

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. Turbocharged for maximum performance.

Engine: John Deere 6068T

Rated power at 2100 rpm.....	155 SAE net hp (116 kW)
	161 SAE gross hp (120 kW)
Cylinders	6
Displacement	414 cu. in. (6.785 L)
Maximum net torque at 1300 rpm	465 lb.-ft. (630 Nm)
Fuel consumption, typical	4 to 6 gal./hr. (15 to 23 L/h)
Cooling fan	suction type viscous drive
Electrical system	24-volt w/42-amp alternator
Batteries (two 12-volt).....	reserve capacity: 180 min.

HYDRAULIC SYSTEM

Sophisticated, yet simple; state-of-the-art, yet easy to operate. You get the best of both worlds with the 790E LC's hydraulic system. This closed center system uses two axial piston pumps. A microprocessor ties the system with the engine to allow the operator to tailor hydraulic performance to particular job situations. A soft touch keypad control to the operator's right allows the desired performance to be tuned in with the touch of a button or two. This load sensing, speed sensing, variable flow system delivers smooth response even when the operator uses more than one function at the same time. The operator is in complete control at all times and can override any of the preset hydraulic modes or engine settings with the simple touch of a button.

Main pumps	2 variable-displacement axial piston
Maximum rated flow	2 x 50 gpm (2 x 189 L/min.)
Pilot pump	one gear
Maximum rated flow	9.0 gpm (34 L/min.)
Pressure setting	710 psi (4895 kPa)
System operating pressure	
Implement circuits	4980 psi (34 340 kPa)
Power boost	5260 psi (36 270 kPa)
Travel circuits	4980 psi (34 340 kPa)
Swing circuits	4660 psi (32 130 kPa)
Oil filtration	
One 10-micron full flow return filter with bypass	
One pilot oil filter	
One suction filter	

Cylinders	Bore	Rod Diameter	Stroke
Boom (2).....	4.92 in. (125 mm)	3.54 in. (90 mm)	53.15 in. (1350 mm)
Arm (1)	5.71 in. (145 mm)	4.13 in. (105 mm)	61.14 in. (1553 mm)
Bucket (1)	3.64 in. (95 mm)	2.56 in. (65 mm)	29.53 in. (750 mm)

SWING MECHANISM

Multiple, planetary 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 90-ball swing bearing is sealed top and bottom.

Swing speed.....	0-10 rpm
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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 and center of the frame. 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)	2
Track rollers (per side)	9
Idlers (per side).....	1
Shoes, triple semigrouser (per side).....	51
Track guides	front and center
Track adjustment.....	hydraulic
Travel speed.....	Low Medium High
	mph 0-1.2 0-2.2 0-3.4
	km/h (0-1.9) (0-3.5) (0-5.5)
Drawbar pull	39,700 lb. (176.5 kN)
Tractive gradability	119% (50 deg.)
Off-level operating limit for oil sump.....	100% (45 deg.)

Ground Pressure Data

Shoe Width/ Grouser	Average Ground Pressure
24 in./triple	6.47 psi (44.6 kPa)
(600 mm)	
32 in./triple	4.99 psi (34.4 kPa)
(800 mm)	
26 in. high traction	5.93 psi (40.9 kPa)
(660 mm)	

CAPACITIES

Fuel tank	82 gal. (310 L)
Cooling system	5.8 gal. (22 L)
Engine lubrication, including filter	5 gal. (19 L)
Hydraulic system	68.7 gal. (260 L)
Planetary propel drive (each)	6 qt. (5.7 L)
Swing drive	10 qt. (9.5 L)

OPERATING WEIGHTS

Weights	lb.	kg
Operating weight (long front) with full fuel tank, 175-lb. (79 kg) operator, 650-lb. (295 kg) bucket, 11,180-lb. (5050 kg) counterweight and 32-in. (800 mm) triple grouser shoes	51,550	23 383
Undercarriage		
Shoe width:		
24 in. (600 mm) triple grouser shoes.....	17,240	7820
32 in. (800 mm) triple grouser shoes.....	18,760	8510
26 in. (660 mm) high traction grouser shoes.....	17,735	8044
Component Weights:		
Upperstructure with full fuel tank (less front attachments and 11,180-lb. [5050 kg] counterweight).....	11,590	5 257
One-piece boom (with arm cylinder).....	5,294	2400
Arm with bucket cylinder and linkage	2,756	1250
Boom lift cylinders (2) total weight.....	960	436
Counterweight.....	11,180	5050

