

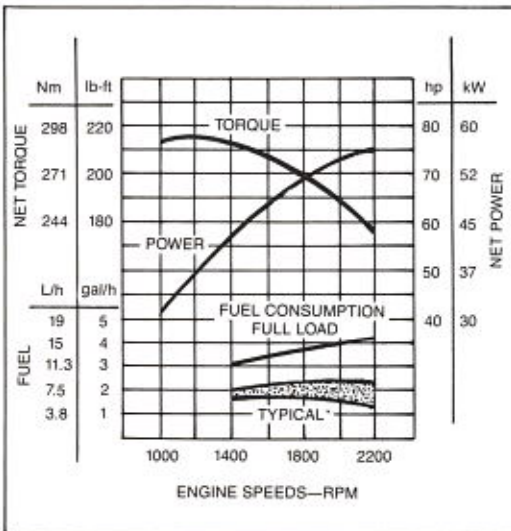


# 490D EXCAVATOR



Model shown may include options.

## ENGINE PERFORMANCE



\* Depending on operating variables

## FEATURES

- 75 SAE net hp (56 kW)
- 27,430 lb. (12 442 kg) maximum operating weight
- 19 ft. 9 in. (6.02 m) maximum digging depth
- 28 ft. 3 in. (8.61 m) maximum reach at ground level
- High-efficiency variable-flow hydraulic system with fuel-saving, mode control features
- Automatic engine idling system
- Large cab for improved operator comfort and visibility
- Excavator track-type undercarriage with sealed chain
- Hydraulic track adjustment
- Two-lever, low-effort, all hydraulic pilot control of boom, arm, bucket and 360-degree continuous swing
- Straight propelling even while swinging or working front attachment functions
- Complete instrumentation/warning system continuously monitors vital machine functions
- Heavy-duty planetary gear reduction with automatically engaged multiple wet-disk brakes

Vandal protection—lockable service doors



## 490D 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 with 28-in. (700 mm) triple grouser shoes, 9 ft. 10 in. (3.0 m) arm and 35-in. (890 mm) 5/8 cu. yd. (.5 m<sup>3</sup>) bucket, full fuel tank and 175-lb. (80 kg) operator.

<b>Rated Power @ 2200 rpm</b>	<b>SAE</b>	<b>DIN 6270B</b>
Net .....	75 hp (56 kW)	56 kW
Gross .....	80 hp (60 kW)	

Net engine power is with standard equipment including air cleaner, exhaust system, alternator, and cooling fan, at standard conditions per SAE J1349 and DIN 6270B using No. 2-D fuel @ 35 API gravity. No derating is required up to 5000 feet (1500 m) altitude. Gross power is without cooling fan.

### Engine: John Deere 4276D

Type .....	4-stroke cycle, naturally aspirated diesel
Bore and stroke .....	4.19 x 5.00 in. (106.5 x 127 mm)
No. of cylinders .....	4
Displacement .....	276 cu. in. (4.524 L)
Compression ratio .....	17.8 to 1
Maximum net torque @ 1200 .....	215 lb-ft (292 Nm) (29.1 kg-m)
Lubrication .....	Pressure system w/full flow filter
Cooling fan .....	Suction
Air cleaner w/restriction indicator and safety element .....	Dry
Electrical system .....	24-volt w/alternator
Batteries (two 12-volt) .....	Reserve capacity: 180 minutes

### Hydraulic System: Open-center

Two variable-displacement axial-piston pumps and two control valves (5- and 4-spool) provide independent and combined operation of all functions. The 5-spool control valve has one spool for an auxiliary attachment function.

Main pumps .....	2 variable-displacement axial-piston
Pressure setting .....	4620 psi (31 850 kPa) (325 kg/cm <sup>2</sup> )
Max. oil flow .....	2 x 31.7 gpm (2 x 120 L/min)
Pilot pump .....	Gear
Pressure setting .....	570 psi (3930 kPa) (40 kg/cm <sup>2</sup> )
Max. oil flow .....	6.0 gpm (22 L/min)
System relief valves operating pressure:	
Travel .....	5050 psi (34 800 kPa) (355 kg/cm <sup>2</sup> )
Front end .....	4050 psi (27 920 kPa) (285 kg/cm <sup>2</sup> )
Circuit relief valves:	
Boom .....	4270 psi (29 440 kPa) (300 kg/cm <sup>2</sup> )
Arm .....	4270 psi (29 440 kPa) (300 kg/cm <sup>2</sup> )
Bucket .....	4270 psi (29 440 kPa) (300 kg/cm <sup>2</sup> )
Cross-over relief valves:	
Travel .....	5120 psi (34 820 kPa) (360 kg/cm <sup>2</sup> )
Swing .....	3700 psi (25 510 kPa) (260 kg/cm <sup>2</sup> )
Oil filtration:	
One suction filter	
One 10-micron full-flow return filter w/bypass	

