

790D EXCAVATOR SPECIFICATIONS

Specifications and design subject to change without notice. Wherever applicable, specifications are in accordance with PCSA and SAE Standards. Except where otherwise noted, these specifications are based on a unit with long undercarriage, 31-in. (800 mm) triple grouser shoes, counterweight, 11 ft. 10 in. (3.61 m) arm, 1-3/8 cu. yd. (1.0 m³) 51-in. (1295 mm) bucket, full fuel tank, 175-lb. (80 kg) operator.

Rated Power @ 2100 rpm:	SAE	DIN 6270B
Net	155 hp (116 kW)	116 kW
Gross	165 hp (123 kW)	

Net engine power is with standard equipment including air cleaner, exhaust system, alternator, and cooling fan, at standard conditions per SAE J1349 and DIN 6270B using No. 2-D fuel @ 35 API gravity. No derating is required up to 10,000 ft. (3050 m) altitude. Gross power is without cooling fan.

Engine: John Deere 6466A

Type	Four-cycle, turbocharged, aftercooled diesel
Bore and stroke	4.56 x 4.75 in. (116 x 121 mm)
No. of cylinders	6
Displacement	466 cu. in. (7.638 L)
Maximum net torque @ 1300 rpm	510 lb-ft (692 Nm) (71 kg-m)
Cooling fan	Suction
Compression ratio	14.9 to 1
Lubrication	Pressure system w/full-flow filter
Electrical system	24 volt
Batteries (2) 12 volt	Reserve capacity: 300 minutes

Hydraulic System: Open Center

Two variable-displacement axial-piston pumps and two control valves (5- and 4-spool) provide independent and combined operation of all functions. The 5-spool control valve has one spool for an auxiliary attachment function.

Main pumps	2 variable-displacement axial-piston
Pressure setting	4620 psi (31 860 kPa) (325 kg/cm ²)
Max. oil flow	2 x 62.4 gpm (2 x 236 L/min)
Pilot pump	
Pressure setting	570 psi (3930 kPa) (40 kg/cm ²)
Max. oil flow	9.5 gpm (35 L/min)
Operating pressure:	
System relief valves	
Travel	4980 psi (34 425 kPa) (350 kg/cm ²)
Front end	4050 psi (27 930 kPa) (285 kg/cm ²)
Circuit relief valves:	
Boom	4270 psi (29 440 kPa) (300 kg/cm ²)
Arm	4270 psi (29 440 kPa) (300 kg/cm ²)
Bucket	4270 psi (29 440 kPa) (300 kg/cm ²)
Cross-over relief valves:	
Travel	5050 psi (34 810 kPa) (355 kg/cm ²)
Swing	3700 psi (25 500 kPa) (260 kg/cm ²)
Oil filtration:	
One suction	
One 10-micron full-flow return filter w/bypass	

Cylinders:	Bore	Rod Diameter	Stroke
Boom (2)	5.3 in. (135 mm)	3.5 in. (90 mm)	53.1 in. (1350 mm)
Arm	5.7 in. (145 mm)	3.9 in. (100 mm)	66.1 in. (1680 mm)
Bucket (1)	5.3 in. (135 mm)	3.5 in. (90 mm)	42.3 in. (1075 mm)

Boom and bucket cylinders have built-in hydraulic cushions on the extension side only. The arm cylinder has a built-in hydraulic cushion at each end of the stroke. All cylinder rods are ground, heat-treated, chrome plated and polished.

Swing Mechanism:

Swing speed	0-12 rpm
Swing brake	Automatic, hydraulic lock
Turntable bearing	Single-row, shear-type ball bearing with induction-hardened, lubricated internal gear and pinion. 500-hour lube interval.

Undercarriage: (Standard and Optional Long)

Propel motors (one for each track)

Axial-piston, hydraulic motors with planetary drives. Multiple-disk brakes automatically release while propelling and apply when stationary. Independent drive to each track permits counterrotation. Excavator track-type undercarriage with heavy-duty frame and all-welded and stress-relieved structure. Side frames welded to track frame. Permanently lubricated track rollers and idlers with metal face seals.

Tracks:

Track chain	Sealed
Track adjustment	Hydraulic, with shock-absorbing recoil springs

Track Rollers and Shoes (each side):

Standard undercarriage	Two upper rollers, eight lower rollers, 47 track shoes.
Optional long undercarriage	Two upper rollers, nine lower rollers, 51 track shoes.
Track shoes induction-hardened rolled alloy. Heat-treated connecting pins. A single lower track guide is provided.	

Track Shoes:	Average Ground Contact	Average Ground Pressure
Width	Shoes	
Standard undercarriage		
24 in. (600 mm) (standard)	Triple grousers (44 723 cm ²)	7.27 psi (50.1 kPa) (0.51 kg/cm ²)
31 in. (800 mm) (optional)	Triple grousers (59 632 cm ²)	5.58 psi (38.5 kPa) (0.39 kg/cm ²)
Optional long undercarriage		
24 in. (600 mm) (standard)	Triple grousers (49 297 cm ²)	6.78 psi (46.8 kPa) (0.48 kg/cm ²)
31 in. (800 mm) (optional)	Triple grousers (65 733 cm ²)	5.22 psi (36.0 kPa) (0.37 kg/cm ²)

Cab:

Steel, independent, shock mounted and soundproofed. Tinted glass windows. Front window can be stored. Side windows slide open for better ventilation. Front window wiper. Hydraulic system lockout for safety during operator entry and exit from the cab. Centralized monitoring with alarm system.

