



490E

EXCAVATOR



Model shown may include options

**SAE Net
Horsepower**

85 hp
(63 kW)

**Digging
Depth**

19 ft. 11 in.
(6.06 m)

**Operating
Weight**

26,780 lb.
(12,148 kg)



QUADTRONICS

State-of-the-art technology simplifies your job. Just touch the work mode button for four preprogrammed hydraulic performance settings. Engine speed can be adjusted with the power mode buttons (There are four preprogrammed speeds.) or by using the throttle buttons. QUADTRONICS lets you easily tailor machine output to the job, delivers more efficient production and uses less fuel. It's simply the best engine/hydraulic management system available today.



HYDRAULIC CONTROLS

Controls are conveniently located and are pilot operated for low effort, precise metering and smooth operation. When a hydraulic function is not used for four seconds the 490E's auto idle feature reduces the engine speed to 1200 rpm to save fuel. As soon as a control lever is moved, the engine automatically resumes its preselected speed. Touch the button on top of the left control lever to activate the horn.



ELECTRONIC CONTROLS

This panel puts control of the 490E at your fingertips. Adjust engine speed with a simple touch of one of the top buttons. Or select any of four preselected speeds with one of the four buttons below. The hydraulic warm-up modes and the auto idle are also controlled by the touch of a button. Simply touch the "M" button to select the hydraulic work mode of choice. Select any of three travel speeds by touching one of the bottom buttons.



TRANSPORT

Get unparalleled over-the-ground performance. The "low" mode delivers 21,200 lb. (94.3 kN) of drawbar pull. Use for maximum power and precise control. For the same power and a top speed of 2.1 mph (3.4 km/h) use "medium". In "high", top speed is 3.4 mph (5.5 km/h), and the 490E adjusts to changing job conditions by automatically shifting between high, medium and low as the situation dictates.

BUCKET SELECTION CHART

RECOMMENDED BUCKET SIZE*

lb/yd ³	kg/m ³	MATERIAL (loose weight)	General-Purpose		Heavy-Duty	
			cu. yd.	m ³	cu. yd.	m ³
700	420	Wood chips	3.25	2.5	—	—
750	440	Peat, dry	2.75	2.1	—	—
950	560	Cinders	2.00	1.5	—	—
1170	690	Peat, wet	1.75	1.3	—	—
1600	950	Topsoil	1.58	1.1	—	—
1780	1050	Coal	1.25	1.0	—	—
2100	1250	Caliche	0.88 to 0.63	0.7 to 0.5	0.75 to 0.5	0.6 to 0.4
2100	1250	Earth, loam	0.88	0.7	0.75	0.6
2250	1330	Shale	0.88	0.7	0.75	0.6
2400	1420	Sand, dry	0.88	0.7	0.75	0.6
2500	1480	Clay, dry	0.88 to 0.63	0.7 to 0.5	0.75	0.6
2550	1510	Earth, dry	0.75 to 0.63	0.6 to 0.5	0.63	0.5
2600	1540	Limestone, broken or crushed	0.75 to 0.5	0.6 to 0.4	0.63 to 0.5	0.5 to 0.4
2700	1600	Earth, wet	0.75	0.6	0.63	0.5
2800	1660	Clay, wet	0.75	0.6	0.63	0.5
2800	1660	Rock, granite, blasted and broken	0.88 to 0.63	0.7 to 0.5	0.75 to 0.5	0.6 to 0.4
2850	1690	Sand, moist	0.75	0.6	0.63	0.5
2900	1720	Sand and gravel, dry	0.75	0.6	0.63	0.5
3100	1840	Sand, wet	0.63	0.5	0.50	0.4
3400	2020	Sand and gravel, wet	0.63	0.5	0.50	0.4

*Contact your John Deere dealer for optimum bucket and attachment selections. These recommendations are for general conditions and average use. Larger buckets may be possible when using light buckets, for flat and level operations, less compacted materials, and volume loading applications such as mass excavation applications in ideal conditions. Smaller buckets are recommended for adverse conditions such as off-level applications and uneven surfaces. Bucket capacity indicated is SAE heaped.

