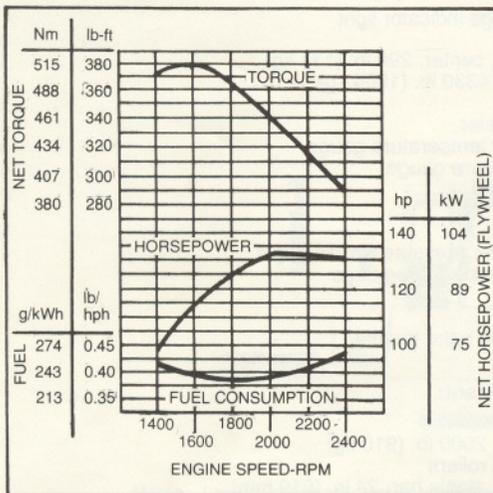




690B EXCAVATOR



ENGINE PERFORMANCE



FEATURES

- 131-**SAE-net-hp** (98 kW) turbocharged John Deere diesel
- 21-ft. (6.40 m) digging depth
- 30-ft. (9.14 m) reach at ground level
- Two-lever, all-hydraulic pilot control of boom, crowd, bucket, and 360-degree continuous swing
- Simultaneous operation of digging functions and propel
- Tractor track-type undercarriage with metal-faced seals for rollers and idlers
- Two-speed propel
- Standard and wide-gauge models
- Hydraulic track adjustment
- Hydrostatic drive with independent propel motors for counterrotation
- Planetary gear reduction with multiple wet-disk brakes
- Vandal protection

MASTER

690B 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 36-in. (900mm) bucket, full fuel tank, 175 lb. (79 kg) operator and standard equipment.)

Power (@ 2400 engine rpm):	SAE	DIN
Gross141 hp (105 kW)	
Net131 hp (98 kW)	133 hp (98 kW)

Net engine flywheel power is for an engine equipped with fan, air cleaner, water pump, lubricating oil pump, fuel pump, alternator, and muffler. The gross engine power is without fan. Power ratings are under SAE standard conditions of 500-ft. (150 m) altitude and 85°F (29.5°C) temperature, and DIN 6270 conditions (non-corrected). No derating is required up to 10,000 ft. (3050 m) altitude.

Engine: John Deere turbocharged diesel, vertical 6-cylinder, valve-in head, 4 stroke cycle
 Bore and stroke 4.25×4.75 in. (108×121 mm)
 Piston displacement 404 cu. in. (6.621 L)
 Compression ratio 15.5 to 1
 Maximum torque @ 1500 rpm 376 lb-ft (510 Nm) (52 kg-m)
 NACC or AMA (U.S. Tax) horsepower 43.3
 Lubrication Pressure system w/full-flow filter
 Cooling Pressurized w/thermostat and fixed bypass
 Fan Blower
 Air cleaner w/restriction indicator Dry
 Electrical system 12-volt w/alternator
 Batteries (2) 6-volt Reserve capacity: 420 minutes

Hydraulic System:

Two open-center pumps mounted in tandem are coupled directly to the flywheel.

Total flow is 84 gpm (5.30 L/s) at rated engine rpm. System operating pressure is 2500 psi (17 238 kPa) (175.7 kg/cm²).

Relief valves:

Boom (2)	3000 psi (20 685 kPa) (210.9 kg/cm ²)
	3750 psi (25 856 kPa) (263.6 kg/cm ²)
Crowd (2)	3000 psi (20 685 kPa) (210.9 kg/cm ²)
Bucket (2)	3000 psi (20 685 kPa) (210.9 kg/cm ²)
Oil filtration	Two 10-micron filters in return lines

Cylinders:

	Bore	Rod Diameter
Boom (2)	5 in. (127 mm)	2.75 in. (70 mm)
Crowd and bucket	5.5 in. (140 mm)	3.25 in. (83 mm)

All cylinders have phenolic wear rings. Boom and crowd cylinders have a built-in hydraulic cushion at each end of the stroke. Bucket cylinder has hydraulic cushion at rod end. Full-frontal hydraulic oil cooler is in front of engine coolant radiator.

