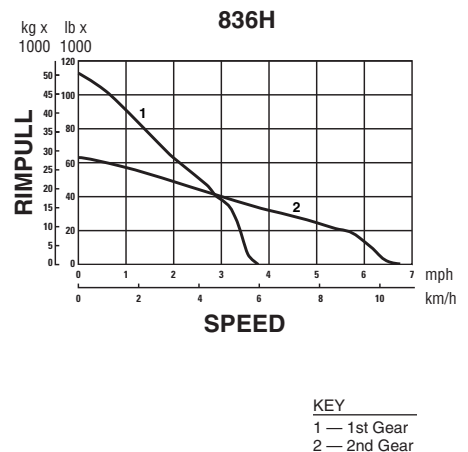
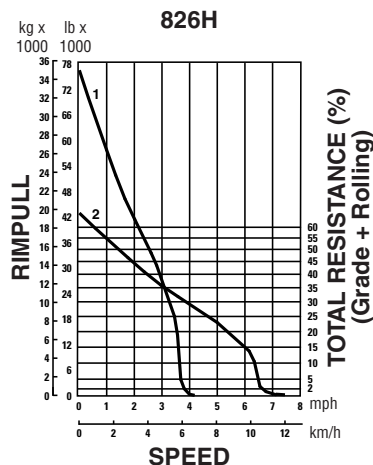
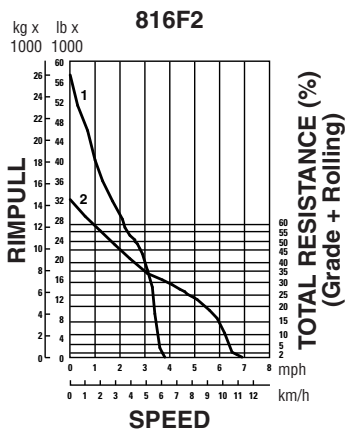
Waste Handling Landfill Compactors



MODEL	816F2		826H		836H	
Flywheel Power	189 kW	253 hp	264 kW	354 hp	372 kW	499 hp
Operating Weight*	23 744 kg	52,364 lb	36 967 kg	81,498 lb	53 682 kg	118,348 lb
Engine Model	C9 ACERT		C15 ACERT		C18 ACERT	
Rated Engine RPM	2100		1800		1800	
No. Cylinders	6		6		6	
Displacement	8.8 L	537 in ³	15.2 L	928 in ³	18.1 L	1105 in ³
Speeds:						
Forward	2		2		2	
Reverse	2		2		2	
Turning Radius with Straight Blade						
Inside Blade Corner	3.5 m	11'6"	3.2 m	10'6"	4.3 m	14'11"
Outside Blade Corner	6.5 m	21'2"	7.3 m	24'6"	9.0 m	29'6"
Fuel Tank Refill Capacity	464 L	122.6 U.S. gal	640 L	169.1 U.S. gal	795 L	210 U.S. gal
WHEELS:	PLUS TIP		PLUS TIP		PLUS TIP	
Each Drum Width	1.02 m	3'4"	1.2 m	3'11"	1.4 m	4'7"
Diameters, over Tips	1.7 m	5'10"	1.9 m	6'6"	2.0 m	6'9"
Drum only	1.3 m	4'3"	1.53 m	5'0"	1.62 m	5'8"
Tips per Wheel	20		25		35	
Tip Height	158 mm	6.5"	158 mm	6.5"	158 mm	6.5"
Chopper Blades per Wheel	20		24		28	
Blade Height	152 mm	6"	158 mm	6"	158 mm	6"
Width of Two Pass Coverage	4.5 m	14'9"	4.78 m	15'8"	5.67 m	18'7"
GENERAL DIMENSIONS:						
Height (Overall)	3.8 m	12'8"	4.2 m	13'7"	4.5 m	14'9"
Height (Top of Cab)	3.4 m	11'3"	3.8 m	12'8"	4.1 m	13'6"
Wheel Base	3.35 m	11'0"	3.7 m	12'2"	4.55 m	14'11"
Overall Length with Dozer	7.85 m	25'7"	8.27 m	27'2"	10.18 m	33'5"
Width over Drums	3.33 m	10'11"	3.8 m	12'8"	4.18 m	14'1"
Ground Clearance	456 mm	1'5"	489 mm	1'6"	697 mm	2'3"
LANDFILL BULLDOZER:						
Width	3.65 m	12'0"	4.5 m	14'9"	5.19 m	17'0"
Height**	1.91 m	6'3"	1.91 m	6'3"	2.22 m	7'3"

*Operating Weight includes coolant, full hydraulics, full fuel tank, all heaviest options and 82 kg (180 lb) operator.

**Height (stripped top) — without ROPS cab, exhaust, seat back or other easily removed encumbrances.



MODEL	816F2		826H		836H	
Type	Landfill Spreading		Landfill Spreading		147-4425 Straight	
Capacity**						
Earth	2.9 m³	3.79 yd³	3.68 m³	4.81 yd³	5 m³	6.66 yd³
Refuse	11 m³	14.39 yd³	13 m³	17 yd³	19.8 m³	25.9 yd³
Weight, Dozer*	2107 kg	4645 lb	2739 kg	6038 lb	3400 kg	7650 lb
General Dimensions: (Tractor and Dozer)						
Length	7.85 m	25'9"	8.33 m	27'4"	10.18 m	33'4"
Width	3.65 m	12'0"	4.5 m	14'9"	5.19 m	17'0"
Blade Dimensions:						
Width, End Bits	3.65 m	12'0"	4.5 m	14'9"	5.19 m	17'0"
Height, Trash Rack	1914 mm	6'3"	1898 mm	6'2"	2222 mm	7'3"

*Total Bulldozer Arrangement.

**Blade capacities determined by SAE recommended practice J1265.

U-BLADE	816F2		826H		836H	
Model:	7Q-8239		263-6869		260-2015	
Blade:						
Capacity (Refuse)	9.74 m³	12.74 yd³	16.7 m³	21.8 yd³	9.74 m³	13 yd³
Length (Cutting Width)	3.73 m	12'3"	4.39 m	14'5"	3.73 m	12'3"
Weight, Installed (without Hydraulics)	—	—	2935 kg	6471 lb	3839 kg	8465 lb

SEMI-U BLADE	816F2		826H		836H	
Model:	213-4473		263-6870		260-2016	
Blade:						
Capacity (Refuse)	8.95 m³	11.71 yd³	14.5 m³	18.9 yd³	22.4 m³	29.3 yd³
Length (Cutting Width)	3.71 m	12'2"	4.49 m	14'9"	5.31 m	17'5"
Weight, Installed (without Hydraulics)	—	—	3004 kg	6623 lb	3744 kg	8256 lb

Features:

Cat Waste Handling Wheel Loaders are equipped with the features and protection required in a demanding waste handling environment. These Caterpillar designed and built machines feature the following advantages:

- **Exceptional productivity** with fast cycle times for maximum production day-in day-out whether dozing, loading, stacking, or load and carry.
- **Protected work environment** enhances operator comfort, convenience and productivity.
- **Modified front frames** — (Standard on the 980H WHA) provide large cutouts that allows debris to fall out rather than packing and also provide easy access if cleaning is necessary.
- **Standard front drive guard and axle seal guards** (except 980H) protect from wire, string, strapping and other debris from wrapping and causing damage.
- **Front light guards** protect the lights from debris falling over the bucket spill plate.
- **Hinged crankcase and power train guards** help protect the engine and power train. The hinged design provides easy access for cleaning. (Powered guards available on some models.)
- **Standard waste application cooling system.** The improved, trash-resistant, multi-row module (IMRM) radiator, hood and engine enclosures work as a system to keep the radiator and engine compartment free of debris.
- **Trash resistant IMRM radiator** has six fins per inch (25.4 mm) and in-line tubes that resist plugging by allowing debris to pass through the core.
- **Hinged radiator prescreener** (966H and 972H) eliminates debris larger than what the radiator core will pass.
- **Hinged grill** (966H and 972H) allows access to hydraulic oil cooler and air conditioning condenser, which swing out for easy cleaning.

Recommended Waste Handling Options

- **Powered crankcase and power train guards** raise and lower at the flip of a switch allowing fast, easy and frequent cleanings.
- **High lift arrangement** increases bucket hinge pin height offering increased stacking and stockpiling capability. A critical feature when incoming volumes exceed conveyor capacity or floor space.
- **Traction control system (TCS)** option for 938H/IT38H provides maximum traction in slippery conditions. TCS electronically senses and limits wheel slip at each wheel independently.
- **Limited-slip differential** limits tire slip on both front and rear axles. Increases traction and reduces tire wear and scuffing in wet or dry conditions. Provides an alternative to the No SPIN differential which is not recommended due to increased tire wear, turning interference and poor tracking on dry surfaces.
- **Tire options:**
L-5 bias hard rock lug
L-5 slick
RL-5K Goodyear radials
XMINE Michelin radials (varies by model)
Foam-filled
- **Hitch guards** help protect components in hitch area from damage.
- **Reversing radiator fan** is hydraulically driven and can be reversed by a switch in the operator station or automatically by timer. Reduces need for cooling system cleaning and improves cooling capability.
- **Other guarding and options** are available. Contact your Cat dealer for information.

Work Tools

- **Refuse bucket** has excellent dozing and stockpiling capability. Large spill plate helps protect the machine from debris falling over the top of the bucket. Available in pin-on or quick coupler configurations.
- **Pallet forks** are ideal for handling refuse destined for further recycling or stacking refuse in landfills for covering.
- **Multi-purpose bucket** has the capability to clamp and sort large objects, doze cover material or other light dozing chores.
- **Quick coupler** increases versatility by allowing a single machine to utilize a wide variety of work tools in a host of applications.

								
MODEL	924Hz WHA		924H WHA		928Hz WHA		930H WHA	
Flywheel Power	96 kW	129 hp	96 kW	129 hp	111 kW	149 hp	111 kW	149 hp
Peak Power	102 kW	137 hp	102 kW	137 hp	119 kW	160 hp	119 kW	160 hp
Engine Model	C6.6		C6.6		C6.6		C6.6	
Rated Engine RPM	2300		2300		2300		2300	
Bore	105 mm	4.13"	105 mm	4.13"	105 mm	4.13"	105 mm	4.13"
Stroke	127 mm	5"	127 mm	5"	127 mm	5"	127 mm	5"
No. Cylinders	6		6		6		6	
Displacement	6.6 L	403 in ³	6.6 L	403 in ³	6.6 L	403 in ³	6.6 L	403 in ³
Speeds Forward	km/h	mph	km/h	mph	km/h	mph	km/h	mph
1st	6.6	4.1	6.6	4.1	7.9	4.9	6.9	4.3
2nd	12.0	7.5	12.0	7.5	12.6	7.8	12.9	8.0
3rd	21.3	13.2	21.3	13.2	25.8	16.0	22.9	14.2
4th	38.0	23.6	38.0	23.6	37.7	23.4	39.7	24.7
Speeds Reverse								
1st	6.6	4.1	6.6	4.1	7.9	4.9	6.9	4.3
2nd	12.0	7.5	12.0	7.5	12.6	7.8	12.9	8.0
3rd	21.3	13.2	21.3	13.2	25.8	16.0	22.9	14.2
Hydraulic Cycle Time*								
Rated Load in Bucket:	Seconds		Seconds		Seconds		Seconds	
Raise	5.2		5.2		6.0		5.0	
Dump	1.1		1.6		1.2		1.7	
Lower (empty, float down)	3.0		2.7		3.0		2.9	
Total	9.3		9.5		10.2		9.6	
Tread Width**	1.83 m	6'0"	1.83 m	6'0"	1.95 m	6'5"	1.96 m	6'5"
Width Over Tires**	2.44 m	8'0"	2.44 m	8'0"	2.57 m	8'5"	2.57 m	8'5"
Ground Clearance**	436 mm	1'5"	436 mm	1'5"	408 mm	1'4"	411 mm	1'4"
Fuel Tank Capacity	225 L	59.4 U.S. gal	225 L	59.4 U.S. gal	225 L	59.4 U.S. gal	225 L	59.4 U.S. gal
Hydraulic Tank Capacity	70 L	18.5 U.S. gal	70 L	18.5 U.S. gal	70 L	18.5 U.S. gal	70 L	18.5 U.S. gal
Hinge Pin Height:								
Full Lift Std.	3.76 m	12'4"	3.88 m	12'9"	3.87 m	12'8"	4.049 m	13'3"
High Lift	—	—	4.32 m	14'2"	—	—	4.549 m	14'11"
Operating weight up to:	12 613 kg	27,749 lb	13 191 kg	29,020 lb	14 092 kg	31,002 lb	14 751 kg	32,452 lb

*With standard lift arms.

**With standard tires.


938H WHA
IT38H WHA

950H WHA

962H WHA
IT62H WHA

MODEL						
Net Power	134 kW	180 hp	146 kW	196 hp	158 kW	211 hp
Gross Power	147 kW	197 hp	161 kW	216 hp	172 kW	230 hp
Engine Model	C6.6		C7 ATAAC		C7 ATAAC	
Rated Engine RPM	2100		1800		1800	
Bore	105 mm	4.13"	110 mm	4.3"	110 mm	4.3"
Stroke	127 mm	5"	127 mm	5"	127 mm	5"
No. Cylinders	6		6		6	
Displacement	6.6 L	403 in³	7.2 L	439 in³	7.2 L	439 in³
Speeds Forward	km/h	mph	km/h	mph	km/h	mph
1st	7.9	4.9	6.9	4.3	7.0	4.4
2nd	14.2	8.8	12.7	7.9	13.0	8.1
3rd	25.0	15.5	22.3	13.9	22.6	14.0
4th	41.1	25.5	37.0	23.0	38.0	23.6
Speeds Reverse						
1st	7.9	4.9	7.6	4.7	7.6	4.7
2nd	14.2	8.8	13.9	8.6	13.9	8.6
3rd	25.0	15.5	24.5	15.2	24.5	15.2
4th	—		40.5	24.9	40.0	24.9
Hydraulic Cycle Time*	Seconds		Seconds		Seconds	
Rated Load in Bucket:	938H	IT38H				
Raise	5.4	5.0	6.2		6.2	
Dump	1.4	2.0	1.3		1.3	
Lower (empty, float down)	2.7	2.7	2.5		2.5	
Total	9.5	9.7	10.0		10.0	
Tread Width**	2.02 m	6'8"	2.14 m	7'0"	2.14 m	7'0"
Width Over Tires**	2.65 m	8'8"	2.79 m	9'2"	2.79 m	9'2"
Ground Clearance**	397 mm	16"	412 mm	16"	412 mm	16"
Fuel Tank Capacity	247 L	65.3 U.S. gal	314 L	83 U.S. gal	314 L	83 U.S. gal
Hydraulic Tank Capacity	89 L	23.5 U.S. gal	110 L	29 U.S. gal	110 L	29 U.S. gal
Hinge Pin Height:						
Full Lift Std.	3.85 m	12'7"	3.99 m	13'1"	3.99 m	13'1"
High Lift w/L-5 tires	4.27 m	13'11"	4.54 m	14'10"	—	
Operating weight up to:	18 143 kg	40,000 lb	19 213 kg	42,365 lb	20 269 kg	44,693 lb

*With standard lift arms.

