

ENGINE

It's John Deere-engineered and manufactured. Replaceable wet-type cylinder liners are spun cast and machined for uniform wall thickness to assure even heat dissipation. Piston spray cooling contributes to long component life. A dynamically-balanced crankshaft assures smooth operation.

Engine: John Deere 4039D

Rated power at 2200 rpm.....55 SAE net hp (41 kW)
.....60 SAE gross hp (45 kW)

Cylinders4
Displacement239 cu. in. (3.9 L)
Maximum net torque at 1400 rpm153 lb.-ft. (207 Nm)
Fuel consumption, typical0.8 to 1.8 gal./hr. (3 to 7 L/h)
Cooling fansuction type viscous drive
Electrical system24-volt w/42-amp alternator
Batteries (two 12 volt)reserve capacity: 180 min.

HYDRAULIC SYSTEM

The 190E uses an open center hydraulic system with two variable displacement pumps delivering 50 gpm (189 L/min.) for fast, smooth cycles. This highly-advanced system uses an independent, cross-sensing regulator for each of its two pumps. This two pump, two regulator system lets the operator make the best use of available horsepower by automatically adjusting hydraulic flow to the changing system requirements.

Main pumpsone variable-displacement axial piston
Maximum rated flow2 x 25.0 gpm (2 x 94.6 L/min.)
Pilot pumpone gear
Maximum rated flow6.2 gpm (23.5 L/min.)
Pressure setting640 psi (4415 kPa)
System operating pressure
Implement circuits3770 psi (26 000 kPa)
Travel circuits3980 psi (27 444 kPa)
Swing circuits4120 psi (28 406 kPa)
Oil filtration
One 10 micron full flow return filter with bypass
One pilot oil filter
One suction filter
Leveling blade (optional)1 gear type
Crossover relief valve:
Blade2775 psi (19 140 kPa)
Maximum oil flow6.2 gpm (23.5 L/min.)

Cylinders	Bore	Rod Diameter	Stroke
Boom (1).....	4.53 in. (115 mm)	2.56 in. (65 mm)	34.8 in. (885 mm)
Arm (1).....	3.74 in. (95 mm)	2.36 in. (60 mm)	35.4 in. (900 mm)
Bucket (1).....	3.35 in. (85 mm)	2.17 in. (55 mm)	28.7 in. (730 mm)

SWING MECHANISM

Planetary reduction gearing is driven by an axial-piston, high-torque hydraulic motor. Ring and pinion gears are induction hardened for long life. The multiple, wet-disk swing brake is spring applied, hydraulically released. The single-row, 98-ball swing bearing is sealed top and bottom.

Swing speed0-15 rpm

UNDERCARRIAGE

Heavy-duty rollers and chain are designed to stand up to the side-to-side stress of excavator work. The strong box-section track frame comes with a track guide at the front idler location. The track frames are welded to the center section to eliminate any need for periodic tightening and are designed to resist the buildup of mud and debris.

Carrier rollers (per side)1
Track rollers (per side)5
Idlers (per side)1
Shoes, triple semigrouser (per side)37
Track guidesfront
Track adjustmenthydraulic
Travel speedLow Medium High
mph 0-1.6 0-2.0 0-3.1
km/h (0-2.5) (0-3.3) (0-5.0)
Drawbar pull10,360 lb. (46.0 kN)
Tractive gradability84% (40 deg.)
Off-level operating limit for oil sump100% (45 deg.)