Operating Information:

Swing speed	7 rpm
Digging depth	21 ft. (6.40 m)
Reach at ground level from center of rotation	30 ft. (9.14 m)
Dumping height	15 ft. (4.57 m)
Bucket tangential digging force:	
24, 30, or 36 in. (610, 760 or 900 mm) bucket	25,780 lb. (115.55 kN) (11 694 kg)
48 in. (1.22 m) bucket	30,945 lb. (138.70 kN) (14 037 kg)
60 in. (1.52 m) bucket	33,981 lb. (152.31 kN) (15 414 kg)
24 or 29 in. (610 or 740 mm) rock bucket	26,695 lb. (119.65 kN) (12 109 kg)
35 in. (890 mm) rock bucket	29,210 lb. (130.93 kN) (13 250 kg)
Arm digging force:	
24, 30, or 36 in. (610, 760 or 900 mm) bucket	13,290 lb. (59.57 kN) (6028 kg)
48 in. (1.22 m) bucket	14,065 lb. (63.04 kN) (6380 kg)
60 in. (1.52 m) bucket	14,465 lb. (64.84 kN) (6561 kg)
24 or 29 in. (610 or 740 mm) rock bucket	13,475 lb. (60.40 kN) (6112 kg)
35 in. (890 mm) rock bucket	13,880 lb. (62.21 kN) (6269 kg)
Gradability	70 percent
Travel (2 speed)	0 to 0.9 mph (1.45 km/h)
	0 to 1.7 mph (2.74 km/h)

Tailswing = 8'7½ IN

Swing Mechanism:

Swing 360-degree, continuous
 Turntable bearing Single row, ball, internal drive
 Lubricated case-hardened ring and pinion gears.

Undercarriage:

Propel motors (one for each track) High-torque 2-speed hydraulic motors with planetary drives. Wet multiple-disk brakes automatically release while propelling, and apply when stationary. Independent drive to each track permits counterrotation.

Undercarriage, car body, and track frame Each track frame is a formed, reinforced U-channel. Track frames are joined by reinforced boxed car body with swing bearing mount.

Track Rollers and Idlers:

9 rollers and 1 idler per track. All rollers and idlers have metal-faced seals. Idlers have heavy-duty spring recoil mechanisms. Through-hardened steel slides support and guide upper track.

Track Shoes:

Width	Shoes	Ground Contact	Ground Pressure
24 in. (610 mm)	Triple	6136 sq. in. (39 588 cm ²)	6.5 psi (44.8 kPa) (0.46 kg/cm ²)
	semigrouser	6136 sq. in. (39 588 cm ²)	6.5 psi (44.8 kPa) (0.46 kg/cm ²)
24 in. (610 mm) (optional)	Single bar grouser	6136 sq. in. (39 588 cm ²)	6.5 psi (44.8 kPa) (0.46 kg/cm ²)
30 in. (760 mm) (optional)	Triple semigrouser	7670 sq. in. (49 484 cm ²)	5.2 psi (35.8 kPa) (0.37 kg/cm ²)

Cab:

Steel, with polyurethane acoustical treatment. Cushioned neoprene floor mat. Tinted safety glass side and rear windows. Tinted polycarbonate roof window. Safety glass split front window can be stored overhead.

Seat:

Fully adjustable, foam-cushioned seat.

Controls:

All hydraulic functions are pilot controlled for excellent metering capacity and low operator effort. Two hand levers control swing, boom, arm and bucket functions. Right and left pedals control forward, reverse, and counterrotate movements.

Boom and Arm:

Tapered box construction with heat-treated steel bushings. Machined and bored after welding for accurate alignment.

Servicing and Vandal Protection:

Swingaway service doors expose built-in-service platforms for easy access to engine and hydraulic systems. Crank-operated bolts secure service doors. Cab and access covers to fuel tank, radiator, and air filters lock with switch key.

Capacities:

	U.S.	Liters
Fuel tank60 gal.	227.1
Cooling system	11.25 gal.	42.6
Engine lubrication	18 qt.	17.0
Engine lubrication, including filter	20 qt.	18.9
Hydraulic system80 gal.	302.8
Planetary propel drive	10 qt.	9.4
Swing drive	8 qt.	7.5

