

**case**

480D Construction King®

**47 (35 kW) NET FLYWHEEL HORSEPOWER**

Case-built four cylinder 188 in³ (3081 cm³) high torque diesel.

FIELD PROVEN SYNCHRONIZED TRANSMISSION

Four speed with full power shuttle and torque converter.

CHOICE OF BACKHOES

12' (3.66 m) Backhoe or 12'-15' (3.66 m-4.57 m) telescoping Extendahoe®. Over-center backhoe transport position for loading and rading stability.

3000 LB (1361 kg) LIFT CAPACITY LOADER

Dual lever controls, in line loader linkage with 5,700 lb (25 355 N) breakout.

UNITIZED MAINFRAME

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

COMPONENTIZED POWER TRAIN

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

OPERATOR CONVENIENCE

Roomy work platform, sloping hood and grille 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

480D Tractor

Construction King®

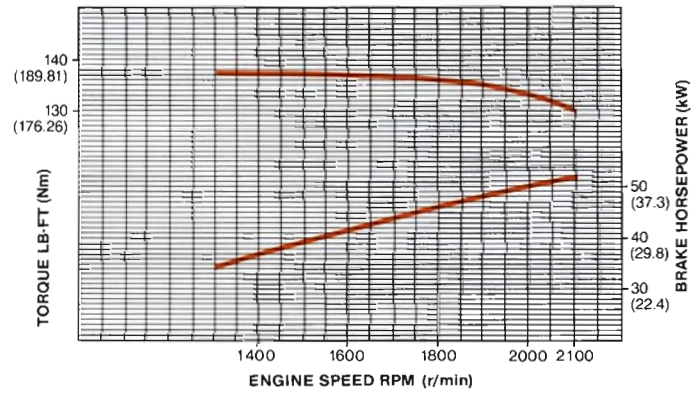
ENGINE

Make and model..... Case G188D diesel
 Type of fuel..... No. 2 diesel
 No. of cylinders..... 4
 Bore and stroke..... 3.812" x 4.125" (97 mm x 105 mm)
 Displacement..... 188 in³ (3081 cm³)
 Compression ratio..... 17.5 to 1
 Fuel induction..... Injectors
 Fuel supply..... Injection pump
 Air cleaner..... Dry type, replaceable cartridge
 Oil filter..... Full flow, replaceable spin-on cartridge
 Lubrication..... Positive pressure
 Cooling system..... Pressurized—7 psi (48 kPa)
 Horsepower
 Gross (1)..... 52 @ 2100 rpm
 (39 kW @ 2100 r/min)
 SAE Net (2)..... 47 @ 2100 rpm
 (35 kW @ 2100 r/min)

Max. torque ft-lb
 Gross (1)..... 138 @ 1400 rpm
 (187 Nm @ 1400 r/min)
 SAE Net (2)..... 135 @ 1400 rpm
 (180 Nm @ 1400 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..... 12 volts, negative ground
 Battery..... 575 cold cranking amps at 0°F (-18°C)
 Alternator..... 39 amps

POWER TRAIN

Transmission: 4 speed sliding spur gear with full power shuttle and torque converter. Permits on-the-go shifting up from 2nd to 3rd to 4th and back down from 4th to 3rd.
 Torque converter: Single stage hydrokinetic type (2.78 to 1 ratio).
 Reversing unit: Full power hydraulic clutches.
 Brakes: Individual or simultaneous foot actuated, hydraulic self-adjusting, 6.5" (165 mm) bands and disc with over-center type parking brake.
 Final drives: Multiple gear reduction.

AXLES RATINGS

FRONT
 Dynamic..... 36,000 lbs (16 329 kg)
 Static..... 9,000 lbs (4082 kg)
 REAR
 Dynamic..... 54,000 lbs (24 494 kg)
 Static..... 13,500 lbs (6123 kg)

STEERING

Power steering..... Hydrostatic
 Pump capacity..... 6.4 gpm (24 l/min)
 Turning ratio (stop to stop)..... 2.75
 Steering cylinders (2)..... 1.5" dia x 6.5" stroke
 Double acting (38 mm dia x 165 mm stroke)

SERVICE CAPACITIES

	U.S.	Litres
Cooling system		
w/heater.....	18 qt	17
w/o heater.....	14 qt	13.2
Fuel tank.....	23.5 gal	89
Engine oil		
w/filter.....	7 qt	6.6
w/o filter.....	6 qt	5.7
Power shuttle.....	8 qt	7.6
Transaxle.....	20 qt	18.9
Hydraulic reservoir		
w/filter.....	10.8 gal	41.0
w/o filter.....	10.5 gal	39.7
Steering system total.....	3 qt	2.8
reservoir fill.....	1 qt	0.9

TRAVEL SPEEDS—MPH (km/h)

Engine at full throttle, 14.9 x 24, R4 tires.

