

MODEL 680K

Loader/Backhoe

90 net horsepower (67 kW)

Digging depth 16'6" (5.03 m)

Loader lift capacity 5900 pounds (2676 kg)



680K BASIC TRACTOR

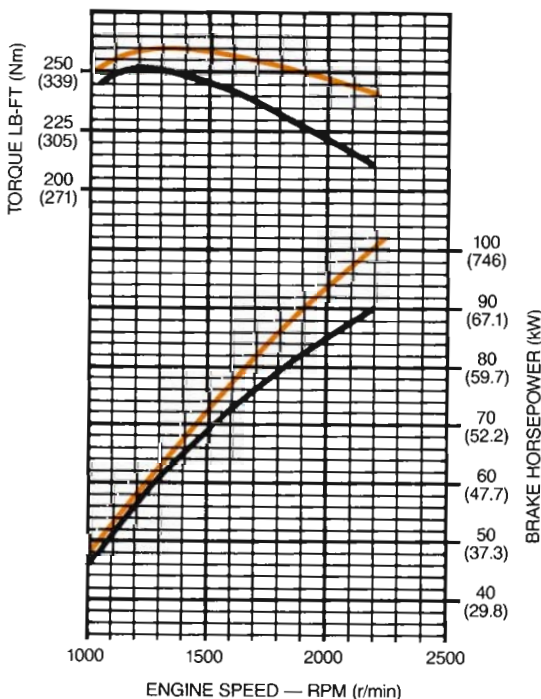
ENGINE

Make and model Case 6-590 diesel
 Type of fuel No. 2 diesel
 No. of cylinders 6
 Bore and stroke . . . 4.02" x 4.72" (102 mm x 120 mm)
 Displacement 359 in³ (5883 cm³)
 Compression ratio 17.0 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 — 14 psi (96 kPa)

Horsepower
 Gross (1) 101 @ 2200 rpm (75.3 kW @ 2200 r/min)
 SAE Net (2) 90 @ 2200 rpm (67.1 kW @ 2200 r/min)
 Max. torque ft-lb
 Gross (1) 260 @ 1200 rpm (352 Nm @ 1200 r/min)
 SAE Net (2) 251 @ 1200 rpm (340 Nm @ 1200 r/min)

(1) Gross engine horsepower or torque at flywheel per SAE J1349 specification.
 (2) Net engine horsepower or torque at flywheel per SAE J1349 specification.

POWER CURVE



GROSS ENGINE PERFORMANCE PER SAE J1349
NET ENGINE PERFORMANCE PER J1349

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 (Manufacturers)

Front 12,698 lbs (5760 kg)
 Rear 17,380 lbs (7883 kg)

AXLE OSCILLATION

Front 24°
 Rear Fixed

STEERING

Power steering Hydrostatic
 Hydraulic pump Engine mounted, positive displacement, gear type pump
 Pump capacity . . . 18.7 gpm @ 2350 rpm @ 2000 psi (70.8 l/min @ 2350 r/min @ 13 790 kPa)
 Main relief setting 1750 psi (12 066 kPa)
 Turning ratio (stop to stop) 3.6 turns
 Steering cylinders, double acting (2)
 2.12" dia x 7.5" stroke (54 mm dia x 191 mm stroke)

SERVICE CAPACITIES

	U.S.	Litres
Cooling system	6.75 gal	25.6
Fuel tank	38 gal	143.9
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			

680K 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)
21L x 24	12	R4	30 (207)

TURNING CLEARANCE CIRCLE

Without brakes 37'7" (11.46 m)
 With brakes 35'11" (10.95 m)
 Unit equipped w/1.5 yd (1.15 m) loader bucket, 24" (610 mm). Hi-cap backhoe bucket, 11.00 x 16, 12 PR front tires and 16.9 x 24, 10 PR rear tires.

HYDRAULIC SYSTEM

Hydraulic pump: Transmission mounted, positive displacement, gear type

Pump capacity:

25.7 gpm @ 2350 rpm @ 2000 psi
(97.3 l/min @ 2350 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	
	In	m		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 5900 lbs. (2676 kg)

Height to bucket hinge pin —

raised 11'8.3" (3.56 m)

Bucket rollback at ground line 38°

Breakout force 10,020 lbs (44 571 N)

Dump angle at full height 47°

Grading angle 113°

Digging depth below ground line —

bucket flat 2.6" (66 mm)

Dump clearance at full height

45° dump 9'5" (2.87 m)

Dump reach at full height

45° dump 31" (787 mm)

Dump reach @ 7'

(2.13 m) height 50" (1.27 m)

Raising time to full height 5.3 sec

Bucket dumping time 1.6 sec

Lowering time, power down 3.3 sec

Return-to-dig 3.6 sec

OPERATIONAL DATA (4-in-1® Bucket)

Lift capacity to full

height 5280 lbs (2395 kg)

Height to bucket

hinge pin 11'8.3" (3.56 m)

Bucket rollback at ground line 38°

Breakout force 9762 lbs (43 424 N)

Dump angle at full height 47°

Grading angle —

clam closed up to 106°

Digging depth below ground —

bucket flat 2.6" (66 mm)

Digging depth —

using clam 4' (1.22 m)

Digging depth —

clam open 3'7" (1.09 m)

Dump clearance at full height

45° dump — clam 11'2" (3.40 m)

45° dump — bucket 9'5" (2.87 m)

Dump reach at full height —

45° dump 2'7" (787 mm)

Dump reach @ 7'

(2.13 m) height 4'2" (1.27 m)

Raising time to full height 5.3 sec

Bucket dumping time 1.6 sec

Lowering time, power down 3.3 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)

HYDRAULIC SYSTEM

Hydraulic pump: Transmission and engine mounted, positive displacement, gear type

Pump capacity:

25.7 gpm @ 2350 rpm @ 2000 psi
(97.3 l/min @ 2350 r/min @ 13 790 kPa)

18.7 gpm @ 2350 rpm @ 2000 psi
(70.8 l/min @ 2350 r/min @ 13 790 kPa)

44.4 gpm combined @ 2350 rpm @
2000 psi

(168.1 l/min combined @ 2350 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,
57 mm rod)

Boom (2) 4" dia x 41.19" stroke,
2.25" rod (102 mm dia x 1.05 m
stroke, 57 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)

680K BACKHOE

OPERATIONAL DATA

16' (4.88 m) Backhoe

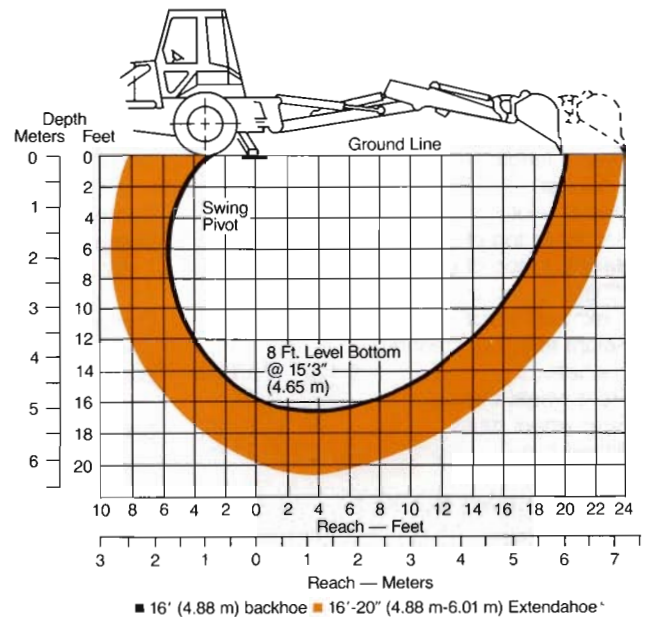
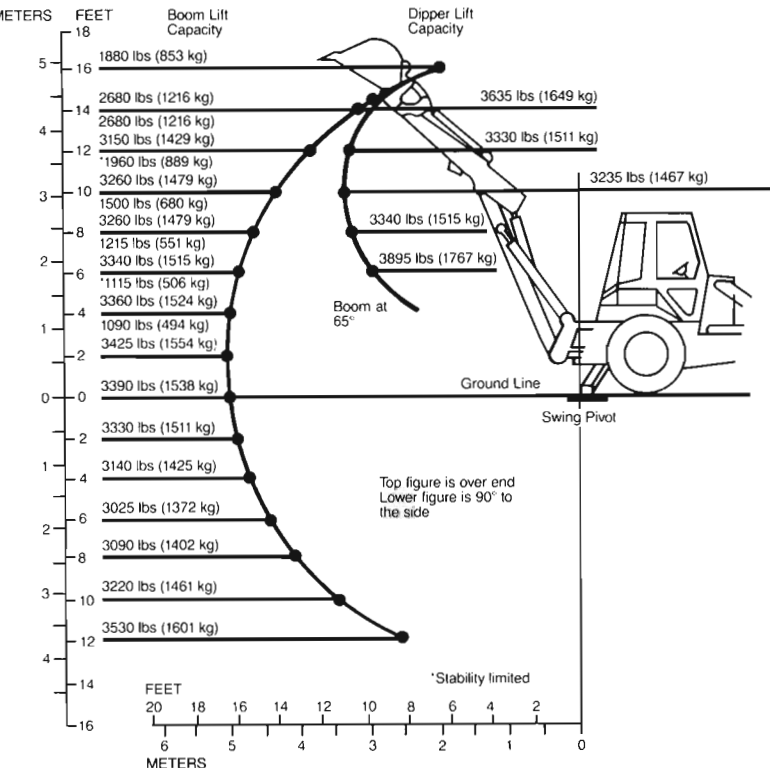
16'-20' (4.88 m-6.10 m) Extendahoe®

RETRACTED EXTENDED

Digging depth — SAE	16'6" (5.03 m)	16'6" (5.03 m)	20'6" (6.25 m)
Overall reach from rear axle centerline	23'6" (7.16 m)	23'8.6" (7.23 m)	27'8.6" (8.45 m)
Digging radius from swing pivot	19'9.6" (6.04 m)	20' (6.10 m)	24' (7.32 m)
Loading height	11'2.6" (3.42 m)	11'7.5" (3.54 m)	13'11" (4.24 m)
Loading reach	8'7.8" (2.64 m)	8'7.5" (2.63 m)	11'10.7" (3.63 m)
Swing arc	188°	188°	188°
Bucket rotation #1 position	157°	151°	151°
#2 position	127°	122°	122°
Stabilizer spread — operating position	9'10" (3.0 m)	9'10" (3.0 m)	9'10" (3.0 m)
transport position	7'6.5" (2.43 m)	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)	11,812 lbs (52 542 N)
Digging force, dipper cylinder, SAE	8,642 lbs (38 442 N)	8,536 lbs (37 970 N)	6,027 lbs (26 809 N)
Leveling angle (maximum slope on which backhoe will make vertical cut)	14°	14°	14°

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

DIG DEPTH

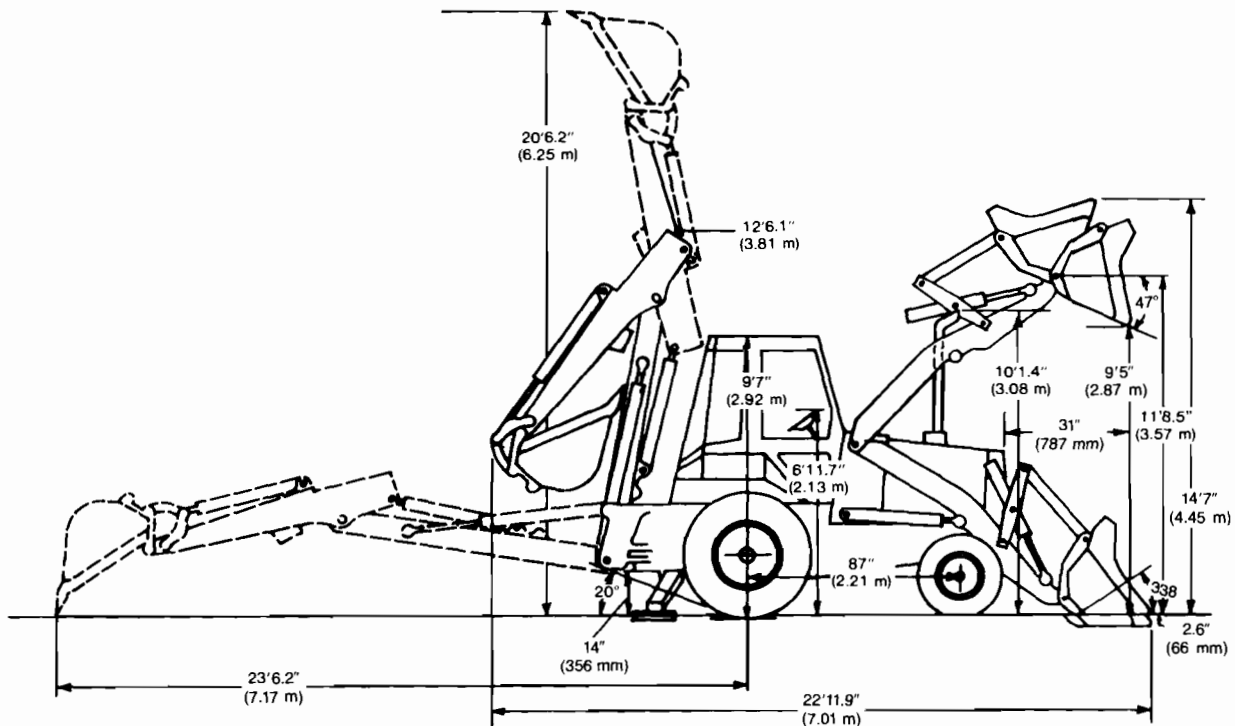


1. Lift capacity figures on this chart are 87% of the maximum lift force per SAE Definition J31 and J49 at 2850 psi (19 650 kPa) system relief pressure.
2. Top number/lift capacity within 45° either side of prime mover.
3. Bottom number/lift capacity anywhere within full swing arc.

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.

DIMENSIONAL DATA



TRACTOR/LOADER/BACKHOE

Overall length — 1.5 yd³ (1.15 m³)
 bucket..... 22'11.9" (7.01 m)
 Overall length — 4-in-1
 bucket..... 22'11.9" (7.01 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)

1.5 yd³ (1.15 m³) BUCKET

Overall Height,
 maximum 14'7" (4.45 m)
 Digging depth below ground —
 bucket flat..... 2'6" (66 mm)
 Height to bucket
 hinge pin 11'8.3" (3.56 m)
 Dump angle at full height 47°
 Dump clearance full height
 45° dump 9'5" (2.87 m)
 Dump reach at full height
 45° dump..... 31" (787 mm)
 Bucket rollback at ground line 38°

4-in-1® BUCKET

Height to bucket
 hinge pin 11'8.3" (3.65 m)
 Digging depth below ground —
 bucket flat 2.6" (66 mm)
 Dump angle at full height 47°
 Dump clearance at full height
 48° dump — clam 11'2" (3.40 m)
 — bucket 9'5" (2.87 m)
 Dump reach at full height
 48° dump..... 31" (787 mm)
 Bucket rollback at ground line 38°

BACKHOE

	EXTENDAHOE		
	16' (4.88 m)	Retracted	Extended
Overall height, maximum	20'6.2" (6.25 m)	20'8.8" (6.32 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	23'6" (7.16 m)	23'8.6" (7.23 m)	27'8.6" (8.45 m)
Ground clearance at backhoe main frame.....	14" (356 mm)	14" (356 mm)	14" (356 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 96" (2.44 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 • Anti-freeze 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, 90 hp (67 kW) Case 6-590 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, hour-meter, 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 turn-around 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 • 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 and floor mat • Front and rear wipers, lights, working, directional, flashers • Seat, deluxe suspension • 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 • Boom lock-out • 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 14,900 lbs (6759 kg)
 16' (4.88 m) backhoe w/ROPS cab 15,386 lbs (6979 kg)
 16'-20' (4.88 m-6.10 m) Extendahoe w/ROPS canopy 16,649 lbs (7552 kg)
 16'-20' (4.88 m-6.10 m) Extendahoe w/ROPS cab 17,135 lbs (7772 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	525 lbs (238 kg)
30" (762 mm)	467 lbs (212 kg)	N/A
	hi-capacity	505 lbs (229 kg)
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 to such change. Unit illustrated is equipped with non-standard items.

Sold and Serviced by:

J I Case

A Tenneco Company

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