Seat:

Fully adjustable deluxe reclining seat with armrests.

Controls:

All hydraulic functions are controlled by low-effort hydraulic pilot controls. Two short levers control swing, boom, arm and bucket functions. Right and left pedals control forward, reverse and counterrotation movements.

Boom and Arm:

Welded, low-stress, full box-section design. Centralized lubrication system.

Servicing and Vandal Protection:

Non-slip steps and handrails allow easier servicing and maintenance. Easily accessible engine and hydraulic system covers. Machine covers, fuel cap, and cab door are lockable.

Additional Standard Equipment:

- Cab:**
- Automatic idle mode selection:
 - Digging mode selection—three modes
 - Travel mode selection—two modes
 - Front windshield wiper
 - Horn
 - Travel alarm with cancel switch
 - Interior light
 - Positive position hand throttle
 - Monitor package with alarm system:
 - Air cleaner restriction warning light
 - Alternator charge indicator light
 - Automatic idle indicator light
 - Engine coolant level light
 - Engine coolant temperature gauge
 - Engine coolant temperature warning light w/alarm buzzer
 - Engine oil pressure warning light w/alarm buzzer
 - Fuel gauge
 - Hydraulic oil level light
 - Low fuel level indicator light
 - Quartz hourmeter
 - Work lights on indicator
 - Heater, 13,500 Btu/hr (4.1 kW)

Engine:

- Dual dry-type air filters
- Dual heavy-duty fuel filters
- Electric cold weather (ether) starting aid
- Full-flow oil filter w/bypass
- Isolation-mounted engine
- Oil cooler

Frame:

- 10,430-lb. (4730 kg) counterweight
- Fully enclosed swing gears
- Vandal protection—lockable service doors and fuel filler cap

Front attachment:

- Bucket clearance adjusting mechanism
- Centralized lubrication system
- Dirt seals on all bucket pins

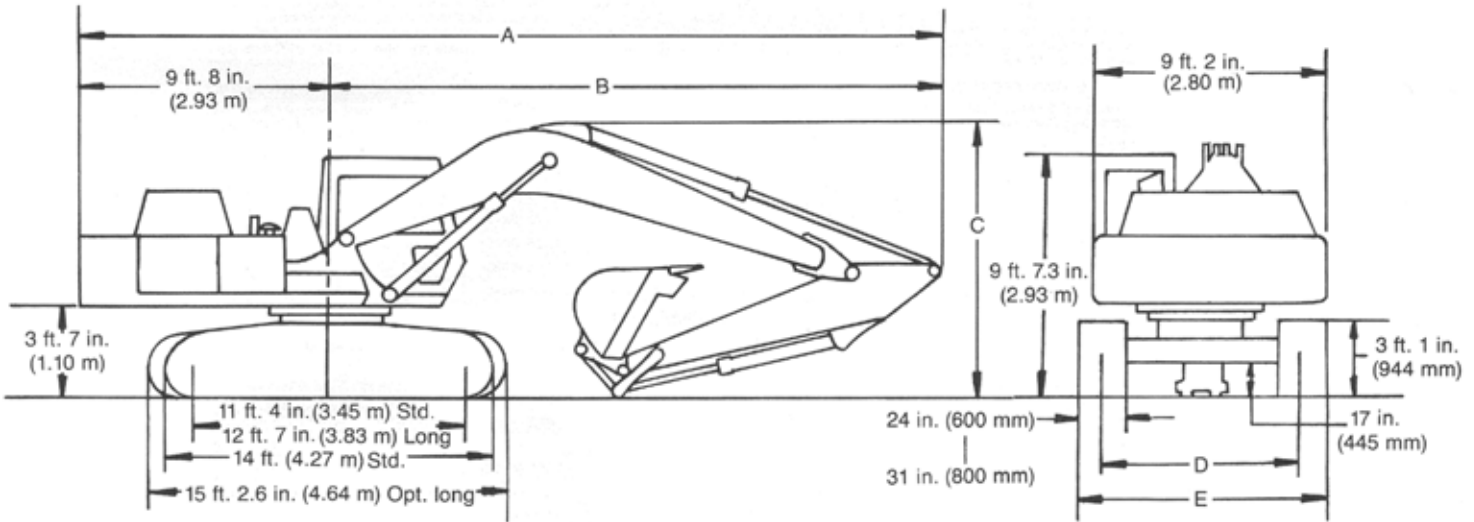
Undercarriage:

- Propel motor and hydraulic line shields
- Single flange lower track rollers with guide

Work lights:

