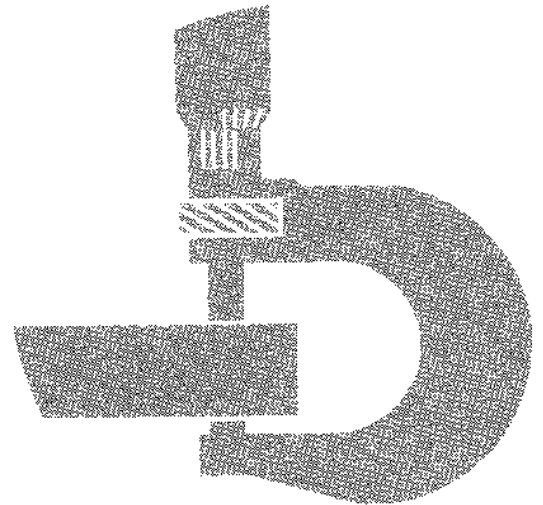


JOHN DEERE JD310 Loader Backhoe Service Repair Manual



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**John Deere
JD310
Loader Backhoe**



TECHNICAL MANUAL

**John Deere Dubuque works
TM-1036 (Feb-77)**

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JD310 LOADER BACKHOE

Technical Manual TM-1036 (Feb-77)

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Group 5

GENERAL MACHINE SPECIFICATIONS

Engine

| | Gasoline | Diesel |
|---|-----------------|-----------------|
| Flywheel Horsepower (net) (observed at 2500 rpm) | 50 | 50 |
| Number of Cylinders | 3 | 3 |
| Bore and Stroke | 4.02 x 4.33 | 4.02 x 4.33 |
| Displacement | 164 | 164 |
| Compression Ratio | 7.5 to 1* | 16.2 to 1 |
| Firing Order | 1-2-3 | 1-2-3 |
| Engine Speeds | | |
| Slow Idle | 600 rpm | 800 rpm |
| Fast Idle | 2650 rpm | 2650 rpm |
| Governed Speed Range (rpm) | 600-2650 rpm | 800-2650 rpm |
| Valve Clearance | | |
| Intake | 0.014 in. | 0.014 in. |
| Exhaust | 0.022 in. | 0.018 in. |

Electrical System

| | |
|-----------------------------|----------|
| Voltage | 12 |
| Battery Ground | Negative |
| Battery Specific Gravity | 1.260 |

* 8.6:1 High-Altitude Pistons

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Capacities

| | |
|---------------------------------------|--------------|
| Fuel Tank | 19-1/2 gals. |
| Cooling System | 12 qts. |
| Engine Crankcase | |
| (with filter) (early units) | 7 qts. |
| (with filter) (later units) | 9 qts. |
| Transmission-Hydrau- lic Reservoir | 20-1/2 gals. |

Clutch

Single-stage, spring-loaded,
dry-disk, foot-operated.

Transmission

Collar-shift with hydraulic reverser containing hydraulic wet clutches provide 8 speeds forward and 4 rearward.

Differentials and Final Drives

Planetary-reduction final drives with spiral bevel gear drive differential.

Differential lock: foot-operated mechanical lock, spring-loaded out of engagement.

Hydraulic System

Closed-center, constant-pressure, variable displacement pump driven from front of engine. Provides hydraulic power for steering and loader-backhoe operation.

Steering System

Hydraulic power steering with provision for emergency manual steering.

Brake System

Fully hydraulic, foot-operated, individually or simultaneously actuated, wet disk type.

Front Tire Options

| Size | Type | Ply Rating |
|-----------------------|------|------------|
| 7.50-16 (Early Units) | I-1A | 6 |
| 7.50-16 (Early Units) | I-1A | 10 |
| 11L-15 | I-1 | 6 |
| 7.50-16 | I-1A | 8 |
| 11L-15 (Early Units) | I-1A | 8 |

Rear Tire Options

| Size | Type | Ply Rating |
|-----------------------|------|------------|
| 16.9-24 (Early Units) | R-1 | 8 |
| 16.9-24 | R-4 | 8 |
| 16.9-24 (Early Units) | R-3 | 8 |
| 18.4-24* | R-4 | 8 |
| 19.5-24 (Early Units) | R-4 | 8 |

