



JD310 BACKHOE LOADER



FEATURES

50 SAE net hp, diesel or gasoline (53,2 PS)

Backhoe digging depth—15 ft. 1 in. (4,60 m)

Hydraulic direction reverser

Self-adjusting wet-disk brakes

Inboard planetary final drives

Roll-over protective structure (ROPS)

▲ Choice of 4 self-leveling loader buckets

Single-lever loader control

Single, swing-around seat

▲ Choice of 10 backhoe buckets

Two-lever backhoe control

Power steering

Vandal protection

OPERATING INSTRUCTIONS

LOADER:

Rollback at ground level	37 deg.
▲ Breakout force	7,100 lb. (3223 kg)
Digging depth below ground level (with bucket level)	4 in. (102 mm)
▲ Lifting capacity, full height	4,000 lb. (1814 kg)
Height to bucket hinge pin	10 ft. 2 in. (3,10 m)
Maximum dump angle	50 deg.
Clearance, bucket dumped at 45 degrees	8 ft. 3 in. (2,52 m)
Reach at maximum height, bucket dumped at 45 degrees	2 ft. 7.3 in. (795 mm)
Raising time to full height	3.7 sec.
Bucket dump time	1.3 sec.
Lowering time (power)	3.0 sec.

BACKHOE:

Digging depth (maximum)	15 ft. 1 in. (4,60 m)
Digging depth (IEMC)	14 ft. 1 in. (4,29 m)
Swing arc	180 deg.
Lifting capacity:	
Boom at full reach and full height	1,500 lb. (680 kg)
Dipper lifting, boom holding, full height	3,100 lb. (1406 kg)
Digging force (bucket cylinder in power-dig position)	10,500 lb. (4763 kg)
Reach from center of swing mast	17 ft. 1 in. (5,21 m)
Reach from center of rear axle	20 ft. 5.5 in. (6,24 m)
Loading height (truck-loading position)	10 ft. 4 in. (3,15 m)
Transport height	11 ft. 3 in. (3,43 m)
Bucket rotation	Adjustable for 124, 128, or 157 deg.
Bucket positions	Adjustable for 23 or 15 deg. rollback and 2 deg. forward

Stabilizer Width:

Transport position	7 ft. 3 in. (2,21 m)
Operating position (overall)	10 ft. 2 in. (3,10 m)
Operating position (IEMC)	9 ft. (2,74 m)

SPECIFICATIONS—JD310 BACKHOE LOADER



(Specifications and design are subject to change without notice. Wherever applicable, specifications are in accordance with IEMC and SAE Standards. Except where otherwise noted, these specifications are based on a unit equipped with 16.9-24, 8-ply-rating, R4 rear tires; 11L-15, 6-ply-rating front tires; 3/4 cu. yd. (0.57 m³) loader bucket, 24 in. (610 mm) standard backhoe bucket and standard equipment.)

Horsepower (@ 2,500 engine rpm):	Gasoline and Diesel	
	SAE	DIN
Gross	52	
Net	50	53.2 PS

Net engine flywheel horsepower is for an engine equipped with fan, air cleaner, muffler, water pump, lubricating oil pump, fuel pump and alternator. The gross engine horsepower is without fan. Gross and net flywheel horsepower ratings are under SAE standard conditions of 500-ft. altitude and 85° F. temperature and DIN 70 020 standard conditions of 760 mm Hg barometer (sea level) and 20° C. temperature.

Engine: John Deere, 3-cylinder, valve-in-head, 4-stroke cycle

	Gasoline	Diesel
Bore and stroke	4.02x4.33 in. (102x110 mm)	
Piston displacement	164 cu. in. (2687 cm ³)	
Compression ratio	7.5 to 1	16.2 to 1
Maximum torque @ 1,300 rpm	129 lb-ft (17.8 kg-m)	
NACC or AMA (U.S. Tax) horsepower	19.4	
Main bearings	4	
Lubrication	Pressure system w/full-flow filter	
Cooling	Pressurized w/thermostat and fixed bypass	
Fan	Suction	
Air cleaner	Dry	
Electrical system	12-volt w/alternator	
Batteries (2)	Reserve capacity: 170 minutes each	

Engine Clutch Foot-operated automotive-type oil clutch with 10 in. (279 mm) plate

Transmission:

Constant mesh, 8 speeds forward, 4 reverse. Standard hydraulic direction reverser permits no-clutch reversing in first four gears.

Travel Speeds:

Gear:	mph	km/h
Forward 1	1.4	2.3
2	2.0	3.2
3	2.9	4.7
4	4.1	6.6
5	5.5	8.9
6	7.8	12.6
7	11.5	18.5
8	16.1	25.9
Rev. 1	1.6	2.6
2	2.3	3.7
3	3.4	5.5
4	4.8	7.7

Final Drives Inboard, planetary

Brakes .Hydraulically power actuated, fully enclosed wet-disk. Self-equalizing. Foot-operated individually or simultaneously.

Steering: Power

Turning radius (brake applied)9 ft. 2 in. (2.79 m)
 Loader clearance (brake applied) 30 ft. (9.14 m)
 Number of turns, far left to far right3.3

Hydraulic System: Closed-center

Pressure2,350 psi (165.2 kg/cm²)
 Loader control Single-lever
 Backhoe control Two-lever
 PumpPiston, constant pressure, variable-displacement, 28 gpm (106 lpm) @ 2,500 engine rpm
 Filter 25-micron steel-enclosed paper cartridge in return

Hydraulic Cylinders:

	Bore	Stroke
▲ Loader boom	3.00-in. (76 mm)	28.7-in. (729 mm)
Loader bucket	3.00-in. (76 mm)	16.2-in. (411 mm)
Backhoe boom	4.50-in. (114 mm)	34.0-in. (864 mm)
Backhoe crowd	4.00-in. (102 mm)	33.0-in. (838 mm)
Backhoe bucket	3.50-in. (89 mm)	27.4-in. (695 mm)
Backhoe swing	4.00-in. (102 mm)	9.3 in. (236 mm)
Stabilizer	3.50-in. (89 mm)	16.9-in. (429 mm)

Cylinder rods . . . Ground, heat-treated, chrome-plated, polished
 Loader, backhoe swing and stabilizer cylinder rods 1.75-in. (44 mm) dia.
 Backhoe boom and bucket cylinder rods . . .2.25-in. (57 mm) dia.
 Backhoe crowd cylinder rod 2-in. (51 mm) dia.

Tires:	Front	Rear
	7.50-16, 6-ply-rating, I1	16.9-24, 8-ply-rating, R4
	11L-15, 6-ply-rating, I1	

Wheel Treads:

Front	62 in. (1.57 m)
Rear	66 in. (1.63 m)

Capacities:

	U.S.	Liters
Cooling system	12 qt.	11.4
Fuel tank	19.5 gal.	73.8
Engine lubrication, including filter	7 qt.	6.6
Transmission-hydraulic system	20.5 gal.	77.6

Additional Standard Equipment:

Key switch w/push-button safety start
 Rigid-mount platform
 Oil pressure indicator light
 Alternator charge indicator light
 Transistorized voltage regulator
 Lights
 Water temperature gauge
 Fuel gauge
 Electric hourmeter
 Fenders
 Differential lock
 Bucket level indicator
 Horn
 Deluxe swing-around seat
 Foot throttle
 Anti-freeze
 Vandal protection
 Rear reflector
 Horizontal muffler w/vertical exhaust
 Electrically operated destroke valve for hydraulic pump
 Cigaret lighter

SAE Operating Weight:

Gasoline	12,700 lb. (5761 kg)
Diesel	12,750 lb. (5784 kg)

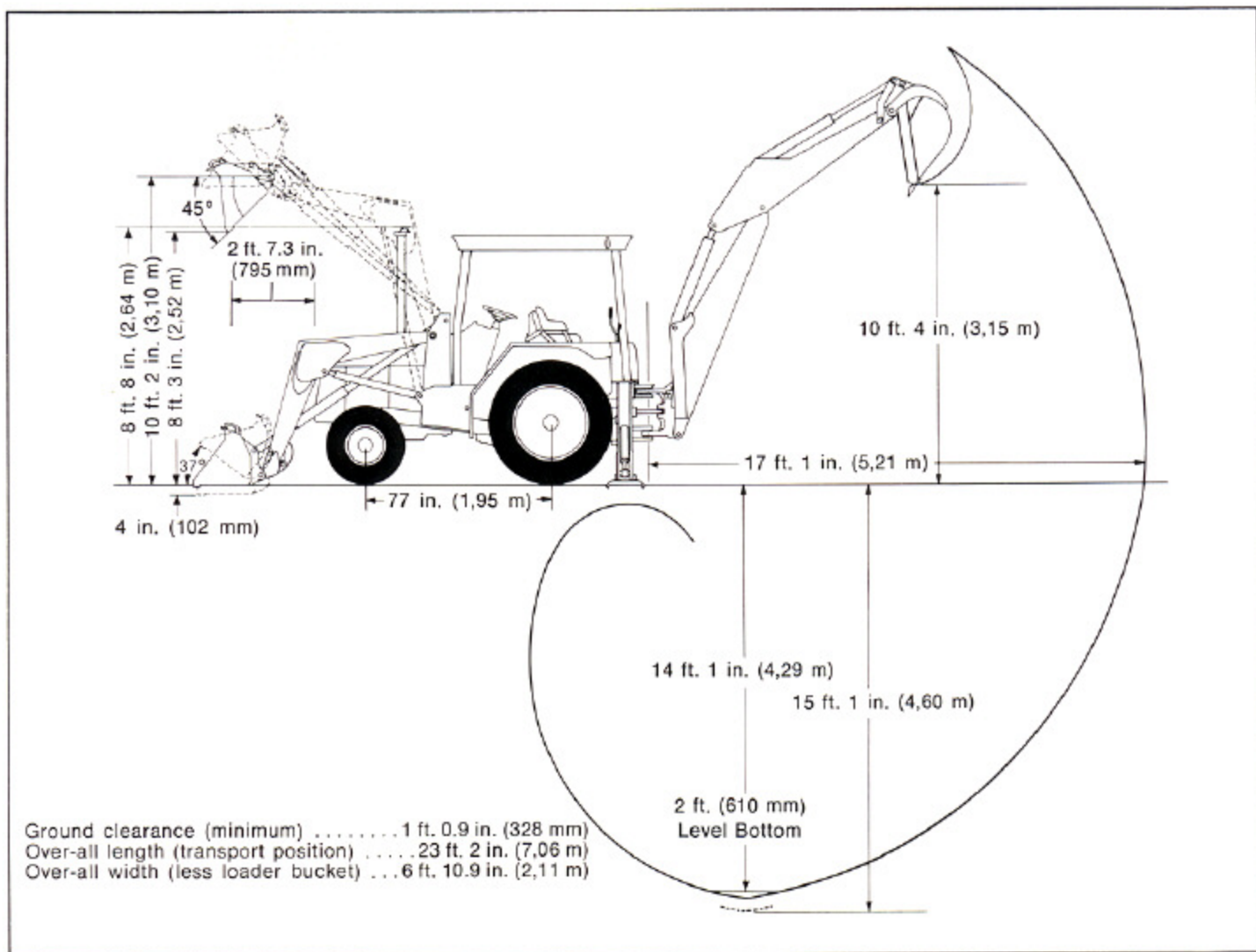
Buckets:

LOADER	Nominal Heaped Capacity	Width
	3/8 cu. yd. (0.48m ³)	66.2 in. (1.68 m)
	3/4 cu. yd. (0.57 m ³)	89.4 in. (2.27 m)
	1 cu. yd. (0.76 m ³)	89.4 in. (2.27 m)
▲ Multipurpose	7/8 cu. yd. (0.67 m ³)	84.4 in. (2.14 m)

BACKHOE

	Struck Capacity	Width
Standard	2.5 cu. ft. (0.071 m ³)	12 in. (305 mm)
	3.6 cu. ft. (0.102 m ³)	16 in. (406 mm)
	4.4 cu. ft. (0.125 m ³)	18 in. (457 mm)
	6.0 cu. ft. (0.170 m ³)	24 in. (610 mm)
	7.6 cu. ft. (0.215 m ³)	30 in. (762 mm)
	7.2 cu. ft. (0.204 m ³)	36 in. (914 mm)
Heavy-duty	4.4 cu. ft. (0.125 m ³)	18 in. (457 mm)
	6.0 cu. ft. (0.170 m ³)	24 in. (610 mm)
	7.6 cu. ft. (0.215 m ³)	30 in. (762 mm)
Ejector	4.2 cu. ft. (0.119 m ³)	24 in. (610 mm)

JD310 BACKHOE LOADER DIMENSIONS:



Special Equipment:

- Air-cleaner-restriction indicator
- Tachometer
- Front axle counterweight
- ROPS w/seat belt and canopy
- Cab w/front windshield wiper
(includes ROPS)
- Cab heater
- Cab pressurizer
- Ripper tooth for backhoe
- Bolt-on stabilizer street pads
- Bulldozer blade
- Locking instrument panel cover
- Ether starting aid (diesel)
- Multiposition side-shift backhoe