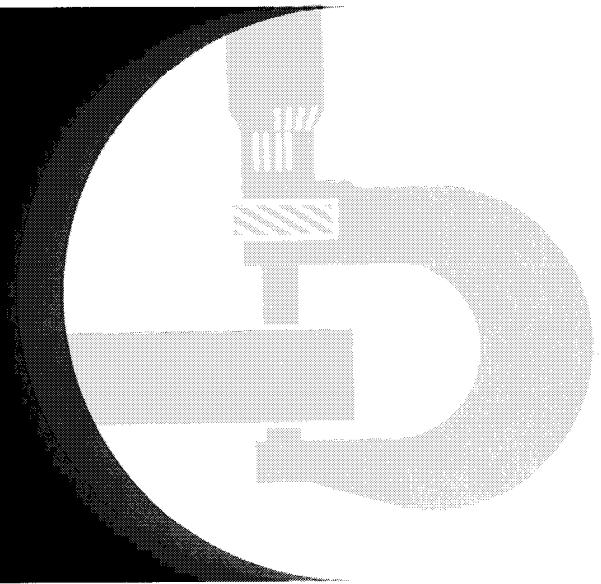


John Deere JD500-C Loader Backhoe



TECHNICAL MANUAL

TM-1038

Litho in U.S.A. (T) Revised

JD500-C Loader Backhoe TECHNICAL MANUAL

TM-1038 (Oct-79)

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The specifications and design information contained in this manual were correct at the time it was printed. It is John Deere's policy to continually improve and update our machines. Therefore, the specifications and design information are subject to change without notice. Wherever applicable, specifications and design information are in accordance with SAE and ICED standards.

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Section 10 GENERAL

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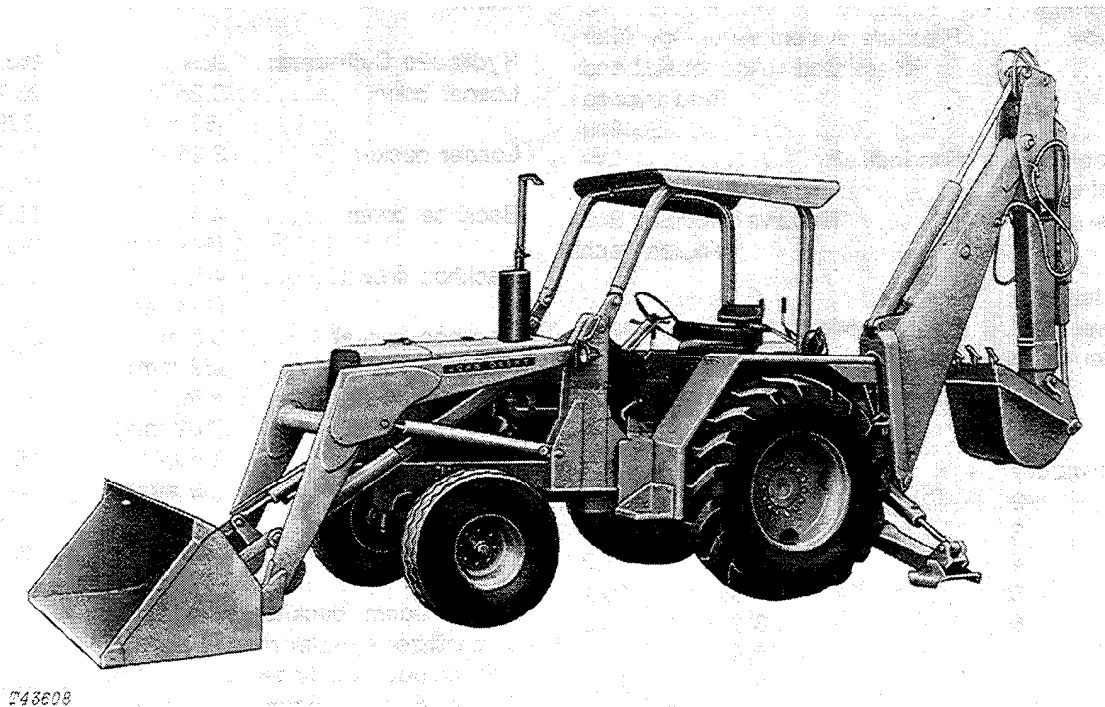


Fig. 1-JD500-C Backhoe Loader

Group 5 SPECIFICATIONS

(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 18.4-28, 8 ply rating rear tires; 14.5/75-16, 10 ply rating front tires; 1 cu. yd. (0.76 m³) loader bucket, 24 in. (610 mm) standard backhoe bucket and standard equipment.)

