

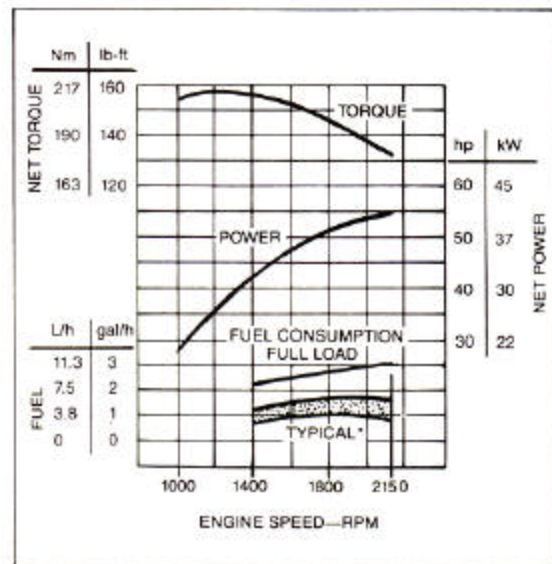


70 EXCAVATOR



Model shown may include options

ENGINE PERFORMANCE



FEATURES

55 SAE net hp (41 kW) John Deere direct-injection diesel engine

14,600 lb. (6620 kg) standard operating weight

15 ft. (4.56 m) maximum digging depth

21 ft. 7 in. (6.58 m) maximum reach at ground level

Advanced high-efficiency variable-flow hydraulic system provides exceptional digging performance, function control and fuel economy

Extra-wide high-visibility cab enhances operator comfort and productivity

Precision, low-effort, direct-acting controls for boom, arm, bucket, travel and 360-degree continuous swing

Excavator track-type undercarriage with sealed chain and hydraulic track adjustment

Optional offset-boom and leveling blade add versatility

*Depending on operating variables

70 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 equipped with 26-in. (640 mm) bucket, full fuel tank, 175-lb. (80 kg) operator and standard equipment.

Power @ 2150 engine rpm:

	SAE	DIN
Net	55 hp (41 kW)	41
Gross	58 hp (43 kW)	

Net engine power is with standard equipment including air cleaner, exhaust system, alternator and cooling fan. Gross power is without cooling fan. Power ratings are at standard conditions per SAE J1349 and DIN 6270. No derating is required up to 6000 feet (1800 m) altitude.

Engine: John Deere 4-239D

Bore and stroke	4.19 x 4.33 in. (106.5 x 110 mm)
No. of cylinders	4
Displacement	239 cu. in. (3.917 L)
Compression ratio	17.8 to 1
Maximum net torque @ 1200 rpm	158 lb-ft (214 Nm) (21.8 kg-m)
Lubrication	Pressure system w/full-flow filter
Cooling fan	Suction
Air cleaner w/restriction indicator and safety element	Dry
Electrical system	24 volt w/alternator
Batteries (two 12-volt)	Reserve capacity: 65 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 optional offset-boom or an auxiliary attachment.

Main pumps	2 variable-displacement axial-piston
Pressure setting	3130 psi (21 580 kPa) (220 kg/cm ²)
Max. oil flow	2 x 24.6 gpm (2 x 93 L/min)
Pilot pump	1 gear type
Pressure setting	430 psi (2950 kPa) (30 kg/cm ²)
Max. oil flow	6.8 gpm (26 L/min)
System operating pressure	3130 psi (21 580 kPa) (220 kg/cm ²)
Relief settings:	
Boom	3340 psi (23 030 kPa) (235 kg/cm ²)
Arm	3340 psi (23 030 kPa) (235 kg/cm ²)
Bucket	3340 psi (23 030 kPa) (235 kg/cm ²)
Swing	2990 psi (20 610 kPa) (210 kg/cm ²)
Travel	2990 psi (20 610 kPa) (210 kg/cm ²)

Oil filtration:

One suction filter	
One 10-micron full-flow return filter w/bypass	
Leveling blade (optional)	1 gear type
Pressure setting	2140 psi (14 750 kPa) (150 kg/cm ²)
Max. oil flow	6.8 gpm (26 L/min)

Cylinders:	Bore	Rod Diameter	Stroke
Boom (1)	4.5 in. (115 mm)	2.6 in. (65 mm)	36.4 in. (925 mm)
Arm (1)	3.9 in. (100 mm)	2.4 in. (60 mm)	35.4 in. (900 mm)
Bucket (1)	3.5 in. (90 mm)	2.2 in. (55 mm)	28.7 in. (730 mm)

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 lock	Manual for transporting
Turntable bearing	Single-row, shear-type ball bearing with induction-hardened, lubricated internal gear and pinion.

