



680H Construction King®



85 (63.4 kW) NET FLYWHEEL HORSEPOWER

Case-built four cylinder 336 in³ (5506 cm³) high torque diesel.

FIELD PROVEN TRANSMISSION

Three speed powershift with power shuttle and torque converter.

CHOICE OF BACKHOES

16' (4.88 m) backhoe or 16'-20' (4.88 m-6.01 m) telescoping Extendahoe®. Over-center backhoe transport position for loading and roading stability.

5800 LB (2631 kg) LIFT CAPACITY LOADER

Powerful 10,020 lbs. (44 571 N) breakout force, over 9' 7.5" (2.93 m) dump clearance. Single lever controls bucket rollback, lift, dump, lower, float and return to dig.

UNITIZED MAIN FRAME

Absorbs heavy shock loads, maintains power train alignment, simplifies servicing.

COMPONENTIZED POWER TRAIN

Permits servicing of individual components without disturbing rest of the drive line.

OPERATOR CONVENIENCE

Roomy work platform isolated to reduce noise and vibration. Sloping hood and grille and 4-way adjustable seat improves visibility and operator efficiency.

Unit shown is equipped with non-standard items.

J I Case

A Tenneco Company

700 State Street Racine, WI 53404 U.S.A.



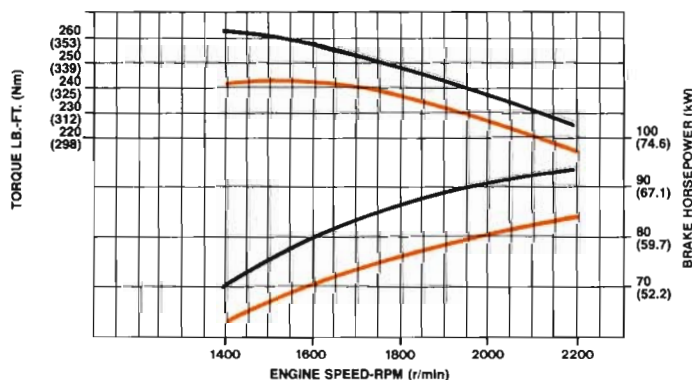
Specifications 680H Tractor Construction King®

ENGINE

Make and model	Case A336BD diesel
Type of fuel	No. 2 diesel
No. of cylinders	4
Bore and stroke	4.625" x 5" (117 mm x 127 mm)
Displacement	336 in ³ (5506 cm ³)
Compression ratio	16.0 to 1
Fuel induction	Open chamber-direct injection
Fuel supply	Injection pump
Air cleaner	Dry type — replacement element
Oil filter	Replaceable spin-on cartridge, full flow
Lubrication	Positive pressure
Cooling system	Pressurized — 7 psi (48 kPa)
Horsepower	
Gross (1)	93 @ 2200 rpm (69.4 kW @ 2200 r/min)
SAE Net (2)	85 @ 2200 rpm (63.4 kW @ 2200 r/min)
Max. torque ft-lb	
Gross (1)	261 @ 1500 rpm (354 Nm @ 1500 r/min)
SAE Net (2)	245 @ 1500 rpm (332 Nm @ 1500 r/min)

- (1) Gross engine horsepower or torque at flywheel per SAE J270 specification.
(2) Net engine horsepower or torque at flywheel per SAE J270 specification.

POWER CURVE



ELECTRICAL

System voltage	24 volts, negative ground
Battery	(2) 12 volt, low maintenance, 600 cold cranking amps at 0°F (-18°C)
Alternator	40 amp

POWER TRAIN

Transmission: 3 speed power shift with power shuttle and torque converter.

Torque converter: Single stage hydrokinetic type (2.85 to 1 ratio).

Reversing unit: Full power hydraulic clutches.

Brakes: Individual or simultaneous foot actuated, straight air. Brake can be operated with or without interrupting power flow to rear wheels. Automatic, spring applied, air released parking brakes utilizing main brake drums on axle.

Rear axle: Outboard planetary with torque proportioning differential.