Cylinders:	Bore	Rod Diameter	Stroke
Boom (2)	4.1 in. (105 mm)	3 in. (75 mm)	43.3 in. (1100 mm)
Arm (1)	4.5 in. (115 mm)	3.1 in. (80 mm)	46.1 in. (1170 mm)
Bucket (1)	3.7 in. (95 mm)	2.6 in. (65 mm)	39.2 in. (995 mm)

Arm cylinder has built-in hydraulic cushion at each end of stroke. Boom cylinder has hydraulic cushion on rod end. All cylinder rods are ground, heat-treated, chrome-plated and polished.

### Swing Mechanism:

Swing speed .....	0-12.3 rpm
Swing brake .....	Automatic, hydraulic lock
Turntable bearing .....	Single-row, shear-type ball bearing with induction-hardened, lubricated internal gear and pinion. 500-hour lubrication interval.

### Undercarriage:

Excavator track-type undercarriage with heavy-duty frame and all-welded, stress-relieved structure. Side frames welded to track frame. Permanently lubricated track rollers, idlers and sprockets with floating seals.

Propel motors (one for each track) .....

Axial-piston hydraulic motors with planetary drives. Multiple-disk brakes automatically release while propelling and apply when stationary. Independent drive to each track permits counterrotation.

### Tracks:

Track chain .....	Sealed
Track adjustment ..	Hydraulic with shock absorbing recoil springs

### Track Rollers and Shoes (each side):

One upper roller, seven lower rollers. Forty-three track shoes. Track shoes induction-hardened rolled alloy. Heat-treated connecting pins.

Track Shoes:	Shoes	Average Ground Contact	Average Ground Pressure
20 in. (500 mm) (optional)	Triple grousers	4690 sq. in. (30 240 cm <sup>2</sup> )	5.66 psi (39 kPa) (0.40 kg/cm <sup>2</sup> )
24 in. (600 mm) (optional)	Triple grousers	5627 sq. in. (36 300 cm <sup>2</sup> )	4.78 psi (0.34 kg/cm <sup>2</sup> )
28 in. (700 mm) (standard)	Triple grousers	6564 sq. in. (42 350 cm <sup>2</sup> )	4.15 psi (28.7 kPa) (0.29 kg/cm <sup>2</sup> )

### Cab:

Independent, isolation mounted and sound protected with tinted safety glass windows. Front window can be stored overhead. Side windows slide open for ventilation. Hydraulic system lockout for safety during operator entry and exit from the cab. Centralized monitoring alarm system.

### Seat:

Fully adjustable deluxe reclining seat with armrests.

### Controls:

All hydraulic functions are controlled by low-effort hydraulic pilot controls. Two short levers control swing, boom, arm and bucket functions. Right and left pedals control forward, reverse and track counterrotation.

### Boom and Arm:

Welded, low-stress, full box-section design. Centralized lubrication system.

### Servicing and Vandal Protection:

Non-slip steps and handrails allow for easier servicing and maintenance. Easily accessible engine and hydraulic system covers. Machine covers, fuel cap and cab door have built-in locks.

### Additional Standard Equipment:

Cab:	
Automatic idle mode selection:	
Digging mode selection — three modes	
Travel mode selection — two modes	
Front windshield wiper	
Horn	
Travel alarm with cancel switch	
Interior light	
Positive position hand throttle	
Monitor package with alarm system:	
Air cleaner restriction warning light	
Alternator charge indicator light	
Automatic idle indicator light	
Engine coolant level light	
Engine coolant temperature gauge	
Engine coolant temperature warning light w/alarm buzzer	
Engine oil pressure warning light w/warning buzzer	
Fuel gauge	
Hydraulic oil level light	
Low fuel level indicator light	
Quartz hourmeter	
Work lights on indicator	
13,500 Btu/hr (4.1 kW) heater	
Engine:	
Cold weather (ether) starting aid	
Dual dry-type air filters	
Full-flow oil filter w/bypass	
Isolation mounted engine	
Oil cooler	
Single heavy-duty fuel filter	
Frame:	
4850 lb. (2200 kg) counterweight	
Fully enclosed swing gears	
Vandal protection—lockable service doors and fuel filler cap	
Front Attachment:	
Bucket clearance adjusting mechanism	
Centralized lubrication system	
Dirt seals on all bucket pins	
Undercarriage:	
Propel motor and hydraulic line shields	
Single flange lower track rollers	
Work lights:	
One mounted on frame	
One mounted on boom	

