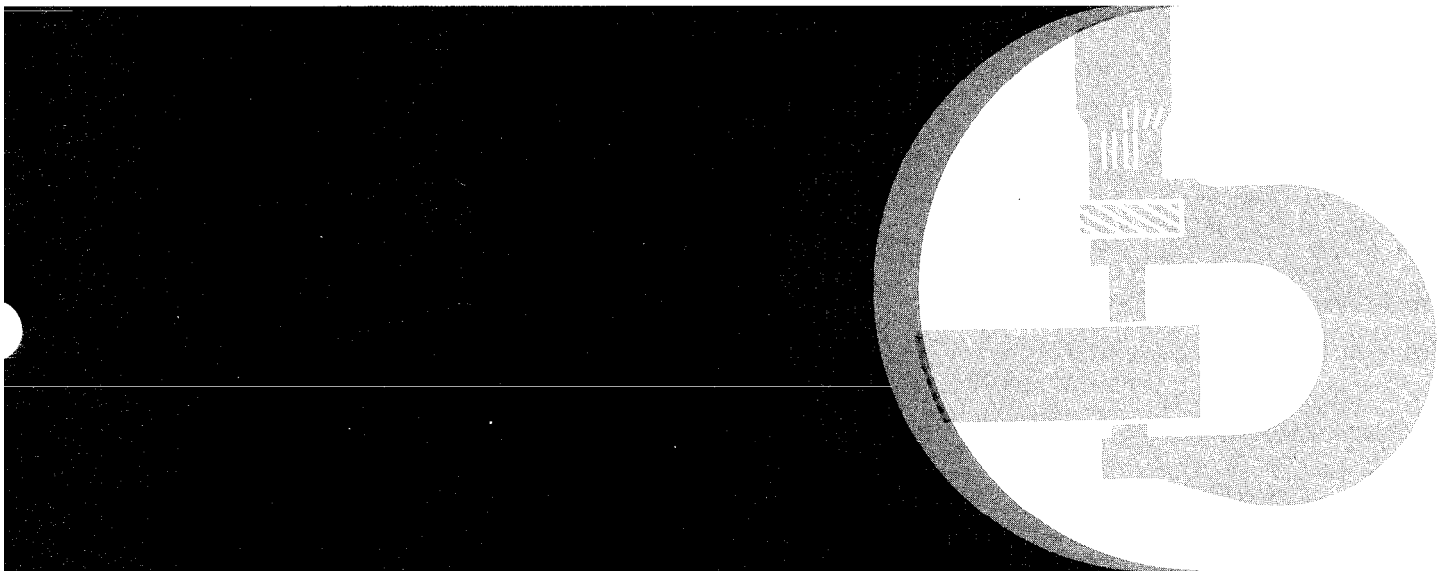


**John Deere
444D, 544D and 644D
Loader
Repair**



TECHNICAL MANUAL

TM-1341 (Oct-87)



LITHO IN U.S.A.

JOHN DEERE DEALERS

IMPORTANT: Please remove this page and route through your service department.

This is a complete revision for TM-1341, 444D/544D/644D Loader.

Binder and tabs from old manual may be saved and used with this bound manual.

The new pages are dated (Oct-87). Listed below is a brief explanation of "WHAT" was changed and "WHY" it was changed.

This manual was revised:

1. To include thrush washer in transmission case for first turbine drive gear.
2. To clarify assembly instruction for reverse range and low range clutch packs.
3. Slow idle for 644D has been increased to 900 ± 25 rpm.
4. To add direct acting relief valve for use in later units.

T64;1341 DCSR 061187

444D, 544D, AND 644D LOADERS TECHNICAL MANUAL TM-1341 (Oct-87)

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*NOTE: For repair on 5.9 L (359 cu. in.) engines, see
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All information, illustrations and specifications contained in this technical manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

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SUPPORT RAISED EQUIPMENT

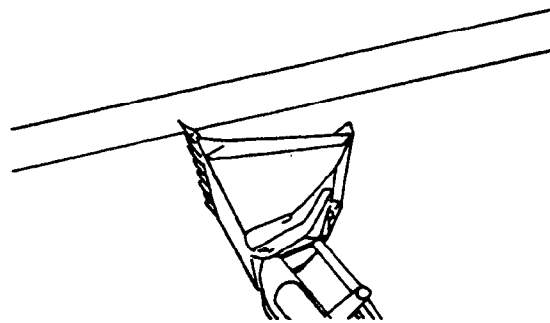
Raised equipment must be supported before working under it.

