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 2000 rpm.....130 SAE net hp (97 kW)
.....140 SAE gross hp (105 kW)
Cylinders 6
Displacement .....414 cu. in. (6.785 L)
Maximum net torque at 1300 rpm .....424 lb.-ft. (575 Nm)
Fuel consumption, typical.....3 to 5 gal./hr. (11 to 19 L/h)
Cooling fan .....suction type
Electrical system.....24-volt w/42-amp alternator
Batteries (two 12 volt).....reserve capacity: 160 min.

HYDRAULIC SYSTEM

Sophisticated, yet simple; state-of-the-art, yet easy to operate. You get the best of both worlds with the 690E 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, 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
Minimum flow.....2 x 2.6 gpm (2 x 10 L/min.)
Maximum rated flow.....2 x 50 gpm (2 x 189 L/min.)
Pilot pump.....one gear
Maximum rated flow .....9.5 gpm (36 L/min.)
Pressure setting .....400 psi (2758 kPa)
System operating pressure
Implement circuits .....5000 psi (34 500 kPa)
Travel circuits .....5000 psi (34 500 kPa)
Swing circuits .....4060 psi (28 000 kPa)
Power boost.....5500 psi (37 900 kPa)
Oil filtration
One 4-micron full flow return filter with bypass
One 40-micron pilot oil filter
Oil cooler
Brazed aluminum, mounted beside engine coolant radiator

Cylinders	Bore	Rod Diameter	Stroke
Boom (2)	4.72 in. (120 mm)	3.35 in. (85 mm)	48.1 in. (1221 mm)
Arm (1)	5.12 in. (130 mm)	3.74 in. (95 mm)	58.1 in. (1475 mm)
Bucket (1)	3.74 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 row ball bearing swing bearing is sealed top and bottom.

Swing speed .....0–10 rpm; adjustable to 13 rpm

UNDERCARRIAGE

Heavy-duty rollers combined with 7.5 in. (190 mm) pitch chain are designed to stand up to the side-to-side stress of excavator work. A standard center track guide is provided. Two extra track guides can be added as an option. The box-sectioned X-shaped center frame joins the track frame to the swing bearing mount. Track frames are welded to eliminate the need for periodic tightening. Each is topped by a reinforced V-channel to help prevent mud buildup.

Carrier rollers (per side) 2
Track rollers (per side) 9
Idlers (per side).....1
Shoes, triple semigrouser (per side).....49
Track guides .....front and center
Track adjustment.....hydraulic

Travel speed	Low	Medium	High
mph	1.3	1.8	3.5
km/h	(2.1)	(2.9)	(5.6)

Drawbar pull.....40,300 lb. (179.3 kN)
Gradability .....100% (45 deg.)

Ground Pressure Data

Shoe Width/ Grouser	Average Ground Pressure	Recommended Application
26 in./triple (650 mm)	5.55 psi (38.2 kPa)	Rocky terrain and stumps
30 in./triple (750 mm)	4.88 psi (33.6 kPa)	General/soft terrain
32 in./triple (800 mm)	4.61 psi (31.7 kPa)	Extremely soft terrain
26 in./single (650 mm)	5.60 psi (38.5 kPa)	Slick underfoot

CAPACITIES

Fuel tank .....85 gal. (322 L)
Cooling system.....44.3 qt. (42 L)
Engine lubrication, including filter .....20 qt. (19 L)
Hydraulic system .....84 gal. (318 L)
Planetary propel drive (each).....4 qt. (3.8 L)