Undercarriage:

Propel motors (one for each track) Radial-piston hydraulic motors with planetary drives. Multiple-disk brakes automatically release when travelling and apply when stationary. Independent drives permit counterrotation.

Track Frame

Heavy-duty undercarriage frame with all-welded, stress relieved construction. Side frames welded to track frame.

Sealed track chain with heat-treated connecting pins. Permanently lubricated track rollers, idlers and sprockets with floating seals. Hydraulic track adjustment with shock absorbing recoil springs. Induction-hardened rolled-alloy track shoes.

Upper rollers (each side)	1
Lower rollers (each side)	5
Track shoes (each side)	37
Track shoe type	Triple grouser

Cab:

Independent, shock mounted and soundproofed with safety glass windows. Front window can be stored overhead. Right side window slides open for ventilation. Left control lever can be locked for easier entry and exit. Centralized monitoring with alarm system.

Seat:

Fully adjustable deluxe reclining seat with armrests.

Controls:

All hydraulic functions are controlled by low-effort direct-acting linkage. Two short levers control swing, boom, arm and bucket functions. Right and left levers control forward, reverse and track counterrotation.

Boom and Arm:

Welded, low-stress, full box-section design.

Servicing and Vandal Protection:

Traction-tread steps and handrails. Easily accessible engine and hydraulic system covers. Service doors, fuel cap and cab have built-in locks.

Additional Standard Equipment:

Cab:	
Heater	
Horn	
Interior light	
Positive position hand throttle	
Windshield wiper	
Monitor system:	
Air cleaner restriction indicator light	
Alternator charge indicator light	
Coolant temperature warning light w/audible alarm	
Engine oil pressure warning light w/audible alarm	
Gauges:	
Coolant temperature gauge	
Fuel gauge	
Quartz hourmeter	
Engine:	
Cold weather (ether) starting aid	
Heavy-duty fuel filter	
Frame:	
772 lb. (350 kg) counterweight	
Fully enclosed swing gears	
Front attachment:	
Heavy-duty one-piece boom	
Dirt seals on all bucket pins	
Undercarriage:	
Propel motor and hydraulic line shields	
Single flange lower track rollers	

Optional or Special Equipment:

Arms:	
Short arm	5 ft. 4 in. (1.62 m)
Long arm	6 ft. 11 in. (2.12 m)
Buckets (w/side cutters and teeth):	
25 in. (640 mm) wide	0.31 cu. yd. (0.24 m ³)
30 in. (760 mm) wide	0.37 cu. yd. (0.28 m ³)
Track shoes:	
Regular triple grouser	18 in. (460 mm)
Wide triple grouser	24 in. (600 mm)
Offset-boom (hydraulically operated)	
Leveling blade	
Control conversion kit (to SAE pattern)	