* Use with 9500 Backhoe

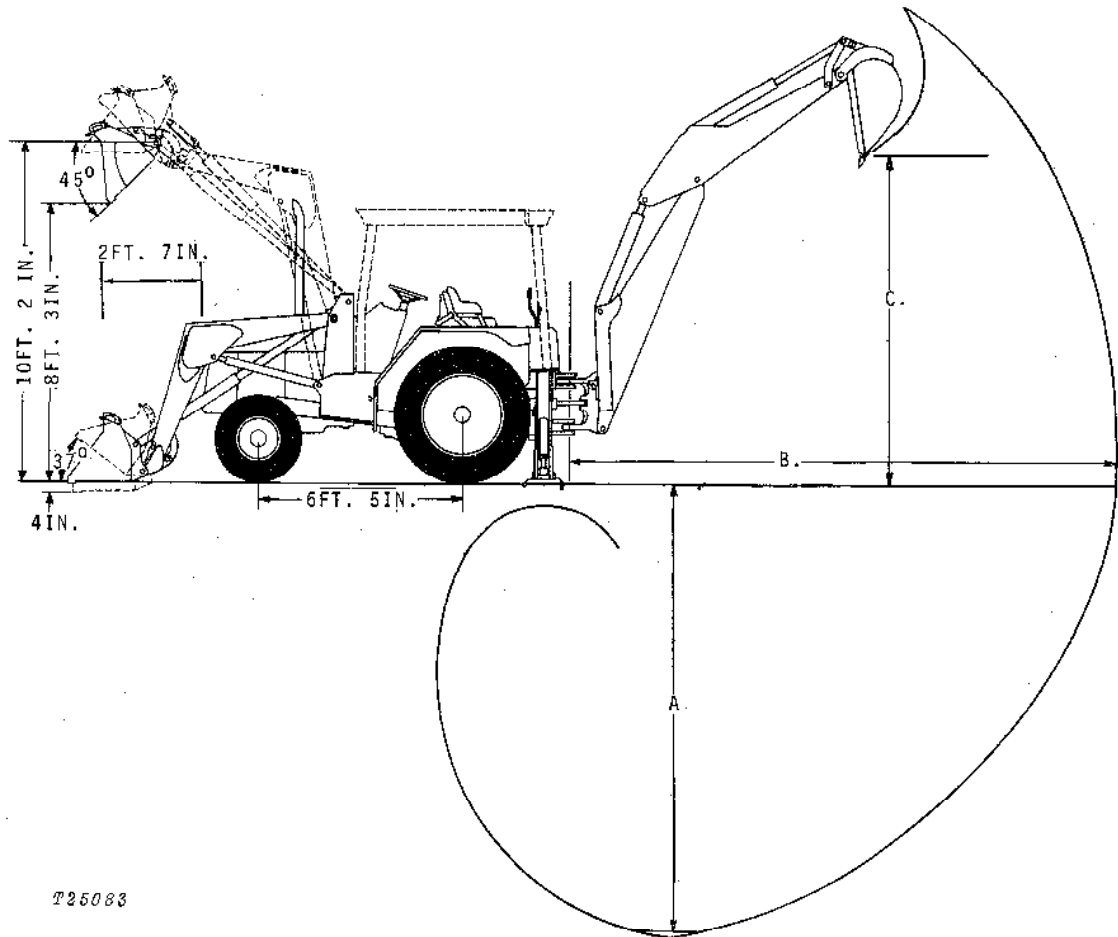
Operating Weight (JD310 with 9405 Backhoe)

| | Gasoline | Diesel |
|-----------------------|-------------|-------------|
| Without canopy or cab | 12,700 lbs. | 12,750 lbs. |
| With canopy | 13,103 lbs. | 13,241 lbs. |

Operating Weight (JD310 with 9500 Backhoe)

| | Gasoline | Diesel |
|-----------------------|-------------|-------------|
| Without canopy or cab | 13,549 lbs. | 13,649 lbs. |
| With canopy | 14,291 lbs. | 14,391 lbs. |

JD310 BACKHOE LOADER OPERATING SPECIFICATIONS



T25083

| | | |
|-------------------------|----------------------|------------------|
| A. Digging Depth (IEMC) | (9405) | 14 ft. 1 in. |
| | (9500) | 13 ft. 9 in. |
| B. Backhoe Reach | (9405) | 17 ft. 1 in. |
| | (9500) | 17 ft. 2 in. |
| C. Truck Loading Height | (9405) | 10 ft. 4 in. |
| | (9500) | 10 ft. 9 in. |
| Transport Height | | 11 ft. 3 in. |
| Ground Clearance | (9405) | 13 in. |
| | (9500) | 7 in. |
| Width (without bucket) | | 6 ft. 11 in. |
| Over-all Length | (9405) | 23 ft. 9 in. |
| | (Transport position) | |
| Over-all Length | (9500) | 18 ft. 6-1/2 in. |
| | (Transport position) | |

| | |
|--|--------------------|
| Over-all Height (top of canopy) | 8 ft. 8 in. |
| Turning Radius (with brakes) | 9 ft. 2 in. |
| Turning Clearance Circle (Loader hinge pin 3 ft. above ground level, bucket rolled back; brakes applied) | 30 ft. |
| Breakout Force | 6,000 lbs. |
| Stabilizer Width (transport position) | |
| | (9405) 7 ft. 3 in. |
| | (9500) 6 ft. |
| Transport Width (9500) | 8 ft. 1 in. |

(Specifications and design subject to change without notice. Whenever applicable, specifications are in accordance with IEMC and SAE standards.)