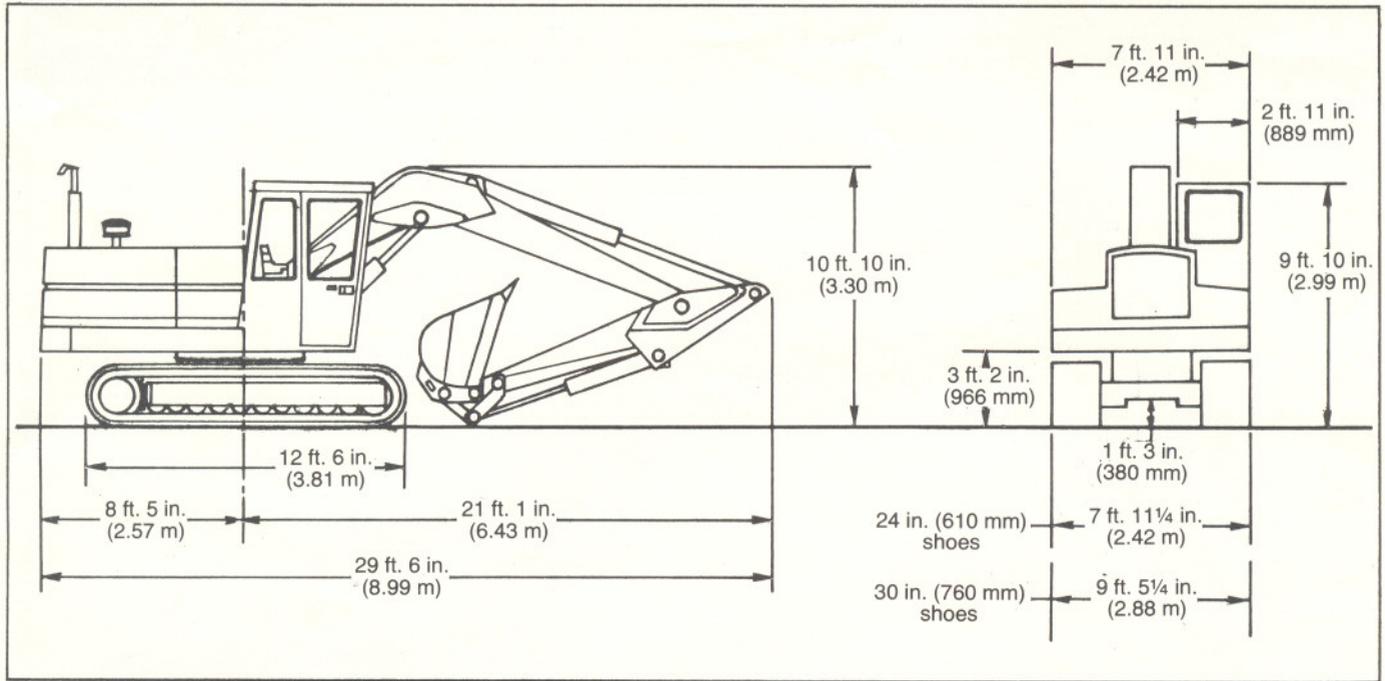
Additional Standard Equipment:

Alternator charge indicator light
 Cab heater
 Counterweight, center, 290 lb. (131 kg)
 Counterweight 4330 lb. (1964 kg)
 Deluxe seat
 Electric hourmeter
 Engine coolant temperature gauge
 Engine oil pressure gauge
 Ether starting aid
 Fuel gauge
 Horn
 Hydraulic oil filter pressure warning light
 Hydraulic oil temperature gauge
 Key switch
 Pilot controls
 Positive-position hand throttle

Special Equipment:

Air conditioner
 Counterweight, 2000 lb. (910 kg)
 Double flanged rollers
 Grouser shoes, single bar, 24 in. (610 mm)
 Manual controls
 Ripper tooth, 500 lb. (230 kg)
 Semigrouser shoes, triple, 30 in. (760 mm)
 Side cutter attachments for rock bucket
 Track guides
 Window protection kit