ADDITIONAL STANDARD EQUIPMENT

Engine:	Mode selection:	Hydraulic warm-up indicator	Vandal locks
Antifreeze	Power modes — four	Low fuel indicator	Cab door
Automatic belt tension device	Work modes — four	Work lights-on indicator	Service doors
Dual dry-type air filter	Travel modes — three with automatic shift	Gauges	Fuel cap
Electric cold weather ether starting aid	Heater, 20,000 Btu/hr (5.9 kW) with recirculation fan	Engine coolant gauge	Hydraulic reservoir
Electric fuel shutoff	Horn	Fuel gauge	Toolbox
Fan guard	Hourmeter	Instrument lights	Work lights
Full-flow oil filter	Hourmeter	Fluid level checks, monitor system with sensors	Two mounted on frame
Heavy-duty low maintenance batteries	Instrument lights	Engine oil	One mounted on boom
Heavy-duty fuel filter	Interior light	Hydraulic reservoir oil coolant	Front attachments:
Isolation-mounted engine	Monitor system with alarm features —	Radiator coolant	Auxiliary hydraulic valve section with flow adjustment
Radiator trash screen	Auto-idle indicator	Front windshield wiper	Bucket to arm clearance adjusting mechanism
Underhood muffler w/ vertical exhaust	Engine air cleaner restriction indicator light	Constant speed	Centralized lubrication system
Cab:	Engine alternator charge indicator light	Intermittent speed	Dirt seals on all bucket pins
Adjustable control positions (lever, to seat, to pedals)	Engine coolant temperature warning light with audible alarm	Hydraulic warm-up control	8 ft. 3 in. (2.52 m) standard arm
Alternate pilot control pattern	Engine oil pressure warning light with audible alarm	Motion alarm with cancel switch	Undercarriage:
Auto-idle system		Propel pedals and levers	Front track guides (idler)
		Suspension seat	Propel motor shields
		Seat belt, 2-inch (51 mm)	Planetary drive
		Tinted glass	Three-speed propel
		Frame:	Upper carrier rollers
		Right- and left-hand mirrors	
		Toolbox	

OPTIONAL OR SPECIAL EQUIPMENT

Cab:	Boom cylinder with plumbing to main frame	Hydraulic system:	Undercarriage:
AM-FM radio kit	Buckets	Auxiliary hydraulics	24 inch (600 mm) triple grouser shoes
Window vandal protection covers	General purpose	Boom and arm lines	28 inch (700 mm) triple grouser shoes
Defroster fan kit	Heavy duty	Pilot operated controls	24 inch (600 mm) high traction grouser shoes
3-inch (76 mm) seat belt	Ditching	Hydraulic filter restriction indicator kit	
Front attachments:	Side cutters and teeth		
9 ft. 11 in. (3.01 m) arm	No-boom-arm option		

LIFT CAPACITIES

Ratings at bucket lift hook, machine equipped with 28 in. (700 mm) shoes, 0.79 cu. yd. (0.6 m³) 42 in. (1065 mm) wide 926 lb. (420 kg) bucket 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.



490E with 8 ft. 3 in. (2.52 m) arm, 5180 lb. (2350 kg) counterweight	Load Point Height	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)						
15 ft. (4.57 m)				5271 (2391)	5271 (2391)	
10 ft. (3.05 m)				5822 (2641)	5822 (2641)	4621 (2096)
5 ft. (1.52 m)			7992 (3625)	7992 (3625)	6652 (3017)	5949 (2698)
Ground Line			15465 (7015)	11455 (5186)	9178 (4165)	6124 (2778)
5 ft. (1.52 m)			11465 (5201)	10677 (4845)	8720 (3955)	5715 (2592)
10 ft. (3.05 m)	7391 (3353)	7391 (3353)	16976 (7700)	10601 (4809)	8531 (3870)	5546 (2516)
15 ft. (4.57 m)	13916 (6312)	13916 (6312)	14803 (6715)	10786 (4893)	8587 (3895)	5595 (2538)

