
CAT

D11N

TRACK-TYPE TRACTOR

- **Exceptional Productivity** — 10-15% more production than the D10 in most types of work.
- **Reliable/Durable** — built to withstand severe working conditions.
- **Low Operating Cost** — highly efficient, long-life componentry.
- **Operator Comfort and Convenience** — efficient, productive work environment.
- **Service and Maintenance Ease** — fast daily service checks and reduced downtime.
- **Total Customer Support System** — unmatched in the industry.

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- **Cat 3508 diesel Engine** 574 kW/770 HP
 - **Operating weight up to** 97 761 kg/215,524 lb
 - **Blade capacity to** 32.3 m³/42.2 yd³
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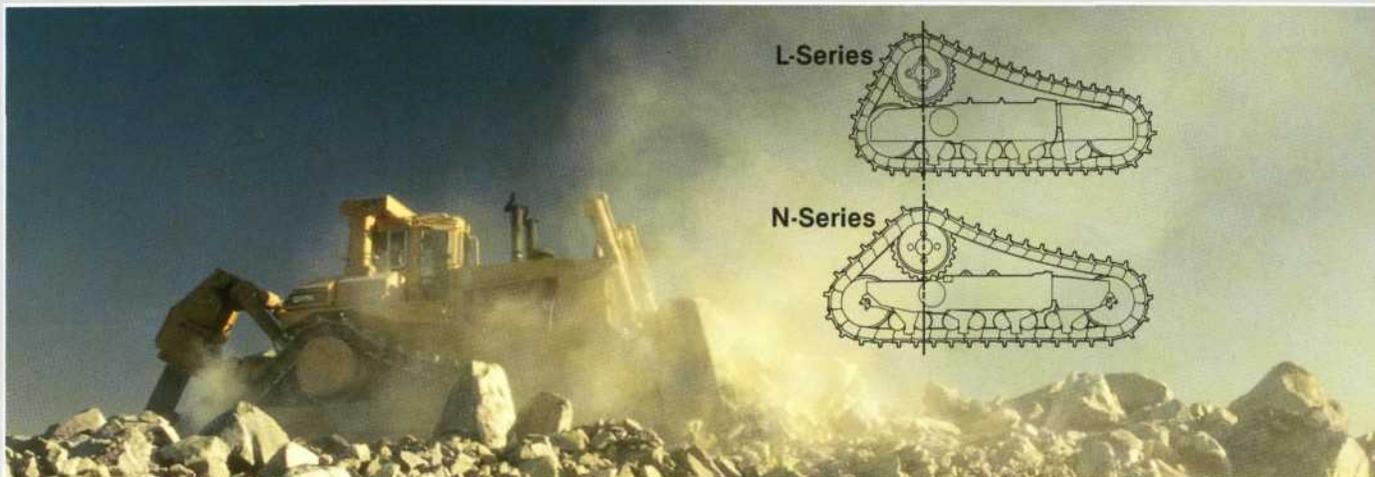
Machine shown may include optional equipment.



FEATURES

Elevated Sprocket Undercarriage

Caterpillar's elevated sprocket tractors with bogie system undercarriage set the standard in traction, durability and improved ride.



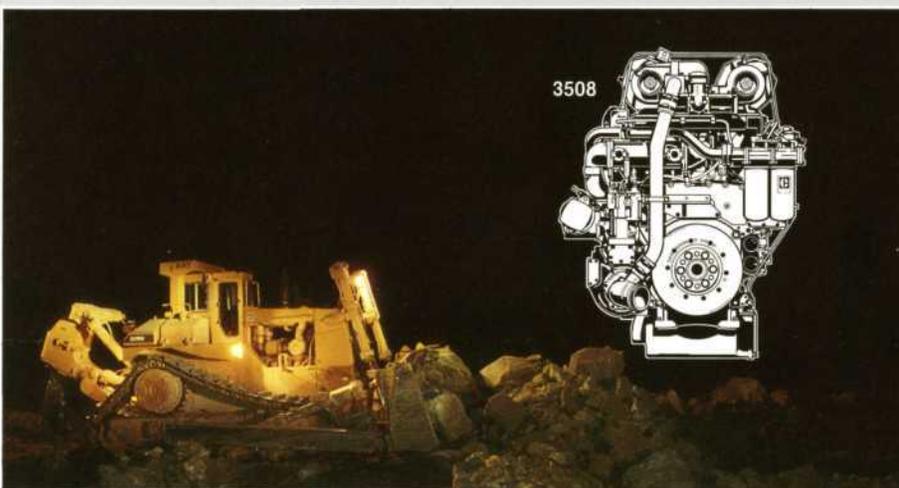
- 533 mm/21" longer track on ground (14% more than D10) provides stable, balanced platform.
- Center of gravity moved forward for better dozer penetration.
- With most added track to rear, front end rise is counteracted, traction increased, higher dozing and ripping forces assured.

