

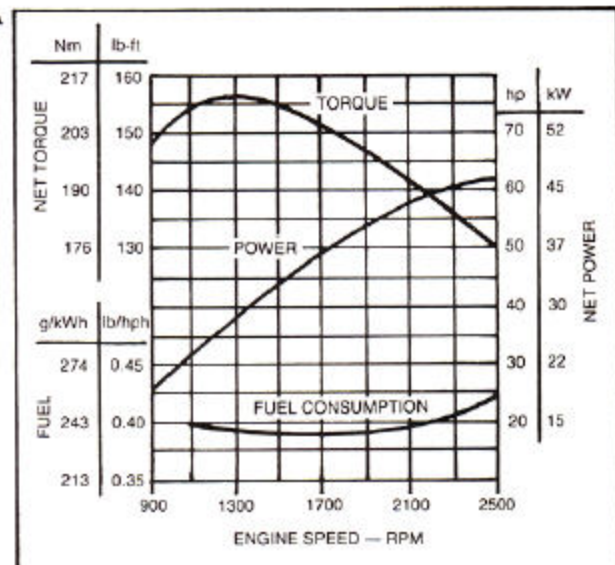


310B BACKHOE LOADER



Model shown may include options

ENGINE PERFORMANCE



FEATURES

- 62 SAE net hp (46 kW)
- Backhoe digging depth (SAE)
14 ft. 5 in. (4.39 m)
- Hydraulic direction reverser
- Self-adjusting wet-disk brakes
- Inboard planetary final drives
- Rollover protective structure (ROPS)
- Choice of 2 self-leveling loader buckets
- Single-lever loader control
- Turn-around seat
- Two-lever backhoe control
- Choice of 10 backhoe buckets
- Hydrostatic power steering

ADD VERSATILITY WITH:

Extendable dipperstick

310B BACKHOE LOADER SPECIFICATIONS

(Specifications and design are subject to change without notice. Wherever applicable, specifications are in accordance with SAE Standards. Except where otherwise noted, these specifications are based on a unit with 16.9-24, 8-PR rear tires; 11L-15, 8-PR, front tires; 34-cu.-yd. (0.57 m³) loader bucket, 24 in. (610 mm) standard backhoe bucket, diesel engine, full fuel tank, 175-lb. (79 kg) operator and standard equipment.)

▲ Rated Power @ 2500 rpm:	SAE	DIN 70 020
Net	62 hp (46.0 kW)	47.0 kW
Gross	65 hp (48.5 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 70 020, 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 4-219D	
Type	4-stroke cycle, naturally aspirated diesel
Bore and stroke	4.02 x 4.33 in. (102 x 110 mm)
No. of cylinders	4
Displacement	219 cu. in. (3,589 L)
Maximum net torque @ 1300 rpm	156 lb-ft (212 Nm) (21.6 kg-m)
Torque rise	20 percent
Cooling fan	Suction
Compression ratio	16.2 to 1
Lubrication	Pressure system w/full-flow filters
Main bearings	5
Air cleaner	Dry
Electrical system	12 volt w/alternator
Battery (12 volt)	Reserve capacity: 180 minutes

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	2.8
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

Steering: Hydrostatic 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

2.8

Number of turns, far right to far left

2.3

Brakes:

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

Hydraulic System: Closed-center

Max. pressure

2320 psi (16 000 kPa) (163 kg/cm²)

Loader control

Single-lever

Backhoe control

Two-lever

Pump

Piston, constant pressure, variable-displacement, 38 gpm (2.4 L/s) at 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 boom, 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
7.50/8.00-16, 10 PR, F3, standard	16.9-24, 6 PR, R4, standard	
11L-15, 8 PR, F3	16.9-24, 8 PR, R4	
	19.5L-24, 8 PR, R4	
	19.5L-24, 10 PR, R4	

Wheel Treads:	
Front	58 in. (1.47 m)
Rear	65 in. (1.65 m)

Wheelbase

82 in. (2083 mm)

Capacities:	U.S.	Liters
Cooling system	12 qt.	11.4
Fuel tank	19.5 gal.	73.8
Engine lubrication, including filter	9 qt.	8.5
Transmission and hydraulic system	20.5 gal.	77.6
Transmission only	8.5 gal.	32.2