AXLE RATINGS

FRONT

Dynamic	60,000 lbs (27 215 kg)
Static	15,000 lbs (6804 kg)

STEERING

Power steering	Hydrostatic
Hydraulic pump	Front mounted, positive displacement, gear type, tandem pump
Pump capacity	19 gpm @ 2200 rpm @ 2000 psi (71.9 l/min @ 2200 r/min @ 13 790 kPa)
Main relief setting	1750 psi (12 066 kPa)
Turning ratio (stop to stop)	3.6 turns
Steering cylinders (2)	2.12" dia x 7.5" stroke
Double acting	(54 mm dia x 191 mm stroke)

SERVICE CAPACITIES

	U.S.	Litres
Cooling system	9 gal	34.1
Fuel tank	33 gal	124.9
Engine oil		
w/filter	4 gal	15.1
w/o filter	3.75 gal	14.2
Transmission	4 gal	15.1
Rear axle		
pinion	2 gal	7.6
planetary (ea.)	2 qt	1.9
Hydraulic reservoir		
w/filter	13.7 gal	51.9

TRAVEL SPEEDS — MPH (km/h)

Engine at full throttle. 16.9 x 24, R4 rear tires.

	FIRST	SECOND	THIRD
Forward			
or	3.3 (5.31)	7.0 (11.26)	19.3 (31.06)
Reverse			

680H TIRES

	SIZE	PLY RATING	TREAD	PRESSURE PSI (kPa)
FRONT	11 x 16	12	F3	60 (414)
	12.5L x 16	12	L1	52 (358)
	14.5/14.75 x 16.1	10	F3	40 (276)
REAR	16.9 x 24	10	R4	32 (221)
	19.5L x 24	12	R4	34 (234)
	16.9 x 28	10	R4	32 (221)

TURNING CLEARANCE CIRCLE

Without brakes	35'7" (10.9 m)
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680H Loader

HYDRAULIC SYSTEM

Hydraulic pump: Front mounted, positive displacement, gear type, tandem pump.

Pump capacity: 26 gpm @ 2200 rpm @ 2000 psi
(98.4 l/min @ 2200 r/min @ 13 790 kPa).

Control valve main relief pressure: 2650 psi (18 271 kPa).

Filtration: 10 micron, full flow replaceable cartridge on return line. Condition indicator light for filter.

Loader control valve: Mono cast two or three spool. Single lever control for lift and tilt. Extra lever for 4-in-1 bucket. Lift lever has positive hold "float" position and "return-to-dig" feature.

Hydraulic lines: Steel tubing with brazed or flared fittings and wire braid, high pressure hose with crimped, full flow fittings.

Loader cylinders:

Lift (2)	3.5" dia x 31" stroke, 2" rod (89 mm dia x 787 mm stroke, 51 mm rod)
Tilt (2)	3" dia x 23.6" stroke, 1.75" rod (76 mm dia x 598 mm stroke, 44 mm rod)
Clam (2)	3" dia x 10.5" stroke, 1.5" rod (76 mm dia x 267 mm stroke, 38 mm rod)

LOADER BUCKET SIZES (Capacities SAE)

WIDTH	TYPE	HEAPED		STRUCK	
		yd ³	m ³	yd ³	m ³
86 2.18	General Purpose	1.25	.97	1.02	.78
96 2.44	General Purpose	1.50	1.15	1.20	.92
96 2.44	General Purpose	1.75	1.34	1.45	1.11
86 2.18	4-in-1	1.25	.97	.97	.74

OPERATIONAL DATA (General Purpose Bucket)

Lift capacity to full height	5400 lbs (2449 kg)
Height to bucket hinge pin-raised	11'8.3" (3.56 m)
Bucket rollback at ground line	36°
Breakout force	10,020 lbs (44 571 N)
Dump angle at full height	46°
Grading angle	106°
Digging depth below ground line—bucket flat	2.6" (66 mm)
Dump clearance at full height 46° dump	9'7.5" (2.93 m)
Dump reach at full height 46° dump	27" (699 mm)
Reach — bucket on ground	69" (1.75 m)
Raising time to full height	5.3 sec
Bucket dumping time	1.6 sec
Lowering time, power down	3.6 sec
Return-to-dig	3.6 sec

OPERATIONAL DATA (4-in-1® Bucket)

Lift capacity to full height	4841 lbs (2196 kg)
Height to bucket hinge pin	11'8.3" (3.56 m)
Bucket rollback at ground line	36°
Breakout force	8780 lbs (39 055 N)
Dump angle at full height	48°
Grading angle — clam closed	up to 106°
Digging depth below ground line — bucket flat	2.7" (68 mm)
Digging depth — using clam	36.9" (937 mm)
Digging depth — clam open	3'1" (940 mm)
Dump clearance at full height	
48° dump — clam	10'7.5" (3.24 m)
48° dump — bucket	9'4.8" (2.87 m)
Dump reach at full height — 48° dump	2'7" (787 mm)
Reach-bucket on ground	6'3.5" (1.91 m)
Raising time to full height	5.3 sec
Bucket dumping time	1.6 sec
Return-to-dig	3.6 sec
Width of dozer cutting edge	6'11.1" (2.11 m)
Maximum clam opening	3'7" (1.1 m)
Moldboard height	3'1.9" (963 mm)



680H Backhoe

HYDRAULIC SYSTEM

Hydraulic pump: Front mounted, positive displacement, gear type, tandem pump.