If a support is not available, lower equipment to the ground.

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AVOID POWER LINES

Keep away from power lines. Serious injury or death may result. Never move any part of the machine or load closer to power line than 10 ft (3 m) plus twice the line insulator length.



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OBSERVE SERVICE PRECAUTIONS

Keep ALL equipment free of dirt and oil.

Clean oil, grease, mud, ice or snow from the operator's station, steps and hand rails.

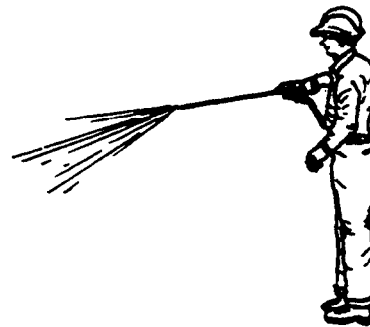
DO NOT remove the radiator cap unless the engine is cool. Then loosen the cap slowly to the stop. Release all pressure before you remove the cap.

Check the exhaust system regularly for leaks.

Release hydraulic pressure before you work on the hydraulic system.

Disconnect negative (—) battery cable.

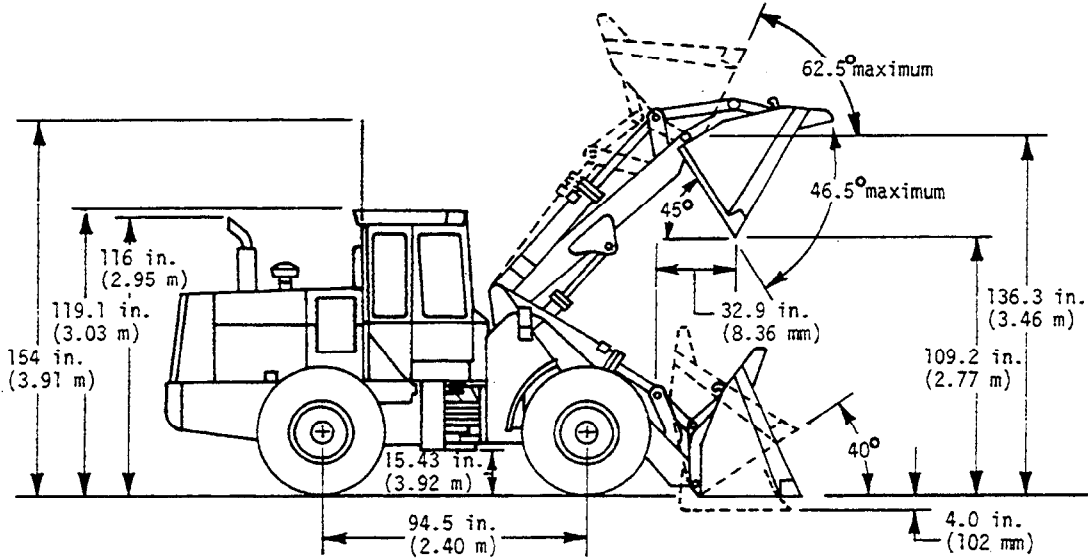
When you check hydraulic pressure, be sure to use the correct test gauge.



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Group II
GENERAL SPECIFICATIONS

444D LOADER



Engine:

John Deere 6-cylinder turbocharger diesel	90 SAE hp (67 kw)
Bore and stroke	
Pin (—511476)	4.02 x 4.33 in. (102 x 110 mm)
Pin (511477—)	4.19 x 4.33 in. (106 x 110 mm)
Piston displacement	
Pin (—511476)	3.29 cu. in. (5.392 L)
Pin (511477—)	3.59 cu. in. (5.833 L)
Lubrication	Pressure system with full-flow filter
Cooling	Pressurized with thermostat and controlled bypass
Fan	Blower
Dual-stage air cleaner with restriction indicator	Dry
Electrical system	12-volt with alternator
Batteries (one 12-volt)	
Cold cranking capacity at 0°F (−18°C)	625 amps
Reserve capacity	170 min. ea.
Alternator: standard	42 amps
optional with cab	90 amps

Differentials:

Front and rear	Standard
Front hydraulic differential lock with capture circuit	Optional
Front No Spin	Optional

Drive Axles:

- Inboard-mounted planetary gears to each wheel.
- Front axle fixed.
- Rear axle oscillates 22° total (15.6 in (396 mm) vertical travel at center of tire).