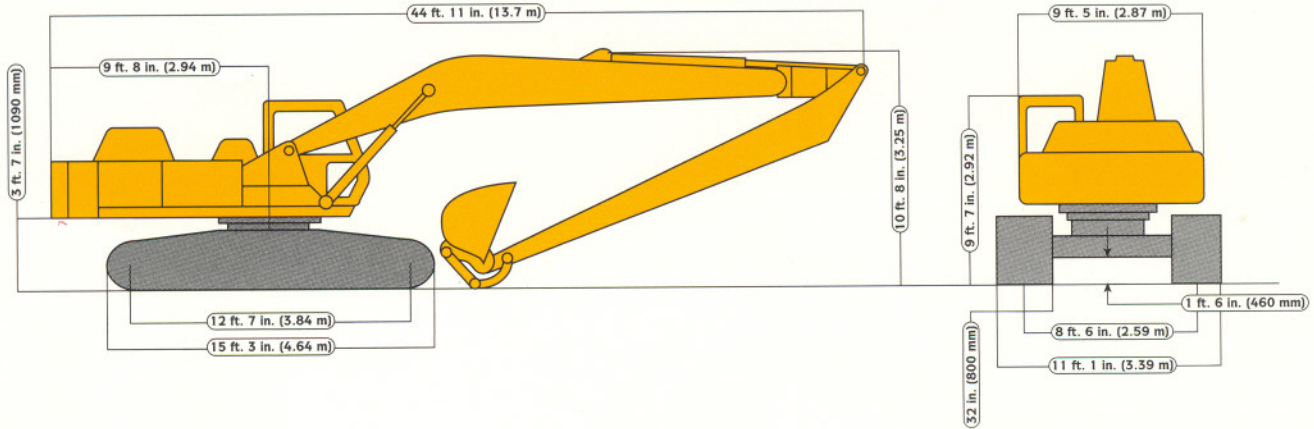
BUCKET

Width (without teeth).....	60 in. (1525 mm)
Capacity, SAE (heaped).....	0.9 cu. yd. (0.69 m ³) *
Drainage holes.....	Yes
Weight	990 lb. (450 kg)
Digging Forces:	
Bucket	11,200 lb. (49.8 kN)
Arm.....	11,900 lb. (52.9 kN)

*Note: 0.9 cu. yd. bucket restricted to materials below 1500 lb./cu. yd.

DIMENSIONS

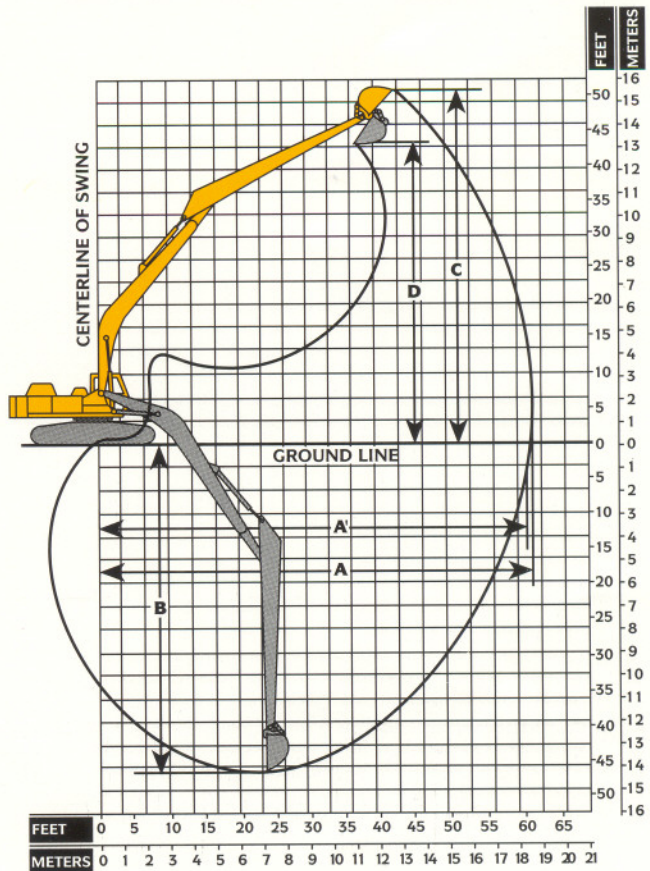
790E LC Excavator with Long Front Specifications