Pump capacity: 26 gpm @ 2200 rpm @ 2000 psi
(98.4 l/min @ 2200 r/min @ 13 790 kPa)
19 gpm @ 2200 rpm @ 2000 psi
(71.9 l/min @ 2200 r/min @ 13 790 kPa)
45 gpm combined @ 2200 rpm @ 2000 psi
170.3 l/min combined @ 2200 r/min
@ 13 790 kPa).

Control valve main relief: 2850 psi (19 650 kPa).

Filtration: 10 micron, full flow replaceable cartridge on return line. Condition indicator light for filter.

Backhoe control valve: Sectional four spool valve — boom, dipper, bucket, and swing. Foot or optional hand swing. Regeneration and hydraulic cushioned swing stops. Mono-cast two spool stabilizer valve with pilot checks.

Hydraulic lines: Steel tubing with brazed or flared fittings and wire braid high pressure hose with crimped, full flow fittings.

Backhoe cylinders:

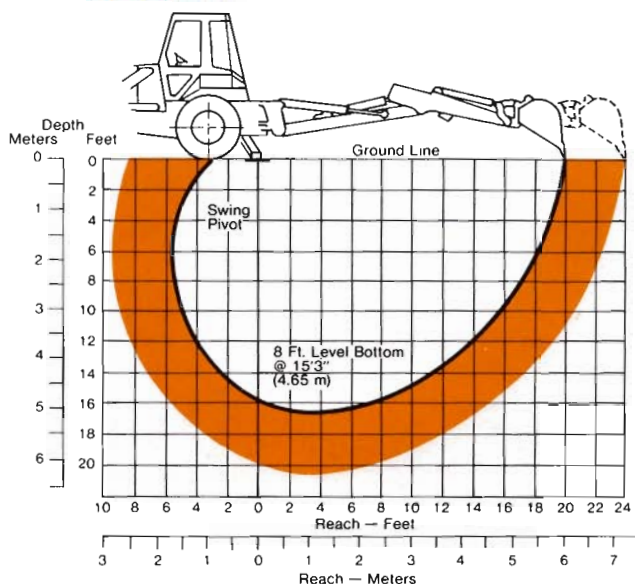
Stabilizers (2) 4.5" dia x 22.35" stroke, 2" rod
(114 mm dia x 568 mm stroke, 51 mm rod)
Swing (2) 4" dia x 11.12" stroke, 2" rod
(102 mm dia x 282 mm stroke, 51 mm rod)
Boom (2) 4" dia x 41.19" stroke, 2" rod
(102 mm dia x 1.05 m stroke, 51 mm rod)
Dipper (1) 4.5" dia x 39.81" stroke, 2.5" rod
(114 mm dia x 1.01 m stroke, 64 mm rod)
Bucket (1) 4" dia x 27.25" stroke, 2.25" rod
(102 mm dia x 692 mm stroke, 57 mm rod)
Dipper extension (1) 3" dia x 48" stroke, 1.5" rod
(76 mm dia x 1.22 m stroke, 38 mm rod)