690B EXCAVATOR SPECIFICATIONS



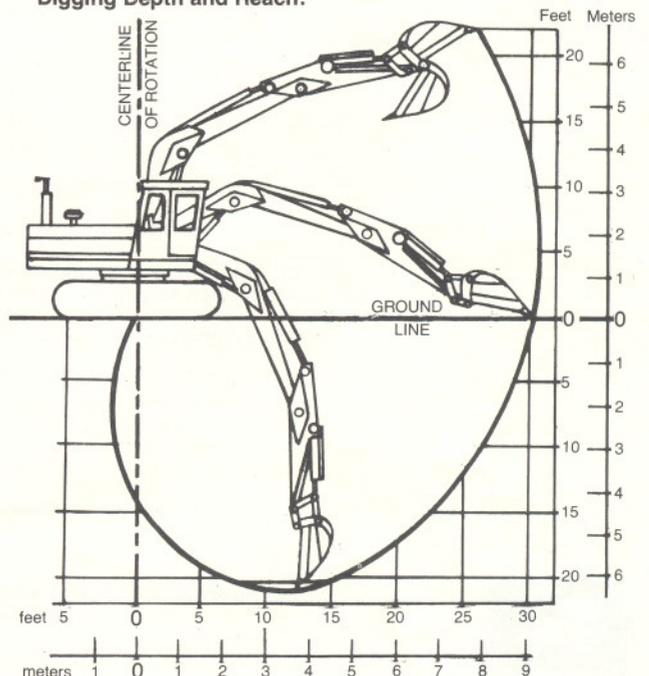
*Buckets: High-strength steel, ribbed and plated bottom section

Nominal	Bite Width	SAE	Capacity Struck	Weight
24 in. (610 mm)	25.4 in. (645 mm)	9/16 cu. yd. (0.43 m ³)	1/2 cu. yd. (0.38 m ³)	1000 lb. (454 kg)
30 in. (760 mm)	31.4 in. (798 mm)	3/4 cu. yd. (0.57 m ³)	5/8 cu. yd. (0.48 m ³)	1100 lb. (500 kg)
36 in. (900 mm)	37.4 in. (950 mm)	7/8 cu. yd. (0.67 m ³)	3/4 cu. yd. (0.57 m ³)	1200 lb. (544 kg)
48 in. (1.22 m)	49.4 in. (1.25 m)	1 cu. yd. (0.76 m ³)	3/4 cu. yd. (0.57 m ³)	1200 lb. (544 kg)
60 in. (1.52 m)	60.0 in. (1.52 m)	1 1/8 cu. yd. (1.05 m ³)	7/8 cu. yd. (0.67 m ³)	1200 lb. (544 kg)
24 in. (610 mm) rock	26.0 in. (660 mm)	5/8 cu. yd. (0.48 m ³)	1/2 cu. yd. (0.38 m ³)	1380 lb. (626 kg)
29 in. (740 mm) rock	31.0 in. (787 mm)	3/4 cu. yd. (0.57 m ³)	5/8 cu. yd. (0.48 m ³)	1500 lb. (680 kg)
35 in. (890 mm) rock	37.0 in. (940 mm)	3/4 cu. yd. (0.57 m ³)	5/8 cu. yd. (0.48 m ³)	1525 lb. (692 kg)

*See bucket selection chart page 4.

Weights:	lb.	kg.
Operating weight, excavator less bucket:		
Standard gauge	38,300	17 373
Wide gauge	38,700	17 554
Upper structure (without boom and undercarriage)	12,470	5656
Undercarriage: 24 in. (610 mm) shoes	15,850	7190
30 in. (760 mm) shoes	16,030	7271
Boom less cylinder	2,500	1134
Arm less cylinder, 108.14 in. (2.75 m)	1,440	653
Boom cylinder (2)	510	231
Arm cylinder	470	213
Bucket cylinder plus linkage	650	295
Counterweight	4,330	1964
Counterweight, optional	2,000	907

Digging Depth and Reach:



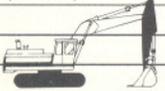
690B EXCAVATOR

Lifting Capacities: Ratings at bucket lift hook, machine situated on firm, level, uniform supporting surface. Total load includes weight of cables, hooks, 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. Add 15 percent to stability-limited capacities when optional 2000-lb. (910 kg) counterweight is used.