- One mounted on frame
- One mounted on boom

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- A. W/short arm—33 ft. 7 in. (10.24 m)
W/standard arm—33 ft. 2 in. (10.11 m)
W/long arm—33 ft. 4.4 in. (10.17 m)
- B. W/short arm—23 ft. 11.6 in. (7.30 m)
W/standard arm—23 ft. 6.5 in. (7.17 m)
W/long arm—23 ft. 8.8 in. (7.23 m)
- C. W/short arm—10 ft. 6 in. (3.22 m)
W/standard arm—9 ft. 10 in. (3.00 m)
W/long arm—10 ft. 4.4 in. (3.16 m)
- D. Std. 7 ft. 10 in. (2.39 m)
Opt. long 8 ft. 6 in. (2.59 m)
- E. W/24-in. (600 mm) shoes: 9 ft. 10 in. (2.99 m) Std.
10 ft. 6 in. (3.19 m) Opt. long
W/31-in. (800 mm) shoes: 10 ft. 6 in. (3.19 m) Std.
11 ft. 1 in. (3.39 m) Opt. long

Operating Information:

Drawbar pull	37,250 lb. (165.7 kN)
Tractive gradability	100% (45 deg.)
Off-level operating limit for oil sumps	100% (45 deg.)
Swing speed	12 rpm
Tail swing clearance	115 in. (2.92 m)
Infinitely variable travel speed, forward and reverse	2.8 mph (4.5 km/h)

Bucket Digging Force (Tangential Penetrating Force) (SAE Heaped)

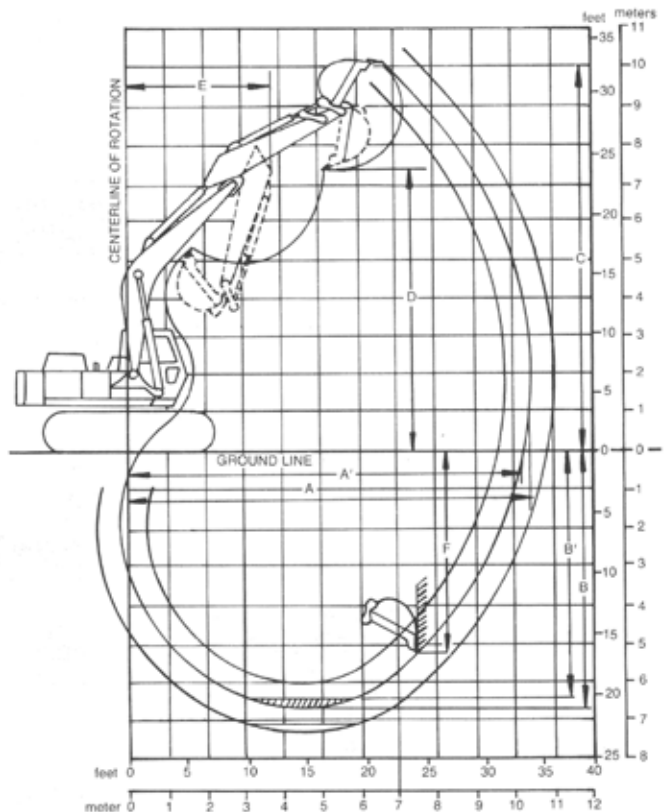
Regular duty	28,880 lb. (128 kN) (13 100 kg)
1 cu. yd. (.8 m ³)	28,880 lb. (128 kN) (13 100 kg)

Capacities:	U.S.	Liters
Fuel tank	82 gal.	310
Cooling system	34 qt.	32
Engine lubrication w/filter	25 qt.	24
Hydraulic system	71 gal.	270
Hydraulic reservoir	40 gal.	150
Planetary propel drive (ea. side)	9 qt.	8.5
Swing drive	8 qt.	7.5
Hydraulic pump drive	1.3 qt.	1.2

	ARM		
	Opt. Short	Standard	Opt. Long
Arm length	7 ft. 7 in. (2.3 m)	9 ft. 8 in. (2.96 m)	11 ft. 10 in. (3.61 m)
Arm force	28,660 lb. (127 kN) (13 000 kg)	22,710 lb. (101 kN) (10 300 kg)	19,840 lb. (88 kN) (9000 kg)
Lifting capacity over front or rear @ ground level			
20 ft. (6.1 m) reach	*16,146 lb. (7324 kg)	*16,144 lb. (7323 kg)	*15,264 lb. (6924 kg)
A Max. digging reach	31 ft. 11 in. (9.72 m)	33 ft. 10 in. (10.31 m)	35 ft. 9 in. (10.90 m)
A' Max. digging reach @ ground level	31 ft. 3 in. (9.52 m)	33 ft. 3 in. (10.13 m)	35 ft. 2 in. (10.73 m)
B Max. digging depth	20 ft. 5 in. (6.21 m)	22 ft. 7 in. (6.88 m)	24 ft. 8 in. (7.52 m)
B' Max. digging depth @ 8 ft. (2.44 m) flat bottom	19 ft. 9 in. (6.01 m)	22 ft. 0 in. (6.71 m)	24 ft. 3 in. (7.39 m)
C Max. cutting height	30 ft. 2 in. (9.20 m)	31 ft. 1 in. (9.47 m)	31 ft. 8 in. (9.70 m)
D Max. dumping height	20 ft. 10 in. (6.35 m)	21 ft. 7 in. (6.59 m)	22 ft. 4 in. (6.82 m)
E Min. swing radius	13 ft. 9 in. (4.20 m)	13 ft. 5 in. (4.08 m)	13 ft. 4 in. (4.07 m)
F Max. vertical wall	17 ft. 1 in. (5.21 m)	19 ft. 9 in. (6.01 m)	21 ft. 10 in. (6.66 m)