OPERATING WEIGHTS

Weights:	lb.	kg
Operating weight with full fuel tank, 175-lb. (79 kg) operator, 60-in. ditching bucket, 21 ft. 1 in. (6.44 m) arm, and 8200-lb. (3720 kg) counterweight:		
690E-LC, 14 ft. 7 in. (4.45 m) undercarriage length with 7 ft. 10 in. (2.38 m) wide gauge		
26-in. (650 mm) triple grouser shoes	43,890	19 914
30-in. (750 mm) triple grouser shoes	44,483	20 182
32-in. (800 mm) triple grouser shoes	44,780	20 318
26-in. (650 mm) single grouser shoes	44,270	20 086
Component Weights:		
Upperstructure (less front attachments, boom lift cylinders, undercarriage and 8200-lb. [3720 kg] counterweight)	10,727	4866
One-piece boom (with arm cylinder)	3,837	1741
Arm, 21 ft. 1 in. (6.44 m), with bucket cylinder and linkage	2,250	1021
Boom lift cylinders (2) total weight	800	360
Counterweight	8,200	3720
Undercarriage		
Shoe Width 26 in. (650 mm) triple	16,688	7570
30 in. (750 mm) triple	17,283	7840
32 in. (800 mm) triple	17,578	7973
26 in. (650 mm) single	17,068	7742

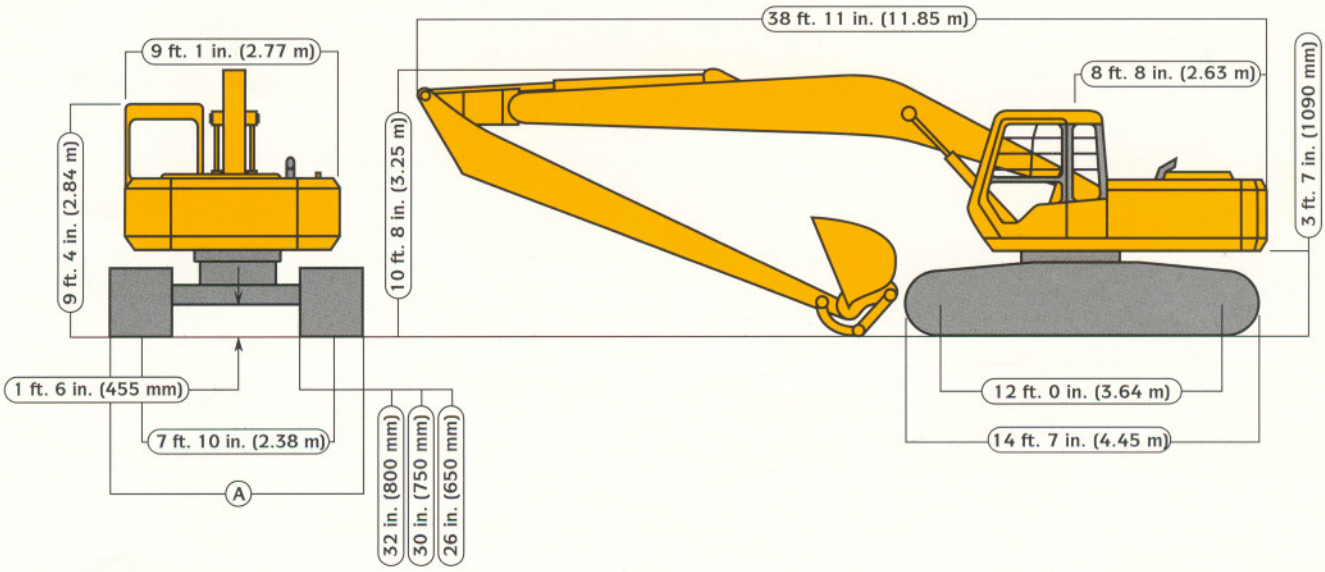
BUCKET

Width (without teeth) .....60 in. (1525 mm)
Capacity, SAE (heaped) .....0.75 cu. yd. (0.6 m^3)
Drainage holes.....Yes
Weight .....835 lb. (380 kg)
Digging Forces:
Bucket.....*22,516 lb. (100 kN)
Arm.....*12,020 lb. (53.5 kN)