**With standard tires.



MODEL	966H WHA		972H WHA		980H WHA	
Net Power	195 kW	262 hp	214 kW	287 hp	237 kW	318 hp
Gross Power	211 kW	283 hp	229 kW	307 hp	261 kW	351 hp
Engine Model	C11 ATAAC		C13 ATAAC		C15	
Rated Engine RPM	1800		1800		1800	
Bore	130 mm	5.1"	130 mm	5.1"	137 mm	5.4"
Stroke	140 mm	5.5"	157 mm	6.2"	171 mm	6.75"
No. Cylinders	6		6		6	
Displacement	11.1 L	677 in ³	12.5 L	763 in ³	15.2 L	928 in ³
Speeds Forward	km/h	mph	km/h	mph	km/h	mph
1st	6.7	4.2	7.2	4.5	6.6	4.1
2nd	12.6	7.8	12.6	7.8	11.8	7.3
3rd	22.1	13.7	21.4	13.3	20.7	12.9
4th	37.4	23.2	36.9	22.9	36.3	22.6
Speeds Reverse						
1st	7.4	4.6	8.2	5.1	7.6	4.7
2nd	13.7	8.6	14.2	8.8	13.5	8.4
3rd	23.4	15.1	24.3	15.1	23.7	14.7
4th	37.4	23.2	38.8	24.0	41.5	25.8
Hydraulic Cycle Time*						
Rated Load in Bucket:	Seconds		Seconds		Seconds	
Raise	5.9		5.9		6.0	
Dump	1.6		2.1		2.0	
Lower (empty, float down)	2.4		2.4		3.4	
Total	9.9		10.4		11.4	
Tread Width**	2.23 m	7'4"	2.23 m	7'4"	2.44 m	8'0"
Width Over Tires**	3.00 m	9'10"	3.00 m	9'10"	3.23 m	10'7"
Ground Clearance**	496 mm	20"	496 mm	20"	442 mm	17.4"
Fuel Tank Capacity	380 L	100 U.S. gal	380 L	100 U.S. gal	479 L	127 U.S. gal
Hydraulic Tank Capacity	110 L	29 U.S. gal	110 L	29 U.S. gal	125 L	33 U.S. gal
Hinge Pin Height:						
Full Lift Std.	4.23 m	13'10"	4.87 m	14'8"	4.51 m	14'9"
High Lift w/L-5 tires	4.79 m	15'8"	4.81 m	15'9"	4.75 m	15'7"
Operating weight up to:	24 237 kg	53,443 lb	26 051 kg	57,442 lb	31 599 kg	69,676 lb

*With standard lift arms.

**With standard tires.

TECHNOLOGY PRODUCTS

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INTRODUCTION

In Cat machines you'll discover a unique combination of iron and electronics. Powerful, productive — equipped with the latest in proven information technology. A full line of systems that will work harder, last longer, and help you move more material at a lower cost.

At Caterpillar, we've applied technologies selectively — incorporating only those that deliver intelligent solutions. So if it doesn't improve performance, increase productivity, extend component life, help the operator, reduce service time, lower operating costs, enhance resale value, address an environmental challenge, or make your time more efficient, you won't find it on our machines. Utilizing these technologies provides the most advanced systems available to keep your site running at peak efficiency and productivity, at the lowest possible owning and operating costs.

Earthmoving Solutions products are centered around robust position awareness technologies and rugged on-board systems, revolutionizing the movement of material. Guidance products provide real-time job progress with centimeter-level accuracy to the operator, eliminating guesswork that leads to rework

or constant surveying, slowing progress and driving up costs. Control products take this technology a step further by integrating position awareness to automatically adjust the work tool. This results in accurately meeting the design plan while reducing the number of passes needed.

- AccuGrade™ Grade Control System
- Computer Aided Earthmoving System (CAES) for Landfill

Mining Technology Products continue to have a positive impact on mining operations around the world. Caterpillar offers a complete suite of technology products purpose built for the harsh mining environment. Our products combine the latest GNSS positioning technology with sophisticated electronic control modules and software to help miners increase productivity, monitor fleet health and lower operating costs.

- MineStar™ FleetCommander
- MineStar™ Health
- AQUILA™ Drill System
- AQUILA™ Dragline System
- CAESultra for Mining
- Cat Integrated Object Detection System™
- MINEGEM™ Underground Mining Automation System
- Work Area Vision System (WAVS)
- VIMST™ System

Fleet Management products and services provide data and information about multiple aspects of equipment, such as machine location, hours and health, to help customers more effectively manage down-time and plan maintenance. Offerings in this category are:

- Product Link
- EquipmentManager

For more information on these and other Cat technology products, visit www.cat.com/technology.

PRODUCT	APPLICATIONS	MACHINES
Product Link	On-board machine hardware that gathers and wirelessly transmits data to EquipmentManager.	Entire fleet (Cat and other)
EquipmentManager	Fleet management application that allows users to remotely monitor and manage their equipment using data from Product Link. Data includes machine utilization information, machine location, machine health and repair/preventive maintenance information.	Entire fleet (Cat and other)
AccuGrade™ Cross Slope Grade Control	Stand-alone grade control on an AccuGrade Attachment Ready Option (ARO) machine. Ideal for crowned roads and shoulders. Automatic system to control one end of motor grader blade to correlate with manually controlled slope of the other end.	M and K Series Motor Graders
AccuGrade Laser Grade Control	Finish grading. Use indoors or outdoors. Tolerances as tight as ± 4 to 6 mm (0.16 to 0.24 in) depending on material. Use with integrated on-board AccuGrade ARO.	M and K Series Motor Graders; E, K, N, and T Series Track-type Tractors; Skid Steer Loaders; Multi Terrain Loaders
AccuGrade Site and Laser Reference System	Indicate-only system. Provides depth and slope guidance for trenches and excavations.	416E, 420E, and 430E Backhoe Loaders and Hydraulic Excavators
AccuGrade Sonic Grade Control	Sonic sensor controls blade elevation referenced off stringline or curb. Another configuration to use with the AccuGrade ARO.	M and K Series Motor Graders
AccuGrade GNSS Grade Control	Positioning information via the Global Navigation Satellite System (GNSS) for complex contours, bulk earthworks, design files. Add machine mounted components to AccuGrade ARO for GNSS-based grade control. Tolerances of ± 30 mm (1.18 in).	Automatic control for M and K Series Motor Graders; E, K, N, and T Series Track-type Tractors; Indicate only for Hydraulic Excavators; CS56E, CS57E, CS66E, and CS68E Compactors; and 613G Wheel Tractor-Scraper
AccuGrade UTS Grade Control	Positioning information via a Universal Tracking System. Grade control for high precision 3D applications using universal total station for positioning. Each machine requires a dedicated system.	M and K Series Motor Graders, Track-type Tractors and Hydraulic Excavators
Computer Aided Earthmoving System (CAES) for Mining	Surface Control, Machine Guidance and Ore Control. Uses high precision GNSS plus on- and off-board software to maximize machine productivity and ore extraction.	Track-type Tractors, Wheel Dozers, Wheel Tractor-Scrapers, Wheel Loaders, Shovels and Excavators
Computer Aided Earthmoving System (CAES) for Landfill	Uses high precision GNSS plus on- and off-board software to maximize landfill airspace and machine productivity. Ideal for landfill planning, engineering, surveying, grade control, and production monitoring applications in dump areas.	Landfill Compactors, Track-type Tractors, Wheel Tractor-Scrapers, and Motor Graders

PRODUCT	APPLICATIONS	MACHINES
AQUILA™ Drill System	For mining customers that value machine and operator performance reports, precise placement and depth of blast holes, and detailed strata information on each drill hole. Requires radio network and ability to receive GNSS signals.	Blast hole drills
AQUILA™ Dragline System	Monitor performance and improve machine productivity. Uses a pair of high precision GNSS receivers for accurate bucket positioning.	Draglines
MineStar™ FleetCommander	A modern decision-support tool based on industry standard open systems allowing mines to understand, test, and capture events in their mine. Features an advanced truck assignment system, alarm definition, charting and reporting, field machine communication, machine control, productivity, and machine and materials tracking.	Entire mining fleet (Cat and other)
MineStar Health	Provides machine health data and reports.	Mining machines equipped with VIMS™
VIMS™ System	Provides operators, maintenance, and engineering with vital machine health and production information. VIMS Guardian, a retrofit product, excludes operator display and payload information.	Optional on: 773, 775, 777F Standard on: 784, 785, 789, 793, and 797 Off Highway Trucks; 854 Wheel Dozer; and 992, 993 and 994 Wheel Loaders Retrofit on: 777D and 776D Off Highway Truck VIMS Guardian is available for D9T, D10T, D10R and D11R Track-type Tractors
MINEGEM™ Underground Automation System	This automation system removes the operator from dangerous situations and allows them to work in a more comfortable, ergonomic environment. Using technology to automate and enhance operations, the system provides safety and productivity benefits for underground mines.	Available as an attachment to all Underground Loaders: R1300G, R1600G, R1700G, R2900G, R2900G XTRA
Cat Integrated Object Detection System™	Combines cameras, radar, and alarms to notify the operator when something is close to the machine but not within an immediate viewing range. The system is configured with zones around the equipment and objects in those zones trigger various levels of alarms.	785, 789, 793, and 797 Off Highway Trucks
Work Area Vision System (WAVS)	One, two, or three camera system providing operator in machine with optimal viewing angles all around equipment.	Entire fleet (Cat and other)

PRODUCT LINK

For more information see www.cat.com/pl

Product Link provides two-way information flow between machine on-board systems and your computer through your dealer’s website and EquipmentManager. Cat® Product Link enables the use of EquipmentManager to keep you in touch with your machines. Product Link transmits important data such as machine location, hours and health information wirelessly via satellite technology.

PL121SR is a satellite transmitter/receiver installed on the machine to provide machine operating hours and location. It will also automatically send alerts when machines operate beyond owner-defined time and location limits. PL321SR provides machine operating hours and location as well as health, fuel and performance information.

This quick reference will help you determine which Product Link model will provide the information you need to effectively and efficiently manage your equipment. Please refer to the EquipmentManager chapter for additional information.

EquipmentManager Information		Product Link Solutions	
EquipmentManager Watch Levels	Feature	PL121SR	PL321SR
Asset Watch	Machine Location	X	X
	Machine Location Mapping	X	X
	Machine Location History	X	X
	Non-reporting Machine Identification	X	X
	Machine Hour Reading	X	X
	Machine Idle Hours		X
	Start and Stop Times		X
	Time and Geo-fencing	X	X
Maintenance Watch	Next Planned Maintenance (PM) Due (date and hour based)	X	X
	PM Notes	X	X
	PM History	X	X
	PM Alerts	X	X
	PM Checklist	X	X
	PM Parts List	X	X
	Customized PM Checklist	X	X
	PM and Repair Planner	X	X
	On-line Parts Ordering	X	X
	Manage Major Repairs	X	X
	Repair History	X	X
	PM or Repair Request for Quote	X	X
Health Watch*	Event and Diagnostic Codes		X
	Event and Diagnostic Code Troubleshooting Procedures		X
	Event and Diagnostic Code History		X
	Fuel Level		X
	Fuel Used		X
	Idle Fuel Used		X
	Refueling History		X
	4 Digital Switch Channels		X

*NOTE: Health Watch information delivered with PL321SR is dependent upon the machine model and year of manufacture. Machines produced with electronic engines and transmissions normally can provide this information. Consult machine specifications to determine if systems are manual or electronic.

EQUIPMENTMANAGER

For more information see www.cat.com/pl

EquipmentManager simplifies fleet management by providing valuable information in order to increase machine usage and manage the entire operation more efficiently. EquipmentManager is the software on a dealer's website used to review data transmitted from the machine's on-board Product Link hardware. With Product Link hardware installed on a machine, customers may subscribe to EquipmentManager through their Cat dealer. Refer to the Product Link Chapter for more information on the on-board hardware required to transmit data to EquipmentManager.

EquipmentManager has three levels of machine status — red (requires immediate action), yellow (requires monitoring), and green (normal). Customers access the information shown below from the dealer website. They may search and categorize information by alert level, their own selected groupings of equipment, machine ID, make or model. They can also set custom preferences for how information is viewed. Alerts may be emailed or sent to a pager, cell phone or other device.

Machine Management Options:

Equipment can be monitored based on defined parameters. When a machine operates outside these parameters an exception occurs. These exceptions include the following:

- Time-fencing and geographical fencing alerts
- Maintenance due
- Major repair due
- Diagnostic events
- Diagnostic code alerts
- Fuel level alert

Information is displayed by machine, along with descriptions of what caused the alert, and the ability to obtain further information about it. You can search and categorize information by alert level, group, equipment ID, make and model. EquipmentManager can also send text-message alerts in the form of email (such as a PM is due) to pager or cell phone.

By Machine-specific information — EquipmentManager also provides a search function that lets you search for specific information by machine. You can perform a search by group, equipment ID, make and model. Or you can conduct an advanced search, (for example you might search for all machines within 100 miles of a given location that have PMs due next week). After initiating either search, you receive results in an Event Summary report.

NOTE: Health Watch information is dependent upon the machine model, year of production and Product Link model installed. Machines with electronic engines and transmission equipped with Product Link model 321SR normally can provide this information.

ACCUGRADE™ CROSS SLOPE, SONIC, GNSS AND UTS GRADE CONTROL PRODUCTS

Meet Your Production Needs

For more information visit www.cat.com/technology and click on the Earthmoving Solutions link.

The AccuGrade Attachment Ready Option (ARO) is designed into the machines. The backbone of AccuGrade systems, it includes harnesses, controls, valves, and a Controller Area Network (CAN) architecture to support cross slope, sonic, laser, GNSS and Universal Tracking Sensor (UTS) grade control systems. AccuGrade's sensor-independent design allows you to easily change sensors, receivers and displays and choose the right technology for the job. The AccuGrade GNSS Grade Control System (see Figure 1) is an advanced machine control and guidance system that enables operators to grade with increased accuracy, without the need for survey stakes. Great for complex contours and bulk earthworks, it uses satellite positioning data and off-board site infrastructure to grade to a digital design plan. The digital design data, in-cab operator guidance features and automatic blade controls help the operator achieve grade faster, meaning higher productivity, lower operating costs, and greater profitability.

AccuGrade Cross Slope is the foundation system for motor graders and controls one blade tip without any off-board infrastructure. AccuGrade Cross Slope can be combined with Sonic, Laser, GNSS or UTS technologies to make fine grading more efficient and productive. AccuGrade Sonic uses a sonic sensor and a string line or curb to achieve grade easier and with greater accuracy. AccuGrade UTS uses an advanced tracking sensor for precise positioning in high-precision 3D applications. Note: each machine using UTS must have its own UTS unit.

Site and Laser Reference

The AccuGrade Site Reference System for backhoe loaders and hydraulic excavators is an entry-level grade and depth check system that provides accuracy, productivity, and lower operating costs.

The AccuGrade Laser Reference System can be added to the Site Reference System to create an even more advanced grade and depth check system. It works with laser transmitters to accurately grade or excavate to a site plan without the use of grade stakes.

AccuGrade Laser Reference System is an indicate only system that is used in conjunction with the Site Reference System for hydraulic excavators and E-Series backhoe loaders.

AccuGrade Compaction Measurement System

The AccuGrade Compaction Measurement system measures drum movement to determine soil stiffness. This new Compaction Measurement system provides operators, contractors, and project owners with a variety of benefits that increase production and simplify job-site documentation.

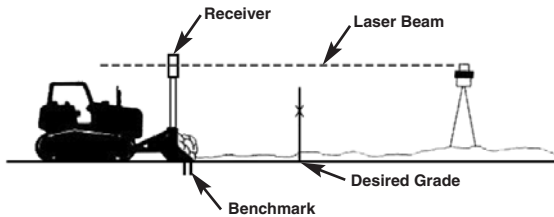
AccuGrade Office Software

This system joins previously released Cat on-board machine solutions to make a total solutions package for end users. Cat on-board machine solutions include 3D technologies, such as AccuGrade GNSS and AccuGrade UTS, as well as the 2D technologies, such as AccuGrade Laser, AccuGrade Cross Slope, and AccuGrade Sonic.

The AccuGrade Wireless Option permits AccuGrade Office software to communicate wirelessly with machines equipped with the Cat AccuGrade GNSS and UTS systems. AccuGrade Office also accommodates the AccuGrade Compaction Measurement system.

ACCUGRADE™ LASER GRADE CONTROL

Manage Fine Grading Tolerances for Maximum Profit



The AccuGrade Laser Grade Control System is designed for a wide range of construction earthwork applications requiring tight tolerances and high production rates. Field-proven and versatile, the dual laser system is ideal for fine grading of sites with flat, single or dual slope surfaces, such as industrial, commercial and residential building sites. An AccuGrade Laser consists of the AccuGrade ARO on the machine, laser masts and receivers, the cab control display, plus a laser transmitter. It can be used indoors or outdoors and several machines can work off a single laser transmitter. Depending on the material, AccuGrade Laser can work to a finish grade accuracy of ± 4 to 6 mm (0.16 to 0.24 in).

AccuGrade grade control systems offer these advantages and cost savings:

- Fuel savings of up to 40%
- Increase productivity by up to 50%
- Reduce guesswork and costly rework by moving material correctly the first time
- Reduce survey costs up to 90%
- Increase material utilization
- Reduce operating costs
- Reduce labor requirements and costs
- Reduce need for staking, string lines, and grade checkers
- Extend the work day
- Finish jobs faster

Conventional Staking Method Costs vs. Laser Grade Control System Savings

The AccuGrade Laser Grade Control System provides process control for the fine grading operation, affecting costs not typically associated with the machine. Some of the cost areas controlled by the system can be analyzed with an example:

Example Job Site Specifications (Metric)

Pad Size: 3716 m²

Metric Tons of Base Material: 1376 metric tons

Cost of Base Material Metric Ton: \$7.26

Cost of Concrete per Cubic Meter: \$57.34

Grade Stakes: \$6 per stake

Grade Checker Daily cost: \$100

Laborer Daily cost: \$75

Daily cost of owning and operating Dozer: \$536

Daily cost of owning and operating Compactor: \$250

Daily cost of owning and operating Loader: \$350

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Example Job Site Specifications (English)

Pad Size: 40,000 ft²

Tons of Base Material: 1517 tons

Cost of Base Material Ton: \$8.00

Cost of Concrete per Cubic Yard: \$75

Grade Stakes: \$6 per stake

Grade Checker Daily cost: \$100

Laborer Daily cost: \$75

Daily cost of owning and operating Dozer: \$536

Daily cost of owning and operating Compactor: \$250

Daily cost of owning and operating Loader: \$350

Conventional Staking Method Costs (Metric)

Conventional Production per Day: 1394 m²
Days to Fine Grade: 2.7
Standard Grading Tolerance: ± 19.1 mm
Material Base Costs: \$12,133
Material Overage Costs (10% of base material): \$1213
Grade Stakes Costs (85 stakes with 7.62 m spacing): \$510
Material Costs (Concrete 152.4 mm specified + 19.1 mm tolerance): \$62,500
Grade Checker Costs (3-4 men per machine): \$267
Labor Cost (3.25 men): \$650
Dozer Costs (2.7 days): \$1429
Compactor Costs (1 day): \$250
Loader Costs (2.7 days): \$940
Conventional Cost Estimate: \$79,892



Conventional Staking Method Costs (English)

Conventional Production per Day: 15,000 ft²
Days to Fine Grade: 2.7
Standard Grading Tolerance: ± 0.75 in
Material Base Costs: \$12,133
Material Overage Costs (10% of base material): \$1213
Grade Stakes Costs (85 stakes with 25 ft spacing): \$510
Material Costs (Concrete 6.0 in specified + 0.75 in tolerance): \$62,500
Grade Checker Costs (3-4 men per machine): \$267
Labor Cost (3.25 men): \$650
Dozer Costs (2.7 days): \$1429
Compactor Costs (1 day): \$250
Loader Costs (2.7 days): \$940
Conventional Cost Estimate: \$79,892

Laser Grade Control System Savings (Metric)

Laser Grade Production per Day: 2787 m² (double production)
Days to Fine Grade: 1.3
Laser Grading Tolerance (12.7 mm improvement): ± 6.4 mm
Grade Stake Savings (3 vs. 85 stakes): \$492
Material Savings (60% Material Overage Saved): \$728
Concrete Savings (12.7 mm saved due to tighter tolerance): \$4630
Grade Checker Savings (not needed): \$200
Labor Savings (1 vs. 3.25) \$550
Dozer Costs Savings (1.3 vs. 2.7 days): \$715
Loader Costs Savings (1.3 vs. 2.7 days): \$470
Savings Resulting from Laser Grade Control System: \$7768



Laser Grade Control System Savings (English)

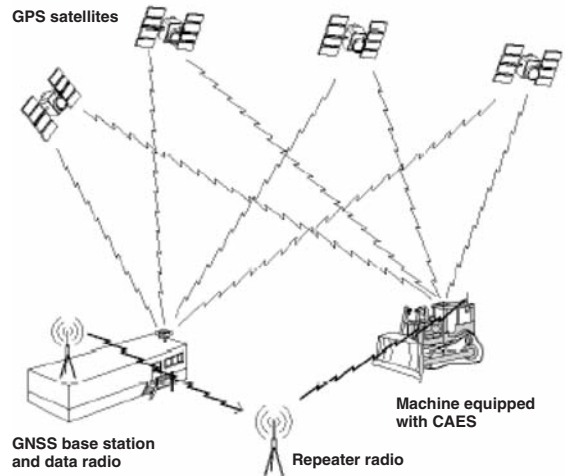
Laser Grade Production per Day: 30,000 ft² (double production)
Days to Fine Grade: 1.3
Laser Grading Tolerance (0.5 in improvement): ± 0.25 in
Grade Stake Savings (3 vs. 85 stakes): \$492
Material Savings (60% Material Overage Saved): \$728
Concrete Savings (0.5 in saved due to tighter tolerance): \$4630
Grade Checker Savings (not needed): \$200
Labor Savings (1 vs. 3.25) \$550
Dozer Costs Savings (1.3 vs. 2.7 days): \$715
Loader Costs Savings (1.3 vs. 2.7 days): \$470
Savings Resulting from Laser Grade Control System: \$7768

COMPUTER AIDED EARTHMOVING SYSTEM (CAES)

The Right Material in the Right Place for Maximum Machine Productivity

Cat CAESultra uses high precision GNSS technology to help customers maximize machine productivity and job efficiency. Traditionally, an engineer working in the office creates a site plan on a computer. This information is then transferred to paper, and the surveyor goes out and stakes the area to identify elevation, grade, slope, or material type. Once the machine operator has completed the job, the surveyor resurveys the area and updates the office plan. This process is labor intensive and is prone to a check, rework, recheck approach. CAES revolutionizes this process. Its high precision GNSS system allows the machines to act as surveyors. Changes to a digital terrain model (the engineering design file) are recorded as it occurs. The engineer can work with the updated design and modify it further without stopping the machine. It also provides machine operators and site managers information to eliminate rework, reduce field surveying and more accurately complete the earthmoving plan. CAES combines centimeter-level accuracy with Real Time Kinematic (RTK) initialization times for fast and accurate positioning.

Figure 1. Overview of the System



High Precision Positioning using Global Navigation Satellite System (GNSS)

Site Requirements

- Line of site to multiple satellites that are part of the GPS or GLONASS constellations. These transmit signals that are used to determine position.
- Base Station with a GNSS receiver and radio. The base station compares its known (or surveyed) position to the position calculated from the GNSS signals. The difference is used to produce a Compact Measuring Record (CMR).
- A radio network to relay the CMRs to machines equipped with CAESultra system.

On-board Requirements

- Antenna to receive low-precision signals from the GNSS constellation.
- Radio to receive the CMR corrections from the base station.
- Receiver that combines the GNSS signals and CMR corrections to calculate the vehicle position with centimeter accuracy.
- Display running software that provides real-time feedback on job progress and design plan to the operator.

CAESultra On-board

CAESultra on-board components keep the operator informed with real-time information, which provides greater control and empowerment. Caterpillar has designed the on-board components to meet harsh environmental demands of equipment in mining applications. Easy-to-use software provides the operator with critical information required to get the job done quickly and safely. The on-board system also monitors and logs specific parameters that can be used to determine site productivity as well as individual operator and machine performance.

CAESultra for Landfill

CAESultra helps the landfill industry conserve airspace. For a landfill compactor, each time the wheel travels over a surface, the CAESultra screen changes color to acknowledge the compaction pass. CAESultra indicates finished areas. The operator achieves maximum effective compaction, by making only the necessary number of passes. Track-type tractors in landfills benefit from CAESultra because it indicates lift thickness of cover material and trash.

Additionally, CAES permits the recording of site-specific storage areas such as hazardous waste, medical, industrial, organic, and other materials which require special handling or a record of placement. All of this information is monitored and managed in the landfill office with CAESultra Office Software.

CAESultra for Mining

CAESultra moves the material identification file and survey system into the machine, eliminating the need for survey stakes or pin flags. A touch screen monitor displays the location of pit boundaries, material type, bench height, and design grade, eliminating operator guesswork. With material types and locations displayed, ore identification and recovery are optimized.

The CAESultra for Mining system is an ideal tool for mine planning, engineering, surveying, grade control and production monitoring applications. For example, the CAES system can be used for:

- Haul road and bench construction and maintenance
- Production dozing
- Leach pad construction and maintenance
- Reclamation
- Ore grade control and material identification
- Coal load out terminals

The system can be used on scrapers, loaders, dozers, shovels, motor graders, hydraulic excavators and track-type tractors.

AQUILA™ DRILL SYSTEM

Production, Strata Recognition and Guidance

AQUILA Drill Systems are designed for installation on electric and hydraulic rotary blasthole drills. It provides production and performance monitoring, strata recognition and GNSS guidance. Typically provided as field retrofit to machines already operating at mine sites, the AQUILA Drill System uses on-board computing integrated with sensors to monitor critical machine performance characteristics. System modules help the operator and site managers enhance drill performance and improve the drilling and blasting operation. The AQUILA products use a GNSS and radio infrastructure common to CAES.

The **Production** module offers a graphical user interface to provide the operator with immediate feedback on drilling productivity and performance. The product minimizes operator input by an array of sensing hardware to detect:

- the end of hole
- reaching target depth
- recognition of steel changes

The **Strata Recognition** module analyzes the monitored drilling variables in real-time, determining variability in the hole geology. The different strata horizons are presented on the display. The system provides useful and concise information from the start of drilling — not large amounts of raw data that typify traditional drill monitoring systems. A Blastability Index is determined by the Strata Module and approximates the in-situ hardness of the ground. The hole-loading requirements and ore grindability predictions are then based on measured rock hardness enabling improved blending and optimized mill throughput rates.

Combining the **Production** module with the **Strata Recognition** module logs:

- bit rotary speed
- penetration rate
- depth
- rotary torque or pressure
- pulldown pressure
- bailing air pressure

Drilling practice, efficiency and productivity can then be analyzed and assessed.

The **GNSS Guidance** module adds high precision GPS to help precisely position a drill on a blast pattern without the need for surveying or staking. The Guidance module uses a moving map display that shows the 3D (Northing, Easting and Elevation) of the drill and drill bit relative to the designed position of the blastholes. Once the drill is positioned and leveled over a hole, the system automatically determines collar elevation and then calculates the designed target depth. Guidance improves the drill's production and utilization, and the operator's ability to drill to the plan. This leads to better rock fragmentation for easier loading. Since holes are drilled to the correct elevation leading to a flatter post-blast surface, the result is smoother pit floors. This helps eliminate rework, enhances the mobile equipment's performance and reduces its wear and tear.

AQUILA™ Drill Office Software

AQUILA™ Office Software integrates planning and design operations. Engineers can transmit designs to the machine's on-board computer, which show the machine location relative to the design area, current surface, final design surface, and material map (for loading machines). The software package allows you to create customized reports on productivity data, cycle times, volume and material type. It is powerful enough to allow the engineering process to change.

AQUILA™ DRAGLINE SYSTEM

Precision Tub Placement

The AQUILA Dragline System combines on-board computing and high precision GNSS with the machine's Programmable Logic Controller for data acquisition. On-board productivity reports summarize progress of the shift. GNSS-driven 3D plan and section views of both the dragline and cut guide the operator in excavation and spoil placement. The system eliminates the need for survey support to ensure proper tub placement and optimal range. The results are reduced rehandling, precise recording of each dig and dump location, and load weight for each cycle.

Centimeter-level GNSS enhances positioning of the dragline tub to assure the machine digs to plan. Hoist, drag and swing position data is used with GNSS positioning to create section views of the bench and cut profile. A graphical display shows the dragline body, boom, hoist and drag ropes and bucket position in real-time as the machine operates. These machine features are displayed as an animated overlay on top of a design file. The design files are customizable and consist of any design features relevant, i.e. toe and crest locations, tub center-line target positions, key cut, dig limits, no-swing areas, avoidance zones, final design limits, target dig depths, etc.

The dragline system can interface with a third party boom stress measurement system to display boom stresses during the complete dig and dump cycle.

Dragline System Features and Benefits

- Provides full 3D bucket and machine positioning capability based on GNSS.
- Includes comprehensive, customizable production reporting.
- Monitors up to 35 parameters on each dig cycle.
- Uses the same infrastructure and robust on-board components as the AQUILA Drill and Computer Aided Earthmoving Systems (CAES).
- Consistent digging process along bench.
- Spoil side slopes cut to design grade.
- Field survey dependency is greatly reduced or eliminated, allowing for extended bench designs to be more accurately followed.
- The display of a design centerline ensures accurate tub placement and optimizes the designed range capability of the machine.
- Spoil management ensures proper placement, reducing rehandling and spoil pushing, freeing dozers for other productive work.
- Increased production leads to more tons of coal uncovered in less time and lower operating cost by minimizing rehandling.
- Material placed in the right place the first time eliminates unproductive dragline and support equipment use, lowering overall mining costs.
- Lower coal dilution.
- Rehandle is reduced by enabling control of spoil height through accurate design execution.

AQUILA Dragline Office Software

The AQUILA Dragline System is packaged with office software tools that enable mines to track production, monitor operators, create reports and communicate with machines in the pit. The software suite is common across other Cat technology product office software, such as CAES and AQUILA Drill System, reducing training and IT costs.

MINESTAR™ FLEETCOMMANDER

MineStar FleetCommander is the Cat fleet management system developed to maximize mining process productivity while simultaneously maximizing equipment and fleet productivity.

FleetCommander is a modern decision-support tool enabling mines to manage and administer installation, user interface, configuration, security, system administration, database administration, disaster recovery, logging and diagnostics, software updates, calendars, charting and reporting, alarming and scheduled jobs.

The MineStar platform communicates to the mine and integrated process entities with PitLink, the component which manages field communications with machines and fixed plant as well as operators. It also ensures the delivery of the latest on-board software files to all MineStar equipment.

The key office components that are built into the MineStar office to suit the host mine's complexity and needs are:

- **Machine Tracking** provides position analysis of MineStar equipment as it is moved around the travel network.
- **Material Tracking** uses the mine's mining block model for equipment assignment and for loading material according to local blending and production requirements.
- **Operator Management** manages and monitors site personnel for machine licenses, pre-start checklists, scheduled breaks and shift change optimization.
- **Production** monitors site activities, delays, cycles, payload monitoring, Key Performance Indicator (KPI) summaries, fluids and tire management as well as Service Meter Unit (SMU) interpolation.
- **Assignment** applies FleetCommander's assignment engine to provide the best allocation solution when all trucks are considered so that every assignment provided to each truck is always computed considering the most relevant, current information.

FleetCommander provides a proven solution suite based on a single trusted set of data for real-time KPI and for standard and ad-hoc reports. It provides the mine with information to:

- identify and quantify performance improvement opportunities (within and post shift)
- develop strategies to capture performance improvement initiatives
- support engineer and operator performance
- assign equipment and fleets for maximized fleet production or achievement of material management goals. Capability scales from simple assignment to full truck assignment with linear programming to ensure maximal flexible loader, truck and material capacity utilization
- blend materials in order to meet preparation plant quality, tonnage and timing requirements
- track machines and materials to ensure correct delivery of materials from sources to planned sinks and to monitor equipment routing
- manage operators (licensing, shift allocation and rostering)
- manage equipment fluids and tires
- track equipment productivity capability, consumption and variance
- monitor equipment health including alarms and sensor channel monitoring, pre-start checklists
- determine "what if" impacts of making specific changes to the product plan

Cost reduction of 10% and greater can be achieved and sustained using MineStar FleetCommander. Cost reductions are typically realized through reduced equipment, manning, lower fuel and service requirements, while achieving the same levels of productivity.

MINESTAR™ HEALTH

Equipment failures, excessive wear rates, over-temperatures, overloading and degrading operating conditions are all examples of machine health information that when correctly acquired, managed and analyzed can improve a mine's efficiency and lower operating costs.

Caterpillar's MineStar Health system constantly records information on critical machine parameters fleet-wide. Linked with on-board monitoring systems like VIMS, MineStar Health provides wireless or wired transfer of this critical data to the service center for processing and review. It uses VIMS data to remotely monitor events and alarms, allowing focused channel polling to log condition-based event tracking and Application Severity Analysis calculations. It allows service personnel and maintenance planners to track health changes on a large array of on-board components while completing mine duty cycles. Some of the data collected by MineStar Health includes: system voltages, component performance overloading and load/dump/travel/delay times.

MineStar Health is designed to work seamlessly with MineStar FleetCommander or is available as a stand alone health reporting system from your Cat dealer. It can also be integrated into a production database for expanded analysis.

Key benefits of MineStar Health include:

- Saved component failures
- Extended component life
- Reduced phantom breakdowns
- Full fleet health monitoring
- Efficient data analysis
- Improved maintenance practices

VIMS™ System

VIMS™ is an advanced diagnostic and equipment management tool. By continuously monitoring a wide range of vital machine functions, this high-tech electronic monitoring system improves machine availability, component life, and productivity while reducing both repair costs and risk of catastrophic failure.

By integrating numerous machine sensors into each machine design, VIMS monitors over 250 machine functions and health statistics. Essential machine functions are displayed for the operator via the message center. If a parameter falls outside of the specification, VIMS sends a warning message to the operator and depending on the severity of the event recommends an appropriate course of action. VIMS not only provides important machine and system information to the operator, it also stores a large amount of data about the machine for proactive health and production management.

The third generation of the VIMS System — VIMS 3G — is now available for select Cat Mining equipment, offering enhanced convenience and functionality, along with updated communications capabilities.

Analysis tools help turn data into decisions.

The software applications of the VIMS Off-Board System include a number of data analysis file types. Each file type analyzes different kinds of information and is used to produce specific results.

- **Event List** records, categorizes and stamps up to 500 system “events” that occur during machine operation.
- **Event Recorder (Snapshot)** helps technicians troubleshoot a specific event by capturing detailed data before and after the event occurs.
- **Data Logger** enables the operator to trigger recording of real-time machine data that can show service personnel exactly what is happening when an event occurs.
- **Payload** helps enhance truck and loading tool effectiveness and improve total fleet production by collecting payload, cycle-time and haul-distance data.
- **Trends, Cumulatives and Histograms** provide a variety of reporting and analysis tools for monitoring specific machine parameters.

Value of VIMS System

- For the machine operator VIMS establishes two-way communication between the operator and the machine. Real-time machine information allows the operator to make informed decisions that directly affect safety, machine availability, and ultimately the productivity of the mine.
- For maintenance VIMS provides an in-depth view of operator and machine performance. This allows maintenance managers and technicians to maximize component life, reduce catastrophic failures, minimize unscheduled downtime and improve asset management.
- For production VIMS collects the information needed to monitor equipment usage, personnel performance, and productivity levels. Payload information can be used as an accounting tool, an indicator of cycle time efficiency and truck overloading or under loading.

VIMS Wireless Interfaces

VIMS information can be transmitted wirelessly using VIMS Communicator or Health Interface Module. These units download VIMS data at user programmable intervals and send it back to the office via various telemetry systems.

VIMS Analysis Tools

VIMS information can be downloaded and viewed by VIMS pc and VIMS Supervisor using a laptop at the machine or wirelessly. VIMS information is also available with MineStar Health System.

CAT INTEGRATED OBJECT DETECTION SYSTEM™

The Cat Integrated Object Detection System™ is designed for large mining and quarry trucks to reduce blind spots and increase perimeter awareness. This robust system includes both radars and a vision system providing optimal awareness around the machine. With both audible and visual indications of a detected object, the Caterpillar Integrated Object Detection System™ helps prevent work area injuries caused by limited awareness. Using a combination of short range radars, medium range radars, four cameras, and a high-resolution touch screen display, operators can view the areas immediately surrounding their machine, helping to prevent collisions and accidents.

The Cat Integrated Object Detection System is highly integrated with the specific machine configuration to optimize radar and camera coverage. The system has been calibrated to provide appropriate fields of view and range. Unlike basic camera systems, the Cat Integrated Object Detection System provides operators with audible and visual types of warnings that enable the operator to make informed decisions when moving or operating the machine. When a camera system is running at all times, it's easy for the operator to overlook the screen when performing job tasks. This system alerts the operator when an object is in close proximity so they can decide if action needs to be taken to avoid it.

Features

- Provides coverage on four sides of machine.
- Robust components designed and tested to work in heavy duty off-road applications.
- Radar detects both moving and non-moving objects.
- After 20 meters of travel, radar system automatically becomes idle
- Automatically activates radar warnings when machine stops.
- Camera views available at all times.
- System uses visual and audible means to alert operator to objects.
- Cameras allow operator to identify objects detected by radar.
- On-board diagnostics monitor system health and alert operator to any issues.
- Configurations allow operator to adapt system to local conditions.

Benefits

- Improves site safety by enhancing operator's situational awareness.
- Reduces cost and machine downtime due to accidents.
- Does not require any off-board infrastructure.
- Easy to learn display interface.
- Minimizes nuisance audible alarms.
- Scalable solution allows user to start with camera system and later add radars.

MINEGEM™ UNDERGROUND MINING AUTOMATION SYSTEM

Developed out of the need to reduce human exposure to injury, the system removes the operator from dangerous situations and allows them to work in a more comfortable, ergonomic environment. Using technology to automate and enhance operations, the Cat MINEGEM system will increase productivity and make a measurable impact on your mine's bottom line.

MINEGEM offers 2 levels of control:

- Co-pilot: operator-assisted automatic steering
- Auto-pilot: machine is operated under its own self-guidance system

MINEGEM consists of four major sub-systems that support the functionality of the system.

Operator Station

The Operator Station allows machines to be operated from an ergonomically designed seat in a variety of locations. The operator can safely operate the machine from a mine control room or mobile office, either above or underground. This removes the operator from potentially dangerous environments in the mine drives underground. The Operator Station consists of a computer, three monitors, a seat and two joysticks; one controlling the movement of the machine, the other controlling the bucket.

Machine Automation System

The Machine Automation System consists of the on-board hardware components that make the MINEGEM system function. LADAR, cameras, lights, sensors, antennas, and control modules combine to create a system that provides safety and productivity for your underground mining operation.

Area Isolation System

Ensures that personnel cannot enter or equipment cannot leave the Operations Area while the machine is in autonomous mode. The operator has the ability to arm and disarm the system to compensate for changing business needs. A barrier control panel is located at each entry to the Operations Area. These are connected to barriers to ensure the area is secure. The status of each barrier control panel is reported to the programmable logic controller via the Local Area Radio Network (LARN). The programmable logic controller then determines whether the Operations Area should be armed.

Local Area Radio Network (LARN)

The LARN is a wireless Ethernet data network that enables communication between the machine and the operator station. The network uses the 802.11 b/g protocols and requires exclusive use of the 2.4 GHz RF spectrum.

Signals from the Machine Automation System roam between LARN antennas as the machine moves within the operations area. The signals work primarily over line-of-sight, but can reach a short distance around corners. Video images and data are sent via the LARN.

WORK AREA VISION SYSTEM (WAVS)

Cat WAVS is offered in one, two or three camera configurations for Caterpillar machines and your entire fleet. WAVS meets Caterpillar's rugged testing to function in tough environments and to withstand harsh climates.

Operators are finding that the use of a reliable camera system allows them to efficiently accomplish the job with minimal risk of machine incidents. Less risk on the job reduces liability and maximizes profit.

Site Assurance

Position the cameras to view blind spot locations; this reduces machine incidents due to poor visibility. Cameras will reduce the guessing of machine surroundings.

Work Efficiency

Enhanced visibility around machines increases up-time, operator efficiency and productivity.

Ergonomics/Comfort

Operator maintains forward direction as display shows machine surrounding and reduces operator's positional motion.

WAVS improves productivity by increasing the operator's field of visibility. The closed circuit camera system can be integrated so the camera view will be automatically prompted based on machine motion. For example, when the machine is placed in reverse the rear camera is automatically displayed.