LIFT CAPACITY CHART — 16' (4.88 m) Backhoe*

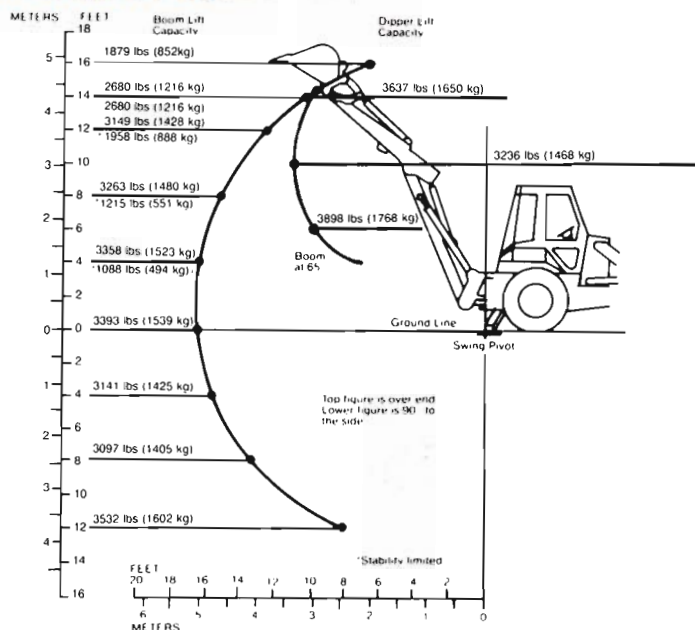
1. Lift capacity figures on this chart are 87% of the maximum lift force per SAE Definition J31 and J49 at 2850 psi (19 650 kPa) system relief pressure. (After S/N 9153779).
2. Top numbers/lift capacity within 45° either side of prime mover.
3. Bottom number/lift capacity anywhere within full swing arc.
4. *Figures are stability limited and 75% of tipping load.
5. Figures stated are determined by static tests and do not include dynamic factors.

*For Extendahoe lift capacities refer to operator's manual.

DIG DEPTH CHART



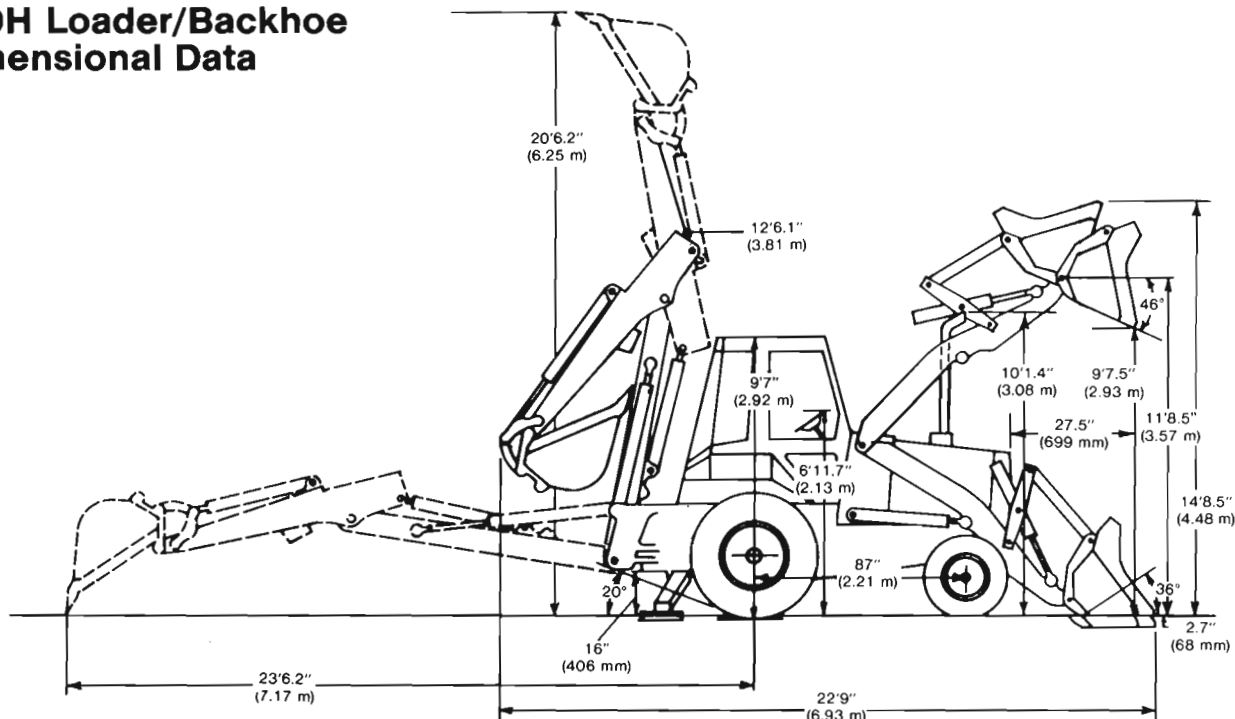
LIFT CAPACITY CHART — 16' (4.88 m) Backhoe*