OPERATING INFORMATION

- Arm length 25 ft. 5 in. (7.86 m)
- Arm force with 60 in. (1525 mm) bucket 11,900 lb. (52.9 kN)
- Bucket tangential force with 60 in. (1525 mm) bucket 16,100 lb. (72 kN)
- Bucket cutting edge tip radius 37 in. (940 mm)
- Lifting capacity over front or rear @ ground level 20 ft. (6.1 m) reach ... 11,622 lb. (5272 kg)
- A Max. reach 59 ft. 8 in. (18.19 m)
- A Max. reach @ ground level 59 ft. 5 in. (18.11 m)
- B Max. digging depth 45 ft. 4 in. (13.83 m)
- C Max. cutting height 51 ft. 9 in. (15.78 m)
- D Max. dumping height 44 ft. 5 in. (13.53 m)

DIGGING DEPTH AND REACH



LIFT CAPACITIES (FOR OVER FRONT OR REAR)

Ratings at bucket lift hook, machine equipped with 32-in. (800 mm) shoes, 650-lb. (295 kg) bucket, 15-ft. 3-in. (4.62 m) undercarriage and situated on firm, uniform supporting surface. Total load includes weight of cables, hook, etc. **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. 24-in. (600 mm) shoes reduce the lift capacity 5 percent per SAE.

	5 ft. (1.5 m)	10 ft. (3.05 m)	15 ft. (4.57 m)	20 ft. (6.10 m)	25 ft. (7.64 m)	30 ft. (9.14 m)	35 ft. (10.67 m)	40 ft. (12.19 m)	45 ft. (13.72 m)	50 ft. (15.24 m)	55 ft. (16.76 m)
35 ft. (10.67 m)									2426 (1100)		
30 ft. (9.14 m)									3168 (1437)	1488 (675)	
25 ft. (7.64 m)								3131 (1420)	3256 (1477)	2504 (1136)	
20 ft. (6.10 m)								3420 (1551)	3445 (1563)	3175 (1440)	
15 ft. (4.57 m)							3943 (1789)	3809 (1728)	3716 (1686)	3673 (1666)	1594 (723)
10 ft. (3.05 m)						5051 (2291)	4594 (2084)	4273 (1938)	4047 (1836)	3855 (1749)	2126 (964)
5 ft. (1.5 m)		5348 (2426)	13462 (6106)	9315 (4225)	7265 (3295)	6069 (2753)	5302 (2405)	4780 (2168)	4415 (2003)	3709 (1682)	2413 (1095)
Ground Level		3584 (1626)	11185 (5073)	11622 (5272)	8739 (3964)	7070 (3207)	6010 (2726)	5295 (2402)	4365 (1980)	3564 (1617)	2455 (1114)
-5 ft. (-1.5 m)	2937 (1332)	4623 (2097)	9286 (4212)	13373 (6066)	9984 (4529)	7965 (3613)	6344 (2878)	5113 (2319)	4174 (1893)	3436 (1559)	2145 (973)
-10 ft. (-3.05 m)	4697 (2131)	6187 (2806)	9878 (4481)	13907 (6308)	9969 (4522)	7624 (3458)	6042 (2741)	4894 (2220)	4020 (1823)	3337 (1514)	
-15 ft. (-4.57 m)	6488 (2943)	7993 (3626)	11374 (5159)	13559 (6150)	9642 (4374)	7353 (3335)	5832 (2645)	4739 (2150)	3915 (1776)	3280 (1488)	
-20 ft. (-6.10 m)	8338 (3782)	10014 (4542)	13434 (6094)	13458 (6104)	9496 (4307)	7213 (3272)	5717 (2593)	4656 (2112)	3869 (1755)	3069 (1392)	
-25 ft. (-7.64 m)	10341 (4691)	12299 (5579)	16035 (7273)	13545 (6144)	9502 (4310)	7192 (3262)	5697 (2584)	4654 (2111)	3901 (1769)		
-30 ft. (-9.14 m)	12566 (5700)	14950 (6781)	19330 (8768)	13794 (6257)	9645 (4375)	7288 (3306)	5780 (2622)	4751 (2155)			
-35 ft. (-10.67 m)		18148 (8232)	17733 (8044)	13481 (6115)	9929 (4504)	7513 (3408)	5991 (2717)				
-40 ft. (-12.19 m)			15041 (6822)	11589 (5257)	9209 (4177)	7330 (3325)					