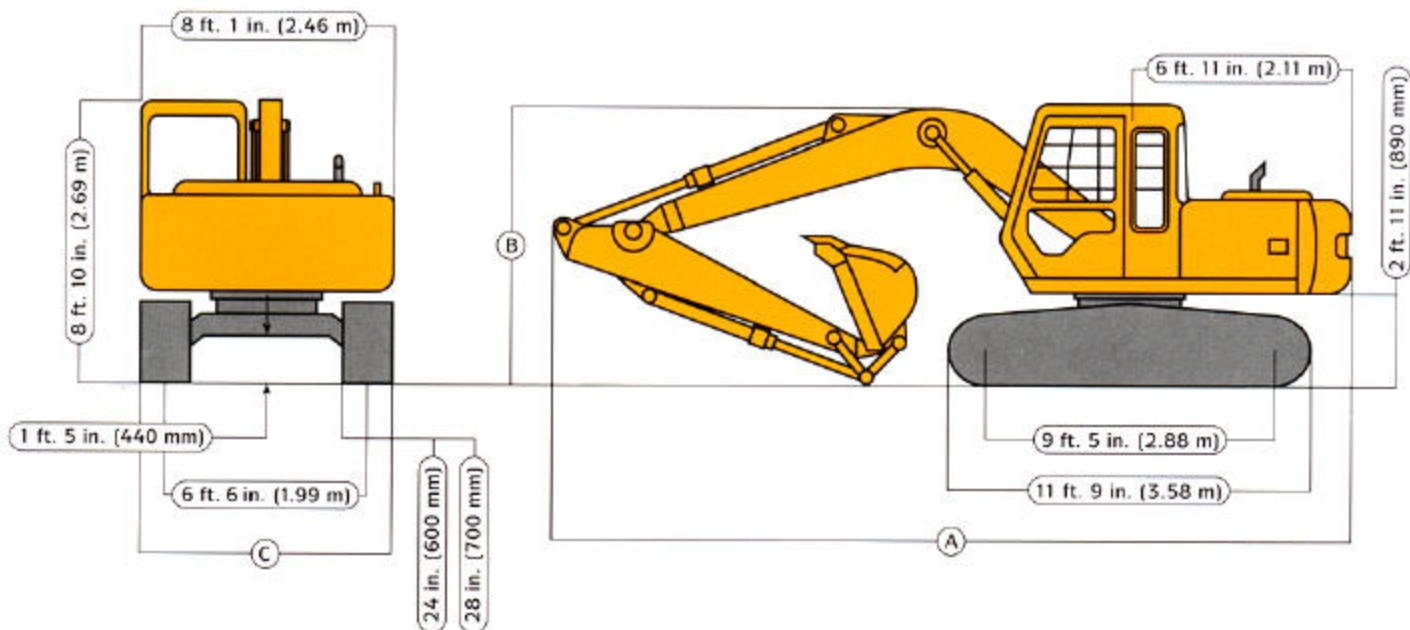
490E with 9 ft. 11 in. (3.01 m) arm, 5180 lb. (2350 kg) counterweight	Load Point Height	5 ft. (1.52 m)	10 ft. (3.05 m)	15 ft. (4.57 m)	20 ft. (6.10 m)	25 ft. (7.62 m)
20 ft. (6.10 m)						
15 ft. (4.57 m)					4598 (2086)	4209 (1909)
10 ft. (3.05 m)				5489 (2490)	5489 (2490)	5458 (2476)
5 ft. (1.52 m)				8844 (4012)	6148 (2789)	5780 (2622)
Ground Line			11118 (5043)	10558 (4789)	8792 (3988)	5637 (2557)
5 ft. (1.52 m)	6072 (2754)	6072 (2754)	15308 (6944)	10300 (4672)	8501 (3856)	5377 (2439)
10 ft. (3.05 m)	13299 (6032)	13299 (6032)	16628 (7542)	10598 (4717)	8470 (3842)	5349 (2426)
15 ft. (4.57 m)			12490 (5665)	10775 (4888)	8390 (3806)	5562 (2523)

BUCKETS

A full line of buckets are offered to meet a wide variety of applications. All capacities are SAE heaped* ratings. The buckets have an adjustable busting feature for side clearance, with the exception of the ditching bucket. Tooth selection includes either the JOHN DEERE Fangs® tooth or the ESCO Vertabok tooth. Replaceable cutting edges are available through John Deere parts. Optional side cutters add 6 inches (150 mm) to bucket widths.