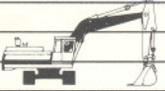
BOOM lifting, over front or rear, arm holding

Horizontal distance from centerline of rotation:	10 ft. (3.05 m)	15 ft. (4.57 m)	20 ft. (6.10 m)	25 ft. (7.62 m)	30 ft. (9.14 m)
15 ft. (4.57 m)				4,260 lb. (1934 kg)	
10 ft. (3.05 m)			5,360 lb. (2433 kg)	4,710 lb. (2138 kg)	
5 ft. (1.52 m)		9,230 lb. (4190 kg)	6,390 lb. (2901 kg)	5,250 lb. (2384 kg)	4,210 lb. (1911 kg)
Ground level	13,910 lb. (6315 kg)	10,630 lb. (4826 kg)	7,260 lb. (3296 kg)	5,680 lb. (2579 kg)	
-5 ft. (-1.52 m)	17,560 lb. (7972 kg)	10,970 lb. (4980 kg)	7,700 lb. (3496 kg)	5,810 lb. (2638 kg)	
-10 ft. (-3.05 m)	16,140 lb. (7328 kg)	10,380 lb. (4713 kg)	7,360 lb. (3341 kg)		
-15 ft. (-4.57 m)	12,340 lb. (5602 kg)	7,820 lb. (3550 kg)			

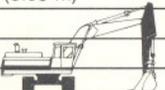
ARM lifting, over front or rear, boom holding.

Horizontal distance from centerline of rotation:	10 ft. (3.05 m)	15 ft. (4.57 m)	20 ft. (6.10 m)	25 ft. (7.62 m)	30 ft. (9.14 m)
15 ft. (4.57 m)				6,460 lb. (2933 kg)	
10 ft. (3.05 m)			9,440 lb. (4286 kg)	7,070 lb. (3210 kg)	
5 ft. (1.52 m)		14,830 lb. (6734 kg)	9,550 lb. (4336 kg)	6,770 lb. (3047 kg)	3,320 lb. (1507 kg)
Ground level	11,320 lb. (5139 kg)	14,350 lb. (6516 kg)	9,230 lb. (4191 kg)	6,590 lb. (2992 kg)	
-5 ft. (-1.52 m)	17,160 lb. (7791 kg)	14,270 lb. (6480 kg)	9,110 lb. (4137 kg)	6,530 lb. (2965 kg)	
-10 ft. (-3.05 m)	26,300 lb. (11 940 kg)	14,460 lb. (6566 kg)	9,210 lb. (4128 kg)		
-15 ft. (-4.57 m)	20,900 lb. (9489 kg)	13,520 lb. (6138 kg)			

BOOM lifting, over the side, arm holding, standard gauge, upper structure 90 degrees to tracks.

Horizontal distance from centerline of rotation:	10 ft. (3.05 m)	15 ft. (4.57 m)	20 ft. (6.10 m)	25 ft. (7.62 m)	30 ft. (9.14 m)
15 ft. (4.57 m)				4,260 lb. (1934 kg)	
10 ft. (3.05 m)			5,680 lb. (2579 kg)	4,130 lb. (1873 kg)	
5 ft. (1.52 m)		8,260 lb. (3750 kg)	5,490 lb. (2493 kg)	3,860 lb. (1752 kg)	2,840 lb. (1289 kg)
Ground level	13,910 lb. (6315 kg)	7,850 lb. (3564 kg)	5,190 lb. (2356 kg)	3,700 lb. (1680 kg)	
-5 ft. (-1.52 m)	14,610 lb. (6633 kg)	7,790 lb. (3537 kg)	5,090 lb. (2311 kg)	3,640 lb. (1653 kg)	
-10 ft. (-3.05 m)	15,020 lb. (6819 kg)	7,940 lb. (3605 kg)	5,180 lb. (2352 kg)		
-15 ft. (-4.57 m)	15,760 lb. (7155 kg)	8,380 lb. (3805 kg)			

ARM lifting, over the side, boom holding, wide gauge, upper structure 90 degrees to tracks.