*W/Optional long undercarriage

Digging Depth and Reach



790D EXCAVATOR LIFTING CAPACITIES W/STANDARD UNDERCARRIAGE

7 ft. 7 in. (2.3 m) OPTIONAL SHORT ARM

Ratings at bucket lift hook, machine equipped with 24-in. (600 mm) shoes, 1-1/4 cu. yd. (1.0 m³) PCSA heaped bucket weighing 1790 lb. (810 kg) and standard counterweight situated on firm, uniform supporting surface. **Boldface** type indicates hydraulic-limited capacities, **lightface** type indicates stability-limited capacities, in lb. (kg). Figures do not exceed 87 percent of hydraulic capacities or 75 percent of weight needed to tip machine. Lift capacity is increased by approximately 3 percent if machine is equipped with optional 31-in. (800 mm) triple grouser shoes.

LIFTING, OVER FRONT OR REAR

Horizontal distance from centerline of rotation	5 ft. (1.52 m)	10 ft. (3.05 m)	15 ft. (4.57 m)	20 ft. (6.10 m)	25 ft. (7.62 m)	30 ft. (9.14 m)
20 ft. (6.10 m)						
15 ft. (4.57 m)				10,560 (4790)	9693 (4397)	
10 ft. (3.05 m)				12,979 (5887)	10,059 (4563)	
5 ft. (1.52 m)				13,772 (6247)	9667 (4385)	
Ground level				13,326 (6045)	9390 (4259)	
- 5 ft. (- 1.52 m)			15,113 (6855)	13,205 (5990)	9299 (4218)	
- 10 ft. (- 3.05 m)		19,921 (9036)	19,565 (8875)	13,351 (6056)		
- 15 ft. (- 4.57 m)			16,970 (7698)			
- 20 ft. (- 6.10 m)						

LIFTING OVER SIDE OR 360°

Horizontal distance from centerline of rotation	5 ft. (1.52 m)	10 ft. (3.05 m)	15 ft. (4.57 m)	20 ft. (6.10 m)	25 ft. (7.62 m)	30 ft. (9.14 m)
20 ft. (6.10 m)						
15 ft. (4.57 m)				10,560 (4790)	7270 (3298)	
10 ft. (3.05 m)				10,011 (4541)	6921 (3139)	
5 ft. (1.52 m)				9299 (4218)	6556 (2974)	
Ground level				8894 (4021)	6299 (2857)	
- 5 ft. (- 1.52 m)			13,918 (6313)	8784 (3984)	6214 (2819)	
- 10 ft. (- 3.05 m)		19,921 (9036)	14,184 (6434)	8917 (4045)		
- 15 ft. (- 4.57 m)			14,731 (6682)			
- 20 ft. (- 6.10 m)						

With 9 ft. 8 in. (2.96 m) STANDARD ARM

Horizontal distance from centerline of rotation	5 ft. (1.52 m)	10 ft. (3.05 m)	15 ft. (4.57 m)	20 ft. (6.10 m)	25 ft. (7.62 m)	30 ft. (9.14 m)
20 ft. (6.10 m)					8000 (3629)	
15 ft. (4.57 m)					8605 (3903)	
10 ft. (3.05 m)			16,055 (7283)	11,672 (5294)	9828 (4458)	7324 (3322)
5 ft. (1.52 m)			21,344 (9682)	14,007 (6354)	9757 (4426)	7124 (3231)
Ground level			16,680 (7566)	13,394 (6076)	9401 (4264)	6956 (3155)
- 5 ft. (- 1.52 m)		12,603 (5717)	18,205 (8258)	13,135 (5958)	9217 (4181)	
- 10 ft. (- 3.05 m)		16,221 (7358)	21,476 (9742)	13,169 (5974)	9253 (4197)	
- 15 ft. (- 4.57 m)		18,643 (8457)	19,227 (8721)	13,512 (6129)		
- 20 ft. (- 6.10 m)						