Power (@ 2500 engine rpm): **SAE** **DIN**
Gross 83 hp (61.9 kW*)
Net 80 hp (59.7 kW) 85.0 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 70 020 standard conditions of 760 mm Hg barometer (sea level) and 20°C temperature.

*In the International System of Units (SI), power is expressed in kilowatts (kW).

Engine: John Deere diesel, 4-cylinder, 4-stroke cycle
Bore and stroke 4.25x4.75 in. (108x121 mm)
Piston displacement 270 cu. in. (4425 cm³)
Compression ratio 17.3 to 1
Maximum torque
 @ 1300 rpm 202 lb-ft (274 Nm) (27.9 kg-m)
NACC or AMA (U.S. Tax) horsepower 28.9
Main bearings 5
Lubrication Pressure system w/full-flow filter
Cooling Pressurized w/thermostat and fixed bypass
Fan Suction
Air cleaner w/restriction indicator Dry
Electrical system 12 volt w/alternator
Batteries (two 6 volt) Reserve capacity: 340 minutes each

Transmission:
Full Power Shift. 8 speeds forward, 4 reverse: Power Shift from forward to reverse in first 4 gears.

Gear:	Travel Speeds:		
	mph	kmh	
Forward	1	1.7	2.7
	2	2.4	3.9
	3	3.8	6.1
	4	4.9	7.9
	5	6.3	10.1
	6	8.1	13.0
	7	10.8	17.4
	8	18.0	29.0
Reverse	1	2.0	3.2
	2	2.8	4.5
	3	4.4	7.1
	4	5.7	9.2

Final Drives Inboard, planetary
Brakes ... Hydraulically power actuated, full enclosed wet-disk. Self-equalizing. Foot-operated individually or simultaneously.

Steering: Power
Turning radius (brake applied) .. 11 ft. 2 in. (3.40 m)
Loader clearance (brake applied) ... 33 ft. (10.06 m)
Number of turns, far left to far right 5

Hydraulic System: Closed-center

Pressure 2350 psi (16 203 kPa) (165.2 kg/cm²)
Loader control Single-lever
Backhoe control Two-lever
Pump ... Piston, constant pressure, variable-displacement, 38 gpm (144 L/min) @ 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	4.5 in. (114 mm)	36.7 in. (932 mm)
Backhoe crowd	4.5 in. (114 mm)	35.5 in. (902 mm)
Backhoe bucket	3.5 in. (89 mm)	27.37 in. (695 mm)
Backhoe swing	4 in. (102 mm)	9.31 in. (237 mm)
Stabilizer	3.5 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.
Loader bucket cylinder rods .. 1.50 in. (38 mm) dia.
Backhoe crowd, boom and bucket cylinder rods 2.25 in. (57 mm) dia.

Tires:	Front	Rear
14.5/75-16.1, 10 ply rating F3		
	18.4-28, 8 ply rating, R4	
		18.4-28, 12 ply rating, R4

Wheel Treads:

Front	66 in. (1.68 m)
Rear	65.5 in. (1.66 m)

Capacities:	U.S.	Imp.	Liters
Cooling system	4.75 gal.	4.0 gal.	18.0
Fuel tank	34 gal.	28.3 gal.	128.7
Engine lubrication, including filter	8 qt.	6.7 qt.	7.6
Transmission and hydraulic system	21.5 gal.	18.0 gal.	81.4

OPERATING INFORMATION

BACKHOE:

Digging depth (ICED):	
Maximum	15 ft. 1 in. (4.60 m)
2 ft. (610 mm) flat bottom	15 ft. (4.57 m)
8 ft. (2.44 m) flat bottom	14 ft. (4.27 m)
Swing arc.....180 deg.	
Lifting capacity:	
Boom at full reach and full height..... 1950 lb. (884 kg)	
Dipper lifting, boom holding, full height..... 3300 lb. (1497 kg)	
Digging force (bucket cylinder in power-dig position)..... 9650 lb. (43.25 kN) (4377 kg)	
Digging force, crowd cylinder 7158 lb. (32.08 kN) (3247 kg)	
Reach from center of swing mast..... 18 ft. 7 in. (5.66 m)	
Reach from center of rear axle..... 22 ft. 1 in. (6.73 m)	
Loading height (truck-loading position)..... 11 ft. 8 in. (3.56 m)	
Transport height..... 11 ft. 8 in. (3.56 m)	
Bucket rotation . Adjustable for 123, 126 or 154 deg.	
Bucket positions... Adjustable for 22 or 13 deg. roll- back 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)

LOADER:

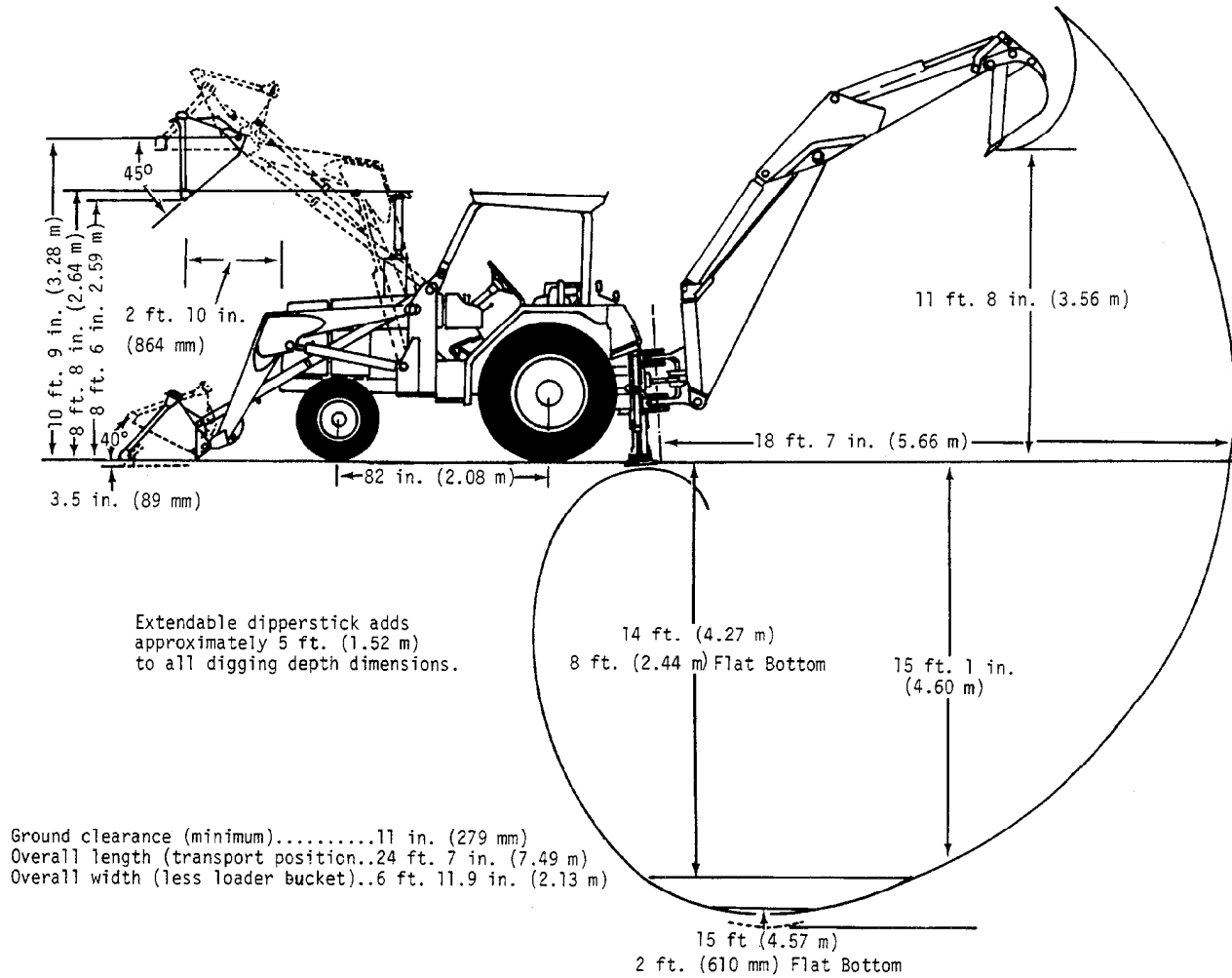
Rollback at ground level	40 deg.
Breakout force	7800 lb. (34.96 kN) (3538 kg)
Digging depth below ground level (with bucket level)	3.5 in. (89 mm)
Lifting capacity, full height	5300 lb. (2404 kg)
Height to bucket hinge pin	10 ft. 9 in. (3.28 m)
Maximum dump angle	60 deg.
Clearance, bucket dumped at	
45 degrees	8 ft. 6 in. (2.59 m)
Reach at maximum height, bucket dumped at 45 degrees	
	2 ft. 10 in. (864 mm)
Raising time to full height	4.5 sec.
Bucket dump time	1.5 sec.
Lowering time (power)	3.0 sec.