- 6% less ground pressure than D10 (with standard shoes) — optional 914 mm/36" shoes let D11N work in material too soft for other tractors this size.
- Final drives, steering clutches and brakes relieved of most vertical shock loads from ground contact, roller frame alignment loads, horizontal shock loads from dozer — extends power train component life.

- Bogie-mounted suspension floats over rocks, ground contours — full length of track stays in contact with ground for less slippage, more traction.
- All major undercarriage components enlarged and strengthened to withstand severe punishment.
- Two piece master link provides 60% more clamping force than on the D10.

Caterpillar Diesel Engine

Proven Cat diesel power, an innovative, efficient cooling system and unparalleled serviceability.



- Turbocharged, aftercooled 3508 Engine delivers 554 kW/770 hp for quick response, big loads.

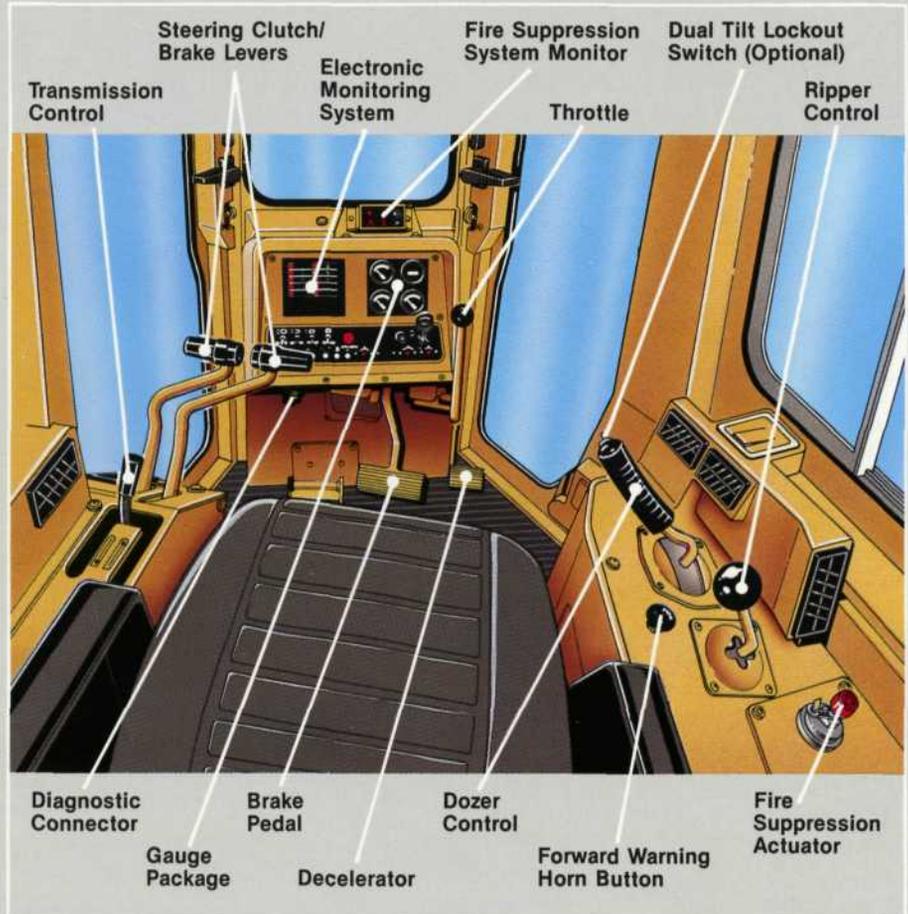
- 18% greater displacement, 16% higher peak torque than the D10 and the same 27% torque rise and 1800 RPM rating for low stress, long life.

- Unit injector fuel system, separate pumps and low pressure lines to fuel nozzles, provide adjustment-free operation, increased reliability, 5-6% less fuel per square yard moved.
- More surface area in main bearings (55%) and rod bearings (95%) for longer life.
- Patented priority valve in each cylinder bank assures oil goes first to rod and main bearings, then to piston cooling jets.
- Easy service access and inspection.
- Folded core radiator provides efficient cooling, reduced maintenance, quick module replacement.

Operator's Station

Comfort, protection and convenience are designed into the control station for a fully productive operator . . . a fully productive machine.

- Cab is isolation-mounted — reduces noise and vibration provides comfortable, shift long operation.
- Accessible, pilot-operated controls provide sure, precise maneuvering.
- Transmission and brake levers console-mounted on left — dozer and ripper controls to right — single pedal brakes both tracks simultaneously.
- Brake and clutch lever efforts have been reduced for less operator fatigue.
- Fully adjustable suspension seat (angled 15° to right) tapered fuel tank, hood and track — all combine for exceptional visibility, front and rear.
- Instrument panel includes a standard gauge group and the Electronic Monitoring System (EMS) for monitoring critical machine functions.
- Optional fire suppression system available for added machine and operator protection.
- Heater or optional heater/air conditioner keeps operator comfortable, productive.