LIFTING OVER SIDE OR 360°

Horizontal distance from centerline of rotation	5 ft. (1.52 m)	10 ft. (3.05 m)	15 ft. (4.57 m)	20 ft. (6.10 m)	25 ft. (7.62 m)	30 ft. (9.14 m)
20 ft. (6.10 m)					7640 (3466)	
15 ft. (4.57 m)					7432 (3371)	
10 ft. (3.05 m)			16,055 (7283)	10,317 (4680)	7047 (3197)	4938 (2240)
5 ft. (1.52 m)			14,424 (6543)	9495 (4307)	6627 (3006)	4749 (2200)
Ground level			13,760 (6242)	8939 (4055)	6295 (2855)	4590 (2082)
- 5 ft. (- 1.52 m)		12,603 (5717)	13,678 (6204)	8703 (3948)	6125 (2778)	
- 10 ft. (- 3.05 m)		16,221 (7358)	13,868 (6291)	8734 (3962)	6158 (2793)	
- 15 ft. (- 4.57 m)		18,643 (8457)	14,327 (6499)	9045 (4103)		
- 20 ft. (- 6.10 m)						

With 11 ft. 10 in. (3.61 m) OPTIONAL LONG ARM

Horizontal distance from centerline of rotation	5 ft. (1.52 m)	10 ft. (3.05 m)	15 ft. (4.57 m)	20 ft. (6.10 m)	25 ft. (7.62 m)	30 ft. (9.14 m)
20 ft. (6.10 m)						
15 ft. (4.57 m)					7487 (3396)	6983 (3168)
10 ft. (3.05 m)			13,223 (5998)	10,190 (4622)	8806 (3994)	7372 (3344)
5 ft. (1.52 m)			18,987 (8613)	13,002 (5898)	9792 (4442)	7110 (3225)
Ground level			21,479 (9743)	13,424 (6089)	9361 (4246)	6878 (3120)
- 5 ft. (- 1.52 m)		13,188 (5982)	21,087 (9565)	13,024 (5908)	9093 (4125)	6744 (3059)
- 10 ft. (- 3.05 m)	15,480 (7022)	14,639 (6640)	21,133 (9586)	12,934 (5867)	9025 (4094)	
- 15 ft. (- 4.57 m)		18,992 (8615)	20,761 (9417)	13,128 (5955)	9228 (4186)	
- 20 ft. (- 6.10 m)			15,952 (7236)			

LIFTING OVER SIDE OR 360°

Horizontal distance from centerline of rotation	5 ft. (1.52 m)	10 ft. (3.05 m)	15 ft. (4.57 m)	20 ft. (6.10 m)	25 ft. (7.62 m)	30 ft. (9.14 m)
20 ft. (6.10 m)						
15 ft. (4.57 m)					7487 (3396)	5175 (2347)
10 ft. (3.05 m)			13,223 (5998)	10,190 (4622)	7126 (3232)	4976 (2257)
5 ft. (1.52 m)			14,932 (6773)	9637 (4371)	6650 (3016)	4728 (2145)
Ground level			13,852 (6283)	8953 (4061)	6249 (2835)	4509 (2045)
- 5 ft. (- 1.52 m)		13,188 (5982)	13,512 (6129)	8589 (3896)	5999 (2721)	4383 (1988)
- 10 ft. (- 3.05 m)	15,480 (7022)	14,639 (6640)	13,522 (6147)	8508 (3859)	5936 (2693)	
- 15 ft. (- 4.57 m)		18,992 (8615)	13,874 (6293)	8684 (3939)	6126 (2779)	
- 20 ft. (- 6.10 m)			14,568 (6608)			

790D EXCAVATOR LIFT CAPACITIES W/OPTIONAL LONG UNDERCARRIAGE

7 ft. 7 in. (2.3 m) OPTIONAL SHORT ARM

Rated at bucket lift hook, machine equipped with 24-in. (600 mm) shoes, 1-1/4 cu. yd. (1.0 m³) PCSA heaped bucket weighing 1790 lb. (810 kg) and standard counterweight situated on firm, uniform supporting surface. **Boldface** type indicates hydraulic-limited capacities, **lightface** type indicates stability-limited capacities, in lb. (kg). Figures do not exceed 87 percent of hydraulic capacities or 75 percent of weight needed to tip machine. Lift capacity is increased by approximately 3 percent if machine is equipped with optional 31-in. (800 mm) triple grouser shoes.

LIFTING OVER FRONT OR REAR

Horizontal distance from centerline of rotation	5 ft. (1.52 m)	10 ft. (3.05 m)	15 ft. (4.57 m)	20 ft. (6.10 m)	25 ft. (7.62 m)	30 ft. (9.14 m)
20 ft. (6.10 m)						
15 ft. (4.57 m)				10,560 (4790)	9693 (4397)	
10 ft. (3.05 m)				12,979 (5887)	10,745 (4874)	
5 ft. (1.52 m)				15,346 (6961)	11,611 (5267)	
Ground level				16,146 (7324)	11,325 (5137)	
- 5 ft. (- 1.52 m)			15,113 (6855)	16,019 (7266)	11,321 (5094)	
- 10 ft. (- 3.05 m)		19,921 (9036)	19,565 (8875)	15,986 (7251)		
- 15 ft. (- 4.57 m)			16,970 (7698)			
- 20 ft. (- 6.10 m)						