Ground Pressure Data

Shoe Width/ Grouser	Average Ground Pressure	Recommended Application
Standard One-Piece Boom Without Dozer:		
18 in./triple (450 mm)	3.49 psi (24.1 kPa)	Rocky terrain and stumps
24 in./triple (600 mm)	2.69 psi (18.5 kPa)	General/soft terrain
Standard One-Piece Boom With Dozer Blade:		
18 in./triple (450 mm)	3.70 psi (25.5 kPa)	Rocky terrain and stumps
24 in./triple (600 mm)	2.84 psi (19.6 kPa)	General/soft terrain
Offset Boom Without Dozer:		
18 in./triple (450 mm)	3.73 psi (25.7 kPa)	Rocky terrain and stumps
24 in./triple (600 mm)	2.86 psi (19.7 kPa)	General/soft terrain
Offset Boom With Dozer Blade:		
18 in./triple (450 mm)	3.94 psi (27.2 kPa)	Rocky terrain and stumps
24 in./triple (600 mm)	3.02 psi (20.8 kPa)	General/soft terrain

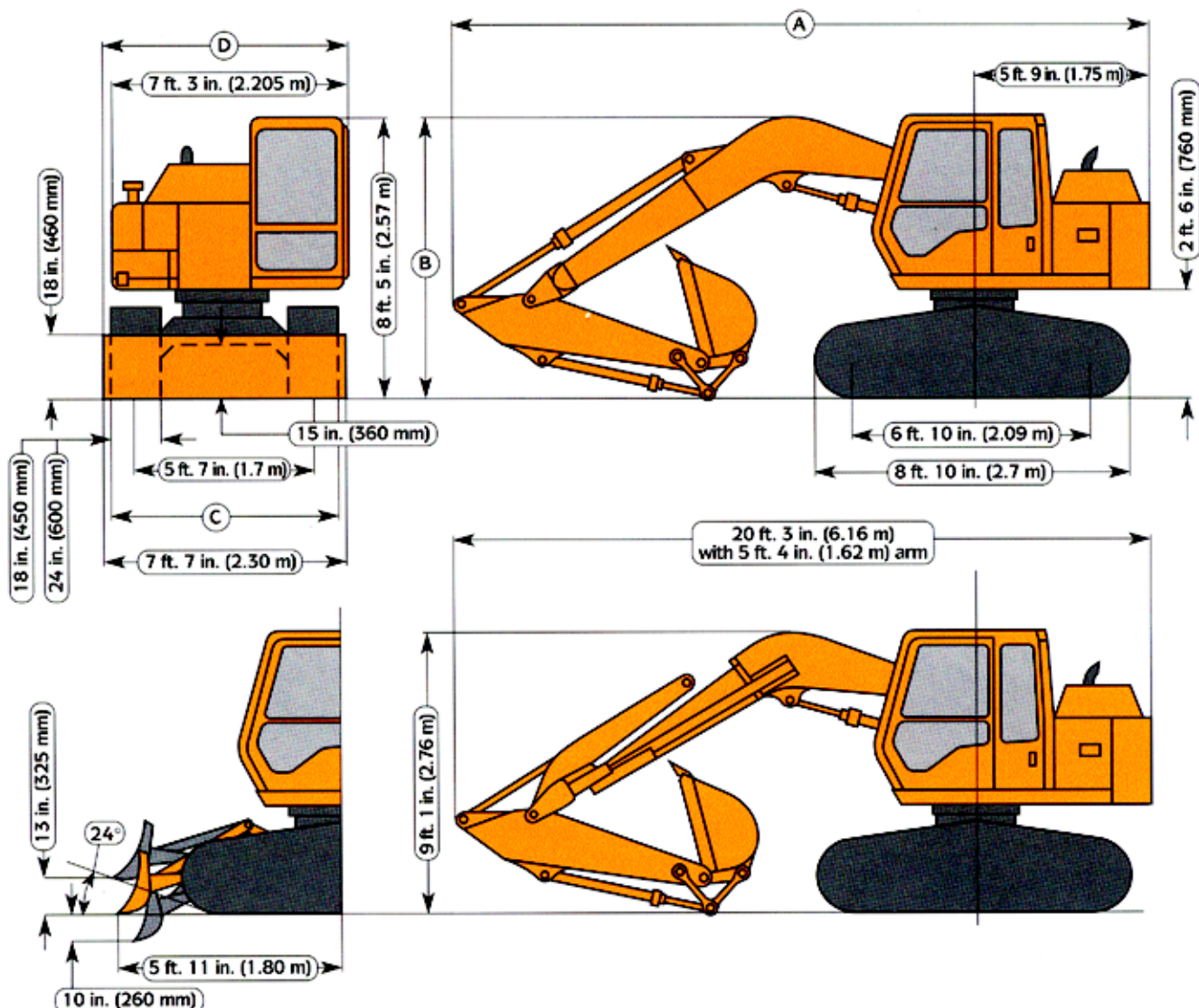
CAPACITIES

Fuel tank35.7 gal. (135 L)
Cooling system11.8 qt. (11.2 L)
Engine lubrication, including filter9 qt. (8.5 L)
Hydraulic tank17.5 gal. (66.2 L)
Planetary propel drive (each)2.4 qt. (2.3 L)
Swing drive1.5 qt. (1.4 L)

OPERATING WEIGHTS

Weights	lb.	kg
Standard operating weight w/blade, offset boom, counterweight for offset boom, 24-in. (600 mm) shoes, 5 ft. 4 in. (1.62 m) arm, 0.36 cu. yd. (0.28 m ³) bucket, full fuel tank and 175-lb. (80 kg) operator16,300	7394	