Work Tools

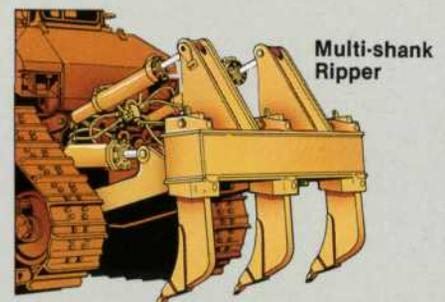
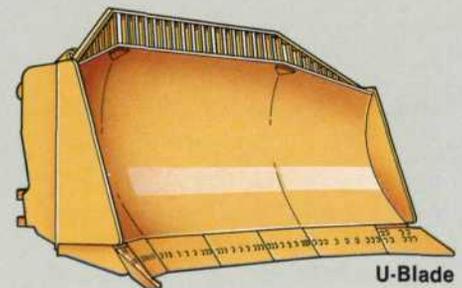
Caterpillar work tools include tailored dozers and rippers for efficient high production.

■ Blades

- SU-blade and U-blade capacity increased over D10 SU- and U-blade (SU-blade, 7%; U-blade, 11%).
- More blade heel clearance and sharper cutting edge angle penetrates tough material easier.
- Optional dual-tilt arrangement positions blade at best angle for loading, carrying, dumping.
- Tag link dozer stabilizer — excellent balance, better implement control and tractor maneuverability.

■ Ripper

- Single shank ripper is mounted closer to rear idler to increase penetration force.
- Shorter shank provides improved performance, longer life and higher ground clearance when backing.
- Improved geometry and higher relief setting increases pryout force over D10.
- Spacing on multi-shank ripper is 90 mm/3.54" wider than track gauge — allows ripping close to base of high walls.
- Deep rip attachment available.



FEATURES

Service

Cat's modular design concept moves the elevated sprocket tractors a generation ahead in simplified service and repair.

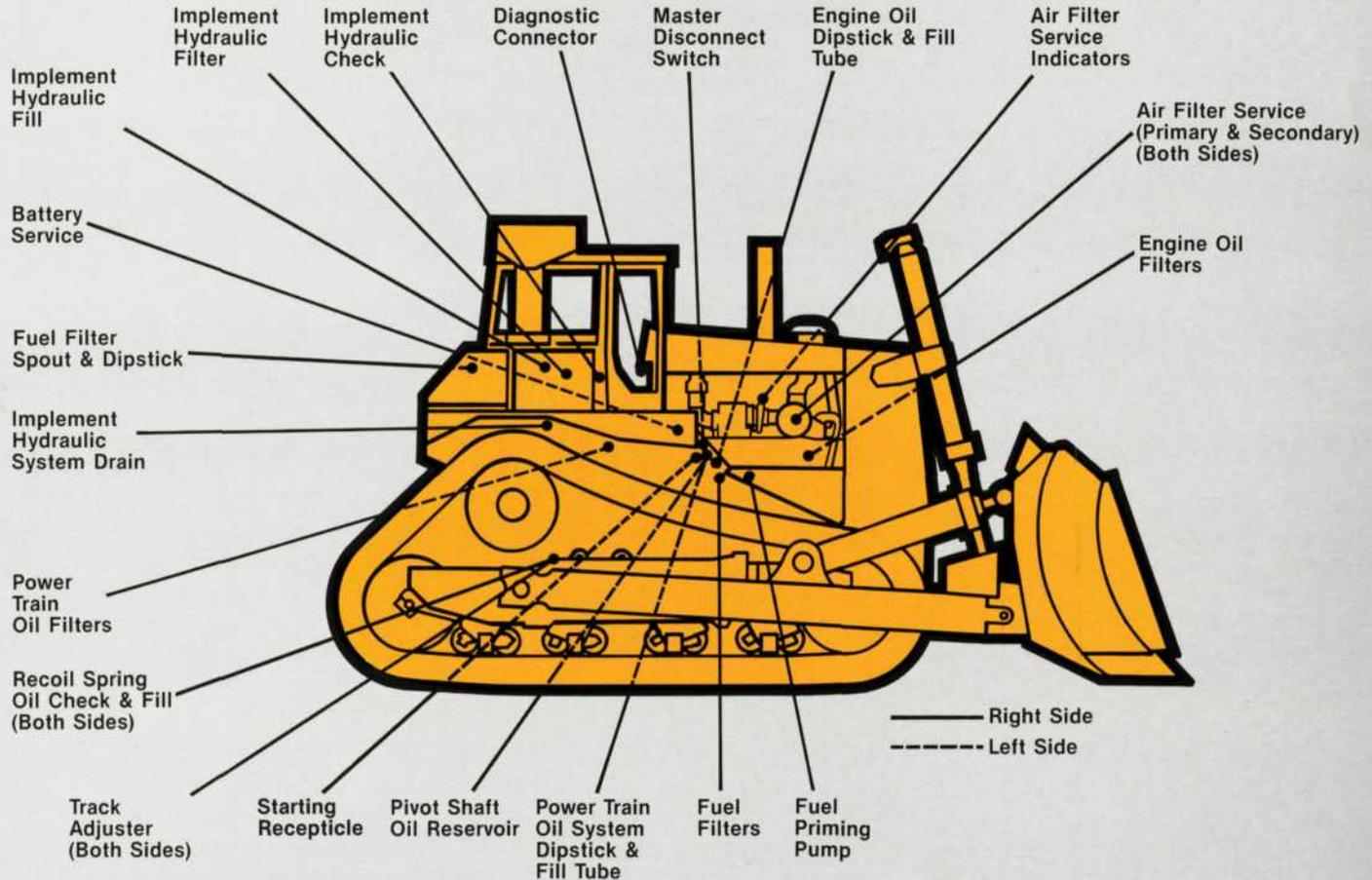
■ Major components are easily accessible, removable as a single unit.

■ Modular design permits fast removal, installation.

■ Pre-testing modular components before assembly or after repair assures quality.

■ Grouped service points, easy access to service areas make routine checks fast, convenient.

■ Diagnostic connectors enable fast troubleshooting of starting/charging problems.



Total Customer Support

■ Parts availability—Most Cat parts are immediately available off the shelf. Dealer availability is backed up by Cat's computer controlled emergency search system

■ Service capability—Whether in the dealer's fully equipped shop, or in the field service, you'll get factory trained servicemen using the latest technology, tooling and training.

■ Machine management services—Cat dealers can help manage equipment investments with:

- Effective preventive maintenance programs.
- Diagnostic programs like Scheduled Oil Sampling and Technical Analysis.
- Information to make the most cost effective repair option decisions.
- Customer meetings, training for operators and mechanics.

■ Exchange components for quick repair—Availability of low-cost Cat Remanufactured Products and dealer rebuilt components assure maximum cost effective uptime.

■ Literature support—Easy-to-use operation and maintenance guides help assure long term machine value. Cat keeps in touch with you as new product support technology develops.



Caterpillar Engine

Gross power @ 1800 RPM . . . 609 kW/817 HP
 Flywheel power @ 1800 RPM . . . 574 kW/770 HP
 (Kilowatts (kW) is the International System of Units equivalent of horsepower.)

Net power at the flywheel of the vehicle engine is based on SAE J1349 standard conditions of 25°C/77°F and 100 kPa/29.61" Hg. Power is based on using 35° API (15.6°C/60°F) gravity fuel having an LHV of 42 780 kJ/kg/18,390 Btu/lb when used at 29.4°C/85°F and with a density of 838.9 g/L (7.001 lb/U.S. gal). Power rating is adjusted for vehicle equipped with fan, air cleaner, alternator, water pump, fuel pump, muffler and lubricating oil pump. No derating is required up to 1500 m/5000 ft. altitude.

These additional ratings also apply at 1800 RPM

	kW	HP
ISO 1585	574.2	770
ISO 3046-1	569.0	763.1
EEC 80/1269	574.2	770

Caterpillar 4-stroke-cycle 3508 diesel Engine, 60° V8 with 170 mm/6.7" bore, 190 mm/7.5" stroke and 34.5 liters/2105 cu. in. displacement.

Twin turbochargers with water cooled bearings for long life. Parallel manifold porting with two intake and two exhaust valves per cylinder. Stellite-faced valves, hard alloy steel seats, valve rotators.

Cam-ground and tapered aluminum alloy pistons with 3-ring keystone design, cooled by oil spray. Steel-backed aluminum bearings, and hardened crankshaft journals. Pressure lubrication with full-flow filtered and cooled oil. Dry-type air cleaners with primary and safety elements. 24-volt direct electric starting system. 75-amp alternator. Four 12-volt, 244 amp-hour batteries.

Engine/torque-divider module is isolation mounted to the main frame to reduce vehicle vibration and structure-radiated noise.