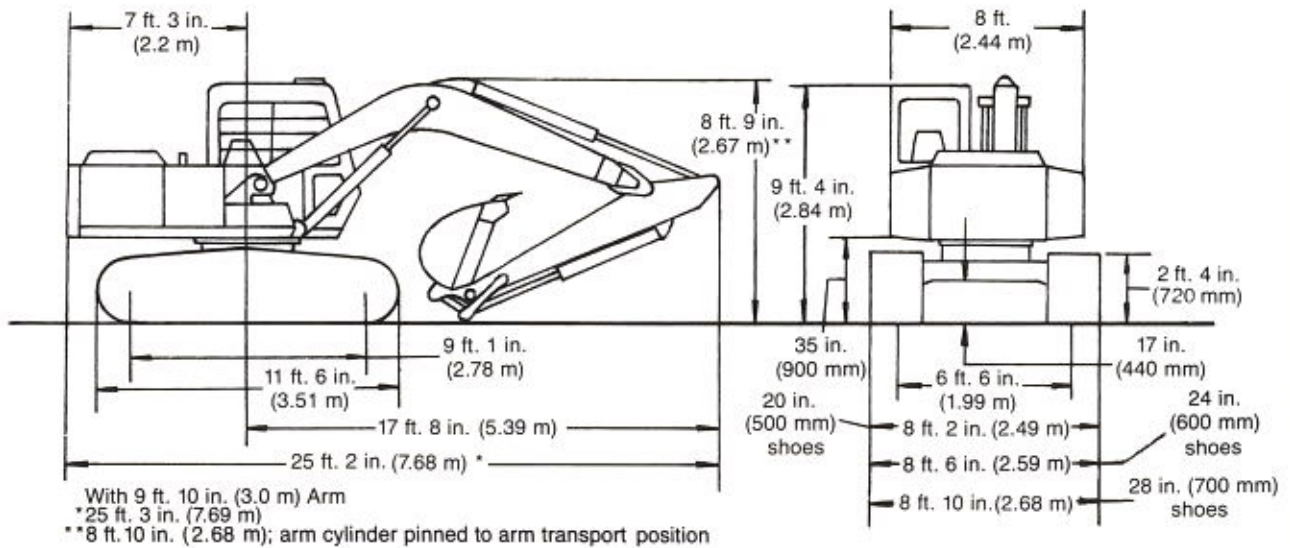
### Optional or Special Equipment:

Cab:	
19,000 Btu/hr (5.6 kW) heater	
40,000 Btu/hr (11.7 kW) heater	
Alternate control pattern	
Window vandal protection	
Front Attachment:	
8 ft. 2 in. (2.5 m) standard arm	
9 ft. 10 in. (3.0 m) long arm	
Undercarriage:	
24-in. (600 mm) triple-grouser shoes	
28-in. (700 mm) triple-grouser shoes	
20-in. (500 mm) triple-grouser shoes	



# 490D EXCAVATOR SPECIFICATIONS

Specifications shown are for machine equipped with 8 ft. 2 in. (2.5 m) arm.



## Weights:

	lb.	kg
Operating weight w/full fuel tank, operator, standard 28-in. (700 mm) triple grouser shoes, 9 ft. 10 in. (3.0 m) arm, and 35-in. (890 mm) 5/8 cu. yd. (.5 m <sup>3</sup> ) bucket	27,430	12,442
Upperstructure with full fuel tank and counterweight less all front attachments	12,604	5,717
Undercarriage with 20-in. (500 mm) triple grouser shoes	9,105	4,130
With 24-in. (600 mm) triple grouser shoes	9,469	4,295
With 28-in. (700 mm) triple grouser shoes	9,833	4,460
Boom, one-piece, with two boom cylinders and arm cylinder	2,635	1,195
Arm, 8 ft. 2 in. (2.5 m) with bucket cylinder and linkage	1,168	530
Arm, 9 ft. 10 in. (3.0 m) with bucket cylinder and linkage	1,323	600
Boom cylinders (2) total weight without pins	518	235
Arm cylinder without pins	353	160
Bucket cylinder without pins and linkage	198	90
Counterweight	4,850	2,200

## Capacities:

	U.S.	Liters
Fuel tank	66 gal.	250
Cooling system	19 qt.	18
Engine lubrication w/filter	9 qt.	9
Hydraulic system	34 gal.	129
Hydraulic reservoir	19 gal.	72
Planetary propel drive (each side)	3.7 qt.	3.5
Swing drive	3.4 qt.	3.2