Upperstructure for standard one-piece boom w/full fuel tank (less 1213 lb. (550 kg) counterweight and front attachments)5,519	2503	
Upperstructure for offset boom w/full fuel tank (less 1323 lb. (600 kg) counterweight and front attachments)5,519	2503	
Undercarriage:		
w/18-in. (450 mm) track shoes, w/o blade.....	4,938	2240
w/18-in. (450 mm) track shoes, w/blade.....	5,776	2620
w/24-in. (600 mm) track shoes, w/o blade.....	5,291	2400
w/24-in. (600 mm) track shoes, w/blade.....	6,129	2780
w/24-in. (600 mm) track shoes (add)357	162	
Standard one-piece boom w/boom and arm cylinders.....	1,076	488
Offset boom w/boom and arm cylinders.....	2,185	991
Boom cylinder only.....	196	89
5 ft. 4 in. (1.62 m) arm w/bucket cylinder.....	507	230
6 ft. 11 in. (2.12 m) arm w/bucket cylinder.....	580	263
Leveling blade (add)838	380	
Counterweight only (with standard one-piece boom)1,213	550	
Counterweight only (with offset boom).....	1,323	600
Bucket, 0.36 yd. ³ (0.28 m ³)462	210	

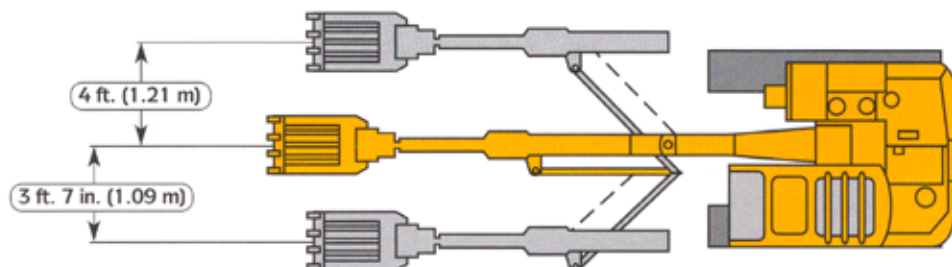
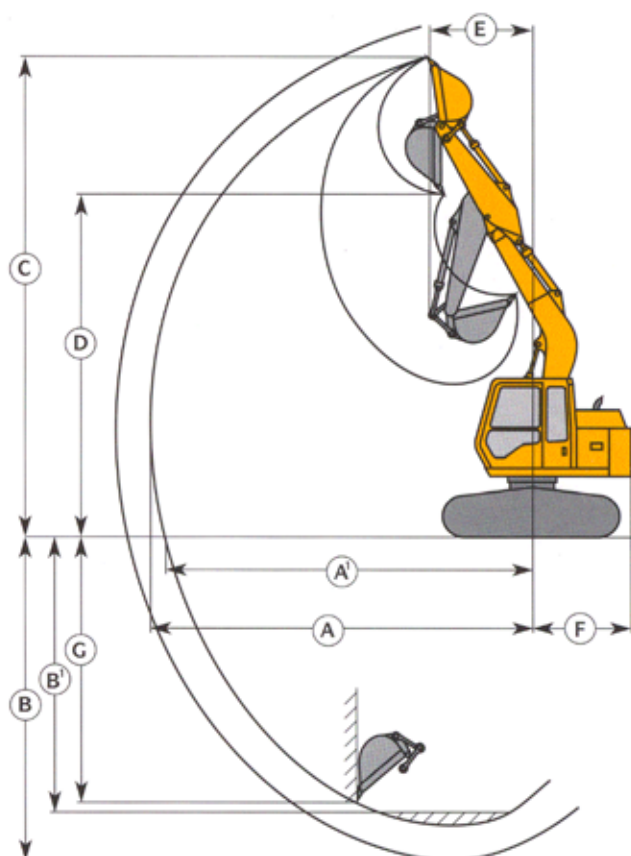
DIMENSIONS