Transmission

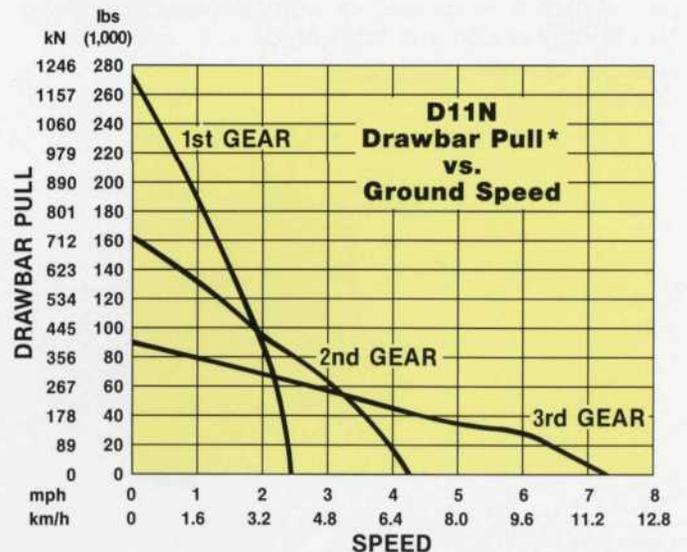
Planetary-type power shift with 533 mm/21" diameter, high-torque-capacity oil clutches. Special modulation system permits fast speed and direction changes.

Single-stage torque converter with output torque divider. Connected to transmission by double universal joint.

Modular transmission and bevel gear plug into rear of main drive case and can be exchanged with ripper installed. Power train features two oil-to-water coolers mounted under the radiator.

Travel speeds at rated engine RPM:

Gear	Forward Speed		Reverse Speed	
	Km/h	MPH	Km/h	MPH
1	3.9	2.4	4.7	2.9
2	6.8	4.2	8.2	5.1
3	11.6	7.2	14.1	8.7



*Usable pull will depend on weight and traction of equipped tractor.

SPECIFICATIONS



Steering and Braking

Hydraulically applied, multiple-disc (465 mm/18.3") outside diameter clutches. Cooled by pressurized oil and require no adjustment. Each assembly serviceable as a unit.

Hand levers combine steering clutch disengagement and braking in one control for each track. Pull back slightly to disengage steering clutches, fully back to brake track. Brakes are hydraulically released, spring applied.

Single pedal simultaneously applies brakes to both tracks for fast stops. Parking brake is applied by transmission lock lever. A service tool, electrically driven from auxiliary start receptacle, is available when towing is required to allow in-seat brake release upon loss of control system pressure.



Final Drives

Crown-shaved, two stage planetary in-line final drive gears, splash lubricated and sealed with Duo-Cone Floating Ring Seals. Sprockets with three, bolt-on, replaceable rim segments.



Track Roller Frame

Tubular design to resist bending and torsional loads. Life-time Lubricated rollers and idlers are resiliently mounted to roller frame by a series of bogies. Bogies oscillate on sealed and lubricated cartridge pin connections; travel controlled by resilient pads.

Oscillating roller frames attach to tractor by a pivot shaft and pinned equalizer bar. Large pivot bushings operate in an oil reservoir. The equalizer bar-roller frame ball joint pins are sealed and lubricated; saddle connection is a low friction, no maintenance bushing. Equalizer bar oscillation restrained by resilient pads. Recoil system is fully sealed and lubricated.

Number of rollers (each side) 8
Oscillation 502 mm/19.75"



Sealed and Lubricated Track

Sealed and Lubricated Track surrounds the track pin with lubricant to reduce internal bushing wear as critical maintenance consideration. Lubricant is held in place by a sealing arrangement consisting of a polyurethane seal, a rubber load ring and a thrust ring. Additional lubricant is contained in a reservoir drilled into the track pin. Positive pin retention gives extra protection for the track seal in high impact conditions. Extends track wear life and undercarriage maintenance intervals — reduces costs. Hydraulic track adjusters, track guiding guards and large positive-clamping two-piece master link standard.

Pitch	318 mm/12.5"
Number of shoes (each side)	41
Shoe type	Extreme Service
Width of standard shoe	712 mm/28"
Length of track on ground	4441 mm/14'7"
Ground contact area with standard shoes	6.3 m ² /9800 in ²
Grouser height (from ground face of shoe)	102 mm/4.0"
Ground clearance	623 mm/24.5"
Gauge	2896 mm/9'6"



Service Refill Capacities

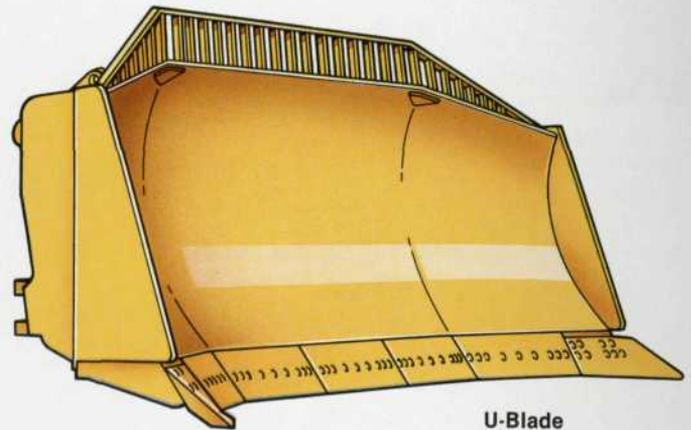
	Liters	Gallons
Fuel tank	1490	394
Cooling system	215	56.8
Lubrication systems		
Diesel engine crankcase	106	28
Power train	243	64
Final drives (each)	17	4.5
Roller frame (each)	95	24.7
Pivot shaft compartment	61	16
Implement hydraulic system,		
Four valve	250	66
Tank only	180	47.5



Weight (approximate)

Shipping, includes lubricants,
coolant, 10% fuel and
ROPS with FOPS cab 67 357 kg/148,494 lb
Operating, includes lubricants, coolant,
full fuel tank, hydraulic controls,
11U Bulldozer, Single shank ripper,
813 mm/32" extreme service shoes, ROPS,
FOPS cab and operator 93 418 kg/205,947 lb

D11 Bulldozers are designed for tough dozing, reclamation and push-loading jobs. Cutting edges and end bits are DH-2 steel for durability. Tag link dozer coupling brings blade close to tractor for better balance and control. Dozer lift cylinders mount to top corners or radiator guard to improve mechanical advantage. Single lever controls all blade movement, including tilt.



U-Blade

Bulldozer Specifications

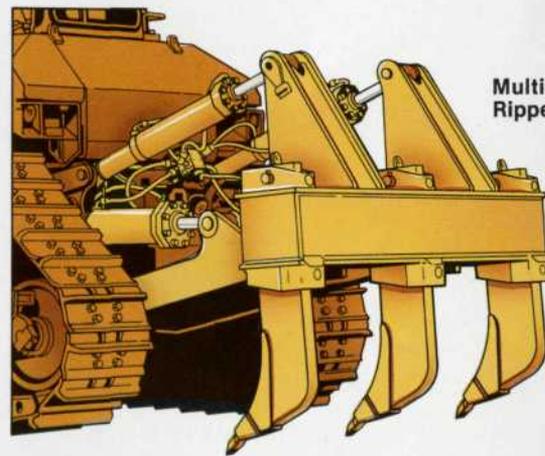
Blade	Capacity Per SAE J1265	Overall Width* (Tractor with bulldozer)	Height	Digging Depth	Ground Clearance	Maximum Tilt	Weight**	Total Operating Weight*** (Tractor with bulldozer)
11SU	25.1 m ³	5645 mm	2305 mm	757 mm	1501 mm	845 mm	14 786 kg	83 422 kg
	32.8 yd ³	18'6"	7'7"	29.8"	4'11"	33.3"	32,597 lb	183,911 lb
11U	32.3 m ³	6407 mm	2305 mm	757 mm	1501 mm	1571 mm	16 787 kg	85 427 kg
	42.2 yd ³	21'0"	7'7"	29.8"	4'11"	5'2"	37,008 lb	188,332 lb

*Width over corner bits.

**Does not include hydraulic controls, but does include blade tilt cylinder.

***Includes hydraulic controls, blade tilt cylinder, coolant, lubricants, full fuel tank, ROPS with FOPS cab and operator.

Rugged Cat Rippers are available for added machine versatility. Hydraulic tip adjustment cylinders vary shank angle to aid penetration and help lift and shatter rock . . . for high productivity and long shank life. Streamlined and narrowed ripper frame improve single shank performance through minimum clogging and slab retention. Optional single shank pin puller lets operator adjust shank length from the seat. Multi-shank ripper allows use of one, two or three shanks, depending on job conditions.



Multi-shank Ripper

Ripper Specifications

Ripper	Beam Width	Shank Vertical Penetration Force	Maximum Penetration (with std. tip)	Pryout Force	Maximum Clearance Raised (under tip)	** Number of Shank Holes	Weight (without hydraulic controls)	Total Tractor Operating Weight (with 11U blade and ripper)***
Single Shank	NA	267 kN 59,900 lb	1610 mm 5'3"	611 kN 137,330 lb	1164 mm 3'10"	4	7042 kg 15,525 lb	92 600 kg 204,142 lb
Single Shank, Deep Ripping Arrangement	NA	267 kN 59,900 lb	2180 mm 7'2"	611 kN 137,330 lb	1164 mm 3'10"	6	7340 kg 16,182 lb	92 897 kg 204,800 lb
Multi-shank Arrangement	3330 mm 10'11"	256 kN 57,870 lb	1069 mm 3'6"	602 kN 135,160 lb	1118 mm 3'8"	2	7732 kg* 17,045 lb	93 288 kg 205,662 lb

*Includes one shank. Add 660 kg/1454 lb. for each additional shank.

**Multiple shank cross section 100 X 400 mm/3.9" x 15.7" — Single shank and deep rip shank cross section 110 x 450 mm/4.3" x 17.7".

***Machine operating weight also includes hydraulic controls, blade tilt cylinder, lubricants, full fuel tank, ROPS cab and operator.