	FIRST	SECOND	THIRD	FOURTH
Forward..	3.3 (5.4)	6.4 (10.3)	12.0 (19.2)	20.9 (33.7)
Reverse..	3.0 (4.8)	5.7 (9.2)	10.7 (17.3)	18.2 (29.3)

480D TIRES

	SIZE	PLY RATING	TREAD	PRESSURE PSI (kPa)
FRONT	*7.50 x 16	6	(I1) rib	36 (248)
	7.50 x 16	10	(I1) rib	60 (414)
	8.00 x 16	10	(F3) truck tread	64 (441)
	11L x 16	10	(F3) truck tread	52 (359)
REAR	14.9 x 24	6	(R4) utility traction	20 (138)
	16.9 x 24	6	(R4) utility traction	18 (124)
	17.5L x 24	6	(R4) industrial suregrip	16 (110)
	**17.5L x 24	8	(R4) industrial suregrip	22 (152)

*Used on drawbar and loader/landscaper tractors only.
 **Must be used on machines equipped with Extendahoe.

TURNING CLEARANCE CIRCLE

With brakes..... 20' 1" (6.12 m)
 Without brakes..... 23' 5" (7.14 m)

480D Loader

HYDRAULIC SYSTEM

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

Pump capacity: 23.9 gpm @ 2100 rpm @ 2200 psi
(90.5 l/min @ 2100 r/min @ 15 168 kPa).

Control valve main relief pressure: 2200 psi (15 168 kPa).

Filtration: 15 micron, full flow replaceable cartridge on return line. Condition indicator light for filter.

Loader control valve: Mono-cast, two spool. Dual lever control for lift and tilt. Lift lever has positive hold "float" position.

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

Loader cylinders:

- Lift (2)..... 2.5" dia x 31.4" stroke, 1.5" rod
(64 mm dia x 798 mm stroke, 38 mm rod)
- Tilt (2) 2.5" dia x 29.5" stroke, 1.5" rod
(64 mm dia x 749 mm stroke, 38 mm rod)

LOADER BUCKET SIZES (Capacities SAE)

WIDTH		TYPE	HEAPED		STRUCK	
In	m		yd ³	m ³	yd ³	m ³
64	1.62	Long lip	.75	.57	.65	.50
74	1.88	Short lip	.78	.60	.66	.50
82	2.08	Short lip	.83	.64	.76	.59

OPERATIONAL DATA (Standard Bucket)

- Lift capacity to full height 3,000 lbs (1361 kg)
- Height to bucket hinge pin, raised..... 10' 7.5" (3.24 m)
- Bucket rollback at ground line..... 33°
- Breakout force 5,700 lbs (25 355 N)
- Dump angle at full height..... 43°
- Grading angle 109°

	SHORT LIP	LONG LIP
Digging depth below ground line—bucket flat	4.2" (107 mm)	4.2" (107 mm)
Dump clearance at full height 43° dump	8' 6.5" (2.60 m)	8' 2.7" (2.51 m)
Dump reach at full height 43° dump	27" (685 mm)	31.1" (791 mm)
Raising time to full height	3.7 sec	3.7 sec
Bucket dumping time	3.0 sec	3.0 sec
Lowering time, power down	1.9 sec	1.9 sec

TURNING CLEARANCE CIRCLE

- Bucket rollback—hinge pin at SAE carry position
- With brakes 29' 5.6" (8.98 m)
- Without brakes 31' 10.3" (9.71 m)



THREE POINT MOD HITCH

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

Control valve: 4 spool sectional valve with flow control for hydraulic control of lift, tilt, pitch, and auxiliary with "float" detent in the lift spool. Optional single spool sectional valve for hydraulic control of lift and mechanical adjustment of tilt and pitch. The main relief valve in this system is adjusted lower than the loader system pressure.

Mod hitch cylinders:

- Lift (1) 3" dia x 8.4" stroke, 1.5" rod
(76 mm dia x 213 mm stroke, 38 mm rod)
- Tilt (1) 2.5" dia x 6.3" stroke, 1.25" rod
(64 mm dia x 160 mm stroke, 32 mm rod)
- Pitch (1) 2.5" dia x 7" stroke, 1.25" rod
(64 mm dia x 178 mm stroke, 32 mm rod)



480D Backhoe

HYDRAULIC SYSTEM

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

Pump capacity: 23.9 gpm @ 2100 rpm @ 2200 psi
(90.5 l/min @ 2100 r/min @ 15 168 kPa).