OPERATIONAL DATA — 16' (4.88 m) Backhoe and 16'-20' (4.88 m-6.10 m) Extendahoe*

	16' (4.88 m) Backhoe	16'-20' (4.88 m-6.10 m) Extendahoe
		RETRACTED
Digging depth — SAE	16'6" (5.03 m)	16'7" (5.05 m)
Overall reach from rear axle centerline	23'6" (7.16 m)	23'8.6" (7.23 m)
Digging radius from swing pivot	19'9.6" (6.04 m)	20' (6.10 m)
Loading height	11'2.6" (3.42 m)	11'7.5" (3.54 m)
Loading reach	8'7.8" (2.64 m)	8'7.5" (2.63 m)
Swing arc	188°	188°
Bucket rotation #1 position	157°	151°
#2 position	127°	122°
Stabilizer spread — operating position	10'5" (3.2 m)	10'5" (3.2 m)
Stabilizer spread — transport position	7'6.5" (2.43 m)	7'6.5" (2.43 m)
Digging force, bucket cylinder, SAE	11,289 lbs (50 216 N)	11,812 lbs (52 542 N)
Digging force, dipper cylinder, SAE	8,642 lbs (38 442 N)	8,536 lbs (37 970 N)
Leveling angle (maximum slope on which backhoe will make vertical cut)	14°	14°
		EXTENDED
		20'7" (6.27 m)
		27'8.6" (8.45 m)
		24' (7.32 m)
		13'11" (4.24 m)
		11'10.7" (3.63 m)
		188°
		151°
		122°
		10'5" (3.2 m)
		7'6.5" (2.43 m)
		11,812 lbs (52 542 N)
		6,027 lbs (26 809 N)

680H Loader/Backhoe Dimensional Data



TRACTOR/LOADER/BACKHOE

Overall length — 1.25 yd ³ (.97 m ³) bucket	22'9" (6.93 m)
Overall length — 4-in-1 bucket	22'10" (6.96 m)
Overall width	7'6.5" (2.30 m)
Height: to top of canopy	9'7" (2.92 m)
Height: to top of cab	9'7" (2.92 m)
Height: to top of exhaust stack	10'1.4" (3.08 m)
Height: to top of steering wheel	6'11.7" (2.13 m)
Front wheel tread	72" (1.83 m)
Rear wheel tread	67" (1.70 m)
Wheel base	87" (2.21 m)

1.25 yd³ (.97 m³) BUCKET

Overall Height, maximum	14'8.5" (4.48 m)
Digging depth below ground — bucket flat	2.7" (68 mm)
Height to bucket hinge pin	11'8.3" (3.56 m)
Dump angle at full height	46°
Dump clearance full height 45° dump	9'7.5" (2.92 m)
Dump reach at full height 45° dump	27.5" (699 mm)
Bucket rollback at ground line	36°

4-in-1® BUCKET

Height to bucket hinge pin	11'8.3" (3.65 m)
Digging depth below ground — bucket flat	2.7" (68 mm)
Dump angle at full height	48°
Dump clearance at full height	
48° dump — clam	10'7.5" (3.24 m)
— bucket	9'4.8" (2.87 m)
Dump reach at full height 48° dump	31" (787 mm)
Bucket rollback at ground line	36°

BACKHOE

	16' (4.88 m)	EXTENDAHOE	
		RETRACTED	EXTENDED
Overall height, maximum	20'6.2" (6.25 m)	20'6.6" (6.26 m)	24'6.6" (7.48 m)
Transport height	12'6.1" (3.81 m)	12'10.5" (3.92 m)	12'10.5" (3.92 m)
Overall reach from rear axle centerline	22'6.2" (7.17 m)	22'6.2" (7.17 m)	27'8.6" (8.45 m)
Ground clearance at backhoe main frame	16" (406 mm)	16" (406 mm)	16" (406 mm)
Angle of departure	20°	20°	20°

NOTE: Specifications taken with 11 x 16, front tires, 16.9 x 24, rear tires, ROPS cab, 16' (4.88 m) backhoe with 24" (610 mm) high-capacity trenching bucket, loader with 86" (2.18 m) general purpose bucket and standard equipment unless otherwise specified.