Standard Equipment

NOTE: Standard and optional equipment may vary outside U.S.A. Consult your Caterpillar Dealer for specifics.

Adjustable suspension seat.	Fuel priming pump.	Pinned equalizer bar.
75-amp alternator.	Gauge group.	Pivot shaft.
Backup alarm.	Heater.	Power shift transmission.
Blower fan.	Hinged extreme service crankcase guard.	Precleaner with prescreener and dust ejector.
Cab, FOPS sound suppressed, with ROPS rollbar (includes cab accessory group and mirror).	Hinged power train guard.	Rain cap.
Decelerator and hand throttle lever.	Hinged radiator and blast deflector guards.	Sealed and Lubricated Track.
Diagnostic adapters for pressure.	Hydraulic control, 2-valve.	Seat belt.
24-volt direct electric starting.	Hydraulic track adjusters.	Starting receptacle.
Dry-type air cleaners.	Lifetime Lubricated rollers and idlers.	Suspension-type undercarriage.
8-roller track frame.	Lighted instrument panel with EMS horn for critical systems.	Toolbox.
Electric hour meter.	Lighting system (four lights forward, two rear).	Track guiding guards.
Ether starting aid.	Mufflers.	Vandalism protection includes cap locks for: fuel tank, implement hydraulic tank, engine oil filler, radiator filler and dip stick, plus battery box locks (two) and left hand service area cover lock.
712 mm/28" extreme service grouser tracks (41-section).	Parking brake.	
Front pull device.		
Front warning horn.		



Optional Equipment

(with approximate change from operating weight)

	Kg	Lb		Kg	Lb
Altitude capability to 2286m/7500 ft. . .	45	100	Deep ripping shank (requires pin puller)	296	653
Air conditioner	104	229	Pin puller	99	218
Bulldozers			Push block (for single & deep shank only)	82	180
11SU, (includes tilt cylinder and push plate)	14 786	32,597	Tracks, pair, Sealed and Lubricated:		
11U, (includes tilt cylinder and rock guard)	16 786	37,008	810 mm/32", Extreme Service	821	1,810
Dual tilt for 11U, blade only (requires hydraulic controls)	-12.7	-28	914 mm/36", Extreme Service	1675	3,693
Rock Guard and wear plate (for 11SU blade only)	845	1,863	Starting Aids		
Wear plate (for 11U blade only)	1357	2,992	Engine coolant heater	5	11
Counterweight, rear mounted	4994	11,010	For 120-volt external power source	2	4
Fast-fill fuel system	5	11	For 240-volt external power source	2	4
Fire suppression system (dry chemical)	90	198	Fuel Heater	5	11
Fire suppression system (Halon 2402)	65	143	Hydraulic controls		
Oil change system, quick service	8	18	Four valve control, for 11SU or 11U Bulldozer, tilt function and ripper with hydraulic shank pitch adjustment	129	285
Rippers:			Dual Tilt Control	48	105
Single shank	7042	15,525			
Multi-shank (includes one shank)	7732	17,045			
Ripper shank (for multi-shank ripper)	660	1,454			
Deep ripping shank (requires pin puller)	296	653			
Pin puller	99	218			

ROPS

ROPS cab is standard in U.S.A. ROPS (Rollover Protective Structures) offered by Caterpillar for this machine meet ROPS criteria SAE J395, SAE J1040c and ISO 3471-1980. They also meet FOPS (Falling Object Protective Structure) criteria SAE J231 JAN81 and ISO 3449-1984. Cab offered by

Caterpillar, when tested with doors and windows closed according to ANSI/SAE J1166 JUN86, meets OSHA and MSHA requirements for operator sound exposure limits in effect at the time of manufacture.

ROPS structure is designed and certified for operating weight 100,000 kg/220,460 lb

Hydraulic Controls

Complete system consists of pump, tank with filter, oil cooler, valves, lines, linkage and control levers. Hydraulic pilot valves assist operations of ripper and dozer tilt controls. Standard hydraulic systems with external valves includes two valves for 11SU or 11U bulldozer and tilt.

Optional hydraulic system includes:

Two additional valves, for ripper function with hydraulic shank pitch adjustment . . . **43 95**

Pump, gear-type:

Output @ 6895 kPa/

69 bar/1000 psi 579 liters/min/153 gpm

Tilt cylinder flow 144 liters/min/38 gpm

Pump rpm @ rated engine

speed 1890

Relief valve setting,

Bulldozer 22 737 kPa/227 bar/3300 psi

Tilt Cylinder 23 426 kPa/234 bar/3400 psi

Ripper 22 737 kPa/227 bar/3300 psi

Drive Geared from auxiliary drive

Control Valve Positions:

Bulldozer Raise, hold, lower, float

Ripper Raise, lower, extend, return, hold

Tilt cylinder Tilt right, hold, tilt left

Reservoir:

Mounting Fender (isolation mounted)

Tank capacity 250 liters/66 gal.