7" Color LCD Display

- Auto-sensing illumination for changes in light conditions
- 2 Camera views available
 - Panoramic 115°
 - Narrow 78°
- Splash-proof
- Adjustable mounting

Camera

- Robust design withstands 15G's of vibration and protection from high-pressure washing
- Includes internal heater for removal of condensation, snow, and ice
- Photochromic lens darkens in ultraviolet light exposure

TABLES

SWELL — VOIDS — LOAD FACTORS

SWELL (%)	VOIDS (%)	LOAD FACTOR
5	4.8	.952
10	9.1	.909
15	13.0	.870
20	16.7	.833
25	20.0	.800
30	23.1	.769
35	25.9	.741
40	28.6	.714
45	31.0	.690
50	33.3	.667
55	35.5	.645
60	37.5	.625
65	39.4	.606
70	41.2	.588
75	42.9	.571
80	44.4	.556
85	45.9	.541
90	47.4	.526
95	48.7	.513
100	50.0	.500

BUCKET FILL FACTORS

Loose Material	Fill Factor
Mixed Moist Aggregates	95-100%
Uniform Aggregates up to 3 mm (1/8")	95-100
3 mm-9 mm (1/8"-3/8")	90-95
12 mm-20 mm (1/2"-3/4")	85-90
24 mm (1") and over	85-90
Blasted Rock	
Well Blasted	80-95%
Average Blasted	75-90
Poorly Blasted	60-75
Other	
Rock Dirt Mixtures	100-120%
Moist Loam	100-110
Soil, Boulders, Roots	80-100
Cemented Materials	85-95

NOTE: Loader bucket fill factors are affected by bucket penetration, breakout force, rackback angle, bucket profile and ground engaging tools such as bucket teeth or bolt-on replaceable cutting edges.

NOTE: For bucket fill factors for hydraulic excavators, see bucket payloads in the hydraulic excavator section.

TYPICAL ROLLING RESISTANCE FACTORS

Various tire sizes and inflation pressures will greatly reduce or increase the rolling resistance. The values in this table are approximate, particularly for the track and track + tire machines. These values can be used for estimating purposes when specific performance information on particular equipment and given soil conditions is not available. See Mining and Earthmoving Section for more detail.

UNDERFOOTING	ROLLING RESISTANCE, PERCENT*			
	Tires Bias	Tires Radial	Track **	Track +Tires
A very hard, smooth roadway, concrete, cold asphalt or dirt surface, no penetration or flexing	1.5%*	1.2%	0%	1.0%
A hard, smooth, stabilized surfaced roadway without penetration under load, watered, maintained	2.0%	1.7%	0%	1.2%
A firm, smooth, rolling roadway with dirt or light surfacing, flexing slightly under load or undulating, maintained fairly regularly, watered	3.0%	2.5%	0%	1.8%
A dirt roadway, rutted or flexing under load, little maintenance, no water, 25 mm (1") tire penetration or flexing	4.0%	4.0%	0%	2.4%
A dirt roadway, rutted or flexing under load, little maintenance, no water, 50 mm (2") tire penetration or flexing	5.0%	5.0%	0%	3.0%
Rutted dirt roadway, soft under travel, no maintenance, no stabilization, 100 mm (4") tire penetration or flexing	8.0%	8.0%	0%	4.8%
Loose sand or gravel	10.0%	10.0%	2%	7.0%
Rutted dirt roadway, soft under travel, no maintenance, no stabilization, 200 mm (8") tire penetration and flexing	14.0%	14.0%	5%	10.0%
Very soft, muddy, rutted roadway, 300 mm (12") tire penetration, no flexing	20.0%	20.0%	8%	15.0%

*Percent of combined machine weight.

**Assumes drag load has been subtracted to give Drawbar Pull for good to moderate conditions. Some resistance added for very soft conditions.

ANGLE OF REPOSE OF VARIOUS MATERIALS

MATERIAL	ANGLE BETWEEN HORIZONTAL AND SLOPE OF HEAPED PILE	
	Ratio	Degrees
Coal, industrial	1.4:1—1.3:1	35-38
Common earth, Dry	2.8:1—1.0:1	20-45
Moist	2.1:1—1.0:1	25-45
Wet	2.1:1—1.7:1	25-30
Gravel, Round to angular	1.7:1—0.9:1	30-50
Sand & clay	2.8:1—1.4:1	20-35
Sand, Dry	2.8:1—1.7:1	20-30
Moist	1.8:1—1.0:1	30-45
Wet	2.8:1—1.0:1	20-45

Tables

ROUND REINFORCED CONCRETE PIPE
APPROXIMATE WEIGHT PER FOOT

INSIDE DIAMETER		WEIGHT PER FT.	
mm	ft/in	kg	lb
305	12"	42	93
380	15"	58	127
460	18"	76	168
530	1'9"	97	214
610	2'0"	120	265
685	2'3"	146	322
760	2'6"	174	384
840	2'9"	205	452
915	3'0"	238	524
1070	3'6"	311	686
1220	4'0"	393	867
1370	4'6"	485	1069
1525	5'0"	588	1295
1675	5'6"	699	1542
1830	6'0"	821	1811
1980	6'6"	952	2100
2135	7'0"	1093	2409
2285	7'6"	1242	2740
2440	8'0"	1402	3090
2590	8'6"	1578	3480
2740	9'0"	1753	3865

NOTE: Table courtesy of American Concrete Pipe Assn.

COEFFICIENT OF TRACTION FACTORS

MATERIAL	TRACTION FACTORS	
	Rubber Tires	Tracks
Concrete	.90	.45
Clay loam, dry	.55	.90
Clay loam, wet	.45	.70
Rutted clay loam	.40	.70
Dry sand	.20	.30
Wet sand	.40	.50
Quarry pit	.65	.55
Gravel road (loose not hard)	.36	.50
Packed snow	.20	.27
Ice	.12	.12
Semi-skeleton shoes		
Firm earth	.55	.90
Loose earth	.45	.60
Coal, stockpiled	.45	.60

NOTE: The elevated sprocket design Track-type Tractors (D11T, D10R, D9R and D8R), with their suspended undercarriage, provide up to 15% more efficient tractive effort than rigid tracked Track-type Tractors.

SPEED CONVERSION

km/h Equivalents in m/min				MPH Equivalents in FPM			
km/h	m/min	km/h	m/min	mph	fpm	mph	fpm
1	16.7	21	350.0	1	88	21	1848
2	33.3	22	366.7	2	176	22	1936
3	50.0	23	383.3	3	264	23	2024
4	66.7	24	400.0	4	352	24	2112
5	83.3	25	416.7	5	440	25	2200
6	100.0	26	433.3	6	528	26	2288
7	116.7	27	450.0	7	616	27	2376
8	133.3	28	466.7	8	704	28	2464
9	150.0	29	483.3	9	792	29	2552
10	166.7	30	500.0	10	880	30	2640
11	183.3	31	516.7	11	968	31	2728
12	200.0	32	533.3	12	1056	32	2816
13	216.7	33	550.0	13	1144	33	2904
14	233.3	34	566.7	14	1232	34	2992
15	250.0	35	583.3	15	1320	35	3080
16	266.7	36	600.0	16	1408	36	3168
17	283.3	37	616.7	17	1496	37	3256
18	300.0	38	633.3	18	1584	38	3344
19	316.7	39	650.0	19	1672	39	3432
20	333.3	40	666.7	20	1760	40	3520

NOTE: Since 1 km/h equals 16.7 m/min (1000 ÷ 60), to interpolate add 1.67 m/min for each 0.1 km/h.

NOTE: Since 1 mph equals 88 fpm (5280 ÷ 60), to interpolate add 8.8 fpm for every 0.1 mph.

1 mph = 26.9 m/min.

BEARING POWERS

MATERIAL	BEARING POWER			
	Bar	lb/in ²	Metric t/m ²	U.S. tons/ft ²
Rock (semi-shattered)	4.8	70	50	5
Rock (solid)	24.1	350	240	24
Clay, dry	3.8	55	40	4
medium dry	1.9	27	20	2
soft	1.0	14	10	1
Gravel, cemented	7.6	110	80	8
Sand, compact dry	3.8	55	40	4
clean dry	1.9	27	20	2
Quicksand & alluvial soil	0.5	7	5	0.5

AGRICULTURAL COMMODITIES
CONVERSION FACTORS

	lb	kg	Metric Ton
1 Bushel of Corn*	56	25.40	0.02540
1 Bushel of Soybean*	60	27.22	0.02721
1 Bushel of Oats*	32	14.51	0.01451
1 Bushel of Wheat*	60	27.22	0.02721
1 Bale of Cotton	478	216.81	0.21681
1 metric ton of Corn	39.37 Bushels*		
1 metric ton of Soybean	36.75 Bushels*		
1 metric ton of Oats	68.92 Bushels*		
1 metric ton of Wheat	36.75 Bushels*		
1 metric ton of Cotton	4.61 Bales		

*Bushel is a volume measurement, 1 Bushel = 35.24 liters = 9.31 U.S. Gallons. In the agricultural mercantile exchange, the Bushel is widely used for grains as weight. For the above weights, the market assumes a standard density for each type of grain.

CURVE SUPERELEVATION
IN PERCENT GRADE, TO PROVIDE NO LATERAL TIRE FORCE

Negotiating curves can generate high lateral tire forces. These forces contribute to high tire wear and ply separation. Superelevating the curve helps eliminate these forces. The amount of superelevation depends on the curve's radius and the speed at which it is negotiated.

The following table is a guide for providing the superelevation necessary to eliminate lateral forces.

Superelevated turns present a danger when slippery. For this reason, curves superelevated over 10% should be used with caution. Unless the proper speed is maintained, matching the elevation of the curve, a vehicle may slide off of the lower edge of the roadway. Superelevated curves should be maintained in good tractive conditions.

TURN RADIUS m ft		Speed 16 km/h 10 mph	Speed 24 km/h 15 mph	Speed 32 km/h 20 mph	Speed 40 km/h 25 mph	Speed 48 km/h 30 mph	Speed 56 km/h 35 mph	Speed 64 km/h 40 mph	Speed 72 km/h 45 mph
15.2	50	13%	30%	—	—	—	—	—	—
30.5	100	7%	15%	27%	—	—	—	—	—
45.7	150	4%	10%	18%	28%	—	—	—	—
61.0	200	3%	8%	13%	21%	30%	—	—	—
91.5	300	2%	5%	9%	14%	20%	27%	—	—
152.4	500	1%	3%	5%	8%	12%	16%	21%	27%
213.4	700	1%	2%	4%	6%	9%	12%	15%	19%
304.9	1000	1%	2%	3%	4%	6%	8%	11%	14%

MAXIMUM SPEED ON CURVES FOR VARIOUS SUPERELEVATION GRADES
WITH A 0.20 LATERAL COEFFICIENT OF TRACTION

Another approach to superelevated curves is to determine the safe speed for negotiating a turn at a certain lateral tire force. In general, a 20% lateral coefficient of traction is safe for all but slippery conditions. The following table shows maximum speed with various superelevations to maintain a 0.20 lateral coefficient of traction.

TURN RADIUS m ft		Flat Curve km/h mph		5% Super- elevation km/h mph		10% Super- elevation km/h mph	
7.6	25	14	9	16	10	17	11
15.2	50	20	12	22	14	24	15
30.5	100	28	17	31	19	34	21
45.7	150	34	21	38	24	42	26
61.0	200	39	24	44	27	48	30
91.5	300	48	30	54	34	59	37
152	500	62	39	70	43	76	47
213	700	74	46	—	—	—	—

A transition "spiral" may be necessary at higher speeds when entering or departing from a superelevated turn.

Tables

WEIGHT* OF MATERIALS	LOOSE		BANK		LOAD FACTORS
	kg/m ³	lb/yd ³	kg/m ³	lb/yd ³	
Basalt	1960	3300	2970	5000	.67
Bauxite, Kaolin	1420	2400	1900	3200	.75
Caliche	1250	2100	2260	3800	.55
Carnotite, uranium ore	1630	2750	2200	3700	.74
Cinders	560	950	860	1450	.66
Clay — Natural bed	1660	2800	2020	3400	.82
Dry	1480	2500	1840	3100	.81
Wet	1660	2800	2080	3500	.80
Clay & gravel — Dry	1420	2400	1660	2800	.85
Wet	1540	2600	1840	3100	.85
Coal — Anthracite, Raw	1190	2000	1600	2700	.74
Washed	1100	1850			.74
Ash, Bituminous Coal	530-650	900-1100	590-890	1000-1500	.93
Bituminous, Raw	950	1600	1280	2150	.74
Washed	830	1400			.74
Decomposed rock —					
75% Rock, 25% Earth	1960	3300	2790	4700	.70
50% Rock, 50% Earth	1720	2900	2280	3850	.75
25% Rock, 75% Earth	1570	2650	1960	3300	.80
Earth — Dry packed	1510	2550	1900	3200	.80
Wet excavated	1600	2700	2020	3400	.79
Loam	1250	2100	1540	2600	.81
Granite — Broken	1660	2800	2730	4600	.61
Gravel — Pitrun	1930	3250	2170	3650	.89
Dry	1510	2550	1690	2850	.89
Dry 6-50 mm (1/4"-2")	1690	2850	1900	3200	.89
Wet 6-50 mm (1/4"-2")	2020	3400	2260	3800	.89
Gypsum — Broken	1810	3050	3170	5350	.57
Crushed	1600	2700	2790	4700	.57
Hematite, iron ore, high grade	1810-2450	4000-5400	2130-2900	4700-6400	.85
Limestone — Broken	1540	2600	2610	4400	.59
Crushed	1540	2600	—	—	—
Magnetite, iron ore	2790	4700	3260	5500	.85
Pyrite, iron ore	2580	4350	3030	5100	.85
Sand — Dry, loose	1420	2400	1600	2700	.89
Damp	1690	2850	1900	3200	.89
Wet	1840	3100	2080	3500	.89
Sand & clay — Loose	1600	2700	2020	3400	.79
Compacted	2400	4050			
Sand & gravel — Dry	1720	2900	1930	3250	.89
Wet	2020	3400	2230	3750	.91
Sandstone	1510	2550	2520	4250	.60
Shale	1250	2100	1660	2800	.75
Slag — Broken	1750	2950	2940	4950	.60
Snow — Dry	130	220			
Wet	520	860			
Stone — Crushed	1600	2700	2670	4500	.60
Taconite	1630-1900	3600-4200	2360-2700	5200-6100	.58
Top Soil	950	1600	1370	2300	.70
Taprock — Broken	1750	2950	2610	4400	.67
Wood Chips**	—	—	—	—	—

*Varies with moisture content, grain size, degree of compaction, etc. Tests must be made to determine exact material characteristics.

