FEATURES

80 SAE net hp (85 DIN-PS)
Backhoe digging depth (ICED)—17 ft. 3 in. (5.26 m)
Power Shift transmission
Choice of 2 self-leveling loader buckets
Single-lever loader control
Single, swing-around seat
Choice of 4 heavy-duty backhoe buckets
Two-lever backhoe control
Extendable dipperstick available
Power steering
Self-adjusting wet-disk power brakes
Inboard planetary final drives
Roll-over protective structure (ROPS)
JD510 BACKHOE LOADER SPECIFICATIONS

(Specifications and design subject to change without notice. Wherever applicable, specifications are in accordance with ICED and SAE Standards. Except where otherwise noted, all specifications are based on a unit equipped with 1½ cu. yd. (0.86 m³) loader bucket, 24 in. (610 mm) backhoe bucket, diesel engine and standard equipment.)

**Power (@ 2500 engine rpm):**
- SAE: 83 hp (61.9 kW*)
- DIN: 80 hp (59.7 kW*)

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 70020 standard engine power is without fan. Flywheel power ratings are under SAE 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).

**Transmission:**
- Full power shift. 8 speeds forward, 4 reverse: Power shift from forward to reverse in first 4 gears.
- Gross 83hp(61.9kW*)
- Net 80hp(59.7kW*)

**Gear:**
- Forward 1: 1.7 mph (2.7 km/h)
- Backhoe control Two-Iever
- Loader control Single-Iever
- 3: 2.4 mph (3.9 km/h)
- 4: 3.8 mph (6.1 km/h)
- 5: 4.9 mph (7.9 km/h)
- 6: 6.3 mph (10.1 km/h)
- 7: 8.1 mph (13.0 km/h)
- 8: 10.8 mph (17.4 km/h)
- 180: 15.0 mph (24.1 km/h)
- Rev. 1: 2.0 mph (3.2 km/h)
- 2: 2.8 mph (4.5 km/h)
- 3: 4.0 mph (6.4 km/h)
- 4: 5.2 mph (8.3 km/h)

**Final Drives:**
- Inboard, planetary

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

**Steering:**
- Turning radius (brake applied): 11 ft. 2 in. (3.40 m)
- Number of turns, far left to far right: 6.0

**Hydraulic System:**
- Closed-center
- Max pressure: 2350 psi (162 bar) (165.2 kg/cm²)
- Loader control: Single-Iever
- Backhoe control: Two-Iever
- Filter: 25-micron steel-enclosed paper cartridge in return line

**Hydraulic Cylinders:**
- Bore: 3.75 in. (95 mm)
- Stroke: 28.7 in. (729 mm)
- Loader boom: 5.5 in. (140 mm)
- Backhoe boom: 5.5 in. (140 mm)
- Backhoe bucket: 4 in. (102 mm)
- Cylinder rods: 0.45 in. (114 mm)
- Cylinder rods: 7.5 in. (190 mm)
- Cylinder rods: 2.5 in. (64 mm)
- Cylinder rods: 2 in. (51 mm)

- Gross: 83hp(61.9kW*)
- Net: 80hp(59.7kW*)
- 1.7 mph (2.7 km/h)
- 2.4 mph (3.9 km/h)
- 3.8 mph (6.1 km/h)
- 4.9 mph (7.9 km/h)
- 6.3 mph (10.1 km/h)
- 8.1 mph (13.0 km/h)
- 10.8 mph (17.4 km/h)
- 15.0 mph (24.1 km/h)
- 2.0 mph (3.2 km/h)
- 2.8 mph (4.5 km/h)
- 4.0 mph (6.4 km/h)
- 5.2 mph (8.3 km/h)

**Backhoe:**
- Crowd: 5.5 in. (140 mm)
- Bucket: 27.5 in. (693 mm)
- Boom: 9.9 in. (251 mm)
- Stabilizer: 4.5 in. (114 mm)
- Cylinder rods: 7.5 in. (190 mm)
- Cylinder rods: 2.5 in. (64 mm)
- Cylinder rods: 2 in. (51 mm)

**Loader:**
- Crowd: 3.5 in. (89 mm)
- Bucket: 27.5 in. (693 mm)
- Boom: 9.9 in. (251 mm)
- Stabilizer: 4.5 in. (114 mm)
- Cylinder rods: 7.5 in. (190 mm)
- Cylinder rods: 2.5 in. (64 mm)
- Cylinder rods: 2 in. (51 mm)

**Transmission and hydraulic system:**
- 29.9 gal. (113.2 L)
- 12-volt w/alternator
- Reserve capacity: 340 minutes each

**Breakdown force:**
- 10,000 lb. (44.82 kN) (4536 kg)
- 8 ft. (2.44 m) flat bottom: 17 ft. 2 in. (5.23 m)
- 6 ft. (1.83 m) flat bottom: 16 ft. 5 in. (5.0 m)