LIFTING OVER SIDE OR 360°

Horizontal distance from centerline of rotation	5 ft. (1.52 m)	10 ft. (3.05 m)	15 ft. (4.57 m)	20 ft. (6.10 m)	25 ft. (7.62 m)	30 ft. (9.14 m)
20 ft. (6.10 m)						
15 ft. (4.57 m)				10,560 (4790)	8262 (3748)	
10 ft. (3.05 m)				11,382 (5163)	7907 (3587)	
5 ft. (1.52 m)				10,654 (4833)	7537 (3419)	
Ground level				10,241 (4645)	7275 (3300)	
- 5 ft. (- 1.52 m)			15,113 (6855)	10,128 (4594)	7189 (3261)	
- 10 ft. (- 3.05 m)		19,921 (9036)	16,341 (7412)	10,264 (4656)		
- 15 ft. (- 4.57 m)			16,905 (7668)			
- 20 ft. (- 6.10 m)						

With 9 ft. 8 in. (2.96 m) STANDARD ARM

LIFTING OVER FRONT OR REAR

Horizontal distance from centerline of rotation	5 ft. (1.52 m)	10 ft. (3.05 m)	15 ft. (4.57 m)	20 ft. (6.10 m)	25 ft. (7.62 m)	30 ft. (9.14 m)
20 ft. (6.10 m)					8000 (3639)	
15 ft. (4.57 m)					8605 (3903)	
10 ft. (3.05 m)			16,055 (7283)	11,672 (5294)	9828 (4458)	8393 (3807)
5 ft. (1.52 m)			21,344 (9682)	14,277 (6477)	11,228 (5093)	8596 (3899)
Ground level			16,080 (7566)	16,144 (7323)	11,342 (5145)	8424 (3821)
- 5 ft. (- 1.52 m)		12,603 (5717)	18,205 (8528)	15,954 (7237)	11,153 (5059)	
- 10 ft. (- 3.05 m)		16,221 (7358)	22,213 (10 076)	15,990 (7253)	11,190 (5076)	
- 15 ft. (- 4.57 m)		18,643 (8457)	19,227 (8721)	14,376 (6521)		
- 20 ft. (- 6.10 m)						

LIFTING OVER SIDE OR 360°

Horizontal distance from centerline of rotation	5 ft. (1.52 m)	10 ft. (3.05 m)	15 ft. (4.57 m)	20 ft. (6.10 m)	25 ft. (7.62 m)	30 ft. (9.14 m)
20 ft. (6.10 m)					8000 (3629)	
15 ft. (4.57 m)					8429 (3823)	
10 ft. (3.05 m)			16,055 (7283)	11,672 (5294)	8038 (3646)	5707 (2589)
5 ft. (1.52 m)			16,595 (7527)	10,858 (4925)	7611 (3452)	5515 (2502)
Ground level			15,910 (7217)	10,291 (4668)	7274 (3300)	5355 (2429)
- 5 ft. (- 1.52 m)		12,603 (5717)	15,825 (7178)	10,050 (4559)	7101 (3221)	
- 10 ft. (- 3.05 m)		16,221 (7358)	16,021 (7267)	10,081 (4573)	7135 (3236)	
- 15 ft. (- 4.57 m)		18,643 (8457)	16,494 (7482)	10,399 (4717)		
- 20 ft. (- 6.10 m)						

With 11 ft. 10 in. (3.61 m) OPTIONAL LONG ARM

LIFTING OVER FRONT OR REAR

Horizontal distance from centerline of rotation	5 ft. (1.52 m)	10 ft. (3.05 m)	15 ft. (4.57 m)	20 ft. (6.10 m)	25 ft. (7.62 m)	30 ft. (9.14 m)
20 ft. (6.10 m)						
15 ft. (4.57 m)					7487 (3396)	6983 (3168)
10 ft. (3.05 m)			13,223 (5998)	10,190 (4622)	8806 (3994)	8152 (3698)
5 ft. (1.52 m)			18,987 (8613)	13,002 (5898)	10,346 (4693)	8585 (3894)
Ground level			22,405 (10 163)	15,264 (6924)	11,305 (5128)	8348 (3787)
- 5 ft. (- 1.52 m)		13,188 (5982)	21,706 (9846)	15,844 (7187)	11,029 (5003)	8210 (3724)
- 10 ft. (- 3.05 m)	15,480 (7022)	14,639 (6640)	22,893 (10 384)	15,750 (7144)	10,959 (4971)	
- 15 ft. (- 4.57 m)		18,992 (8615)	20,761 (9417)	15,380 (6976)	11,169 (5066)	
- 20 ft. (- 6.10 m)			15,952 (7236)			

LIFTING OVER SIDE OR 360°

Horizontal distance from centerline of rotation	5 ft. (1.52 m)	10 ft. (3.05 m)	15 ft. (4.57 m)	20 ft. (6.10 m)	25 ft. (7.62 m)	30 ft. (9.14 m)
20 ft. (6.10 m)						
15 ft. (4.57 m)					7487 (3396)	5949 (2699)
10 ft. (3.05 m)			13,223 (5998)	10,190 (4622)	8120 (3683)	5747 (2607)
5 ft. (1.52 m)			17,123 (7767)	11,007 (4993)	7637 (3464)	5496 (2493)
Ground level			16,009 (7262)	10,308 (4676)	7229 (3279)	5275 (2393)
- 5 ft. (- 1.52 m)		13,188 (5982)	15,658 (7103)	9937 (4507)	6976 (3164)	5146 (2334)
- 10 ft. (- 3.05 m)	15,480 (7022)	14,639 (6640)	15,700 (7122)	9853 (4469)	6912 (3135)	
- 15 ft. (- 4.57 m)		18,992 (8615)	16,031 (7272)	10,034 (4551)	7104 (3222)	
- 20 ft. (- 6.10 m)			15,952 (7236)			