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General Specifications

Torque Converter Twin-turbine

Transmission Power shift planetary

Forward Speeds

	mph	km/h
1	0—2.9	0—4.7
2	2.9—6.5	4.7—10.5
3	0—11.0	0—17.7
4	11.0—24.6	17.7—39.6

Reverse Speeds

1	0—3.9	0—6.3
2	3.9—8.8	6.3—14.2

NOTE: Shift from 1st to 2nd and 3rd to 4th is automatic.

Brakes:

Service:

- Power-actuated, 4-wheel, inboard-mounted, wet-disk.
- Foot-operated by either pedal.
- Left pedal also disconnects transmission.
- External inspection.
- Low brake pressure warning light and buzzer.

Park:

- Expanding shoe on transmission output shaft, foot-operated.
- Transmission disconnects with park brake applied.
- Warning light on instrument panel.

Steering:

- Turning radius 13 ft 10 in. (4.22 m) measure to center line of outside tire
- Secondary steering—if equipped: Meets the requirements of SAE J53.

Main Hydraulic and Steering System @ fast idle:

Hydraulic System Relief	2250—2450 psi (15 514—15 895 kPa) (155—159 bar)
Boom Raise Circuit Relief	2500—2625 psi (17 238—18 005 kPa) (173—180 bar)
Bucket Rollback Circuit Relief	2500—2625 psi (17 238—18 005 kPa) (173—180 bar)
Bucket Dump Circuit Relief	850—1050 psi (5 861—7 240 kPa) (59—72 bar)
Clam Open Circuit Relief	2500—2625 psi (17 238—18 005 kPa) (173—180 bar)
Clam Close Circuit Relief	2500—2625 psi (17 238—18 005 kPa) (173—180 bar)
Maximum Steering System Pressure	2400—2500 psi (16 550—17 240 kPa) (165—172 bar)
Steering Crossover Relief Valve Pressure	3000—3200 psi (20 685—22 060 kPa) (207—220 bar)

Brake and Differential Lock Hydraulic System:

Unloading Valve Pressure Setting (Closing)	1800 psi (12 411 kPa) (124 bar)
(Opening)	2300 psi (15 859 kPa) (159 bar)
Differential Lock Circuit Pressure	600 psi (4 137 kPa) (41 bar)
Transmission System Pressure	125—170 psi (862—1 172 kPa) (8.6—11.7 bar)

Maximum lift capacity with standard equipment

Maximum height	7,310 lb (3320 kg)
Ground level	18,790 lb (8525 kg)

05T;115 C73 140886

General Specifications

Tires:

13.0—24, 8 PR, G2
 15.5—25, 8 PR, L2
 15.5—25, 12 PR, L2
 15.5—25, 1 STAR, XRAT

17.5—25, 12 PR, L2
 *18.4—26, 10 PR, LS2
 *23.1—26, 10 PR, LS2

Cold Tire Inflation Pressure

50 psi (345 kPa) (3.5 bar)
 45 psi (310 kPa) (3.1 bar)
 55 psi (380 kPa) (3.8 bar)
 front 50 psi (340 kPa) (3.4 bar)
 rear 30 psi (210 kPa) (2.1 bar)
 50 psi (340 kPa) (3.4 bar)
 30 psi (210 kPa) (2.1 bar)
 25 psi (170 kPa) (1.7 bar)

**Use with log loader*

Wheel Treads:

Front and rear 70.0 in. (1.78 m)