**Swing arc:**
- 22 ft. 3 in. (6.78 m)

**Lifting capacity, full height:**
- Boom at full reach and full height: 2400 lb. (1089 kg)
- Bucket cylinder in power-dig position: 12,662 lb. (56.75 kN) (5743 kg)
- Digging force, crowd cylinder: 8811 lb. (39.49 kN) (3997 kg)
- Reach from center of swing mast: 22 ft. 3 in. (6.78 m)
- Reach from center of rear axle: 25 ft. 11 in. (7.90 m)

**Loading height (truck-loading position):**
- 13 ft. 6 in. (4.17 m)

**Swing arc:**
- 180 degrees

**Total number of turns, far left to far right:**
- 6.0

**OPERATING INFORMATION**

**Loader:**
- Rollback at ground level: 40 deg.
- Bucket level: 4 in. (102 mm)
- 8 ft. 6 in. (2.59 m)

**Bucket dump time:**
- 3.0 sec.

**Lowering time (power):**
- 3.7 sec.

**Backhoe:**
- Digging depth below ground level (with bucket level): 4 ft. (102 mm)
- Lifting capacity: full height: 6000 lb. (2722 kg)
- Height to bucket hinge pin: 10 ft. 7 in. (3.23 m)
- Maximum dump angle: 45 deg.
- Reach at maximum height, bucket dumped at 45 degrees: 2 ft. 4 in. (711 mm)
- Raising time to full height: 5.6 sec.

**Operating position (ICED):**
- 12 ft. (3.66 m)
- Adjustable for 148 or 161 deg.
- Bucket positions: 148 or 161 deg.

**Stabilizer Width:**
- Adjustable for 148 or 161 deg.
- Bucket positions: 148 or 161 deg.

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

**Steering:**
- Turning radius (brake applied): 11 ft. 2 in. (3.40 m)
- Number of turns, far left to far right: 6.0

**Hydraulic System:**
- Closed-center
- Max pressure: 2350 psi (162 bar) (165.2 kg/cm²)
- Loader control: Single-Iever
- Backhoe control: Two-Iever
- Pump: Piston, constant pressure, variable-displacement, 60 gpm (227 l/min) @ 2500 engine rpm
- Filter: 25-micron steel-enclosed paper cartridge in return line

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

**Wheel Treads:**
- Front: 70.34 in. (1.79 m)
- Rear: 65.5 in. (1.66 m)

**Capacities:**
- U.S. Liters
- Cooling system: 4.75 gal. (18.0 L)
- Fuel tank: 34 gal. (128.7 L)
- Engine lubrication, including filter: 8 qt. (7.6 L)
- Transmission and hydraulic system: 29.9 gal. (113.2 L)

**LOADERS:**
- 11,662 lb. (5278 kg) (5743 kg)
- 12,000 lb. (54.42 kN) (5743 kg)

**Buckets:**
- Nominal Heaped Capacity
- Width
- 1½ cu. yd. (0.86 m³)
- 1½ cu. yd. (1.15 m³)
- 10 cu. ft. (0.283 m³)
- 12 cu. ft. (0.340 m³)
- 14 cu. ft. (0.396 m³)
- 90.5 in. (2.30 m)
- 94 in. (2.39 m)
- 18 in. (457 mm)
- 24 in. (610 mm)
- 30 in. (762 mm)
- 36 in. (914 mm)
Extendable dipperstick adds approximately 5 ft. (1.52 m) to all digging depth dimensions.

Ground clearance (minimum) 11.3 in. (287 mm)
Overall length (transport position) 24 ft. 7 in. (7.49 m)
Overall width (less loader bucket) 8 ft. 11.9 in. (2.13 m)

Special Equipment:
- ROPS w/canopy and seat belt
- Cab (includes ROPS and seat belt)
- Heater
- Defroster
- Pressurizer for cab
- Exhaust extension
- Bolt-on stabilizer street pads
- Extendable dipperstick
- Reversible stabilizer pads
- Parking brake
- Backup alarm

Additional Standard Equipment:
- Vertical muffler w/rain cap
- Differential lock
- Fuel gauge
- Lights
- Oil pressure indicator light
- Alternator charge indicator light
- Water temperature gauge
- Transmission oil pressure indicator light
- Cigaret lighter
- Transmission oil temperature gauge
- Tachometer
- Key switch w/push-button safety start
- Fenders
- Vandal protection
- Horn
- Hand throttle
- Foot throttle
- Electric hourmeter
- Deluxe swing-around seat
- Antifreeze
- Ether starting aid
- Bucket level indicator
- Rear reflector
- Transistorized voltage regulator
- Flat deck w/skid-proof platform

SAE Operating Weight 20,560 lb. (9326 kg)