70 EXCAVATOR LIFT CAPACITIES

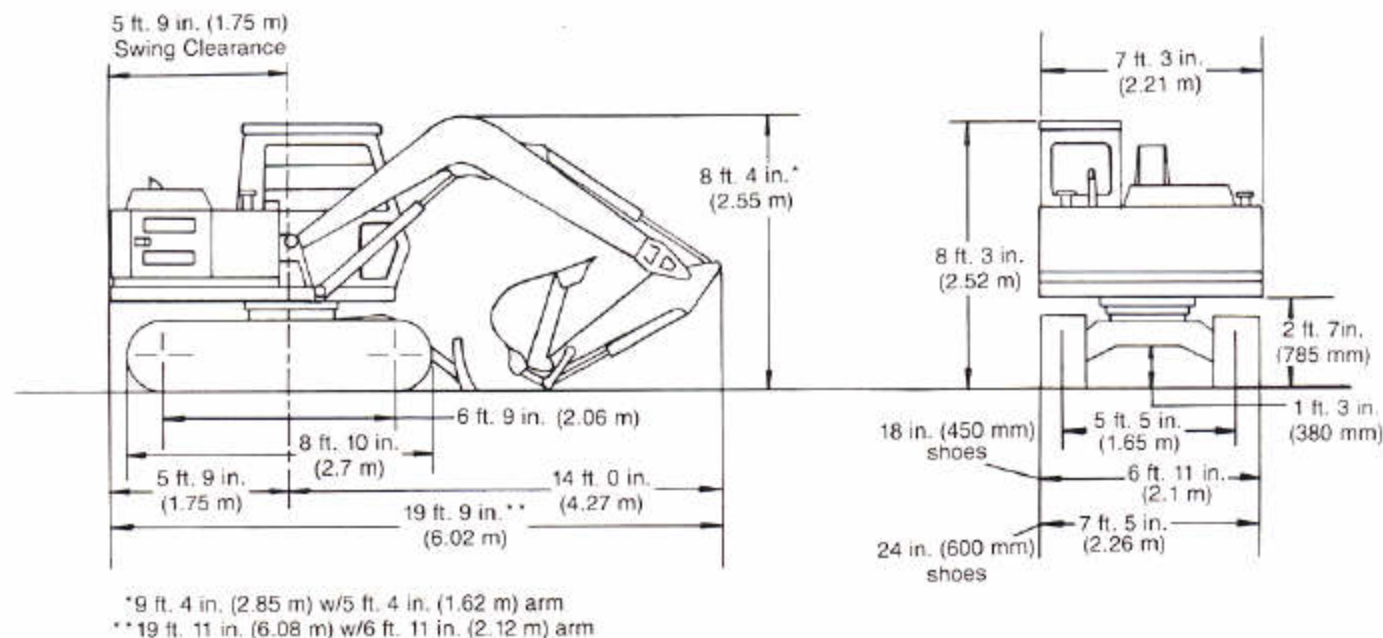
Ratings at bucket lift hook, machine equipped with 18-in. (450 mm) shoes, 0.31 cu. yd. (0.24 m³) PCSA heaped bucket and standard counterweight, situated on firm, level, uniform supporting surface. **Boldface** type indicates hydraulic-limited capacities, lightface type indicates stability-limited capacities, in lb. (kg). Figures do not exceed 87 percent of hydraulic capacities or 75 percent of weight needed to tip machine.

Note: Upper figures—fore and aft. Lower figures—over the side.

With Standard Boom and 5 ft. 4 in. (1.62 m) Arm						With Standard Boom, 5 ft. 4 in. (1.62 m) Arm and Dozer Blade					
	5 ft. (1.52 m)	10 ft. (3.05 m)	15 ft. (4.57 m)	Max. Radius	ft. (m)		5 ft. (1.52 m)	10 ft. (3.05 m)	15 ft. (4.57 m)	Max. Radius	ft. (m)
10 ft. (3.05 m)			2540 (1150) 2540 (1150)	1700 (770) 1500 (680)	19.0 (5.79)	10 ft. (3.05 m)			2540 (1150) 2540 (1150)	1900 (860) 1600 (730)	19.0 (5.79)
5 ft. (1.52 m)		4670 (2120) 4220 (1910)	2620 (1190) 2220 (1010)	1600 (730) 1300 (590)	19.5 (5.94)	5 ft. (1.52 m)		4670 (2120) 4540 (2060)	2820 (1280) 2410 (1090)	1700 (770) 1500 (680)	19.5 (5.94)
Ground		4670 (2120) 3860 (1750)	2470 (1120) 2080 (940)	1700 (770) 1400 (640)	18.5 (5.64)	Ground		5030 (2280) 4180 (1900)	2670 (1210) 2270 (1030)	1600 (820) 1600 (730)	18.5 (5.64)
-5 ft. (-1.52 m)	7060 (3200) 7060 (3200)	4620 (2100) 3820 (1730)	2420 (1100) 2030 (920)	2200 (1000) 1900 (860)	15.5 (4.72)	-5 ft. (-1.52 m)	7060 (3200) 7060 (3200)	4980 (2260) 4140 (1890)	2620 (1190) 2220 (1010)	2400 (1090) 2100 (950)	15.5 (4.72)
-15 ft. (-4.57 m)		4760 (2160)				-10 ft. (-3.05 m)		5120 (2320) 4270 (1940)			