790D EXCAVATOR BUCKETS

	Bite Width		SAE (Heaped)	CECE (Heaped)	Weight	Recommendation w/Standard Undercarriage			Recommendation w/Optional Long Undercarriage		
	Without Side Cutters	With Side Cutters or Wear Shrouds*				7 ft. 7 in. (2.3 m) ARM	9 ft. 8 in. (2.96 m) ARM	11 ft. 10 in. (3.62 m) ARM	7 ft. 7 in. (2.3 m) ARM	9 ft. 8 in. (2.96 m) ARM	11 ft. 10 in. (3.61 m) ARM
Regular duty											
37 in. (940 mm)		42 in. (1070 mm)	1 cu. yd. (.8 m ³)	(.7 m ³)	1521 lb. (690 kg)	○	○	○	○	○	○
46 in. (1160 mm)		51 in. (1295 mm)	1 3/8 cu. yd. (1.0 m ³)	(.9 m ³)	1786 lb. (810 kg)	○	○	□	○	○	○
Heavy duty											
31 in. (787 mm)		31 in.* (787 mm)	.75 cu. yd. (.6 m ³)		1845 lb. (837 kg)						
42 in. (1070 mm)		42 in.* (1070 mm)	1.12 cu. yd. (.9 m ³)		2255 lb. (1023 kg)						
48 in. (1219 mm)		48 in.* (1219 mm)	1.38 cu. yd. (1.0 m ³)		2392 lb. (1085 kg)						

○: Suitable for material with density of 3370 lb/cu. yd. (2000 kg/m³) or less

□: Suitable for material with density of 2700 lb/cu. yd. (1600 kg/m³) or less

BUCKET SELECTION CHART Recommended Bucket Size*								
lb/yd ³	kg/m ³	Material	7 ft. 7 in. (2.3 m) Arm**		9 ft. 8 in. (2.96 m) Arm		11 ft. 10 in. (3.61 m) Arm**	
			Regular Duty	Heavy Duty	Regular Duty	Heavy Duty	Regular Duty	Heavy Duty
700	420	Wood chips	6 3/8 cu. yd. (4.9 m ³)	—	5 3/4 cu. yd. (4.3 m ³)	—	5 1/4 cu. yd. (3.9 m ³)	—
800	470	Peat, dry	5 1/2 cu. yd. (4.2 m ³)	—	5.0 cu. yd. (3.8 m ³)	—	4 1/2 cu. yd. (3.4 m ³)	—
1250	740	Peat, wet	3 3/8 cu. yd. (2.8 m ³)	—	3 1/8 cu. yd. (2.4 m ³)	—	3 1/8 cu. yd. (2.3 m ³)	—
1450	860	Cinders	3 1/8 cu. yd. (2.4 m ³)	—	2 3/4 cu. yd. (2.1 m ³)	—	2 1/2 cu. yd. (1.9 m ³)	—
1600	950	Topsoil, loose	2 3/4 yd ³ (2.2 m ³)	—	2 1/2 yd ³ (2.0 m ³)	—	2 1/6 yd ³ (1.8 m ³)	—
2300	1360	Topsoil, heavy packed	2.0 cu. yd. (1.5 m ³)	—	1 3/4 cu. yd. (1.3 m ³)	—	1 1/2 cu. yd. (1.2 m ³)	—
2300	1360	Coal, natural bed	2.0 cu. yd. (1.5 m ³)	1 5/8 cu. yd. (1.2 m ³)	1 3/4 cu. yd. (1.3 m ³)	1 3/8 cu. yd. (1.0 m ³)	1 1/2 cu. yd. (1.2 m ³)	1 1/4 cu. yd. (.9 m ³)
2600	1540	Earth, dry loam	1.62 cu. yd. (1.2 m ³)	1 3/8 cu. yd. (1.0 m ³)	1 1/2 cu. yd. (1.2 m ³)	1 1/4 cu. yd. (.9 m ³)	1 3/8 cu. yd. (1.0 m ³)	1 1/8 cu. yd. (.8 m ³)
2700	1600	Sand, dry	1.62 cu. yd. (1.2 m ³)	1 3/8 cu. yd. (1.0 m ³)	1 1/2 cu. yd. (1.2 m ³)	1 1/8 cu. yd. (.8 m ³)	1 3/8 cu. yd. (1.0 m ³)	1.0 cu. yd. (.8 m ³)
3200	1900	Earth, moist loam	1 3/8 cu. yd. (1.10 m ³)	1 1/8 cu. yd. (.8 m ³)	1 3/8 cu. yd. (1.0 m ³)	1.0 cu. yd. (.8 m ³)	1.0 cu. yd. (.8 m ³)	7/8 cu. yd. (.6 m ³)
3250	1930	Sand, gravel, dry	1 3/8 cu. yd. (1.0 m ³)	1 1/8 cu. yd. (.8 m ³)	1 1/4 cu. yd. (.9 m ³)	1.0 cu. yd. (.8 m ³)	1.0 cu. yd. (.8 m ³)	7/8 cu. yd. (.6 m ³)
3300	1960	Sand, moist	1 3/8 cu. yd. (1.0 m ³)	1 1/8 cu. yd. (.8 m ³)	1 1/4 cu. yd. (.9 m ³)	7/8 cu. yd. (.6 m ³)	1.0 cu. yd. (.8 m ³)	7/8 cu. yd. (.6 m ³)
3500	2080	Sand, wet	1 1/4 cu. yd. (.9 m ³)	1.0 cu. yd. (.8 m ³)	1 1/8 cu. yd. (.8 m ³)	7/8 cu. yd. (.6 m ³)	1.0 cu. yd. (.8 m ³)	3/4 cu. yd. (.5 m ³)
3500	2080	Shale	1 1/4 cu. yd. (.9 m ³)	1.0 cu. yd. (.8 m ³)	1 1/8 cu. yd. (.8 m ³)	7/8 cu. yd. (.6 m ³)	1.0 cu. yd. (.8 m ³)	3/4 cu. yd. (.5 m ³)
3600	2100	Clay, wet	1 1/4 cu. yd. (.9 m ³)	1.0 cu. yd. (.8 m ³)	1 1/8 cu. yd. (.8 m ³)	7/8 cu. yd. (.6 m ³)	3/4 cu. yd. (.5 m ³)	3/4 cu. yd. (.5 m ³)
4200	2490	Limestone, broken	—	7/8 cu. yd. (.6 m ³)	—	3/4 cu. yd. (.5 m ³)	—	5/8 cu. yd. (.4 m ³)
4600	2730	Rock granite, blasted	—	3/4 cu. yd. (.5 m ³)	—	5/8 cu. yd. (.4 m ³)	—	5/8 cu. yd. (.4 m ³)