Control valve main relief pressure: 2200 psi (15 168 kPa).

Filtration: 15 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:

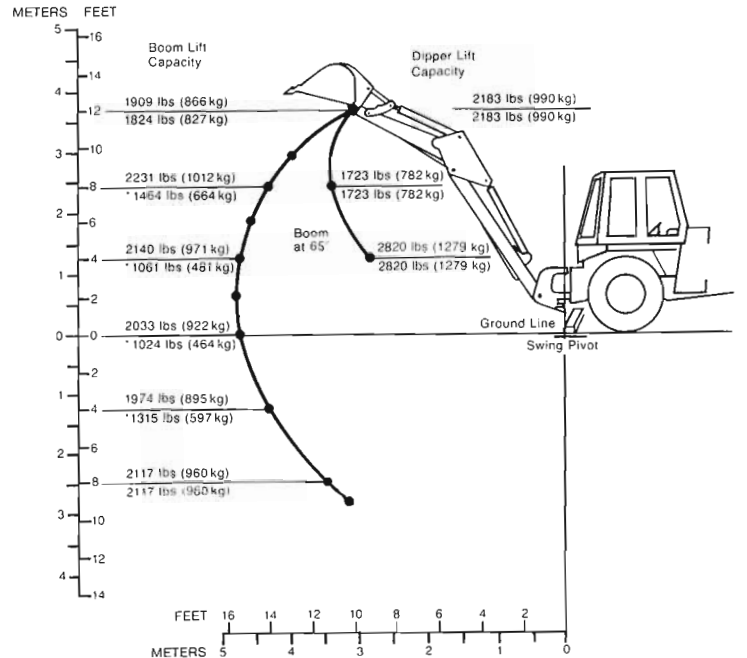
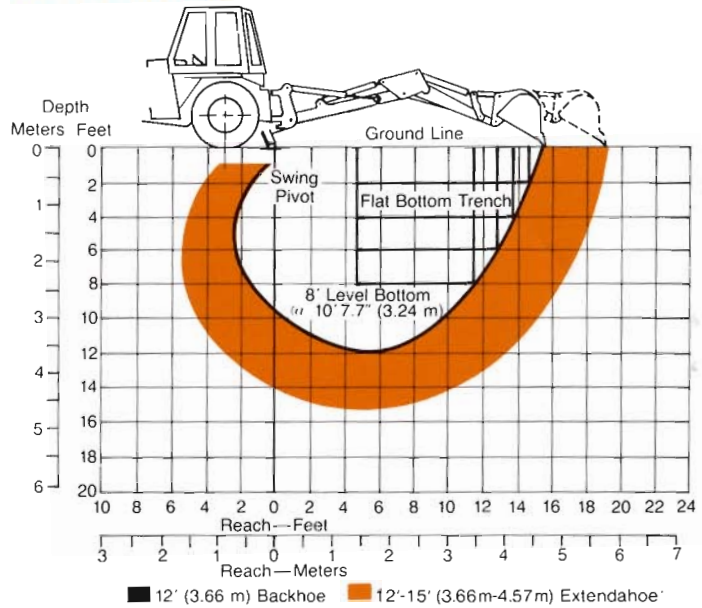
- Stabilizers (2) Std 3" dia x 16.38" stroke, 1.75" rod
(76 mm dia x 416 mm stroke, 44 mm rod)
- (2) Opt 3.5" dia x 16.38" stroke, 1.75" rod
(89 mm dia x 416 mm stroke, 44 mm rod)
- Swing (2) 3.5" dia x 11" stroke, 1.5" rod
(89 mm dia x 279 mm stroke, 38 mm rod)
- Boom (1) 4" dia x 38.1" stroke, 1.75" rod
(102 mm dia x 968 mm stroke, 44 mm rod)
- Dipper (1) 3.5" dia x 33.12" stroke, 2" rod
(89 mm dia x 841 mm stroke, 51 mm rod)
- Bucket (1) 3.25" dia x 26.3" stroke, 2" rod
(83 mm dia x 668 mm stroke, 51 mm rod)
- Dipper Ext. (1) 3" dia x 36.4" stroke, 1.5" rod
(76 mm dia x 925 mm stroke, 38 mm rod)

LIFT CAPACITY CHART—12' (3.66 m) Backhoe*

1. Lift capacity figures on this chart are 87% of the maximum lift force per SAE Definition J31 and J49 at 2200 psi (15 168 kPa) system relief pressure.
2. Top numbers/lift capacity within 45° either side of prime mover.
3. Bottom numbers/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.