Buckets:

	Nominal Heaped Capacity	Width
Loader		
General		
Purpose	1 cu. yd. (0.76 m³)	89.4 in. (2.27 m)
Light		
Materials	1-1/4 cu. yd. (0.96 m³)	89.4 in. (2.27 m)

	Struck Capacity	Width
Backhoe:		
Standard		
	2.5 cu. ft. (0.071 m³)	12 in. (305 mm)
	3.6 cu. ft. (0.102 m³)	16 in. (406 mm)
	4.4 cu. ft. (0.125 m³)	18 in. (457 mm)
	6.0 cu. ft. (0.170 m³)	24 in. (610 mm)
	7.6 cu. ft. (0.215 m³)	30 in. (762 mm)
	7.2 cu. ft. (0.204 m³)	36 in. (914 mm)
Heavy-duty		
	4.4 cu. ft. (0.125 m³)	18 in. (457 mm)
	6.0 cu. ft. (0.170 m³)	24 in. (610 mm)
	7.6 cu. ft. (0.215 m³)	30 in. (762 mm)
Ejector		
	4.2 cu. ft. (0.119 m³)	24 in. (610 mm)

JD500-C BACKHOE LOADER DIMENSIONS



T57849N

Additional Standard Equipment:

- Differential lock
- Vertical muffler w/rain cap
- Fuel gauge
- Oil pressure indicator light
- Alternator charge indicator light
- Water temperature gauge
- Trans. lube pressure indicator light
- Flat deck w/skid-proof platform
- Rear reflector
- Transistorized voltage regulator
- Key switch w/push-button safety start
- Lights

- Cold weather starting aid
- Fenders
- Horn
- Bucket-level indicator
- Electric hour meter
- Foot throttle
- Cigar lighter
- Trans. temp. gauge
- Tachometer
- Hand throttle
- Antifreeze
- Deluxe swing-around seat
- Vandal protection

Special Equipment:

- Exhaust extension
- ROPS w/canopy and seat belt
- Steel bucket teeth for loader
- Cab (includes ROPS, front windshield wiper, seat belt and exhaust extension)
- Cab pressurizer
- Cab heater
- Cab defroster
- Ripper tooth for backhoe
- Bolt-on stabilizer street pads
- Extendable dipperstick
- Parking brake w/warning system
- ADCO buckets for backhoes
- Back-up alarm
- Counterweights
- Seat belt - 3 in. (76 mm)
- Reversible stabilizer pads

SAE Operating Weight.....15,660 lb. (7 103 kg)

Group 10

PREDELIVERY, DELIVERY, AND AFTER-SALE SERVICES

TEMPORARY UNIT STORAGE

After receiving your unit from the factory and before putting the machine into temporary storage, perform the following checks and services.

For long term storage (over 30 days) information, consult your JD500-C operator's manual.

1. Check battery electrolyte level and charge the battery, if necessary.
2. Check coolant level. Maintain 1-1/2 in. above header plate in tank top.
3. Fill the fuel tank.
4. Check crankcase oil level. Oil should be between marks on dipstick after machine has been shut down for 10 minutes.
5. Relieve hydraulic pressure by stopping engine, lowering backhoe and loader to ground, and operating control levers and steering wheel until system fails to respond.
6. Reduce shipping pressure of all tires to inflation pressure shown on page 10-10-14.
7. Cover unit for protection and cleanliness.

PREDELIVERY SERVICE

Because of the shipping factors involved, plus extra finishing touches that are necessary to promote customer satisfaction, proper predelivery service is of prime importance to the dealer and the customer.

If adjustments are required, procedures are found in the after-sale section.

Use the following list when preparing a backhoe loader for delivery to the customer.

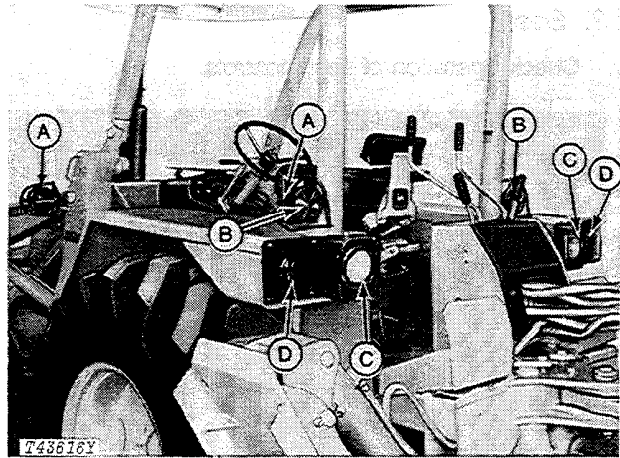
1. Cab Accessories

Check operation of windshield wiper, horn, seat belt, pressurizer, heater, defroster, dome light, etc.

Cab accessories checked Yes No

2. Lights

Check operation of all lights.



A—Loader Frame Headlights C—Combination Rear Lamps
B—Warning Lamps D—Reflectors

Fig. 1-Backhoe Loader Lights

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