Type Bucket	Bucket Width		Bucket Capacity*		Weight		Bucket Dig Force		Arm Dig Force 8 ft. 3 in. (2.52 m)		Arm Dig Force 9 ft. 11 in. (3.01 m)		Bucket Tip Radius		No. Teeth
	in.	mm	yd ³	m ³	lb.	kg	lb.	kN	lb.	kN	lb.	kN	in.	mm	
General Purpose Plate Lip	18	460	0.34	0.26	723	328	17210	77	12905	57	11625	52	49.5	1257	3
	24	810	0.50	0.38	893	405	17210	77	12905	57	11625	52	49.5	1257	4
	30	760	0.64	0.49	1066	484	17210	77	12905	57	11625	52	49.5	1257	4
	36	915	0.78	0.60	1081	490	12710	77	12905	57	11625	52	49.5	1257	5
	42	1065	0.79	0.60	926	420	19580	87	13450	60	12055	54	43.5	1105	6
	42	1065	0.92	0.70	1244	564	17210	77	12905	57	11625	52	49.5	1257	6
	48	1220	1.06	0.81	1441	654	17210	77	12905	57	11625	52	49.5	1257	7
Heavy Duty Plate Lip	18	460	0.34	0.26	869	394	17210	77	12905	57	11625	52	49.5	1257	3
	24	810	0.50	0.38	938	425	17210	77	12905	77	11625	52	49.5	1257	4
	30	780	0.64	0.49	1122	509	17210	77	12905	57	11625	52	49.5	1257	4
	36	915	0.78	0.60	1298	589	17210	77	12905	57	11625	52	49.5	1257	5
Ditching	48	1220	0.67	0.51	841	381	16740	74	12785	57	11530	51	50.9	1293	0
	60	1525	0.90	0.69	937	425	16740	74	12785	57	11530	51	50.9	1293	0

DIMENSIONS



A With 8 ft. 3 in. (2.52 m) arm, 24 ft. 10 in. (7.58 m)
With 9 ft. 11 in. (3.01 m) arm, 24 ft. 10 in. (7.58 m)

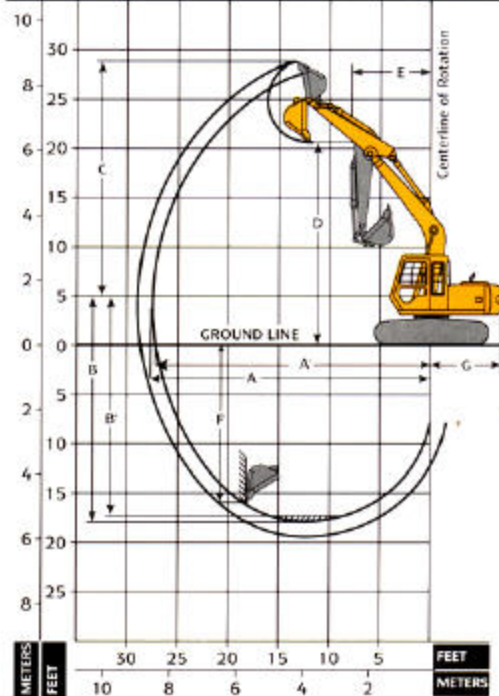
B With 8 ft. 3 in. (2.52 m) arm, 8 ft. 10 in. (2.69 m)
With 9 ft. 11 in. (3.01 m) arm, 8 ft. 9 in. (2.66 m)
Note: Boom-to-arm pin in transport position

C With 6 ft. 6 in. (1.99 m) undercarriage and
24-in. (600 mm) shoes 8 ft. 6 in. (2.59 m)
28-in. (700 mm) shoes 8 ft. 10 in. (2.69 m)

OPERATING INFORMATION

Arm length	8 ft. 3 in. (2.52 m)	9 ft. 11 in. (3.01 m)
Arm force with 42-in. (1065 mm) general-purpose bucket	13,450 lb. (60 kN)	12,055 lb. (54 kN)
Bucket tangential force with 42-in. (1065 mm) general-purpose bucket	19,580 lb. (87 kN)	19,580 lb. (87 kN)
Lifting capacity over front @ ground level 20-ft. (6.1 m) reach	5720 lb. (2595 kg)	5521 lb. (2504 kg)
A Max. reach	27 ft. 2 in. (8.27 m)	28 ft. 8 in. (8.74 m)
A' Max. reach @ ground level	26 ft. 8 in. (8.14 m)	28 ft. 3 in. (8.61 m)
B Max. digging depth	18 ft. 3 in. (5.57 m)	19 ft. 11 in. (6.06 m)
B' Max. digging depth @ 8 ft. (2.44 m) flat bottom	17 ft. 7 in. (5.36 m)	19 ft. 3 in. (5.88 m)
C Max. cutting height	27 ft. 11 in. (8.52 m)	29 ft. 0 in. (8.84 m)
D Max. dumping height	20 ft. 1 in. (6.12 m)	21 ft. 2 in. (6.44 m)
E Min. swing radius	7 ft. 10 in. (2.39 m)	8 ft. 7 in. (2.62 m)
F Max. vertical wall	16 ft. 4 in. (4.98 m)	17 ft. 11 in. (5.45 m)
G Tail swing radius	7 ft. 0 in. (2.13 m)	7 ft. 0 in. (2.13 m)

DIGGING DEPTH AND REACH



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 4045T
 Rated power at 2200 rpm 85 SAE net hp (63 kW)
 90 SAE gross hp (67 kW)

Cylinders 4
 Displacement 276 cu. in. (4.523 L)
 Maximum net torque at 1300 rpm 252 lb-ft (342 Nm)
 Fuel consumption, typical 1.5 to 2.8 gal/hr (6 to 11 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 490E's hydraulic system. This closed center system uses one axial piston pump. 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 one variable-displacement axial piston
 Maximum rated flow 1 x 52.3 gpm (1 x 198 L/min)
 Pilot pump one gear
 Maximum rated flow 9.8 gpm (37 L/min)
 Pressure setting 710 psi (4895 kPa)

System operating pressure
 Implement circuits 4980 psi (34 340 kPa)
 Travel circuits 4980 psi (34 340 kPa)
 Swing circuits 5050 psi (34 820 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)	4.13 in. (105 mm)	2.76 in. (70 mm)	37.0 in. (939 mm)
Arm (1)	4.33 in. (110 mm)	3.15 in. (80 mm)	44.7 in. (1135 mm)
Bucket (1)	3.74 in. (95 mm)	2.56 in. (65 mm)	34.4 in. (875 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, 98-ball swing bearing is sealed top and bottom.

Swing speed 0-11 rpm

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. 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)	1
Track rollers (per side)	7
Idlers (per side)	1
Shoes, triple semigrouser (per side)	44
Track guides	front
Track adjustment	hydraulic
Travel speed	Low Medium High
	mph 0-1.6 0-2.1 0-3.4
	km/h (0-2.5) (0-3.4) (0-5.5)
Drawbar pull	21,200 lb. (94.3 kN)
Tractive gradability	130% (52 deg.)
Off-level operating limit for oil sump	100% (45 deg.)

Ground Pressure Data

Shoe Width/ Grouser	Average Ground Pressure	Recommended Application
24 in./triple (600 mm)	4.54 psi (311.4 kPa)	Rocky terrain and stumps
28 in./triple (700 mm)	3.94 psi (27.2 kPa)	General/soft terrain
24 in. high traction (600 mm)	4.56 psi (31.4 kPa)	Cross-country pipelaying and slick underfoot, avoid rocky conditions.

CAPACITIES

Fuel tank	66 gal. (250 L)
Cooling system	16 qt. (15 L)
Engine lubrication, including filter	13.8 qt. (13 L)
Hydraulic system	35.4 gal. (134 L)
Planetary propel drive (each)	3.4 qt. (3.2 L)
Swing drive	2.8 qt. (2.6 L)

OPERATING WEIGHTS

Weights	lb.	kg
Operating weight with full fuel tank, 175-lb. (79 kg) operator, 42-in. (1065 mm) 926-lb. (420 kg) bucket, 9 ft. 11 in. (3.01 m) arm, 5180-lb. (2350 kg) counterweight and 28-in. (700 mm) triple grouser shoes:	26,780	12 148
Undercarriage		
Shoe width:		
24 in. (600 mm) triple grouser shoes	9,480	4300
28 in. (700 mm) triple grouser shoes	9,900	4490
24 in. (600 mm) high traction grouser shoes	10,050	4558
Component Weights:		
Upperstructure w/ full fuel tank (less 5180 lb. [2350 kg] counterweight and front attachments)	6,645	3014
One-piece boom (with arm cylinder)	2,140	970
Arm, 8 ft. 3 in. (2.52 m) with bucket cylinder and linkage	1,190	540
Arm, 9 ft. 11 in. (3.01 m) with bucket cylinder and linkage	1,370	621
Boom lift cylinders (2) total weight	470	213
Counterweight	5,180	2350



JOHN DEERE BUCKETS

Choose from 13 John Deere general purpose, heavy-duty, and ditching buckets. All are made in the U.S. to stand up to the tough digging applications of North American contractors. They feature heavy-duty reinforced top beams to assure accurate ear alignment and corner reinforcing for maximum rigidity. The T-1 steel side-cutters, a two-piece moldboard and heavy-duty wear strips assure maximum strength and increased life.