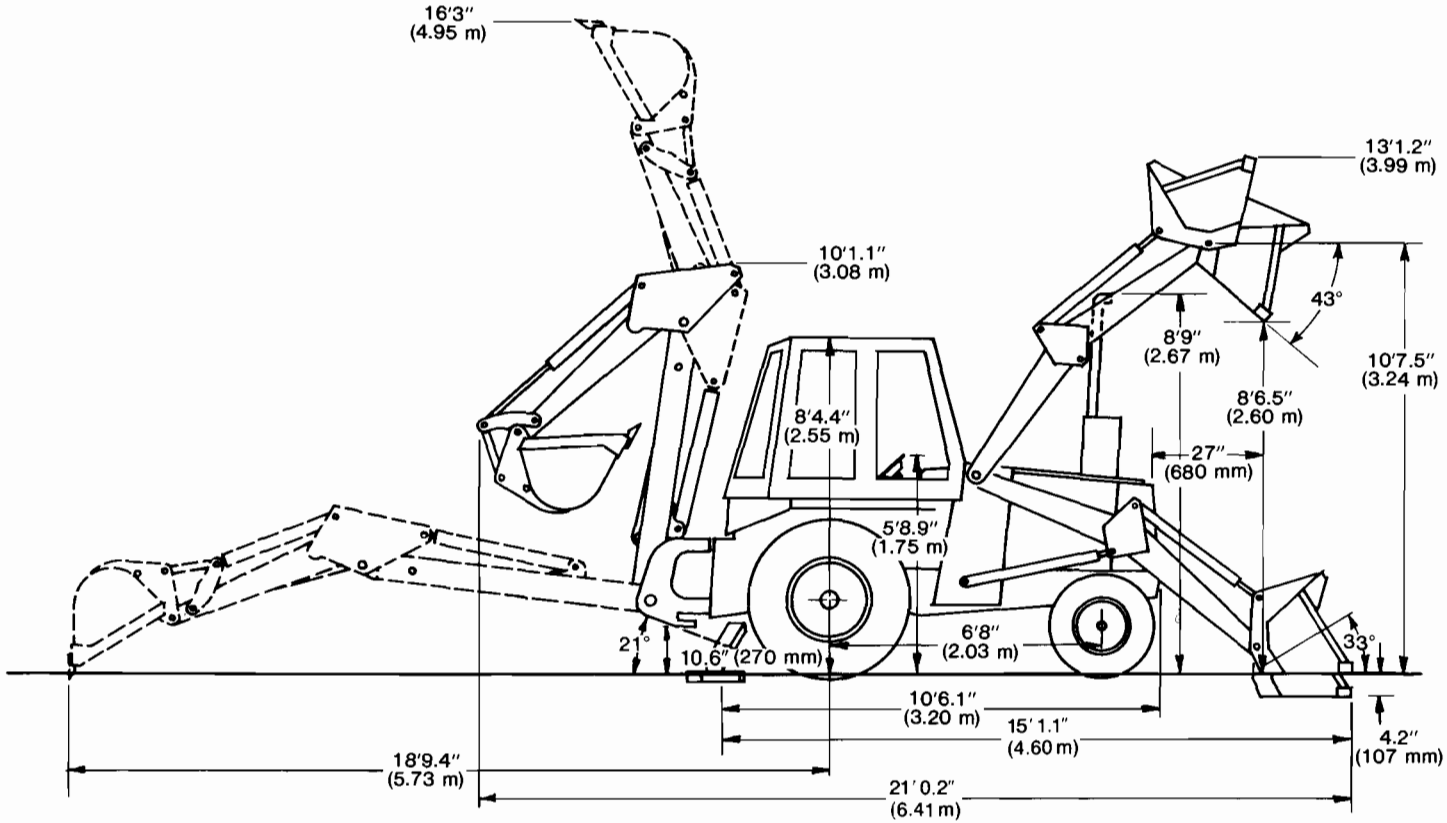
DIG DEPTH CHART



OPERATIONAL DATA—12' (3.66 m) Backhoe and 12'-15' (3.66 m-4.57 m) Extendahoe®

	12' (3.66 m) Backhoe	12'-15' (3.66 m-4.57 m) Extendahoe	
Digging depth—SAE	12' 0.3" (3.67 m)	RETRACTED 12' 1.8" (3.70 m)	EXTENDED 15' 1.8" (4.62 m)
Overall reach from rear axle centerline	18' 9.4" (5.73 m)	18' 10.1" (5.74 m)	21' 9" (6.63 m)
Digging radius from swing pivot	15' 8.6" (4.79 m)	15' 9.3" (4.81 m)	18' 8.2" (5.70 m)
Loading height	8' 5.1" (2.57 m)	7' 7.4" (2.32 m)	8' 8.7" (2.66 m)
Loading reach	7' 3.2" (2.22 m)	8' 3" (2.52 m)	11' 0.5" (3.37 m)
Swing arc	180°	180°	180°
Bucket rotation—#1 position	141.7°	135.2°	135.2°
#2 position	131.2°	125.7°	125.7°
Stabilizer spread—operating position	8' 10.4" (2.70 m)	8' 10.4" (2.70 m)	8' 10.4" (2.70 m)
Stabilizer spread—transport position	7' 3" (2.21 m)	7' 3" (2.21 m)	7' 3" (2.21 m)
Digging force, bucket cylinder, SAE	7598 lb (33 798 N)	7748 lb (34 467 N)	7748 lb (34 467 N)
Digging force, dipper cylinder, SAE	4509 lb (20 055 N)	4606 lb (20 487 N)	4606 lb (20 487 N)
Leveling angle (maximum slope on which backhoe will make vertical cut)	10°	10°	10°

480D Loader/Backhoe Dimensional Data



TRACTOR

Overall length	10' 6.1" (3.20 m)
Overall width	6' 3.3" to 6' 11.1" (1.91 m to 2.11 m)
Height: to top of canopy	8' 4.5" (2.55 m)
Height: to top of cab	8' 4.4" (2.55 m)
Height: to top of exhaust stack	8' 9" (2.67 m)
Height: to top of steering wheel	5' 8.9" (1.75 m)
Ground clearance (tractor main frame)	12.6" (321 mm)