**Weights of commercially important wood species can be found in the last pages of the Logging & Forest Products section. To obtain wood weights use the following equations: lb/yd³ = (lb/ft³) × .4 × 27
kg/m³ = (kg/m³) × .4

ALTITUDE DERATION

PERCENT FLYWHEEL HORSEPOWER
AVAILABLE AT SPECIFIED ALTITUDES

MODEL	0-760 m (0-2500')	760-1500 m (2500-5000')	1500-2300 m (5000-7500')	2300-3000 m (7500-10,000')	3000-3800 m (10,000-12,500')	3800-4600 m (12,500-15,000')
D3K XL	100	100	100	100	88	85
D3K LGP	100	100	100	100	88	85
D4K XL	100	100	100	100	88	85
D4K LGP	100	100	100	100	88	85
D5K XL	100	100	100	100	88	85
D5K LGP	100	100	100	100	88	85
D5N XL & LGP	100	100	100	100	100	100
D6K XL & LGP	100	100	100	100	N/A	N/A
D6N XL & LGP	100	100	100	100	N/A	N/A
D6N XL & LGP**	100	100	100	100	100	100
D6G	100	100	100	100	94	87
D6G Series 2 XL	100	100	100	94	87	80
D6G Series 2 LGP	100	100	100	94	87	80
D6R Series 3 (All)	100	100	100	100	92	84
D7G	100*	100*	100*	94	86	80
D7G Series 2	100	100	100	100	100	94
D7R Series 2 (All)	100	100	100	100	100	96
D8R	100	100	100	93	85	77
D8T	100	100	100	100	100	93
D9R	100	100	100	93	85	77
D9T	100	100	100	100	100	93
D10T	100	100	100	100	97	89
D11T/D11T CD	100	100	100	93	85	77
120H STD	100	100	100	100	100	100
120M	100	100	100	100	95	88
135H STD	100	100	100	100	100	98
12H STD	100	89	83	77	71	65
12M	100	100	100	100	95	88
140H STD	100	100	100	100	97	89
140M	100	100	100	100	**	**
160H STD	100	100	100	97	89	82
160M	100	100	100	100	**	**
14M	100	100	100	100	100	**
16M	100	100	100	100	100	100
24M	100	100	100	100	**	**

*Refer to "Captive Vehicle Engine Fuel Specifications" microfiche at your local dealer.

**Information not available at time of printing.

Tables

ALTITUDE DERATION (Continued)

MODEL	0-760 m (0-2500')	760-1500 m (2500-5000')	1500-2300 m (5000-7500')	2300-3000 m (7500-10,000')	3000-3800 m (10,000-12,500')	3800-4600 m (12,500-15,000')
216B2	100	89	81	72	61	52
226B2	100	97	95	91	87	83
232B2	100	97	95	91	87	83
236B2	100	97	95	91	87	83
242B2	100	97	95	91	87	83
246C	100	97	95	91	87	83
247B2	100	97	95	91	87	83
256C	100	97	95	91	87	83
257B2	100	97	95	91	87	83
262C	100	97	95	91	87	83
272C	100	97	95	91	87	83
277C	100	97	95	91	87	83
279C	100	97	95	91	87	83
287C	100	97	95	91	87	83
289C	100	97	95	91	87	83
297C	100	97	95	91	87	83
299C	100	97	95	91	87	83
301.5	95	89	81	71	N/A	N/A
301.6	95	89	81	71	N/A	N/A
301.8	95	89	81	71	N/A	N/A
302.5	95	89	81	71	N/A	N/A
303 SR/CR	93	85	78	N/A	N/A	N/A
304 CR	94	87	80	N/A	N/A	N/A
305 SR/CR	96	91	86	N/A	N/A	N/A
307C (4M40)	100	100	*	*	*	*
308C SR/CR	100	100	*	*	*	*
311D LRR	100	100	100	*	*	*
312D/312D L**	100	100	100	*	*	*
312D/312D L***	97	95	92	*	*	*
313C SR/CR	100	100	100	83	78	73
314D CR/314D LCR	100	100	100	*	*	*
315D L**	100	100	100	*	*	*
315D L***	97	95	92	*	*	*
319D L/319 D LN	97	95	92	*	*	*
M313C	100	97	95	91	N/A	N/A
M315C	100	97	95	91	N/A	N/A
M316C	*	*	*	*	*	*
M318C	100	100	97	95	N/A	N/A
M322C	100	100	97	95	N/A	N/A
M313D	*	*	*	*	*	*
M315D	*	*	*	*	*	*
M316D	100	100	100	100	100	98.9
M318D	100	100	100	100	96.6	91.8
M322D	100	100	100	100	96.1	91.9

*Information not available at time of printing.

**Japan Sourced.

***France Sourced.

ALTITUDE DERATION (Continued)

MODEL	0-760 m (0-2500')	760-1500 m (2500-5000')	1500-2300 m (5000-7500')	2300-3000 m (7500-10,000')	3000-3800 m (10,000-12,500')	3800-4600 m (12,500-15,000')
320D/320D RR/323D	100	100	90	87	83	*
320D L/320D LRR/323D L	100	100	90	87	83	*
320C N	100	100	90	87	83	*
320C FM	100	100	90	87	83	*
321D LCR	100	100	90	87	83	*
322C	100	100	100	100	100	97
324D L	100	100	100	100	100	100-96
322C LN	100	100	100	100	100	97
322C FM	100	100	100	100	100	97
325C	100	100	100	100	100	100
325C FM	100	100	100	100	100	100
328D LCR	100	100	100	100	100-96	96-92
329D L	100	100	100	100	100-96	96-92
329D LN	100	100	100	100	100	100
330C	100	100	100	100	100	100
330C FM	100	100	100	100	100	100
336D L	100	100	100	100	100-93	93-86
336D LN	100	100	100	100	100	100
345D	100	100-96	96	96-89	89-82	82-74
345D L	100	100-96	96	96-89	89-82	82-74
365C L	100	100	100	100	95	88
385C/385C L	100	100	100	100	100	97
385C FS	100	100	100	100	100	97
416E/422E (NA)	100†	89	81	71	N/A	N/A
416E/422E (Turbo)	100	100	100	100	N/A	N/A
420E/420E IT	100	100	100	100	N/A	N/A
428E	99	97	95	91	N/A	N/A
430E/430E IT	100	100	100	100	N/A	N/A
432E	99	97	95	91	N/A	N/A
434E	99	97	95	91	N/A	N/A
442E	99	97	95	91	N/A	N/A
444E	99	97	95	91	N/A	N/A
450E	100	100	100	100	N/A	N/A
Forest Products:						
525B	*	*	*	*	*	*
535B	*	*	*	*	*	*
545	*	*	*	*	*	*
517	100	100	100	99	95	87
527	100	100	100	100	99	91
320C FM	*	*	*	*	*	*
322C FM	*	*	*	*	*	*
325C FM	*	*	*	*	*	*
330C FM	*	*	*	*	*	*

*Information not available at time of printing.

†Up to 600 m (1968 ft).

Tables

ALTITUDE DERATION (Continued)

MODEL	0-760 m (0-2500')	760-1500 m (2500-5000')	1500-2300 m (5000-7500')	2300-3000 m (7500-10,000')	3000-3800 m (10,000-12,500')	3800-4600 m (12,500-15,000')
PL61	100	100	100	100	N/A	N/A
572R Series 2	100*	100*	100*	94	86	80
583R	100	100	100	100	94	87
587R/T	100	100	94	87	80	73
621G◀	100	100	100	100	97	90
631G◀	100	100	100	100	97	90
627G Tractor◀	100	100	100	100	97	90
Scraper◀	100*	100*	100*	92	85	79*
637G Tractor◀	100	100	100	100	97	90
Scraper◀	100*	100*	100	95	87	80
657G Tractor◀	100	100	100	94	88	81
Scraper◀	100	100	100	95	90	84
613G	100	100	100	100	95	87
623G◀	100	100	100	100	97	90
770◀	100	100	100	100-96	96-87	87-79
772◀	100	100	100	100-98	98-87	87-77
773F◀	100	100	100	100-97.9	97.9-94.7	94.7-91.7
775F◀	100	100	100	100	100	100-98.6
777D◀	100	100	100-99.5	99.5-94	94-90	90-85
777F◀	100	100	100	100	100-99.5	99.5-91*
785C◀	100	100	100	100	100-93	93-85
785D◀	100	100	100	100	100	100-97
789C◀	100	100	100	100-92.5	92.5-85	85-77.5
789C HAA◀	100	100	100	100	100	100-98.5
793D◀	100	100	100	100-95.5	95.5-88	88-80.5
793D HAA◀	100	100	100	100	100-98.5	98.5-91
793F◀	100	100	100	100	100-93.3	93.3-80
793F HAA◀	100	100	100	100	100	100
797F◀	100	100	100-98.5	98.5-91.2	91.2-85.1	85.1-79.3
797F HAA◀	100	100	100	100	100	100
725	100	100	100	100	100	100
730	100	100	100	90	80	66
730 Ejector	100	100	100	90	80	66
735	100	100	96	82	60	39
740	100	100	96	82	60	39
740 Ejector	100	100	96	82	60	39
814F2	**	**	**	**	**	**
824H	**	**	**	**	**	**
834H	**	**	**	**	**	**
844H	100	100	100	98	93	83
854K	100	100	100	98	93	79

*Refer to "Captive Vehicle Engine Fuel Specifications" microfiche at your local dealer.

**Information not available at time of printing.

†At 4572 m (15,000 ft).

◀EUI engine — Automatic altitude deration.

NOTE: Contact factory for deration estimates based upon site specific temperatures and altitudes for altitude range of 3800 to 4600 m (12,500 to 15,000 ft).

ALTITUDE DERATION (Continued)

MODEL	0-760 m (0-2500')	760-1500 m (2500-5000')	1500-2300 m (5000-7500')	2300-3000 m (7500-10,000')	3000-3800 m (10,000-12,500')	3800-4600 m (12,500-15,000')
815F2	***	***	***	***	***	***
825H	***	***	***	***	***	***
816F2	***	***	***	***	***	***
826H	***	***	***	***	***	***
836H	***	***	***	***	***	***
906	95	89	81	71	N/A	N/A
907	95	89	81	71	N/A	N/A
908	99	97	95	91	N/A	N/A
914G/IT14G	99	97	95	91	N/A	N/A
924H/924Hz	100	100	100	100	97	89
928Hz	100	100	100	100	92	85
930H	100	100	100	100	92	85
938H/IT38H	100	100	100	100	N/A	N/A
950H	100	100	100	100	100	N/A
962H/IT62H	100	100	100	100	100	N/A
966H	100	100	100	100	100	100
972H	100	100	100	100	100	100
980H	100	100	100	100	100-93	93-84
988H	100	100	100	95	85	75
990H	100	100	100	98	93	83
992K	100	100	100	98	93	79
993K	100	100	100	99	93	89
994D	100	100	100	100	**	**
994F	100	100	100	100	**	**
939C	100	100	100	100	*	*
953D	100	100	100	100	N/A	N/A
963D	100	100	100	100	N/A	N/A
973C	100	100	100	100	100	98
TH220B	99	97	95	91	N/A	N/A
TH330B	99	97	95	91	N/A	N/A
TH360B	99	97	95	91	N/A	N/A
TH560B	99	97	95	91	N/A	N/A
TH580B	99	97	95	91	N/A	N/A
PM-565B	100	100	100	*	*	*
RM-250C	100	100	100	100	100	100
RM-350B	100	100	100	*	*	*
AP-800C	99	97	95	91	N/A	N/A
AP-900B	*	*	*	*	*	*
AP-1000B	100	100	100-97	97-93	93-89	89-83
AP-650B	100	100	100	97-93	93-89	89-83
AP-655C	100	100	100	100	*	*
AP-1050B	100	100	100-97	97-93	93-89	89-83
AP-1055B	100	100	100-97	97-93	93-89	89-83

*Information not available at time of printing.

**Automatically derates 3%/300 m (1000 ft) above 3000 m (10,000 ft).

***Information not available at time of printing.

Tables

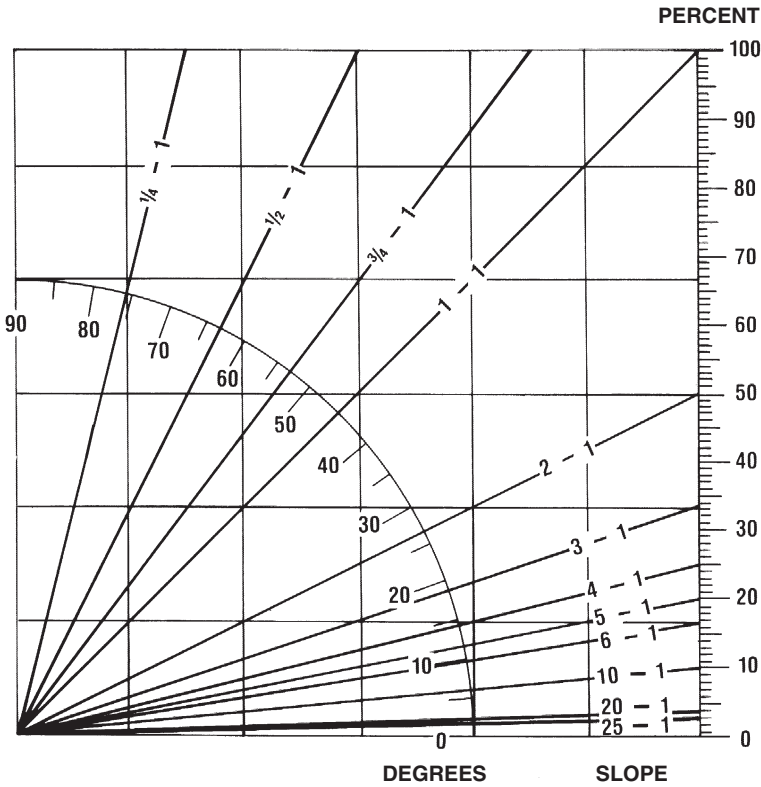
ALTITUDE DERATION (Continued)

MODEL	0-760 m (0-2500')	760-1500 m (2500-5000')	1500-2300 m (5000-7500')	2300-3000 m (7500-10,000')	3000-3800 m (10,000-12,500')	3800-4600 m (12,500-15,000')
BG-230	99	97	95	91	N/A	N/A
BG-240C	100	100	100-97	97-93	93-89	89-83
BG-260C	100	100	100-97	97-93	93-89	89-83
BG-225C	99	97	95	91	N/A	N/A
BG-245C	100	100	100-97	97-93	93-89	89-83
BG-2455C	100	100	100-97	97-93	93-89	89-83
BG-650	99	97	95	91	N/A	N/A
CS-323C	95	89	81	71	N/A	N/A
CS-423E	100	100-93	93-85	85-77	77-64	64-53
CS-433E	100	100	100	99-96	96-91	91-85
CS-533E	100	100	100-97	97-93	93-89	89-83
CS-563E	100	100	100	100	100	100
CS-573E	100	100	100	100	100	100
CS-583E	100	100	100	100	100	100
CS-663E	100	100	100	100	*	*
CS-683E	100-99	99-97	97-95	95-93	93-89	89-83
CP-323C	100	100-90	90-83	83-73	73-62	62-52
CP-433E	100	100	100-99	99-96	96-91	91-85
CP-533E	100	100	100-97	97-93	93-89	100
CP-563E	100	100	100	100	100	89-83
CP-573E	100	100	100	100	100	100
CP-583E	100	100	100	100	100	100
CP-663E	100	100	100	100	*	*
CB-214E	95	90	82	72	62	51
CB-224E/CB-225E	95	90	82	72	62	51
CB-334E	95	90	82	72	62	51
CB-335E	95	90	82	72	62	51
CB-434D	95	89	81	71	N/A	N/A
CB-534D/CB-534D XW	100	100	100	100	100	100
CB-634D	100	100	100-97	97-93	93-89	89-83
PS-150C	95	89	81	71	N/A	N/A
PS-360B	99	97	95	91	N/A	N/A
PF-300B	99	97	95	91	N/A	N/A
PS-300B	99	97	95	91	N/A	N/A
R1300G II	*	*	*	*	*	*
R1600G	*	*	*	*	*	*
R1700G	*	*	*	*	*	*
R2900G	*	*	*	*	*	*
R2900G Extra	*	*	*	*	*	*
AD30	*	*	*	*	*	*
AD45B	*	*	*	*	*	*
AD55	*	*	*	*	*	*
AD55B	**	**	**	**	**	**

**Information not available at time of printing.

**For altitude capability, contact your local Global Marketing representative.

GRADE COMPARISON CHART
DEGREES — PERCENT — SLOPE



GRADE IN DEGREES
AND PERCENTS

DEGREES	PERCENT
1	1.8
2	3.5
3	5.2
4	7.0
5	8.8
6	10.5
7	12.3
8	14.0
9	15.8
10	17.6
11	19.4
12	21.3
13	23.1
14	24.9
15	26.8
16	28.7
17	30.6
18	32.5
19	34.4
20	36.4
21	38.4
22	40.4
23	42.4
24	44.5
25	46.6
26	48.8
27	51.0
28	53.2
29	55.4
30	57.7
31	60.0
32	62.5
33	64.9
34	67.4
35	70.0
36	72.7
37	75.4
38	78.1
39	81.0
40	83.9
41	86.9
42	90.0
43	93.3
44	96.6
45	100.0

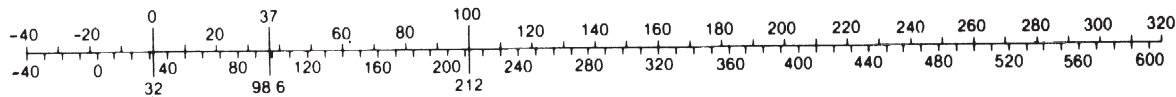
CONVERSION FACTORS

Multiply Metric Unit	By	To Obtain English Unit	Multiply English Unit	By	To Obtain Metric Unit
kilometer (km)	.6214	mile	mile, statute (m)	1.609	kilometer
meter (m)	1.0936	yard	yard (yd)	.9144	meter
meter (m)	3.28	foot	foot (ft)	.3048	meter
centimeter (cm)	.0328	foot	inch (in)	25.4	millimeter
millimeter (mm)	.03937	inch	sq mile (mile ²)	2.590	sq kilometer
sq kilometer (km ²)	.3861	square mile	acre	.4047	hectare
hectare (ha)	2.471	acre	sq foot (ft ²)	.0929	sq meter
sq meter (m ²)	10.764	square foot	sq inch (in ²)	.000645	sq meter
sq meter (m ²)	1550	square inch	cu yard (yd ³)	.7645	cu meter
sq centimeter (cm ²)	.1550	square inch	cu inch (in ³)	16.387	cu centimeter
cu centimeter (cm ³)	.061	cubic inch	cu foot (ft ³)	.0283	cu meter
cu meter (m ³)	1.308	cubic yard	cu inch (in ³)	.0164	liter
liter (L)	61.02	cubic inch	cubic yard (yd ³)	764.55	liter
liter (L)	.001308	cubic yard	mph	1.61	km/h
km/h	.621	mph	Ton — mph	1.459	tkm/h
liter (L)	.2642	U.S. gallon	U.S. gallon (US Gal)	3.785	liter
liter (L)	.22	Imperial gallon	U.S. gallon	.833	Imperial gallon
metric ton (t)	.984	long ton	long ton (lg ton)	1.016	metric ton
metric ton (t)	1.102	short ton	short ton (sh ton)	.907	metric ton
kilogram (kg)	2.205	pound, avdp.	pound (lb)	.4536	kilogram
gram (g or gr)	.0353	ounce, avdp.	ounce (oz)	28.35	gram
kilonewton (kN)	225	pound (force)	pound (lb) (force)	.00445	kilonewton
newton (N)	.225	pound (force)	pound (lb) (force)	4.45	newton
cu centimeter (cm ³)	.0338	fluid ounce	fluid oz (fl oz)	29.57	cu centimeter
kilograms/cu meter	1.686	pounds/cu yd	lb/cu ft (lb/ft ³)	16.018	kg/cu meter
kilograms/cu meter	.062	pounds/cu ft	lb/cu yd (lb/yd ³)	.5933	kg/cu meter
kilograms/sq cm (kg/cm ²)	14.225	pounds/sq in	pounds/sq. in.	.0703	kilogram/sq cm
kilocalorie (kcal)	3.968	Btu	psi	.0689	bar
kilogram-meter (kg•m)	7.233	foot-pound	psi	6.89	kilopascal
meter-kilogram (m•kg)	7.233	pound-foot	Btu	.2520	kilogram-calorie
metric horsepower (CV)	.9863	hp	foot-pound (ft-lb)	.1383	kilogram-meter
kilowatt (kW)	1.341	hp	horsepower (hp)	1.014	metric horsepower
kilopascal (kPa)	.145	psi	horsepower (hp)	.7457	kilowatt
bar	14.5	psi	pounds/cu yd	.0005928	tons/m ³
tons/m ³	1692	pounds/cu yd	pounds (No. 2 diesel fuel)	.1413	U.S. gallon
decaliter	.283	bushel	bushel	3.524	decaliter

NOTE: Some of the above factors have been rounded for convenience. For exact conversion factors please consult International System of Units (SI) table.

Temperature conversion

Degree C



Degree F

$^{\circ}\text{C} = (^{\circ}\text{F} - 32) \div 1.8$

$^{\circ}\text{F} = (\text{C} \times 1.8) + 32$

METRIC UNIT EQUIVALENTS

1 km	=	1000 m
1 m	=	100 cm
1 cm	=	10 mm
1 km ²	=	100 ha
1 ha	=	10,000 m ²
1 m ²	=	10,000 cm ²
1 cm ²	=	100 mm ²
1 m ³	=	1000 liters
1 liter	=	1000 cm ³
1 metric ton	=	1000 kg
1 quintal	=	100 kg
1 N	=	0.10197 kg•m/s ²
1 kg	=	1000 g
1 g	=	1000 mg
1 bar	=	14.504 psi
1 cal	=	427 kg•m
	=	0.0016 cv•h
	=	0.00116 kw•h
torque unit		
1 CV	=	75 kg•m/s
1 kg/cm ²	=	0.97 atmosph.

ENGLISH UNIT EQUIVALENTS

1 mile	=	1760 yd
1 yd	=	3 ft
1 ft	=	12 in
1 sq mile	=	640 acres
1 acre	=	43,560 sq ft
1 sq ft	=	144 sq in
1 cu ft	=	7.48 gal liq
1 gal	=	231 cu in
	=	4 quarts liq
1 quart	=	32 fl oz
1 fl oz	=	1.80 cu in
1 sh ton	=	2000 lb
1 lg ton	=	2240 lb
1 lb	=	16 oz, avdp
1 Btu	=	778 ft lb
	=	0.000393 hph
	=	0.000293 kwh
1 mechanical hp	=	550 ft-lb/sec
1 atmosph.	=	14.7 lb/in ²

POWER UNIT EQUIVALENTS

kW	=	Kilowatt
hp	=	Mechanical Horsepower
CV	=	Cheval Vapeur (Steam Horsepower)
		French Designation For Metric Horsepower
PS	=	Pferdestärke (Horsepower)
		German Designation For Metric Horsepower
1 hp	=	1.014 CV = 1.014 PS
	=	0.7457 kW
1 PS	=	1 CV = 0.986 hp
	=	0.7355 kW
1 kW	=	1.341 hp
	=	1.36 CV
	=	1.36 PS

Tables

Machine Model	Engine Model	Machine Model	Engine Model	Machine Model	Engine Model
Track-Type Tractors		Excavators		Forest Machines	
D3K XL/LGP	C4.4 ACERT	301.6C	Mitsubishi L3E	320D	6.4 ACERT
D4K XL/LGP	C4.4 ACERT	301.8C	Mitsubishi L3E	General Forestry (HW)	
D5K XL/LGP	C4.4 ACERT	302.5C	Mitsubishi S3L2	General Forestry (HD/LC)	
D5N XL/LGP	3126B T	303C CR	Mitsubishi S3Q2	Log Loader (U/U)	
D6K XL/LGP	C6.6 ACERT	303.5C CR	Mitsubishi S3Q2-T	324D	C7 ACERT
D6N XL/LGP	C6.6 ACERT	304C CR	Mitsubishi S4Q2	General Forestry	
D6N XL/LGP*	3126B T	305C CR	Mitsubishi S4Q2-T	General Forestry (O/U)	
D6G	3306 T	307C/307C SB	Mitsubishi 4M40EI	Log Loader (U/U)	
D6G Series 2 XL	3306 T	308C CR	Mitsubishi 4M40EI	325D	C7 ACERT
D6G Series 2 LGP	3306 T	308C SR	K4N	General Forestry	
D6T	C9 ACERT	311D LRR	C4.2 ACERT	General Forestry (O/U)	
D7G	3306 DITA	312D/312D L	C4.2 ACERT	Log Loader (U/U)	
D7G Series 2	3306 DITA	313C SR/CR	3064 T	330D	C9 ACERT
D7R Series 2 (All)	3176C SCAC	314D CR/LCR	C4.2 ACERT	General Forestry	
D8R/D8R LGP	3406E TA	315D L	C4.2 ACERT	General Forestry (O/U)	
D8T/D8T LGP	C15 ACERT	319D L/319D LN	C4.2 ACERT	Log Loader (U/U)	
D9R	3408E TA	M313D	C4.4 ACERT		
D9T	C18 ACERT	M315D	C4.4 ACERT		
D10T	C27 ACERT	M316D	C6.6 ACERT		
D11T	C32 ACERT	M318D	C6.6 ACERT		
		M322D	C6.6 ACERT		
Motor Graders		320D/320D L/		Track Harvesters	
120H STD	3116 TA	320D RR/320D LRR	C6.4 ACERT	501	C6.6 ACERT
120M	C6.6 ACERT	321D LCR	C6.4 ACERT	501HD	C6.6 ACERT
135H STD	3116 TA	323D/323D L	C6.4 ACERT		
12H STD	3306	324D L	Cat C7 ACERT	Wheel Harvester	
12M	C6.6 ACERT	328D LCR	Cat C7 ACERT	550	C7 ACERT
140H STD	3306 T	329D L	C7 ACERT		
140M	C7 ACERT	336D L	C9 ACERT	Wheel Skidders	
160H STD	3306 T	345B L Series II	3176C ATAAC	525C	C7 ACERT
160M	C9 ACERT	345D L	C13 ACERT	535C	C7 ACERT
14M	C11 ACERT	365C L	C15 ACERT	545C	C7 ACERT
16M	C13 ACERT	385C/385C L	C18 ACERT		
24M	C18 ACERT	5110B	3412B HEUI	Track Skidders	
		5130B	3508B (EUI) TA	517	3304 TA
		5230B	3516B (EUI) TA	527	3304 TA
Skid Steer/Multi-Terrain/ Compact Track Loaders		Front Shovels		Forwarders	
216B2	C2.2			534	C4.4 ACERT
226B2	C2.2T			544	C4.4 ACERT
232B2	C2.2T			564	C6.6 ACERT
236B2	C3.4 DIT			574	C6.6 ACERT
242B2	C2.2T			584	C7 ACERT
246C	C3.4 DIT			584HD	C7 ACERT
247B2	C2.2T			Pipelayers	
256C	C3.4 DIT			PL61	C6.6 ACERT
257B2	C2.2T			572R Series 2	3176C T
262C	C3.4 DIT			583R	3406C TA
272C	C3.4 DIT			587R	3406C DITA
277C	C3.4 DIT			587T	C15 ACERT
279C	C3.4 DIT			Wheel Tractor-Scrapers	
287C	C3.4 DIT			613G	C6.6 ACERT
289C	C3.4 DIT			623G	C15 ACERT
297C	C3.4 DIT			621G	C15 ACERT
299C	C3.4 DIT			631G	C18 ACERT
				627G Tractor	C15 ACERT
				627G Scraper	C9 ACERT
				637G Tractor	C18 ACERT
				637G Scraper	C9 ACERT
				657G Tractor	C18 ACERT
				657G Scraper	C15 ACERT

*Not sold in U.S., Canada or Europe.