	Arm	
	8 ft. 2 in. (2.5 m)	9 ft. 10 in. (3.0 m)
Arm force	11,950 lb. (53 kN) (5420 kg)	10,625 lb. (47 kN) (4820 kg)
Lifting capacity over front or rear @ ground level		
20 ft. (6.1 m) reach	5223 lb. (2369 kg)	5273 lb. (2392 kg)
A Max. digging reach	27 ft. 1 in. (8.25 m)	28 ft. 8 in. (8.74 m)
A' Max. digging reach @ ground level	26 ft. 7 in. (8.11 m)	28 ft. 3 in. (8.61 m)
B Max. digging depth	18 ft. 1 in. (5.52 m)	19 ft. 9 in. (6.02 m)
B' Max. digging depth @ 8 ft. (2.44 m) flat bottom	17 ft. 5 in. (5.30 m)	19 ft. 2 in. (5.84 m)
C Max. cutting height	27 ft. 8 in. (8.43 m)	28 ft. 10 in. (8.78 m)
D Max. dumping height	19 ft. 10 in. (6.03 m)	20 ft. 11 in. (6.38 m)
E Min. swing radius	8 ft. 1 in. (2.47 m)	8 ft. 8 in. (2.64 m)
F Max. vertical wall	15 ft. 11 in. (4.86 m)	17 ft. 6 in. (5.33 m)

## Operating Information:

Gradability	90% (42 deg.)
Swing speed	12.3 rpm
Tail swing	7 ft. 3 in. (2.2 m)
Infinitely variable travel speed, forward and reverse	0-2.73 mph (0-4.4 km/h)
Drawbar pull	18,300 lb. (8300 kg)

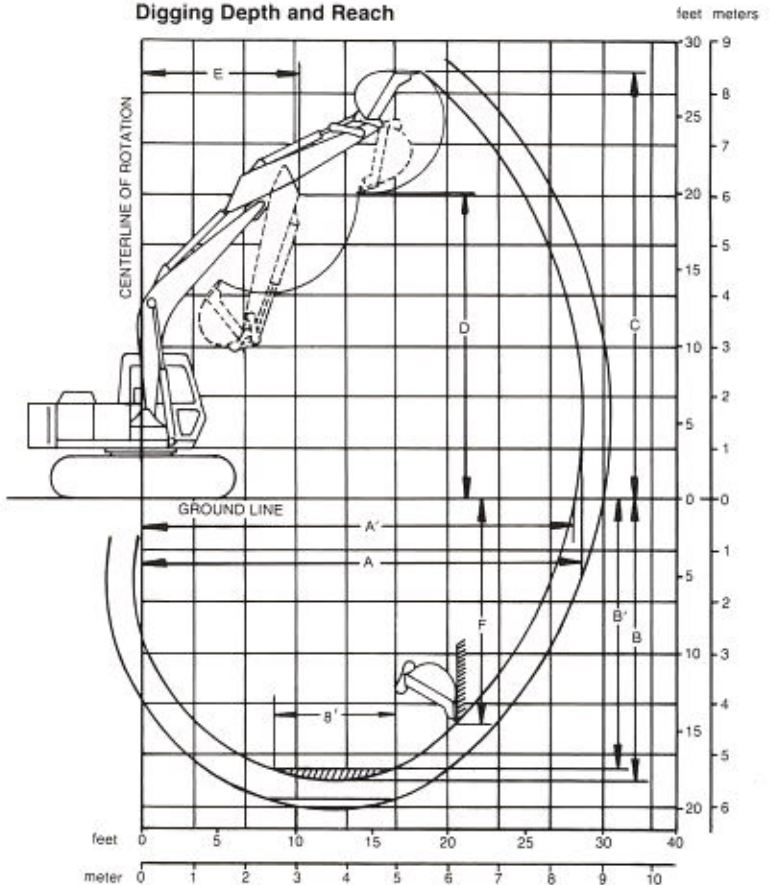
## Bucket Digging Force:

### (Tangential Penetrating Force)

#### SAE Heaped

Regular Duty	
½ cu. yd. (.4 m <sup>3</sup> )	16,425 lb. (73 kN)
¾ cu. yd. (.5 m <sup>3</sup> )	16,425 lb. (73 kN)

## Digging Depth and Reach



## 490D EXCAVATOR LIFT CAPACITIES

### 8 ft. 2 in. (2.5 m) STANDARD ARM

Ratings at bucket lift hook, machine equipped with 20-in. (500 mm) shoes,  $\frac{3}{8}$  cu. yd. (.5 m<sup>3</sup>) PCSA heaped bucket weighing 860 lb. (390 kg) 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.