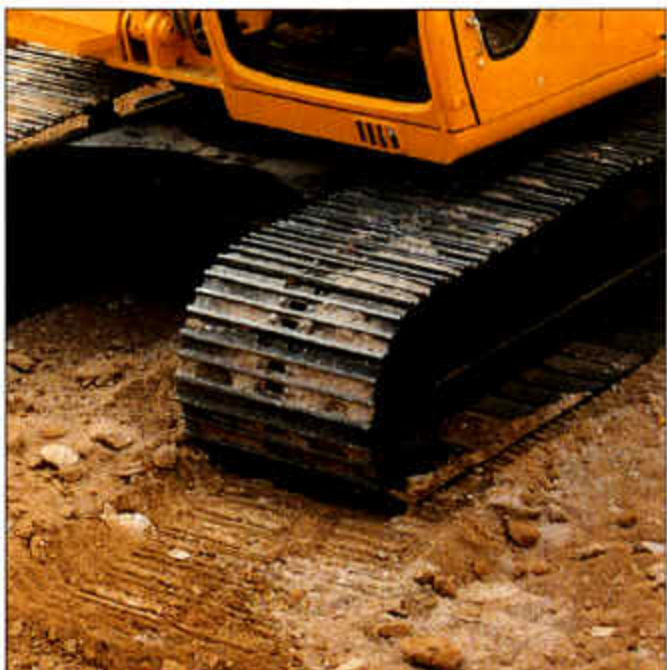
SERVICING

Large reinforced doors provide unhampered access to all components for quick, easy servicing. Platforms with conveniently placed handrails and skid-resistant footing surfaces provide easy access to compartments that can't be reached from the ground. Cab and service access areas are conveniently locked with the ignition key. Vandal covers for the windows are available.



OPERATOR'S STATION

It's isolation mounted to reduce fatiguing noise and vibration. It's roomy. Visibility and ventilation are excellent. The cloth-covered suspension seat is fully adjustable. Hydraulic controls adjust with the seat and independently. An electronic monitoring system provides visible and audible warnings. A large 20,000 Btu/hr (5.9 kW) heater is standard. An AM/FM radio is also available.



UNDERCARRIAGE

The undercarriage carbody has a heavy-duty, self-cleaning, welded "X" design with reinforced track frames that shed dirt and debris. Axial-piston propel motors are tucked inside the track and enclosed by guards. Heavy-duty, sealed, track chain is provided for longer wear life. Rollers and idlers are sealed and permanently lubricated.

JDAvantEdge is a wealth of support programs, parts systems and dealer resources, all designed to give you the edge. This package of special benefits is a major reason why John Deere offers the "best value" for your equipment dollar.

Best parts support—Twelve regional parts depots in North America and others around the world put parts support near your job no matter where in the world it is.

A computerized FLASH™ parts locating system linking these depots to dealerships can find out-of-stock parts in a hurry and get them into your hands fast. Usually within 24 hours.

Best service backup—Dealer service technicians are regularly schooled, at our modern facility in Davenport, Iowa, or by professionals in the field, to diagnose quickly and repair efficiently.

If they are stumped, a phone call to DTAC (Dealer Technical Assistance Center) puts them in touch with a staff of pros at the factory who help them find a solution quickly.

Best dealers—Your John Deere dealer is an important contributor to the JDAvantEdge. He or she is committed to being the best equipment supplier you can work with.

This is a dollars-and-cents commitment in parts inventory, in service facilities, in field service trucks. It's a sweat and blood commitment in dedicated, skilled and highly trained and motivated personnel in each and every department at the dealership.

But what sets John Deere dealers apart from all the rest is something more, a factor somewhat difficult to measure ... a caring attitude, and a sincere desire to be the best at meeting the needs of each individual customer.

John Deere Finance Plans—Whether you rent, lease or buy John Deere equipment, your dealer can explain the John Deere options available. One-stop options that let you free up operating capital, keep other lines of credit open. More solid benefits of the JDAvantEdge.

Best protection—In addition to the new equipment warranty that meets or exceeds the competition, SECURE® extended coverage, an optional service product for John Deere equipment, is available for repair coverage after the warranty concludes. Full machine or power train coverage is available for a variety of time periods to meet your needs. Consult your dealer for availability and details.