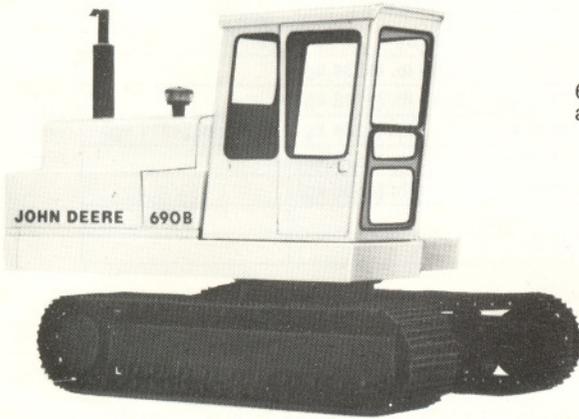
Horizontal distance from centerline of rotation:	10 ft. (3.05 m)	15 ft. (4.57 m)	20 ft. (6.10 m)	25 ft. (7.62 m)	30 ft. (9.14 m)
15 ft. (4.57 m)				5,470 lb. (2483 kg)	
10 ft. (3.05 m)			7,340 lb. (3332 kg)	5,340 lb. (2425 kg)	
5 ft. (1.52 m)		10,830 lb. (4917 kg)	7,130 lb. (3234 kg)	5,060 lb. (2297 kg)	3,780 lb. (1716 kg)
Ground level	13,910 lb. (6315 kg)	10,400 lb. (4722 kg)	6,820 lb. (3096 kg)	4,890 lb. (2220 kg)	
-5 ft. (-1.52 m)	17,560 lb. (7972 kg)	10,330 lb. (4690 kg)	6,720 lb. (3051 kg)	4,830 lb. (2193 kg)	
-10 ft. (-3.05 m)	20,570 lb. (9339 kg)	10,500 lb. (4767 kg)	6,810 lb. (3092 kg)		
-15 ft. (-4.57 m)	20,900 lb. (9489 kg)	10,960 lb. (4976 kg)			

690B BUCKET SELECTION CHART RECOMMENDED BUCKET SIZE*

Lb/Yd ³	kg/m ³	Material	Standard Arm			
			Regular Duty	Heavy Duty		
700	420	Wood Chips	5 cu. yd.	3.83m ³	—	—
810	480	Peat Dry	4.5 cu. yd.	3.44m ³	—	—
1242	740	Peat Wet	3 cu. yd.	2.3 m ³	—	—
1450	860	Cinders	2.5 cu. yd.	1.9m ³	—	—
2000	1186	Topsoil	1.8 cu. yd.	1.4m ³	—	—
2600	1540	Earth Dry Loam	1.38 cu. yd.	1m ³	—	—
2700	1600	Sand Dry	1.38 cu. yd.	1m ³	1 cu. yd.	0.77m ³
3000	1780	Coal Natural Bed	1.21 cu. yd.	0.93m ³	1 cu. yd.	0.77m ³
3200	1900	Earth Moist Loam	1.12 cu. yd.	0.93m ³	0.88 cu. yd.	0.67m ³
3250	1930	Sand Gravel Dry	1.12 cu. yd.	0.93m ³	0.88 cu. yd.	0.67m ³
3300	1960	Sand Moist	1.12 cu. yd.	0.93m ³	0.88 cu. yd.	0.67m ³
3500	2080	Sand Wet	1 cu. yd.	0.77m ³	0.75 cu. yd.	0.57m ³
3500	2080	Shale	1 cu. yd.	0.77m ³	0.75 cu. yd.	0.57m ³
4200	2490	Limestone Broken	—	—	0.62 cu. yd.	0.47m ³
4300	2550	Clay Wet	0.88 cu. yd.	0.67m ³	0.62 cu. yd.	0.47m ³
4600	2730	Rock Granite Blasted	—	—	0.62 cu. yd.	0.47m ³

*Contact your John Deere dealer for optimum bucket selection. The use of larger than recommended buckets in heavy materials and tough digging conditions should be thoroughly analyzed for digging force and load capacity. Bucket capacity indicated is SAE heaped.

690B EXCAVATOR

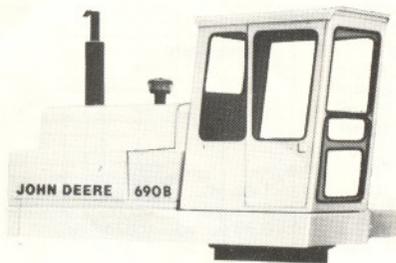


690B Excavator **less** boom, arm, bucket linkage, hydraulic cylinders and bucket.

*690B Excavator upper structure only complete with cab, hydraulics, valves, etc., boom, arm, bucket linkage, hydraulic cylinders, upper tower assembly and swing bearing. **Less** crawler undercarriage, tracks, bucket, lower tower assembly and rotary manifold.



*690B Excavator upper structure complete with cab, hydraulics, valves, upper tower assembly and swing bearing. **Less** crawler undercarriage tracks, boom, arm, bucket linkage, hydraulic cylinders, bucket, lower tower assembly and rotary manifold.



*Note: Lower tower assembly and/or rotary manifold can be ordered separately if required in combination with these options only.