Dimensions (approximate)

Ground clearance, from ground face of shoe per SAE J1234 623 mm/24.5"
 Drawbar height from ground face of shoe 777 mm/30.6"
 Width over trunnions 4216 mm/13'10"

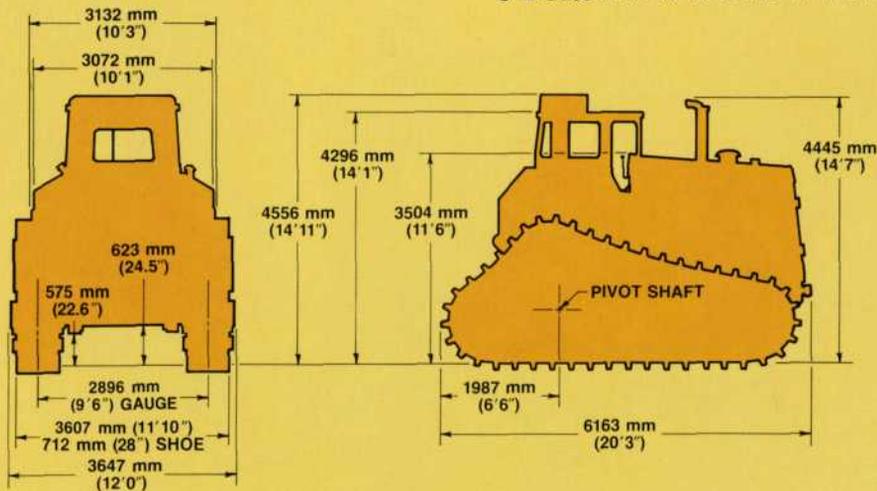
With following attachments, add to basic tractor length of 6163 mm/20'3":

Single Shank Ripper 2331 mm/7'8"

Multi-Shank Ripper 1994 mm/6'7"

SU-Dozer 2227 mm/7'4"

U-Dozer 2675 mm/8'9"



The Competitive Edge

Performance

- Suspended undercarriage — keeps more track on ground, reduces track slip, improves ride.
- Greater track-to-ground contact length — increases traction, stability.
- Improved balance — more penetration force to blade, more tractive force to ripper.
- Lower ground pressure for better flotation, less rolling resistance.
- Better power-to-weight ratio — faster loading, bigger loads, shorter cycle times.
- 27% torque rise — power through heavy loads without constant downshifting, momentum loss.
- Turbocharged, aftercooled 3508 engine — direct fuel injection for more working power from each unit of fuel.
- Aggressive blade design — increased heel clearance for better penetration, blade loading.
- Exclusive torque divider — 70% of engine torque through converter, 30% direct drive for high torque multiplication, fuel efficiency.

Reliability/Durability

- Tubular track roller frames resist bending and twisting better than box-section.
- Durable main frame absorbs all implement and roller frame loads.
- Elevated sprocket design raises final drives, steering clutches and brakes above work environment, isolates from drawbar and dozer shock loads, extends life of drive train.
- Bigger, sturdier undercarriage components — longer service life.
- Oil-cooled, multiple-disc steering clutches and brakes for increased capacity, life.
- Double reduction planetary final drives spread torque loads for long life.
- Large engine displacement, low RPM setting — peak power with little strain.

Maintenance/Repair

- Modular components — remove as single units for simpler, quicker repairs, less downtime.

- Modules can be pre-tested, field installed — less shop-time, downtime.
- Electronic Monitoring System — guards against costly failures, when gauges aren't checked often enough.
- Exclusive plug-in diagnostic tool reads 14 electrical system check points — electrical problems diagnosed quickly.
- Quick disconnect fittings permit quick identification of power train or implement oil system problems.
- Minimal daily maintenance, easy access, grouped service points reduce downtime.

Operating Ease

- Conveniently placed, precise, low-effort controls and easy-to-read, non-glare instrument panel — less strain, fatigue for a more productive operator.
- Fully adjustable suspension seat angled 15° for comfort, visibility.
- Sound-suppressed ROPS/FOPS cab — heater (standard with cab) or optional heater/air conditioner controls environment — pressurization keeps out dust.

Total Customer Support System

- Parts availability — most Cat parts on dealer's shelf when you need them — computer controlled emergency search system backup.
- Service capability — dealer's shop or fast field service — factory trained servicemen — latest tooling and technology.
- Machine management services — effective preventive maintenance programs, diagnostic programs (Scheduled Oil Sampling, Technical Analysis), cost effective repair option decisions, customer meetings, operator and mechanic training.
- Exchange components for quick repair — choose Cat remanufactured products or dealer rebuilt components for maximum uptime and lower costs.
- Literature support — easy-to-use operation, maintenance guides get the job done right — important new maintenance and product support information passed on as developed.