*Maximum digging force with power boost

DIMENSIONS

690E LC Excavator with Long Front Specifications



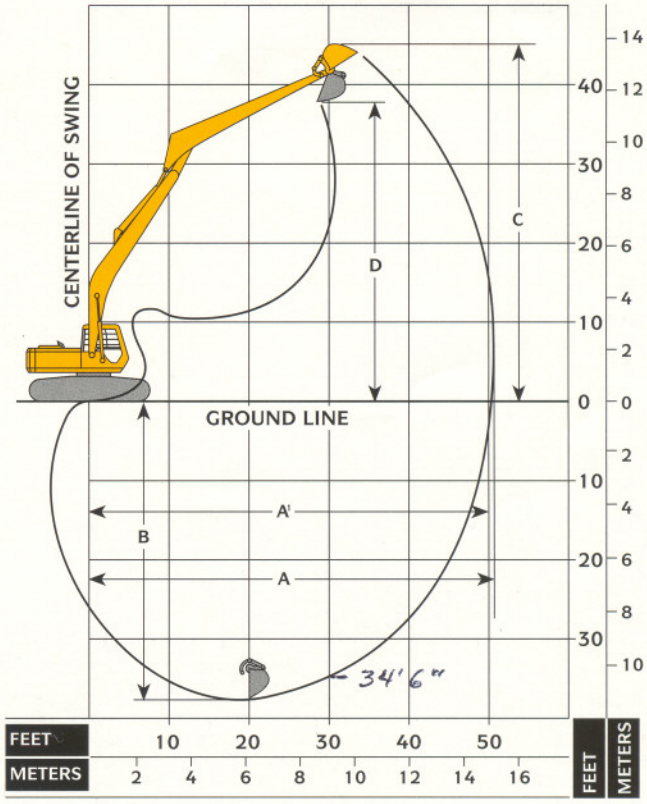
A) With 26 in. (650 mm) shoes ..... 9 ft. 11 in. (3.03 m)
With 30 in. (750 mm) shoes ..... 10 ft. 3 in. (3.13 m)
With 32 in. (800 mm) shoes ..... 10 ft. 5 in. (3.18 m)

OPERATING INFORMATION

Arm length ..... 21 ft. 1 in. (6.44 m)
Arm force with 60 in. (1525 mm) bucket ..... *12,020 lb. (53.5 kN)
Bucket tangential force with 60 in. (1525 mm) bucket ..... *22,516 lb. (100 kN)
Bucket cutting edge tip radius ..... 37 in. (940 mm)
Lifting capacity over front or rear @ ground level 20 ft. (6.1 m) reach ... 10,970 lb. (4977 kg)
A Max. reach ..... 50 ft. 6 in. (15.39 m)
A' Max. reach @ ground level ..... 50 ft. 0 in. (15.25 m)
B Max. digging depth ..... 37 ft. 4 in. (11.38 m)
C Max. cutting height ..... 44 ft. 8 in. (13.62 m)
D Max. dumping height ..... 38 ft. 8 in. (11.78 m)

*Maximum digging force with power boost

DIGGING DEPTH AND REACH



LIFT CAPACITIES (FOR OVER FRONT OR REAR)

Ratings at bucket lift hook, machine equipped with 30-in. (750 mm) shoes, 835-lb. (380 kg) bucket, 14-ft. 7-in. (4.45 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.