#### LIFTING OVER FRONT OR REAR

Horizontal distance from centerline of rotation:	5 ft. (1.52 m)	10 ft. (3.05 m)	15 ft. (4.57 m)	20 ft. (6.10 m)	25 ft. (7.62 m)
15 ft. (4.57 m)				<b>5032 (2283)</b>	
10 ft. (3.05 m)		<b>7807 (3541)</b>	<b>6704 (3041)</b>	5714 (2592)	
5 ft. (1.52 m)			8629 (3914)	5446 (2470)	3740 (1697)
Ground level			8178 (3710)	5223 (2369)	
- 5 ft. (- 1.52 m)		<b>6704 (3041)</b>	8033 (3644)	5124 (2324)	
- 10 ft. (- 3.05 m)	<b>7886 (3577)</b>	<b>6039 (2739)</b>	8118 (3682)	5212 (2364)	

#### LIFTING OVER SIDE OR 360 DEGREES

Horizontal distance from centerline of rotation:	5 ft. (1.52 m)	10 ft. (3.05 m)	15 ft. (4.57 m)	20 ft. (6.10 m)	25 ft. (7.62 m)
15 ft. (4.57 m)				4372 (1983)	
10 ft. (3.05 m)		<b>7807 (3541)</b>	<b>6704 (3041)</b>	4197 (1904)	
5 ft. (1.52 m)			6182 (2804)	3946 (1790)	2673 (1213)
Ground level			5773 (2619)	3737 (1695)	
- 5 ft. (- 1.52 m)		<b>6704 (3041)</b>	5642 (2560)	3645 (1653)	
- 10 ft. (- 3.05 m)	<b>7886 (3577)</b>	<b>6039 (2739)</b>	5719 (2594)	3727 (1690)	

## 490D EXCAVATOR LIFT CAPACITIES

### 9 ft. 10 in. (3.0 m) OPTIONAL ARM

Ratings at bucket lift hook, machine equipped with 20-in. (500 mm) shoes,  $\frac{3}{8}$  cu. yd. (.5 m<sup>3</sup>) PCSA heaped bucket weighing 705 lb. (320 kg) 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.

#### LIFTING OVER FRONT OR REAR

Horizontal distance from centerline of rotation:	5 ft. (1.52 m)	10 ft. (3.05 m)	15 ft. (4.57 m)	20 ft. (6.10 m)	25 ft. (7.62 m)
20 ft. (7.62 m)				<b>3658 (1659)</b>	
15 ft. (4.57 m)				<b>4532 (2056)</b>	
10 ft. (3.05 m)			<b>5280 (2395)</b>	<b>5350 (2427)</b>	<b>3840 (1742)</b>
5 ft. (1.52 m)			<b>8480 (3847)</b>	5534 (2510)	3797 (1722)
Ground level		<b>6713 (3045)</b>	8268 (3914)	5273 (2392)	3683 (1671)
- 5 ft. (- 1.52 m)	<b>5195 (2356)</b>	<b>6796 (3083)</b>	8034 (3644)	5129 (2327)	
- 10 ft. (- 3.05 m)	<b>8453 (3834)</b>	<b>6350 (2880)</b>	8049 (3651)	5143 (2333)	
- 15 ft. (- 4.57 m)		<b>9641 (4373)</b>	<b>8215 (3726)</b>		

#### LIFTING OVER SIDE OR 360 DEGREES

Horizontal distance from centerline of rotation:	5 ft. (1.52 m)	10 ft. (3.05 m)	15 ft. (4.57 m)	20 ft. (6.10 m)	25 ft. (7.62 m)
20 ft. (6.10 m)				<b>3658 (1659)</b>	
15 ft. (4.57 m)				4495 (2039)	
10 ft. (3.05 m)			<b>5280 (2395)</b>	4301 (1951)	2838 (1287)
5 ft. (1.52 m)			6350 (2880)	4027 (1827)	2727 (1237)
Ground level		<b>6713 (3045)</b>	5854 (2655)	3783 (1716)	2618 (1188)
- 5 ft. (- 1.52 m)	<b>5195 (2356)</b>	<b>6796 (3083)</b>	5642 (2559)	3648 (1655)	
- 10 ft. (- 3.05 m)	<b>8453 (3834)</b>	<b>6350 (2880)</b>	5655 (2565)	3662 (1661)	
- 15 ft. (- 1.52 m)		<b>9641 (4373)</b>	5911 (2681)		