Equipment Attachments

STANDARD EQUIPMENT

TRACTOR

Air cleaner, dry type with replaceable cartridge • Alternator and regulator • Antifreeze solution to -20° F (-29° C) • Axle (front), heavy-duty with 72" (1.83 m) fixed tread • Brakes, full air • Brake, parking, air • Electrical system, 24 volt • Engine, 80 hp (59.7 kW) Case A336BDC diesel • Fenders, rear • Floor plates • Gauges and Instruments: air cleaner restriction light, air pressure indicator, alternator charge warning light, clutch pressure light, condition light for loader and backhoe hydraulic system filter, converter temperature gauge, engine oil pressure warning light, engine water temperature gauge, fuel level gauge, hourmeter, parking brake light, tachometer • Headlights (two shock mounted), one rear working and one red tail • Instrument cluster, illuminated • Muffler, upright with deflector • Oil cooler, hydraulic • Oil filter, full flow • Transmission, 3-speed powershift • Radiator opening, lockable • ROPS canopy on isolated operator's compartment • Safety belt, seat mounted • Seat, Easy Ride with single lever turnaround adjustment • Side panels, full length of engine • Steering, hydrostatic • Throttle, hand and foot • Tires (front) 12.5L x 16, 12PR, L1 • Tires (rear) 16.9 x 24, 10PR, R4 • Toolbox • Wrapper, front

LOADER

All tractor standard equipment • Anti-rollback • Control, single lever • Hydraulic system, complete • Indicator, bucket level • Loader (less bucket) • Return-to-dig • Self-leveling • Support strut, lift arm

16' (4.88 m) BACKHOE

All tractor and loader standard equipment • Hydraulic system, complete, including three lever, footswing control • Over-center backhoe (less bucket) • Stabilizers with two position cleated pads

16'-20' (4.88 m-6.10 m) EXTENDAHOE

All tractor, loader and backhoe equipment • Hydraulic telescoping extendahoe, accessory hydraulics

OPTIONAL EQUIPMENT

TRACTOR

Air conditioning • Alarm, backup • Anti-freeze to -40° F (-40° C) • Beacon, rotating • Floor mat • Full lockup package • Horn • Lights, combination tail, stop, directional and flasher with rear flood light • Muffler, spark arresting • Paint, special • ROPS cab with air filtration, defogger, heater pressurization • Front and rear wipers, lights, working, directional, flashers • Seat, deluxe • Start kit, cold weather • Tires various sizes — see tractor section

LOADER

All tractor optional equipment • Accessory hydraulics • Bucket teeth • 86" (2.18 m) general purpose bucket • Two capacity sizes of 96" (2.44 m) general purpose buckets • 86" (2.18 m) 4-in-1 bucket

BACKHOE

All tractor and loader optional equipment • Backhoe floor mat • Boom lockout • Dual lever backhoe controls • Street-cemetery stabilizer pads • 12" (305 mm) and 18" (457 mm) standard-duty trenching buckets • 24" (610 mm), 30" (714 mm) and 36" (914 mm) high capacity trenching buckets • 24" (610 mm) and 30" (762 mm) heavy-duty trenching buckets

APPROXIMATE SHIPPING WEIGHTS

NOTE: Specifications taken with 11 x 16 front tires, 16.9 x 24 rear tires, ROPS canopy and standard equipment unless otherwise specified.

TRACTOR/LOADER/BACKHOE (Less Buckets)

16' (4.88 m) backhoe w/ROPS canopy . . . 14,569 lbs (6608 kg)
16' (4.88 m) backhoe w/ROPS cab . . . 15,055 lbs (6829 kg)
16'-20' (4.88 m-6.10 m) Extendahoe® . . . 15,355 lbs (6965 kg)
Air conditioning . . . add 30 lbs (14 kg)

LOADER BUCKETS (Optional)

86" (2.18 m) general purpose . . . 806 lbs (336 kg)
96" (2.44 m) general purpose . . . 809 lbs (367 kg)
96" (2.44 m) general purpose . . . 884 lbs (401 kg)
86" (2.18 m) 4-in-1 . . . 1120 lbs (508 kg)

BACKHOE BUCKETS (Optional)

	Standard Trenching	Heavy-Duty Trenching
12" (305 mm)*	205 lbs (93 kg)	N/A
18" (457 mm)	260 lbs (118 kg)	N/A
24" (610 mm)	405 lbs (184 kg)	475 lbs (216 kg)
	hi-capacity	
30" (762 mm)	467 lbs (212 kg)	525 lbs (238 kg)
	hi-capacity	
36" (914 mm)	505 lbs (229 kg)	N/A
	hi-capacity	

*For 16' (4.88 m) backhoe only.

Extendahoe, 4-in-1, and Construction King are trademarks of the J I Case Company.

NOTE: All specifications are stated in accordance with ICED definitions or SAE standards or recommended practices, where applicable.

IMPORTANT

J I Case Company reserves the right to change these specifications without notice and without incurring any obligation relating to such change.

Sold and Serviced by: