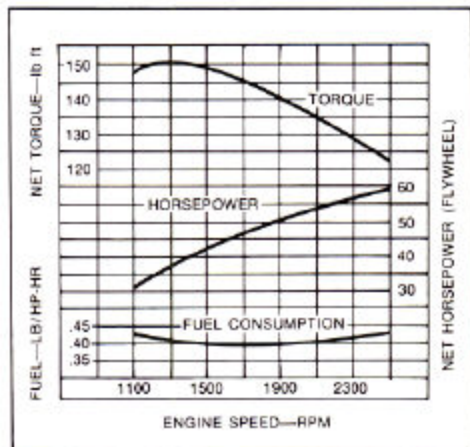




# JD310-A BACKHOE LOADER



## ENGINE PERFORMANCE



## FEATURES

- 58 SAE net hp (43.3 kW)
- Backhoe digging depth (ICED)—14 ft. 5 in. (4.39 m)
- Hydraulic direction reverser
- Self-adjusting wet-disk brakes
- Inboard planetary final drives
- Roll-over protective structure (ROPS)
- Choice of 2 self-leveling loader buckets
- Single-lever loader control
- Single, swing-around seat
- Two-lever backhoe control
- Choice of 10 backhoe buckets
- Choice of 4 ADCO<sup>®</sup> buckets specially designed for rock, frost, and other tough digging conditions
- Extendable dipperstick available
- Power steering

# JD310-A BACKHOE LOADER

(Specifications and design subject to change without notice. Wherever applicable, specifications are in accordance with ICED 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, 8-ply-rating front tires; ¾ cu. yd. (0.57 m<sup>3</sup>) loader bucket, 24 in. (610 mm) standard backhoe bucket, diesel engine and standard equipment.)

## Power (@ 2500 engine rpm):

	SAE	DIN
Gross	62 hp (46.2 kW)	
Net	58 hp (43.3 kW)	61.6 PS

Net engine flywheel power is for an engine equipped with fan, air cleaner, water pump, lubricating oil pump, fuel pump, alternator, and muffler. Gross engine power is without fan. Flywheel power ratings are under SAE standard conditions of 500-ft. altitude and 85 F. temperature and DIN 76 820 standard conditions of 760 mm Hg barometer (sea level) and 20 C. temperature.

<b>Engine:</b>	John Deere 4-cylinder diesel, valve-in-head, 4-stroke cycle
Bore and stroke	4.02x4.33 in. (102x110 mm)
Piston displacement	.219 cu. in. (3.589 L)
Compression ratio	16.2 to 1
Maximum torque @ 1300 rpm	150-lb-ft (203 Nm) (20.7 kg-m)
NACC or AMA (U.S. Tax) horsepower	25.65
Main bearings	5
Lubrication	Pressure system w/full-flow filter
Cooling	Pressurized w/thermostat and fixed bypass
Fan	Suction
Air cleaner	Dry
Electric system	12-volt w/alternator
Batteries	Two 6-volt, 340 min. reserve capacity connected in series

**Engine Clutch:** Foot-operated automotive-type clutch with 10-in. (254 mm) plate

## Transmission:

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

Gear:	Travel Speeds			
	mph		km/h	
	Fwd.	Rev.	Fwd.	Rev.
1	1.4	1.6	2.3	2.6
2	2.0	2.3	3.2	3.7
3	3.0	3.5	4.8	5.6
4	4.2	4.8	6.8	7.7
5	5.5	6.3	8.9	10.1
6	7.8	9.0	12.7	14.5
7	11.7	13.5	18.8	21.7
8	16.4	18.7	26.4	30.1

**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)	10 ft. 2 in. (3.10 m)
Loader clearance (brake applied)	30 ft. (9.14 m)
Number of turns, far left to far right	3.0
Number of turns, far right to far left	2.75

## Hydraulic System: Closed-center

Pressure	2350 psi (16 203 kPa) (165.2 kg/cm <sup>2</sup> )
Loader control	Single-lever
Backhoe control	Two-lever
Pump	Piston, constant pressure, variable-displacement, 28 gpm (1.76 L/s) @ 2500 engine rpm
Filter	25-micron steel-enclosed paper cartridge in return

Hydraulic Cylinders:	Bore	Stroke
Loader boom	3.25 in. (83 mm)	28.7 in. (729 mm)
Loader bucket	3.25 in. (83 mm)	16.7 in. (424 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
	11L-15, 8-ply-rating, F3	16.9-24, 8-ply-rating, R4
	7.50/8.00-16, 10-ply-rating, F3	19.5L-24, 8-ply-rating, R4
		21L-24, 12-ply-rating, R4
		19.5L-24, 12-ply-rating, R4

## Wheel Treads:

Front	58 in. (1.47 m)
Rear	65 in. (1.65 m)

Capacities:	U.S.	Imp.	Liters
Cooling system	12 qt.	10.0 qt.	11.4
Fuel tank	19.5 gal.	16.3 gal.	73.8
Engine lubrication, including filter	9 qt.	7.5 qt.	8.5
Transmission and hydraulic system	20.5 gal.	17.1 gal.	77.6
Transmission only	10 gal.	8.3 gal.	37.8

## OPERATING INFORMATION

### LOADER:

Rollback at ground level	40 deg.
Breakout force	7500 lb. (33.62 kN) (3402 kg)
Digging depth below ground level (with bucket level)	4 in. (102 mm)
Lifting capacity, full height	5000 lb. (2268 kg)
Height to bucket hinge pin	10 ft. 9 in. (3.28 m)
Maximum dump angle	50 deg.
Clearance, bucket dumped at 45 degrees	8 ft. 9.5 in. (2.68 m)
Reach at maximum height, bucket dumped at 45 degrees	2 ft. 5.5 in. (749 mm)
Raising time to full height	3.7 sec.
Bucket dump time	1.3 sec.
Lowering time (power)	3.0 sec.

### BACKHOE:

Digging depth (ICED):	
Maximum	14 ft. 7 in. (4.45 m)
2-ft. (610 mm) flat bottom	14 ft. 5 in. (4.39 m)
8-ft. (2.44 m) flat bottom	13 ft. 5 in. (4.09 m)
Swing arc	180 deg.
Lifting capacity:	
Boom at full reach and full height	1500 lb. (680 kg)
Dipper lifting, boom holding, full height	3100 lb. (1406 kg)
Digging force (bucket cylinder in power-dig position)	9636 lb. (43.19 kN) (4371 kg)
Digging force, crowd cylinder	6350 lb. (28.46 kN) (2880 kg)
Reach from center of swing mast	17 ft. 4 in. (5.28 m)
Reach from center of rear axle	20 ft. 5.5 in. (6.24 m)
Loading height (truck-loading position)	9 ft. 11 in. (3.02 m)
Transport height	11 ft. 3 in. (3.43 m)
Bucket rotation	Adjustable for 123, 126 or 154 deg.
Bucket positions	Adjustable for 24 or 16 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 (ICED)	8 ft. 9 in. (2.67 m)

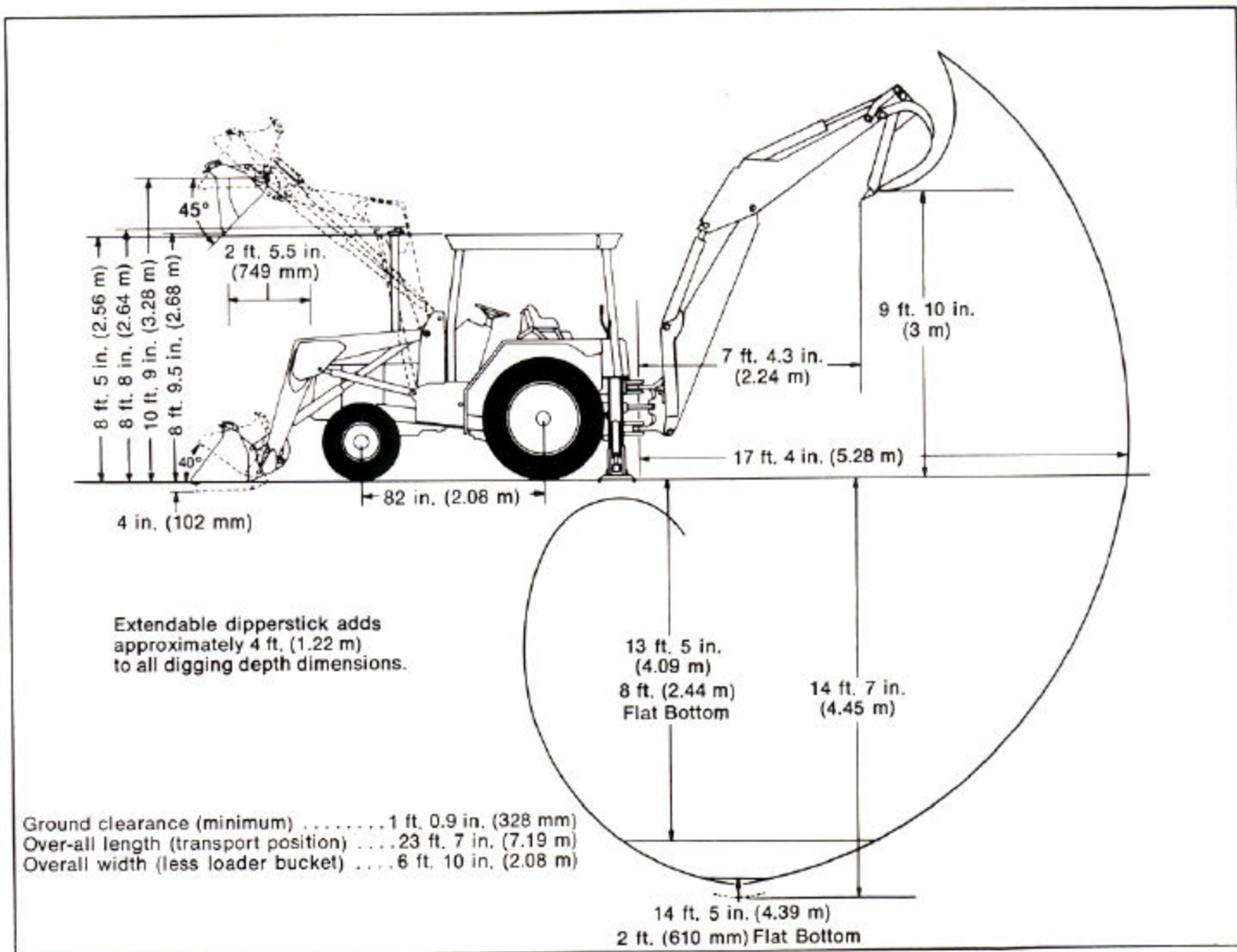
### Buckets:

LOADER	Nominal Heaped Capacity	Width
	¾ cu. yd. (0.57 m <sup>3</sup> )	89.4 in. (2.27 m)
	1 cu. yd. (0.76 m <sup>3</sup> )	89.4 in. (2.27 m)

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



# JD310-A BACKHOE LOADER DIMENSIONS



## Additional Standard Equipment:

- Key switch w/push-button safety start
- Cushion-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
- Antifreeze
- Vandal protection
- Rear reflector
- Horizontal muffler w/vertical exhaust
- Electrically operated destroke valve for hydraulic pump
- Cigaret lighter
- Air cleaner restriction indicator
- Tachometer
- Ether starting aid
- ROPS w/seat belt and canopy

**SAE Operating Weight w/ROPS . . . . . 13,520 lb. (6133 kg)**

## Special Equipment:

- Front axle counterweight
- Cab w/front and rear windshield wipers (includes ROPS)
- Cab heater
- Cab pressurizer
- Ripper tooth for backhoe
- Bolt-on stabilizer street pads
- Locking instrument panel cover
- Parking brake
- Backup alarm
- Reversible stabilizer pads
- Extendable dipperstick