- | | |
|---------------------------------------|------------------------|
| A) With 5 ft. 4 in. (1.62 m) arm..... | 19 ft. 11 in. (6.08 m) |
| With 6 ft. 11 in. (2.12 m) arm..... | 20 ft. 1 in. (6.12 m) |
| B) With 5 ft. 4 in. (1.62 m) arm..... | 8 ft. 5 in. (2.57 m) |
| With 6 ft. 11 in. (2.12 m) arm..... | 9 ft. 4 in. (2.85 m) |
| C) With 18 in. (450 mm) shoes..... | 7 ft. 1 in. (2.15 m) |
| With 24 in. (600 mm) shoes | 7 ft. 7 in. (2.30 m) |
| D) With 18 in. (450 mm) shoes, | |
| No blade..... | 7 ft. 6 in. (2.28 m) |
| With blade | 7 ft. 9 in. (2.36 m) |
| With 24 in. (600 mm) shoes, | |
| No blade..... | 7 ft. 9 in. (2.36 m) |
| With blade | 7 ft. 9 in. (2.36 m) |

OPERATING INFORMATION

	5 ft. 4 in. (1.62 m) Arm Length	6 ft. 11 in. (2.12 m) Arm Length
Arm force with 30-in. (762 mm) general-purpose bucket.....	8490 lb. (37.8 kN)	7300 lb. (32.5 kN)
Bucket tangential force with 30-in. (762 mm) general-purpose bucket....	11,690 lb. (52.1 kN)	11,690 lb. (52.1 kN)
Lifting capacity over front @ ground level 15-ft. (4.57 m) reach.....	2768 lb. (1256 kg)	2805 lb. (1272 kg)
A Maximum reach	20 ft. 8 in. (6.31 m)	22 ft. 4 in. (6.80 m)
A' Maximum reach @ ground level	20 ft. 3 in. (6.16 m)	21 ft. 10 in. (6.66 m)
B Maximum digging depth	13 ft. 7 in. (4.15 m)	15 ft. 3 in. (4.66 m)
B' Maximum digging depth @ 8 ft. (2.44 m) flat bottom.....	12 ft. 6 in. (3.8 m)	14 ft. 4 in. (4.37 m)
C Maximum cutting height	23 ft. 5 in. (7.15 m)	24 ft. 9 in. (7.55 m)
D Maximum dumping height	16 ft. 8 in. (5.07 m)	17 ft. 9 in. (5.47 m)
E Minimum front swing radius.....	5 ft. 7 in. (1.70 m)	6 ft. 9 in. (2.06 m)
F Minimum rear swing radius.....	5 ft. 9 in. (1.75 m)	5 ft. 9 in. (1.75 m)
G Maximum vertical wall	11 ft. 6 in. (3.50 m)	13 ft. 4 in. (4.06 m)



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

	With No Boom Offset	With Offset To Left 3 ft. 7 in. (1.09 m)	With Offset To Right 4 ft. 0 in. (1.21 m)
Maximum digging depth	13 ft. 7 in. (4.15 m)	12 ft. 2 in. (3.70 m)	12 ft. 2 in. (3.70 m)
Maximum digging depth with 8 ft. (2.44 m) flat bottom	12 ft. 2 in. (3.70 m)	10 ft. 10 in. (3.31 m)	10 ft. 10 in. (3.31 m)
Maximum reach @ ground level	20 ft. 3 in. (6.16 m)	18 ft. 8 in. (5.70 m)	18 ft. 8 in. (5.70 m)
Maximum dumping height.....	16 ft. 8 in. (5.07 m)	15 ft. 6 in. (4.72 m)	15 ft. 6 in. (4.72 m)
Maximum cut outside of track with 18-in. (450 mm) shoes and 0.36 cu. yd. (0.28 m ³), 30 in. (750 mm) wide bucket.....		18.5 in. (470 mm)	21.5 in. (546 mm)

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

BUCKETS

A full line of buckets are offered to meet a wide variety of applications. All capacities are SAE heaped* ratings. Tooth selection includes either the John Deere Fanggs® tooth or Tiger, Twin Tiger, Flare, Star or Long Rock tooth. Replaceable cutting edges are available through John Deere parts.

Type Bucket	Bucket Width		Bucket Capacity*		Weight		Bucket Dig Force		Arm Dig Force 5 ft. 4 in. (1.62 m)		Arm Dig Force 6 ft. 11 in. (2.12 m)		Bucket Tip Radius		No. Teeth
	in.	mm	yd ³	m ³	lb.	kg	lb.	kN	lb.	kN	lb.	kN	in.	mm	
Heavy-Duty Plate Lip	18	450	0.18	0.14	376	171	11690	52	8490	38	7300	32	37	940	4
	24	600	0.27	0.21	450	204	11690	52	8490	38	7300	32	37	940	5
	30	750	0.36	0.28	462	210	11690	52	8490	38	7300	32	37	940	6
	36	900	0.45	0.34	484	220	11690	52	8490	38	7300	32	37	940	7
	42	1067	0.65	0.50	509	231	11690	52	8490	38	7300	32	37	940	8
Ditching	42	1067	0.53	0.41	472	214	12200	54	8646	38	7414	33	35	889	0
	48	1220	0.60	0.46	492	223	12200	54	8646	38	7414	33	35	889	0
	60	1524	0.75	0.57	564	256	12200	54	8646	38	7414	33	35	889	0

LIFT CAPACITIES

Ratings at bucket lift hook, machine equipped with 18-in. (450 mm) shoes, 462-lb. (210 kg) 0.36-cu. yd. (0.28 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.

 OVER FRONT  OVER SIDE

With standard one-piece boom, 5 ft. 4 in. (1.62 m) arm, and no blade	Load Point Height	 5 ft. (1.52 m) 	 10 ft. (3.05 m) 	 15 ft. (4.57 m) 	 20 ft. (6.10 m) 
	15 ft. (4.57 m)		2668 (1210) 2668 (1210)		
	10 ft. (3.05 m)		3845 (1744) 3845 (1744)	2971 (1348) 2530 (1148)	
	5 ft. (1.52 m)		5336 (2420) 4432 (2010)	2808 (1274) 2372 (1076)	
	Ground Line		5031 (2282) 4146 (1880)	2667 (1210) 2237 (1015)	
	- 5 ft. (-1.52 m)	7758 (3519) 7758 (3519)	5010 (2273) 4126 (1872)	2631 (1193) 2202 (999)	
	- 10 ft. (-3.05 m)		5132 (2328) 4286 (1944)		

With standard one-piece boom, 6 ft. 11 in. (2.12 m) arm, and no blade	Load Point Height	 5 ft. (1.52 m) 	 10 ft. (3.05 m) 	 15 ft. (4.57 m) 	 20 ft. (6.10 m) 
	15 ft. (4.57 m)			2638 (1197) 2638 (1197)	
	10 ft. (3.05 m)		3009 (1365) 3009 (1365)	2909 (1320) 2611 (1184)	
	5 ft. (1.52 m)		5493 (2492) 4618 (2095)	2875 (1304) 2437 (1105)	1753 (795) 1473 (668)
	Ground Line		5102 (2314) 4212 (1911)	2704 (1227) 2272 (1031)	
	- 5 ft. (-1.52 m)	6483 (2941) 6483 (2940)	4998 (2267) 4115 (1867)	2627 (1192) 2198 (997)	
	- 10 ft. (-3.05 m)	10405 (4720) 10405 (4720)	5090 (2309) 4201 (1906)		

With offset boom, 5 ft. 4 in. (1.62 m) arm, and no blade	Load Point Height	 5 ft. (1.52 m) 	 10 ft. (3.05 m) 	 15 ft. (4.57 m) 	 20 ft. (6.10 m) 
	15 ft. (4.57 m)		2756 (1250) 2756 (1250)		
	10 ft. (3.05 m)		3803 (1725) 3803 (1725)	2935 (1331) 2466 (1119)	
	5 ft. (1.52 m)			2642 (1198) 2183 (990)	
	Ground Line			2389 (1084) 1939 (880)	
	- 5 ft. (-1.52 m)		4468 (2027) 3567 (1618)	2318 (1051) 1871 (849)	
	- 10 ft. (-3.05 m)		4384 (1989) 3834 (1739)		

With standard one-piece boom, 5 ft. 4 in. (1.62 m) arm, and blade	Load Point Height	 5 ft. (1.52 m) 	 10 ft. (3.05 m) 	 15 ft. (4.57 m) 	 20 ft. (6.10 m) 
	15 ft. (4.57 m)		2668 (1210) 2668 (1210)		
	10 ft. (3.05 m)		3845 (1744) 3845 (1744)	3084 (1399) 2696 (1223)	
	5 ft. (1.52 m)		5536 (2511) 4717 (2140)	2920 (1324) 2538 (1151)	
	Ground Line		5231 (2373) 4430 (2009)	2780 (1261) 2403 (1090)	
	- 5 ft. (-1.52 m)	7758 (3519) 7758 (3519)	5209 (2363) 4411 (2001)	2744 (1245) 2368 (1074)	
	- 10 ft. (-3.05 m)		5132 (2328) 4571 (2073)		

With standard one-piece boom, 6 ft. 11 in. (2.12 m) arm, and blade	Load Point Height	 5 ft. (1.52 m) 	 10 ft. (3.05 m) 	 15 ft. (4.57 m) 	 20 ft. (6.10 m) 
	15 ft. (4.57 m)			2638 (1197) 2638 (1197)	
	10 ft. (3.05 m)		3009 (1365) 3009 (1365)	2909 (1320) 2777 (1260)	
	5 ft. (1.52 m)		5493 (2492) 4902 (2224)	2987 (1355) 2603 (1181)	1831 (831) 1590 (721)
	Ground Line		5301 (2405) 4496 (2039)	2816 (1277) 2438 (1106)	
	- 5 ft. (-1.52 m)	6483 (2941) 6483 (2941)	5197 (2357) 4399 (1995)	2739 (1242) 2364 (1072)	
	- 10 ft. (-3.05 m)	10405 (4720) 10405 (4720)	5290 (2400) 4486 (2035)		

With offset boom, 5 ft. 4 in. (1.62 m) arm, and blade	Load Point Height	 5 ft. (1.52 m) 	 10 ft. (3.05 m) 	 15 ft. (4.57 m) 	 20 ft. (6.10 m) 
	15 ft. (4.57 m)		2756 (1250) 2756 (1250)		
	10 ft. (3.05 m)		3803 (1725) 3803 (1725)	3048 (1383) 2631 (1193)	
	5 ft. (1.52 m)			2755 (1250) 2349 (1066)	
	Ground Line			2502 (1135) 2105 (955)	
	- 5 ft. (-1.52 m)		4667 (2117) 3851 (1747)	2431 (1103) 2037 (924)	
	- 10 ft. (-3.05 m)		4384 (1989) 4119 (1868)		