Front wheel tread	4' 11.1" to 5' 2.2" (1.50 m to 1.58 m)
Rear wheel tread	5' 0.2" to 5' 6.2" (1.53 m to 1.68 m)
Wheel base	6' 8" (2.03 m)

LOADER

GENERAL PURPOSE BUCKET	SHORT LIP	LONG LIP
Overall length	15' 1.1" (4.60 m)	15' 6.8" (4.75 m)
Overall width	6' 7" (2.00 m)	6' 8" (2.01 m)
Overall operating height	13' 1.2" (3.99 m)	13' 5.8" (4.11 m)
Height to bucket hinge pin	10' 7.5" (3.24 m)	10' 7.5" (3.24 m)
Digging depth below ground— bucket flat	4.2" (107 mm)	4.2" (107 mm)
Dump clearance full height 43° dump	8' 6.5" (2.60 m)	8' 2.7" (2.51 m)
Dump angle at full height	43°	43°
Dump reach at full height 43° dump	27" (685 mm)	31.1" (791 mm)
Bucket rollback at groundline	33°	33°

BACKHOE

	12' (3.66 m)	EXTENDAHOE	
		RETRACTED	EXTENDED
Overall length— transport			
Short lip bucket	21' 0.2" (6.41 m)	21' 3.8" (6.50 m)	N/A
Long lip bucket	21' 7.9" (6.64 m)	21' 9.5" (6.64 m)	N/A
Overall reach from rear axle centerline	18' 9.4" (5.73 m)	18' 10.1" (5.74 m)	21' 9" (6.63 m)
Overall height, maximum	16' 3" (4.95 m)	16' 3.3" (4.96 m)	19' (5.79 m)
Transport height	10' 1.1" (3.08 m)	10' 5.7" (3.19 m)	N/A
Overall width— transport	7' 3" (2.21 m)	7' 3" (2.21 m)	7' 3" (2.21 m)
Ground clearance at backhoe main frame	10.6" (270 mm)	10.3" (262 mm)	10.3" (262 mm)
Angle of departure	21°	21°	21°

NOTE: Specifications taken with 11L x 16, 10PR front tires, 17.5L x 24, 6PR rear tires, ROPS canopy 12' (2.66 m) 26D backhoe with 24" (610 mm) trenching bucket, loader with 74" (1.88 m) short lip bucket and standard equipment unless otherwise specified.