Machine Model	Engine Model	Machine Model	Engine Model	Machine Model	Engine Model
Track Feller Bunchers*		Landfill Compactors			
511	C9 ACERT	816F	3176 TA	AP1000D	C7 ACERT
521	C9 ACERT	816F II	C9 ACERT	AP655D	C6.6 ACERT
522	C9 ACERT	826G Series II	3406E TA	AP655D (EAME)	C6.6 ACERT
532	C9 ACERT	826H	C15 ACERT	AP755 (EAME)	C7 ACERT
541	C9 ACERT	836G	3456 TA	AP1055D	C7 ACERT
551	C9 ACERT	836H	C18 ACERT	BG-230D	3054C ATAAC
552	C9 ACERT			BG-260D	C7 ACERT
				BG-225C	3054C
Knuckleboom Loaders		Wheel Loaders/Integrated Toolcarriers		Compactors	
519	C6.6 Tier 3	906H	C3.4	Single Drum, Smooth	
529	C6.6 Tier 3	907H	C3.4	CS-323C	3054C
559	C6.6 Tier 3	908H	C3.4	CS-423E	3054C
569	C6.6 Tier 3	914G/IT14G	3054 T	CS-433E	3054C T
579	C6.6 Tier 3	924H/924Hz	C6.6 ATAAC	CS54	C4.4 ACERT
		928Hz	C6.6 ATAAC	CS56	C6.6 ACERT
Wheel Feller Buncher		930H	C6.6 ATAAC	CS64	C6.6 ACERT
553	C6.6 ACERT	938H/IT38H	C6.6 ATAAC	CS74	C6.6 ACERT
563	C7 ACERT	950H	C7 ATAAC	CS76	C6.6 ACERT
573	C7 ACERT	962H/IT62H	C7 ATAAC	CS76 XT	C6.6 ACERT
		966H	C11 ATAAC		
		972H	C13 ATAAC		
Construction & Mining Trucks		980H	C15 ATAAC	Single Drum, Padded	
770	C15 ACERT	988H	C18 ACERT	CP-323C	3054C
772	C18 ACERT	990H	C27 ACERT	CP-433E	3054C T
773F	C27 ACERT	992K	C32 ACERT	CP54	C4.4 ACERT
775F	C27 ACERT	993K	C32 ACERT	CP56	C6.6 ACERT
777D	3508B (EUI) TA	994D	3516B TA	CP64	C6.6 ACERT
777F	C32 ACERT	994F	Cat 3516B HD EUI	CP74	C6.6 ACERT
785C	3512B (EUI) TA			CP76	C6.6 ACERT
785D	3512C HD (EUI) ATAAC	Track Loaders		Double Drum and Combi	
789C	3516B (EUI) TA	939C	3046 T	CB14	C1.1
793D	3516B (EUI) TA	953D	C6.6 ACERT	CB14 XW	C1.1
793F	C175-16 (EUI) ATAAC	963D	C6.6 ACERT	CB14 Full Flush	C1.1
797F	C175-20 (EUI) ATAAC	973C	C9 ATAAC	CB22	C1.5
Articulated Trucks		Telehandlers		CB24	C1.5
725	C11 ATAAC	TH255	C4.4 DIT	CB32	C1.5
730	C11 ATAAC	TH336	C4.4 DITAAC	CC24	C1.5
730 Ejector	C11 ATAAC	TH337	C4.4 DITAAC	CB34	C2.2
735	C15 ATAAC	TH406	C4.4 DITAAC	CB34 XW	C2.2
740	C15 ATAAC	TH407	C4.4 DITAAC	CC34	C2.2
740 Ejector	C15 ATAAC	TH414	C4.4 DITAAC	CB-434D	3054C
		TH417	C4.4 DITAAC	CB434D XW	3054C
Wheel Dozers		TH514	C4.4 DITAAC	CB-534D/CB-534D XW	3054C
814F	3176C ATAAC	TL642	C4.4 EDIT	CB564D	3054C
814F II	C9 ACERT	TL943	C4.4 EDIT		
824G Series II	3406E ATAAC	TL1055	C4.4 EDITAAC	Pneumatic Tire-Asphalt	
824H	C15 ACERT	TL1255	C4.4 EDITAAC	PS150C	3054C
834G	3456 TA			PS360C	3054C ATAAC
834H	C18 ACERT	Paving Products		PF300C	3054C
844	3412E ATAAC	Cold Planers		PS300C	3054C
844H	C27 ACERT	PM102	C7 ACERT		
854G	3508B TA	PM200	C18 ACERT		
854K	C32 ACERT	PM201	C18 ACERT		
Soil Compactors		Reclaimer/Soil Stabilizers		Underground Mining	
815F	3176C ATAAC	RM300	C11 ACERT	R1300G II	C6.6 ACERT
815F II	C9 ACERT	RM500	C15 ACERT	R1600G	3176C EUI ATAAC
825G Series II	3406E ATAAC			R1700G	C11 ACERT ATAAC
825H	C15ACERT	Asphalt Pavers		R2900G	C15 ACERT ATAAC
		AP600	C6.6 ACERT	R2900G Extra	C15 ACERT ATAAC
		AP600 (EAME)	3056E ATAAC	AD30	C15 ACERT ATAAC
		AP800D	3054 DIT	AD45B	C18 ACERT ATAAC
				AD55	C18 ACERT ATAAC

*Models 511 through 552 are also available as a Track Harvester.

Tables

Engine Model and (Cylinders)	Machine	Aspiration	Fuel Injection System	Bore × Stroke		Displacement	
				mm	in	L	in³
Mitsubishi L3E (3)	301.6C, 301.8C	NA	DI	76 × 70	3 × 2.8	0.95	58.1
Mitsubishi S3L2 (3)	302.5C	NA	DI	78 × 92	3.1 × 3.6	1.3	80.4
Mitsubishi S3Q2 (3)	303C CR	NA	DI	88 × 103	3.5 × 4.1	1.9	115.9
	303.5C CR	T					
Mitsubishi S4Q2 (4)	304C CR	NA	DI	88 × 103	3.5 × 4.1	2.5	152.9
	305C CR	T					
3013C (3)	CB-214E, CB-224E, CB-225E	NA	DI	75 × 72	2.95 × 3.54	1.50	91.3
3014 (4)		NA	DI	75 × 72	2.95 × 3.54	2.0	122
3024C (4)	CB-334E, CB-335E, 902, 216B, 232B	NA	DI	84 × 100	3.31 × 3.94	2.22	135
	226B, 242B, 247B, 257B	T					
Mitsubishi 4M40EI (4)	307C, 307C SB, 308C CR	NA	DI	95 × 100	3.7 × 3.94	2.84	173
C3.4	906, 907, 908	T	DI	94 × 120	3.7 × 4.72	3.331	203.3
3044C	268B, 267B, 277B, 287B, 236B, 246B, 248B, 252B, 262B	T	DI	94 × 120	3.7 × 4.7	3.3	201
3054C		T		105 × 127	4.13 × 5.0	4.4	268
3054D		T	DI	105 × 127	4.13 × 5.0	4.4	268
3054C (I-4)	416E, 422E	NA	DI	105 × 127	4.13 × 5.0	4.4	268
	(416E), 420E, 420E IT, (422E), 428E, 430E, 430E IT, 432E, 434E, 442E, 444E	T (optional)					
3054E (I-4)	CB-434D, CS-323C, CS-423E, CP-323C, PS-150C	NA	DI	105 × 127	4.13 × 5.0	4.4	268
	AP-800C, BG-230, BG-650, 908, 914G, IT14G, PS-360B, PF-300B, PS-300B, CS-433E, CP-433E, CB-534C	T (optional)					
	M313C, M315C, AP-650B, 315C L**, BG-225C	TA					
3064 (I-4)	311C U, 312C, 314C CR/LCR, 313C SR/CR	T	DI	105 × 127	4.1 × 5.0	4.4	268
3114 (I-4)	446D	T	DI	105 × 127	4.13 × 5.0	4.4	268
3046 (I-6)		NA	DI	94 × 120	3.7 × 4.7	5.0	305
	D3G XL, D3G LGP, D4G XL, CS-533E, D4G LGP, D5G XL, D5G LGP, CP-533E, 315C/315C L*, 939C	T	DI				

*Japan sourced.

**France sourced.

DI — Direct Injection

T — Turbocharged

TA — Turbocharged and Aftercooled

NA — Naturally Aspirated

NOTE: Materials and specifications subject to change without notice. Component commonality of Cat Engines for all applications does not imply complete interchangeability. Contact your Cat dealer for specific information.

Engine Model and (Cylinders)	Machine	Aspiration	Fuel Injection System	Bore × Stroke		Displacement	
				mm	in	L	in³
3056 (I-6)	CS-563E, CS-573E, CS-583E, CS-663E, AP-655C, CS-683E, CP-563E, CP-573E, CP-583E, CP-663E, M316C, M318C, M322C	ATAAC	DI	100 × 127	3.94 × 5.0	6.0	365
3066 (I-6)	320C, 320C L, 320C LN, 320C S, 321C LCR	T	DI	102 × 130	4.0 × 5.1	6.4	391
3116 (I-6)	CB-634D, BG-240C, AP-900B	T	DI	105 × 127	4.13 × 5.0	6.6	402
	BG-260C, BG-245C, AP-1050B, AP-1055B, 120H STD, 135H STD, BG-2455C, AP-1000B	TA	DI				
3304 (I-4)	527, 517	TA	DI	121 × 152	4.75 × 6.0	7.0	425
3126 (I-6)	D5**, D6N**, 561N, 953C, 963C	T	DI	110 × 127	4.33 × 5.0	7.2	442
	525B, 535B	TA					
	325C LN	ATAAC					
C4.2 ACERT	311D, 311D LRR, 312D, 312D L, 314D CR, 314D LCR, 315D L, 319D	ATAAC	DI	102 × 130	4.02 × 5.12	4.2	259
C4.4 ACERT	D3K, D4K, D5K, 450E	T	DI	105 × 127	4.13 × 5.0	4.4	269
C6.4 ACERT	320D, 320D L, 320D RR, 320D LRR, 321D LCR, 323D L	ATAAC	DI	102 × 130	4.0 × 5.1	6.4	389
C6.6	R1300G II, 924Hz, 924H, 928Hz, 930H	ATAAC	DI	105 × 127	4.13 × 5.0	6.6	402
C6.6 ACERT	D6K, D6N, 953D, 963D, 120M, 12M, PL61, 613G, 938H, IT38H	TA	DI	105 × 127	4.13 × 5.0	6.6	402
C7 ACERT (I-6)	324D L, 328D LCR, 329D L, 950H, 962H, IT62H	ATAAC	DI	110 × 127	4.33 × 5.0	7.2	442
C9 ACERT (I-6)	336D L, 814F II, 815F II	ATAAC	DI	112 × 149	4.4 × 5.9	8.8	537
C9 ACERT (I-6)	160M, D6T, 336D, 336D L, 336D LN, 627G Sc., 637G Sc., 973C	TA	DI	112 × 149	4.4 × 5.9	8.8	537
3176 (I-6)	572R Series 2, R1600G, 345B L Series II, D7R Series 2 (All), 814F, 815F, 816F	ATAAC	DI	125 × 140	4.92 × 5.5	10.2	629

*France sourced.

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TA — Turbocharged and Aftercooled

ATAAC — Air/Air Aftercooled

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Tables

Engine Model and (Cylinders)	Machine	Aspiration	Fuel Injection System	Bore × Stroke		Displacement	
				mm	in	L	in³
3306 (I-6)	R1300G, 12H STD, D6G, 140H STD, 160H STD	T	DI	121 × 152	4.75 × 6.0	10.5	638
	D7G	TA	DI				
	545, R1300G	ATAAC	DI				
3196 (I-6)	365B L Series II	ATAAC	DI	130 × 150	5.1 × 5.9	12.0	732
3406 (I-6)	RM-250C, RM-350B, 583R, 587R, D8R, D8R LGP	TA	DI	137 × 165	5.4 × 6.5	14.6	893
	826G Series II, 825G Series II, 824G Series II, AD30	ATAAC	DI				
C11 (I-6)	725, 730, 730 Ejector	ATAAC	DI	130 × 140	5.1 × 5.5	11.2	680
C11 ACERT (I-6)	R1700G, 14M, 966H	TA	DI	130 × 140	5.12 × 5.51	11.1	680
		ATAAC					
C13 ACERT (I-6)	16M, 345D L, 972H	TA	DI	130 × 157	5.12 × 6.18	12.5	763
C15 ACERT (I-6)	D8T, D8T LGP, 587T, 621G, 623G, 627G Tr., 657G Sc., 770	TA	DI	137 × 172	5.4 × 6.75	15.2	928
	R2900G, AD30, 735, 740, 740 Ejector, 824H, 825H, 826H, 980H	ATAAC	DI	137 × 171.5	5.4 × 6.75	15.2	928
3456 (I-6)	834G, 836G, 385B, 385B L, 5090B	ATAAC	DI	140 × 171	5.5 × 6.75	15.8	966
3408 (V-8)	D9R, 589, PM-565B	TA	DI	137 × 152	5.4 × 6.0	18.0	1099
		ATAAC					
C18 (I-6)		TA	DI	145 × 185	5.7 × 7.3	18.1	1104
C18 ACERT	AD45B, AD55, D9T, 631G, 637G Tr., 657G Tr., 988H, 772, 834H, 836H	TA	DI	145 × 185	5.7 × 7.3	18.1	1104
C27 ACERT (V-12)	D10T, 773F, 775F, 990H, 844H	TA	DI	137 × 152	5.4 × 6.0	27.0	1648
3412 (V-12)	D10R, 5110B	TA	DI	137 × 152	5.4 × 6.0	27.0	1649
	844	ATAAC	DI				
3508 (V-8)	D11R, 5130B, 992K, 854G, 777D	TA	DI	170 × 190	6.7 × 7.5	34.5	2105
3512 (V-12)	785C	TA	DI	170 × 190	6.7 × 7.5	51.8	3158
	785D	ATAAC					
3516 (V-16)	789C, 793D, 994D, 5230B, 994F	TA	DI	170 × 190	6.7 × 7.5	69.1	4211
C32 ACERT	777F, 854K, 992K, 993K, D11T, D11T CD	TA	DI	145 × 162	5.7 × 6.4	32.1	1959
C175-16 (V-16)	793F	ATAAC	DI	175 × 220	6.9 × 8.7	84.7	5169
C175-20 (V-20)	797F	ATAAC	DI	175 × 220	6.9 × 8.7	105.8	6456

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