* Contact your John Deere dealer for optimum bucket and attachment selection. The selection of arms and the use of larger than recommended buckets in heavy materials and tough digging conditions should be thoroughly analyzed for digging force and load capacity. Bucket capacity indicated is SAE heaped.

** Select 7 ft. 7-in. (2.3 m) arm for maximum digging force and/or truck loading.
Select 11 ft. 10-in. (3.61 m) arm for maximum digging depth and reach.

790D EXCAVATOR SPECIFICATIONS

Weights:	lb.	kg
Operating weight with full fuel tank, 175-lb. (80 kg) operator, long undercarriage, optional 31-in. (800 mm) triple grouser shoes, counterweight, 11 ft. 10 in. (3.61 m) arm, 1 $\frac{3}{8}$ cu. yd. (1.0 m ³) 51-in. (1295 mm) bucket	53,143	24 105
Upperstructure with counterweight and full fuel tank, less all front attachments	23,030	10 446
Undercarriage—standard with:		
24-in. (600 mm) shoes	16,910	7 670
32-in. (800 mm) shoes	18,100	8 210
Undercarriage—long with:		
24-in. (600 mm) shoes	18,342	8 320
32-in. (800 mm) shoes	19,665	8 920
Boom, one piece with two boom cylinders and arm cylinder	5,487	2 489
Boom lift cylinders (2) without pins	1,036	470
Arm, standard 9 ft. 8 in. (2.96 m) w/bucket cylinder and linkage	2,755	1 250
Arm, optional short 7 ft. 7 in. (2.3 m) w/bucket cylinder and linkage	2,580	1 170
Arm, optional long 11 ft. 10 in. (3.61 m) w/bucket cylinder and linkage	2,998	1 360
Arm cylinder without pins	728	330
Bucket cylinder without pins and linkage	474	215
Counterweight	10,428	4 730

Optional or Special Equipment:

Cab:

- Air conditioner, 7500 Btu/hr (2.2 kW) w/13,500 Btu/hr (4.0 kW) heater
- Air conditioner, 20,000 Btu/hr (11.7 kW) w/40,000 Btu/hr (11.7 kW) heater
- Heater, 19,000 Btu/hr (5.6 kW)
- Heater, 40,000 Btu/hr (11.7 kW)
- Alternate control pattern
- Window vandal protection

Front Attachment:

- No-arm option
- No-boom option
- No-bucket option
- One-piece boom
- 7 ft. 7 in. (2.3 m) short arm
- 9 ft. 8 in. (2.96 m) standard arm
- 11 ft. 10 in. (3.61 m) long arm
- Long reach front attachment

Undercarriage:

- No-undercarriage option
- Long-track length, 12 ft. 7 in. (3.83 m)
- 24-in. (600 mm) triple grouser shoes
- 32-in. (800 mm) triple grouser shoes