LIFT CAPACITIES (FOR OVER SIDE)

Ratings at bucket lift hook, machine equipped with 32-in. (800 mm) shoes, 650-lb. (295 kg) bucket, 15-ft. 3-in. (4.62 m) undercarriage and situated on firm, uniform supporting surface. Total load includes weight of cables, hook, etc. **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. 24-in. (600 mm) shoes reduce the lift capacity 7 percent per SAE.

	5 ft. (1.5 m)	10 ft. (3.05 m)	15 ft. (4.57 m)	20 ft. (6.10 m)	25 ft. (7.64 m)	30 ft. (9.14 m)	35 ft. (10.67 m)	40 ft. (12.19 m)	45 ft. (13.72 m)	50 ft. (15.24 m)	55 ft. (16.76 m)
35 ft. (10.67 m)									2426 (1100)		
30 ft. (9.14 m)									3168 (1437)	1488 (675)	
25 ft. (7.64 m)								3131 (1420)	3256 (1477)	2504 (1136)	
20 ft. (6.10 m)								3420 (1551)	3374 (1530)	2538 (1151)	
15 ft. (4.57 m)							3943 (1789)	3809 (1728)	3209 (1456)	2435 (1104)	1594 (723)
10 ft. (3.05 m)						5051 (2291)	4594 (2084)	3910 (1774)	3014 (1367)	2306 (1046)	1724 (782)
5 ft. (1.5 m)		5348 (2426)	13462 (6106)	9315 (4225)	7265 (3295)	6069 (2753)	4661 (2114)	3612 (1638)	2806 (1273)	2166 (982)	1640 (744)
Ground Level		3584 (1626)	11185 (5073)	9869 (4476)	7225 (3277)	5485 (2488)	4248 (1927)	3322 (1507)	2603 (1181)	2027 (919)	1557 (706)
-5 ft. (-1.5 m)	2937 (1332)	4623 (2097)	9286 (4212)	8818 (4000)	6498 (2947)	4977 (2258)	3888 (1764)	3065 (1390)	2420 (1098)	1904 (864)	1487 (674)
-10 ft. (-3.05 m)	4697 (2131)	6187 (2806)	9878 (4481)	8196 (3718)	5996 (2720)	4595 (2084)	3603 (1634)	2856 (1295)	2273 (1031)	1808 (820)	
-15 ft. (-4.57 m)	6488 (2943)	7993 (3626)	11374 (5159)	7888 (3578)	5698 (2585)	4344 (1970)	3405 (1544)	2709 (1229)	2172 (985)	1754 (796)	
-20 ft. (-6.10 m)	8338 (3782)	10014 (4542)	12264 (5563)	7800 (3538)	5565 (2524)	4213 (1911)	3297 (1495)	2631 (1193)	2129 (966)	1758 (797)	
-25 ft. (-7.64 m)	10341 (4691)	12299 (5579)	12505 (5672)	7876 (3572)	5570 (2526)	4194 (1902)	3278 (1487)	2629 (1192)	2160 (980)		
-30 ft. (-9.14 m)	12566 (5700)	14950 (6781)	12913 (5857)	8097 (3673)	5700 (2585)	4283 (1943)	3357 (1523)	2721 (1234)			
-35 ft. (-10.67 m)		18148 (8232)	13502 (6124)	8464 (3839)	5960 (2703)	4492 (2038)	3555 (1613)				
-40 ft. (-12.19 m)			14321 (6496)	9014 (4089)	6387 (2897)	4874 (2211)					