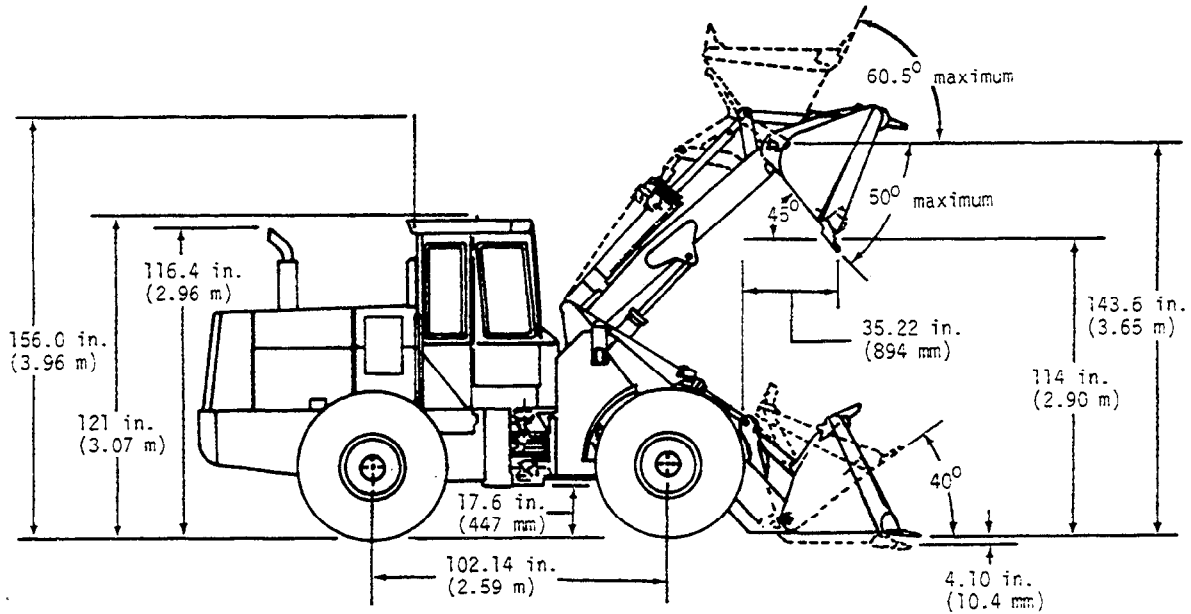
Refill Capacities:

	U.S.	Metric
Cooling System	24 qt.	23 L
Fuel tank	50 gal.	189 L
Engine crankcase and filter	12 qt.	11.4 L
Transmission case and filter	8.5 gal	32.2 L
Front and rear differential	17 qt.	16 L
Hydraulic reservoir	64 qt.	61 L
Weight:	19, 223 lb	8727 kg

NOTE: *Specifications and design subject to change without notice. Wherever applicable, specifications are in accordance with ICED and SAE standards. Except where otherwise noted, specifications are based on a machine equipped with all standard equipment, 15.5—25, 8 PR loader-tread tires with 940 lb (426 kg) CaC₁₂ solution in rear tires, ROPS cab, full fuel tank, and 175 lb (79 kg) operator.*

T82;FLSP H 140685

544D LOADER



Engine:

John Deere 6-cylinder turbocharger diesel	115 SAE hp (86 kw)
Bore and stroke	4.19 x 5 in. (106.5 x 127 mm)
Piston displacement	414 cu. in. (6.785 L)
Lubrication	Pressure system with full-flow filter
Cooling	Pressurized with thermostat and controlled bypass
Fan	Blower
Aspirated dual-stage air cleaner with restriction indicator	Dry
Electrical system	12-volt with alternator
Batteries (one 12-volt)	
Cold cranking capacity at 0°F (-18°C)	625 amps
Reserve capacity	170 min. ea.
Alternator: standard	42 amps
optional with cab	90 amps

Torque Converter

Twin-turbine

Transmission

Power shift planetary

Forward Speeds

	mph	km/h
1	0—3.1	0—5.0
2	3.1—7.3	5.0—11.7
3	0—11.7	0—18.8
4	11.7—27.9	18.8—45.0

Reverse Speeds

1	0—4.2	0—6.8
2	4.2—9.9	6.8—16.0

NOTE: Shift from 1st to 2nd and 3rd to 4th is automatic.

25A/T6140AD T82/FLPD S 310785

General Specifications

Differentials:

Front and rear	Standard
Front hydraulic differential lock with capture circuit	Optional
Front No Spin	Optional

Drive Axles:

- Inboard-mounted planetary gears to each wheel.
- Front axle fixed.
- Rear axle oscillates 22° total (13.5 in (343 mm) vertical travel at center of tire).

Brakes:

Service:

- Power-actuated, 4-wheel, inboard-mounted, wet-disk.
- Foot-operated by either pedal.
- Left pedal also disconnects transmission.
- External inspection.
- Low brake pressure warning light and buzzer.

Park:

- Expanding shoe on transmission output shaft, foot-operated.
- Transmission disconnects with park brake applied.
- Warning light on instrument panel.

Steering:

- Turning radius 14 ft 7 in. (4.44 m) measured to center line of outside tire
- Secondary steering—if equipped: Meets the requirements of SAE J53.

Main Hydraulic and Steering System:

Hydraulic System Relief	2625—1750 psi (18 099—18 960 kPa) (179—189 bar)
Boom Raise Circuit Relief	2875—3000 psi (19 823—20 680 kPa) (198—207 bar)
Bucket Rollback Circuit Relief	2875—3000 psi (19 823—20 680 kPa) (198—207 bar)
Bucket Dump Circuit Relief	1750—1950 psi (12 066—13 445 kPa) (119—134 bar)
Clam Open Circuit Relief	2875—3000 psi (19 823—20 680 kPa) (198—207 bar)
Clam Close Circuit Relief	2875—3000 psi (19 823—20 680 kPa) (198—207 bar)
Maximum Steering System Pressure	2400—2500 psi (16 550—17 240 kPa) (166—172 bar)
Steering Crossover Relief Valve Pressure	3000—3200 psi (20 685—22 060 kPa) (207—220 bar)

Brake and Differential Lock Hydraulic System:

Unloading Valve Pressure Setting (Closing)	1800 psi (12 411 kPa) (124 bar)
(Opening)	2300 psi (15 859 kPa) (159 bar)
Differential Lock Circuit Pressure	600 psi (4 137 kPa) (41 bar)
Transmission System Pressure	125—170 psi (862—1 172 kPa) (18.6—11.7 bar)

Maximum lift capacity with standard equipment

Maximum height	10,239 lb (4 654 kg)
Ground level	25,009 lb (11 368 kg)

T82;FLSP E 081185

General Specifications

Tires:

- 14.0—24, 10 PR, G2
- 14.0—24, 12 PR, G2
- 17.5—25, 12 PR, L2
- 17.5—25, 12 PR, L3
- 17.5—25, 1 START, XRAT

- 20.5—25, 12 PR, L3
- 20.5—25, 12 PR, L3
- *23.1—26, 10 PR, LS2
- *28.1—26, 14 PR, LS2

Cold Tire Inflation Pressure

- 55 psi (380 kPa) (3.8 bar)
- 65 psi (410 kPa) (4.1 bar)
- 50 psi (345 kPa) (3.5 bar)
- 50 psi (345 kPa) (3.5 bar)
- front 50 psi (345 kPa) (3.5 bar)
- rear 30 psi (210 kPa) (2.1 bar)
- 50 psi (345 kPa) (3.5 bar)
- 50 psi (345 kPa) (3.5 bar)
- 25 psi (170 kPa) (1.7 bar)
- 30 psi (210 kPa) (2.1 bar)

**Use with feller buncher and log loader*

Wheel Treads:

- Front and rear 70.0 in. (1.78 m)
- Front and rear w/20, 5—25 tires 80.0 in. (2.03 m)

Refill Capacities:

	U.S.	Metric
Cooling System	24 qt.	23 L
Fuel tank	50 gal.	189 L
Engine crankcase and filter	20 qt.	19 L
Transmission case and filter	8.5 gal	32 L
Front differential	24 qt.	23 L
Rear differential	24 qt.	23 L
Hydraulic reservoir	64 qt.	61 L
Weight:	22, 665 lb	10 290 kg

NOTE: Specifications and design subject to change without notice. Wherever applicable, specifications are in accordance with ICED and SAE standards. Except where otherwise noted, specifications are based on a machine equipped with all standard equipment, 17.5—25, 12 PR, L2 tires with 1180 lb (535 kg) CaC1₂ solution in rear tires, ROPS cab, full fuel tank, and 175 lb (79 kg) operator.