Load Point Height	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)
40 ft. (12.19 m)						**970 (440)**			
35 ft. (10.67 m)						**2110 (960)**	**790 (360)**		
30 ft. (9.14 m)						**2780 (1260)**	**1420 (640)**		
25 ft. (7.64 m)						**3200 (1450)**	**2320 (1050)**	**500 (220)**	
20 ft. (6.10 m)						**3580 (1620)**	**2940 (1330)**	**860 (390)**	
15 ft. (4.57 m)					**4330 (1960)**	**4100 (1860)**	**3450 (1560)**	**1810 (820)**	
10 ft. (3.05 m)				**5750 (2610)**	**5170 (2340)**	**4790 (2170)**	**3990 (1810)**	**2340 (1060)**	**550 (250)**
5 ft. (1.5 m)	**5910 (2680)**	**12690 (5760)**	**8950 (4060)**	**7110 (3220)**	**6040 (2740)**	**5370 (2440)**	**4610 (2090)**	**2670 (1210)**	**480 (220)**
Ground Level	**4150 (1880)**	**13700 (6210)**	**10970 (4980)**	**8390 (3810)**	**6900 (3130)**	**5950 (2700)**	**5260 (2390)**	**2750 (1250)**	**600 (270)**
–5 ft. (–1.5 m)	**5340 (2420)**	**11330 (5140)**	**12450 (5650)**	**9440 (4280)**	**7630 (3460)**	**6470 (2930)**	4570 (2070)	**2410 (1090)**	
–10 ft. (–3.05 m)	**7190 (3260)**	**12180 (5520)**	**13340 (6050)**	**10160 (4610)**	6970 (3160)	5520 (2500)	4490 (2030)	**1220 (550)**	
–15 ft. (–4.57 m)	**9420 (4270)**	**14320 (6500)**	**13680 (6210)**	9000 (4080)	6860 (3110)	5450 (2470)	**4800 (2180)**	**1080 (490)**	
–20 ft. (–6.10 m)	**12090 (5480)**	**17540 (7950)**	**13510 (6130)**	8990 (4080)	6850 (3110)	5460 (2480)	**2010 (910)**		
–25 ft. (–7.64 m)	**15410 (6990)**	**17040 (7730)**	**12770 (5790)**	**10000 (4530)**	**8010 (3630)**	**4820 (2190)**			
–30 ft. (–9.14 m)	**19860 9010**	**14810 (6720)**	**11230 (5090)**	**8740 (3970)**	**6680 (3030)**				
–35 ft. (–10.67 m)			**8270 (3750)**						

LIFT CAPACITIES (FOR OVER SIDE)

Ratings at bucket lift hook, machine equipped with 30-in. (750 mm) shoes, 835-lb. (380 kg) bucket, 14-ft. 7-in. (4.45 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.

Load Point Height	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)
40 ft. (12.91 m)						**970 (440)**			
35 ft. (10.67 m)						**2110 (960)**	**790 (360)**		
30 ft. (9.14 m)						**2780 (1260)**	**1420 (640)**		
25 ft. (7.64 m)						**3200 (1450)**	**2320 (1050)**	**500 (220)**	
20 ft. (6.10 m)						**3580 (1620)**	**2940 (1330)**	**860 (390)**	
15 ft. (4.57 m)					**4330 (1960)**	**4100 (1860)**	**3450 (1560)**	**1810 (820)**	
10 ft. (3.05 m)				**5750 (2610)**	**5170 (2340)**	4010 (1820)	3070 (1390)	**2340 (1060)**	**550 (250)**
5 ft. (1.5 m)	**5910 (2680)**	**12690 (5760)**	**8950 (4060)**	**7110 (3220)**	4950 (2250)	3780 (1720)	2930 (1330)	2270 (1030)	**480 (220)**
Ground Level	**4150 (1880)**	**13700 (6210)**	8460 (3840)	6120 (2780)	4620 (2100)	3560 (1620)	2780 (1260)	2180 (990)	**600 (270)**
–5 ft. (–1.5 m)	**5340 (2420)**	**11330 (5140)**	7890 (3580)	5730 (2600)	4350 (1970)	3380 (1530)	2670 (1210)	**2410 (1090)**	
–10 ft. (–3.05 m)	**7190 (3260)**	**12180 (5520)**	7570 (3430)	5480 (2480)	4160 (1890)	3250 (1480)	2590 (1170)	**1220 (550)**	
–15 ft. (–4.57 m)	**9420 (4270)**	11510 (5220)	7440 (3380)	5350 (2430)	4060 (1840)	3190 (1450)	2560 (1160)	**1080 (490)**	
–20 ft. (–6.10 m)	**12090 (5480)**	11640 (5280)	7470 (3390)	5340 (2420)	4050 (1840)	3200 (1450)	**2010 (910)**		
–25 ft. (–7.64 m)	**15410 (6990)**	11920 (5410)	7630 (3460)	5450 (2470)	4150 (1880)	3320 (1510)			
–30 ft. (–9.14 m)	**19860 (9010)**	12380 (5620)	7930 (3600)	5690 (2580)	4400 (1990)				
–35 ft. (–10.67 m)			**8270 (3750)**						