With Standard Boom and 6 ft. 11 in. (2.12 m) Arm						With Standard Boom, 6 ft. 11 in. (2.12 m) Arm and Dozer Blade					
	5 ft. (1.52 m)	10 ft. (3.05 m)	15 ft. (4.57 m)	Max. Radius	ft. (m)		5 ft. (1.52 m)	10 ft. (3.05 m)	15 ft. (4.57 m)	Max. Radius	ft. (m)
15 ft. (4.57 m)			1960 (890) 1960 (890)	1900 (860) 1500 (730)	18.5 (5.64)	15 ft. (4.57 m)			1960 (890) 1960 (890)	2000 (910) 1700 (770)	18.5 (5.64)
10 ft. (3.05 m)		2060 (930) 2060 (930)	2660 (1210) 2270 (1030)	1500 (680) 1300 (590)	20.5 (6.25)	10 ft. (3.05 m)		2060 (930) 2060 (930)	2660 (1210) 2260 (1030)	1600 (730) 1400 (640)	20.5 (6.25)
5 ft. (1.52 m)		3790 (1720) 3790 (1720)	2660 (1210) 2270 (1030)	1500 (680) 1100 (500)	21.0 (6.40)	5 ft. (1.52 m)		3790 (1720) 3790 (1720)	2790 (1270) 2450 (1110)	1500 (680) 1300 (590)	21.0 (6.40)
Ground		4710 (2140) 3980 (1810)	2480 (1120) 2090 (950)	1400 (640) 1200 (540)	20.0 (6.10)	Ground		5070 (2300) 4220 (1910)	2690 (1220) 2280 (1030)	1600 (730) 1300 (590)	20.0 (6.10)
-5 ft. (-1.52 m)	6050 (2740) 6050 (2740)	4570 (2070) 3760 (1710)	2390 (1080) 2000 (910)	1800 (820) 1500 (680)	17.5 (5.33)	-5 ft. (-1.52 m)	6050 (2740) 6050 (2740)	4930 (2240) 4080 (1850)	2590 (1170) 2190 (990)	2000 (910) 1700 (770)	17.5 (5.33)
-10 ft. (-3.05 m)	12000 (5440) 12000 (5440)	4640 (2100) 3830 (1740)				-10 ft. (-3.05 m)	12000 (5440) 12000 (5440)	5000 (2270) 4150 (1880)			

With Offset Boom and 5 ft. 4 in. (1.62 m) Arm						With Offset Boom, 5 ft. 4 in. (1.62 m) Arm and Dozer Blade					
	5 ft. (1.52 m)	10 ft. (3.05 m)	15 ft. (4.57 m)	Max. Radius	ft. (m)		5 ft. (1.52 m)	10 ft. (3.05 m)	15 ft. (4.57 m)	Max. Radius	ft. (m)
10 ft. (3.05 m)			2260 (1030) 2260 (1030)	1800 (820) 1500 (680)	18.5 (5.64)	10 ft. (3.05 m)			2260 (1030) 2260 (1030)	1900 (860) 1600 (730)	18.5 (5.64)
5 ft. (1.52 m)		2650 (1200) 2220 (1010)	2650 (1200) 2220 (1010)	1600 (730) 1300 (590)	19.0 (5.79)	5 ft. (1.52 m)		2650 (1200) 2390 (1090)	2830 (1280) 2390 (1090)	1700 (770) 1400 (640)	19.0 (5.79)
Ground		2400 (1090) 1980 (900)	2400 (1090) 1980 (900)	1600 (730) 1300 (590)	18.0 (5.49)	Ground		2590 (1170) 2150 (960)	2590 (1170) 2150 (960)	1800 (820) 1500 (680)	18.0 (5.49)
-5 ft. (-1.52 m)		4420 (2000) 3570 (1620)	2300 (1040) 1890 (860)	2200 (1000) 1800 (820)	15.0 (4.57)	-5 ft. (-1.52 m)		4770 (2160) 3870 (1760)	2500 (1130) 2060 (930)	2400 (1090) 2000 (910)	15.0 (4.57)
-15 ft. (-4.57 m)		4640 (2100) 3780 (1710)				-10 ft. (-3.05 m)		4990 (2260) 4080 (1850)			


Operating Information:

(With one-piece boom—without dozer blade)

Dimensions:

Max. digging depth	5 ft. 4 in. (1.62 m) Arm 13 ft. 4 in. (4.06 m)	6 ft. 11 in. (2.12 m) Arm 15 ft. (4.56 m)
Max. digging depth w/8 ft. (2.44 m) flat bottom	12 ft. 2 in. (3.71 m)	14 ft. 1 in. (4.29 m)
Max. reach @ ground level	20 ft. (6.10 m)	21 ft. 7 in. (6.58 m)
Max. dumping height	14 ft. 10 in. (4.52 m)	15 ft. 10 in. (4.83 m)

Forces and Capacities:

Max. lift capacity @ 15 ft. (4.57 m)—ground level	5 ft. 4 in. (1.62 m) Arm 2080 lb. (940 kg)	6 ft. 11 in. (2.12 m) Arm 2090 lb. (950 kg)
Max. arm digging force	7720 lb. (34 kN) (3500 kg)	6835 lb. (30 kN) (3100 kg)
Max. bucket digging force	9920 lb. (44 kN) (4500 kg)	9920 lb. (44 kN) (4500 kg)

Flotation:

Average ground contact area	18 in. (450 mm) Shoes 3218 sq. in. (20 760 cm ²)	24 in. (600 mm) Shoes 4292 sq. in. (27 680 cm ²)
Average ground pressure	4.5 psi (31.0 kPa) (0.32 kg/cm ²)	3.5 psi (24.2 kPa) (0.25 cm ²)

Weights:

	lb.	kg
Standard operating weight w/18 in. (450 mm) shoes, 5 ft. 4 in. (1.62 m) arm, 0.31 cu. yd. (0.24 m ³) bucket, full fuel tank and 175 lb. (80 kg) operator	14,600	6620
Undercarriage w/24-in. (600 mm) track shoes (add)	441	200
Upperstructure w/counterweight for standard front (not including boom, boom cylinder, arm or bucket)	6460	2930
Upperstructure w/counterweight for offset-boom front (not including boom, boom cylinder, arm or bucket)	6660	3030
One-piece boom w/boom and arm cylinders	1300	590
Offset-boom w/boom and arm cylinders	2030	920
Boom cylinder only	198	90
5 ft. 4 in. (1.62 m) arm w/bucket cylinder	507	230
6 ft. 11 in. (2.12 m) arm w/bucket cylinder	595	270
Leveling blade (add)	970	440
Counterweight only (with standard front)	772	350
Counterweight only (with offset-boom)	992	450

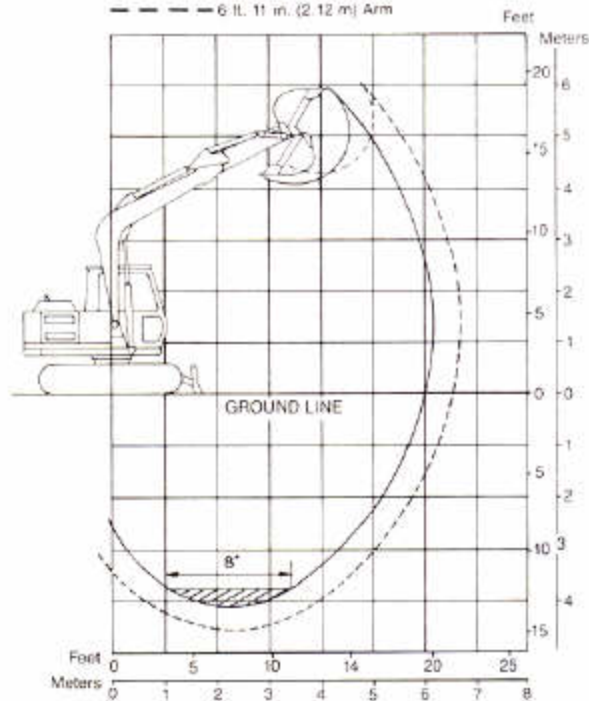
Performance:

Swing speed	0-14 rpm (0-14 min)
Travel speed	0-2.3 mph (0-3.7 km/h)
Gradability	70 percent (35 degrees)

Capacities:

	U.S.	Liters
Fuel tank	32 gal.	120
Cooling system	20.1 qt.	19
Engine lubrication w/filter	9 qt.	8.5
Hydraulic system	26.4 gal.	100
Hydraulic reservoir	15.8 gal.	60
Planetary propel drive (each side)	4 qt.	3.8
Swing drive	1.4 qt.	1.3

Digging Depth and Reach:

 — 5 ft. 4 in. (1.62 m) Arm
 - - - 6 ft. 11 in. (2.12 m) Arm


70 EXCAVATOR

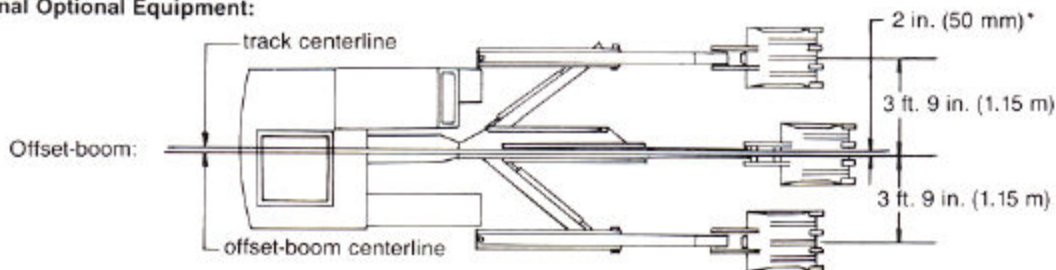
BUCKETS

Without Side Cutters	Bite Width		SAE Heaped	Weight	Recommendation	
		With Side Cutters			5 ft. 4 in. (1.62 m) Arm	6 ft. 11 in. (2.12 m) Arm
22 in. (550 mm)		25 in. (640 mm)	0.31 cu. yd. (0.24 m ³)	386 lb. (175 kg)	○	○
26 in. (660 mm)		30 in. (760 mm)	0.37 cu. yd. (0.28 m ³)	448 lb. (203 kg)	○	□

○: Suitable for materials with density of 3370 lb/yd³ (2000 kg/m³) or less

□: Suitable for materials with density of 2700 lb/yd³ (1600 kg/m³) or less

Additional Optional Equipment:



*Front attachment centerline is 2 in. (50 mm) to right of track centerline

Dimensions for offset-boom w/5 ft. 4 in. (1.62 m) arm: (not available with long arm)

	With no boom offset	With 3 ft. 9 in. (1.15 m) max. boom offset
Max. digging depth	13 ft. 5 in. (4.09 m)	12 ft. (3.65 m)**
Max. digging depth w/8 ft. (2.44 m) flat bottom	12 ft. 2 in. (3.7 m)	10 ft. 8 in. (3.25 m)
Max. reach @ ground level	19 ft. 8 in. (6 m)	18 ft. 3 in. (5.56 m)
Max. dumping height	14 ft. 2 in. (4.32 m)	13 ft. 1 in. (3.98 m)
Max. cut outside of track w/18 in. (450 mm) shoes and 0.31 cu. yd. (0.24 m ³) bucket		14.6 in. (370 mm) left 18.5 in. (470 mm) right

**Max. digging depth will be less in applications where offset-boom interferes with edge of trench

Leveling Blade:

