**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.

**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..................1 variable-displacement axial piston
Pressure setting.............400 psi (2758 kPa)
System operating pressure
Implement circuits.............5000 psi (34500 kPa)
Travel circuits.............5000 psi (34500 kPa)
Swing circuits.............4060 psi (28000 kPa)
Power boost..................5500 psi (37900 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

**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-disc 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 15 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.

**CAPACITIES**

Fuel tank..............85 gal. (322 L)
Cooling system.............44.5 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: 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, 26 in. (650 mm) triple grouser shoes 43,890 lb. (19739 kg) counterweight: 10,727 lb. (4866 kg) One-piece boom (with arm cylinder).............5,887 lb. (2673 kg) Arm, 21 ft. 1 in. (6.44 m), with bucket cylinder and linkage.............2,250 lb. (1021 kg)Boom lift cylinders (2) total weight.............800 lb. (360 kg) Undercarriage.............8,200 lb. (3720 kg)

Shoe Width/
Grouser
26 in./triple
[650 mm]
30 in./triple
[750 mm]
32 in./triple
[800 mm]
26 in./single
[650 mm]
Average
Pressure
5.55 psi
(38.2 kPa)
4.88 psi
(33.6 kPa)
4.61 psi
(31.7 kPa)
5.60 psi
(38.5 kPa)

to

to

to

Recommended
Application
Rocky terrain and stumps
General/soft terrain
Extremely soft terrain
Slick underfoot

**BUCKET**

Width (without teeth).............60 in. (1525 mm)
Capacity, SAE (heaped).............0.75 cu. yd. (0.6 m³)
Drainage holes.............Yes
Weight.............835 lb. (580 kg)

Digging Forces:

Bucket.............*22,516 lb. (100 kN)
Arm.............*12,020 lb. (55.5 kN)

*Maximum digging force with power boost
**DIMENSIONS**

690E LC Excavator with Long Front Specifications

A) With 26 in. (650 mm) shoes
With 30 in. (750 mm) shoes
With 32 in. (800 mm) shoes

**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**

- Centerline of swing
- Ground line
- Feet
- Meters

<table>
<thead>
<tr>
<th>FEET</th>
<th>10</th>
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- 34°6'
# 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.

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# LIFT CAPACITIES (FOR OVER SIDE)

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