- Additional Standard Equipment:**
- Air cleaner restriction indicator
 - Alternator charge indicator light
 - Antifreeze
 - Cigarette lighter
 - Coolant temperature gauge
 - Dry-type air cleaner
 - Electric hourmeter
 - Electrically operated hydraulic pump destroke solenoid
 - Engine oil pressure indicator light
 - Fenders
 - Front/rear and warning lights
 - Fuel level gauge
 - Hand and foot operated engine speed control
 - Horn
 - Key switch w/pushbutton start switch
 - No differential lock
 - No parking brake
 - Rear reflectors
 - ROPS w/seat belt and canopy
 - Suspension turn-around seat
 - Tachometer
 - Transistorized voltage regulator
 - Under hood muffler w/vertical exhaust

SAE Operating Weight w/ROPS

13,200 lb. (5987 kg)

OPERATING INFORMATION

BACKHOE:

Digging depth (SAE):	
Maximum	14 ft. 7 in. (4.45 m)
2-ft. (610 mm) flat bottom	14 ft. 5 in. (4.39 m)
8-ft. (2440 mm) flat bottom	13 ft. 5 in. (4.09 m)
Swing arc	
180 degrees	
Lifting capacity:	
To full height	
Boom	1500 lb. (680 kg)
Dipperstick (boom holding)	1900 lb. (862 kg)
To 10 ft. (3.05 m)	
Boom	1850 lb. (839 kg)
Dipperstick (boom holding)	3100 lb. (1406 kg)
Digging force:	
Bucket cylinder in power-dig position	
	9600 lb. (42.7 kN) (4355 kg)
Crowd cylinder	
	6000 lb. (26.7 kN) (2722 kg)
Reach:	
From center of swing mast	
	17 ft. 4 in. (5.28 m)
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 degrees
Bucket positions	
	Adjustable for 24 or 16 degrees rollback and 2 degrees forward

STABILIZER WIDTH:

Transport position	7 ft. 3 in. (2.21 m)
Operating position (overall)	10 ft. 2 in. (3.10 m)
Operating position (SAE)	8 ft. 9 in. (2.67 m)

▲ Optional/Special Equipment:

Backup alarm
Bolt-on stabilizer street pads
Bucket level indicator
Cab w/front windshield wiper (includes ROPS) and interior sound treatment
Cab heater
Cold weather starting aid
Combination stop and tail lights
Differential lock
Extendable dipperstick
Front axle counterweight
Fuel and radiator filler vandal cover
Heavy-duty batteries, 510-minute reserve capacity
Instrument panel w/warning system
Parking brake
Rear wiper for cab
Reversible stabilizer pads
SMV emblem
3-in. (76 mm) seat belt
24-in. (610 mm) ripper tooth for backhoe
Turn signals

LOADER:

Rollback at ground level	40 degrees
Breakout force	7600 lb. (33.8 kN) (3450 kg)
Digging depth below ground	
bucket level	4 in. (102 mm)
Lifting capacity, full height	
	5000 lb. (2270 kg)
Height to bucket hinge pin	
	10 ft. 9 in. (3.28 m)
Bucket dump angle, max.	
	50 degrees
Dump clearance, bucket @45 degrees	
	8 ft. 9.5 in. (2.68 m)
Reach at full height, bucket @45 degrees	
	2 ft. 5.5 in. (749 mm)
Raising time to full height	
	3.7 sec.
Bucket dump time	
	1.7 sec.
Bucket lowering time (power down)	
	2.8 sec.

BUCKETS

Loader:	Width		Struck Capacity		Nominal Heaped Capacity	
	In.	(mm)	Cu. Ft.	(m ³)	Cu. Yd.	(m ³)
	89.4	(2270)			0.75	(0.57)
	89.4	(2270)			1.0	(0.76)
Backhoe:						
Standard-duty	12	(305)	2.5	(0.07)		
	16	(406)	3.6	(0.10)		
	18	(457)	4.4	(0.13)		
	24	(610)	6.0	(0.17)		
	30	(762)	7.6	(0.13)		
	36	(914)	7.2	(0.20)		
Heavy-duty	18	(457)	4.4	(0.13)		
	24	(610)	6.0	(0.17)		
	30	(762)	7.6	(0.13)		
Ejector	24	(610)	4.2	(0.12)		

310B BACKHOE LOADER DIMENSIONS