Equipment Attachments

STANDARD EQUIPMENT

TRACTOR

Antifreeze solution to -20° F (-29° C) • Axle, heavy-duty oscillating front • Brakes, parking, over-center • Engine, 47 hp (35 kW) Case G188D diesel • Fenders, rear • Floor plates • Fuel opening, lockable • Gauges and instruments: air cleaner restriction light, alternator charge warning (lamp), 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, tachometer, voltmeter • Grille, heavy-duty • Lights, one rear working and one red tail • Instrument cluster, illuminated • Muffler, upright oval with deflector • Oil filter, full flow • Power shuttle, with torque converter, 4 speed transaxle with differential lock • Radiator opening, lockable • ROPS canopy • Seat belt • Seat, easy ride • Side panels, full length of engine, lockable • Steering, hydrostatic • Throttle, hand and foot • Tires (front), 7.50 x 16, 10PR(I1) • Tires (rear), 14.9 x 24, 6PR, (R4) utility traction tread • Tool box • Wrapper, front

LOADER

All tractor standard equipment • Dual lever control • Hydraulic system, complete • Indicator, bucket level • Loader (less bucket) • Support strut, lift arm

12' (3.66 m) BACKHOE

All tractor and loader standard equipment • Hydraulic system, complete including three lever, foot swing control • Over-center backhoe (less bucket) model 26D with quick disconnect mounting • Stabilizers

12'-15' (3.66 m-4.57 m) EXTENDAHOE

All tractor, loader and backhoe equipment • Hydraulic telescoping Extendahoe, accessory hydraulics and front counterweight

OPTIONAL EQUIPMENT

TRACTOR

Alarm, backup • Antifreeze to -40° F (-40° C) • Beacon, rotating • Emblem, SMV • Floor mat • Full lockup package • Hitch, modular 3-point • Horn • Hourmeter, electric • Lights, combination tail, stop, directional and flasher • Muffler, spark arresting • Noise suppression package • PTO (hydrostatic), 19 hp (14 kW) 540 rpm with 6 tooth SAE 1.375" (35 mm) shaft • Paint, special • ROPS cab, heater and defogger • Seat, deluxe • Start kit, cold weather • Tires, various sizes — see tractor section • Weights, front end

LOADER

All tractor optional equipment • Bucket teeth • Control, single lever with self-leveling • Counterweight, rear • 64" (1.63 m) long lip, 74" (1.88 m) short lip and 82" (2.08 m) short lip buckets

BACKHOE

All tractor and loader optional equipment • Backhoe floor mat • Boom lockout • Counterweight, front • Dual lever backhoe controls • Street — cemetery stabilizer pads • 12" (305 mm), 18" (457 mm), 24" (610 mm), 30" (762 mm), 36" (914 mm), standard duty trenching • 18" (457 mm), 24" (610 mm), heavy-duty trenching buckets • 3.5" (89 mm) stabilizer cylinders • Oversized stabilizer pads

APPROXIMATE SHIPPING WEIGHTS

NOTE: Specifications taken with 7.50 x 16 front tires, 17.5L x 24 rear tires, ROPS canopy and standard equipment unless otherwise specified.

TRACTOR

Drawbar tractor w/ROPS canopy 5284 lbs (2397 kg)
Drawbar tractor w/ROPS cab 5714 lbs (2592 kg)

TRACTOR WITH LOADER (Less Bucket)

Without rear counterweight 6341 lbs (2876 kg)
Rear counterweight (required
with no rear attachments) add 1496 lbs (679 kg)

LOADER BUCKETS (Optional)

64" (1.62 m) long lip 624 lbs (283 kg)
74" (1.88 m) short lip 638 lbs (289 kg)
82" (2.08 m) short lip 667 lbs (303 kg)

TRACTOR LOADER/BACKHOE (Less Buckets)

12' (3.66 m) backhoe 8686 lbs (3940 kg)
Extendahoe 9302 lbs (4219 kg)
Front counterweight
(required w/extendahoe) add 665 lbs (302 kg)

BACKHOE BUCKETS (Optional)

Width	Standard Trenching	Heavy-Duty Trenching
12" (305 mm)	198 lbs (90 kg)	N/A
18" (457 mm)	238 lbs (108 kg)	322 lbs (146 kg)
24" (610 mm)	270 lbs (122 kg)	380 lbs (175 kg)
30" (762 mm)	306 lbs (139 kg)	N/A
36" (914 mm)	346 lbs (157 kg)	N/A

MOD HITCH

3 point hitch 631 lbs (286 kg)

Extendahoe 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: