

4440 Tractor



JOHN DEERE

TECHNICAL MANUAL

**4440
Tractor**

TM1182 (01SEP77) English

TM1182 (01SEP77)

**LITHO IN U.S.A.
ENGLISH**

4440 TRACTOR TECHNICAL MANUAL TM-1182 (SEP-77)

CONTENTS—REPAIR SECTIONS

SECTION 10—GENERAL

- Group 00—Specifications and Special Tools
- Group 05—Predelivery, Delivery, and After-Sale Services
- Group 10—Tune-Up
- Group 15—Lubrication
- Group 20—Separation

SECTION 20—ENGINE REPAIR

- Group 00—Specifications and Special Tools
- Group 05—Cylinder Head, Valves, and Camshaft
- Group 10—Cylinder Block, Liners, Pistons, and Rods
- Group 15—Crankshaft, Main Bearings, and Flywheel
- Group 20—Lubricating System
- Group 25—Cooling System

SECTION 30—FUEL AND AIR REPAIR

- Group 00—Specifications and Special Tools
- Group 05—Air Intake System
- Group 10—Diesel Fuel System
- Group 15—Control Linkage

SECTION 40—ELECTRICAL REPAIR

- Group 00—Specifications and Special Tools
- Group 05—Harness Replacement
- Group 10—Charging Circuit
- Group 15—Starting Circuit
- Group 20—Lighting Circuits
- Group 25—Instrument and Accessory Circuits
- Group 30—Power Front-Wheel Drive

SECTION 50—POWER TRAIN REPAIR

- Group 00—Specifications and Special Tools
- Group 05—Perma-Clutch™
- Group 10—Quad-Range™ Planetary
- Group 15—Quad-Range Transmission
- Group 20—Power Shift Transmission
- Group 25—Power Take-Off
- Group 30—Differential
- Group 35—Final Drive
- Group 40—Power Front-Wheel Drive

SECTION 60—STEERING/BRAKES REPAIR

- Group 00—Specifications and Special Tools
- Group 05—Power Steering
- Group 10—Power Brakes

SECTION 70—HYDRAULIC REPAIR

- Group 00—Specifications and Special Tools
- Group 05—Miscellaneous Hydraulic Components
- Group 10—Hydraulic Pumps
- Group 15—Rockshaft and Implement Hitches
- Group 20—Selective Control Valve, and Remote Cylinder

SECTION 80—MISCELLANEOUS

- Group 00—Specifications and Special Tools
- Group 05—Front Axles
- Group 10—Wheels

SECTION 90—OPERATOR STATION REPAIR

- Group 00—Specifications and Special Tools
 - Group 05—Air Conditioning System
 - Group 10—Heating System
 - Group 15—Seat
 - Group 20—Miscellaneous Components
- (Continued on page 2)

Click on the image link below for the full version of the service manual



CONTENTS—OPERATION AND TESTS SECTIONS

SECTION 220—ENGINE OPERATION AND TESTS

- Group 00—Specifications and Special Tools
- Group 05—System Operation
- Group 10—System Tests and Diagnosis

SECTION 230—FUEL/AIR OPERATION AND TESTS

- Group 00—Specifications and Special Tools
- Group 05—Air Intake System
- Group 10—Diesel Fuel System
- Group 15—Control Linkage

SECTION 240—ELECTRICAL OPERATION AND TESTS

- Group 00—Specifications and Special Tools
- Group 05—General Information and Diagrams
- Group 10—Charging Circuit
- Group 15—Starting Circuit
- Group 20—Lighting Circuits
- Group 25—Instrument and Accessory Circuits
- Group 30—Power Front-Wheel Drive
- Group 35—Electrical Remote Control and Outlet Socket

SECTION 250—POWER TRAIN OPERATION AND TESTS

- Group 00—Specifications and Special Tools
- Group 05—Quad-Range System Operation
- Group 10—Quad-Range Tests and Diagnosis
- Group 15—Power Shift System Operation
- Group 20—Power Shift Tests and Diagnosis
- Group 25—Differential and Final Drive
- Group 30—Power Front-Wheel Drive

SECTION 260—STEERING/BRAKES OPERATION AND TESTS

- Group 00—Specifications and Special Tools
- Group 05—Power Steering
- Group 10—Power Brakes

SECTION 270—HYDRAULIC OPERATION AND TESTS

- Group 00—Specifications and Special Tools
- Group 05—Hydraulic System Operation
- Group 10—Hydraulic System Tests
- Group 15—Miscellaneous Hydraulic Components
- Group 20—Hydraulic Pumps
- Group 25—Rockshaft and Implement Hitches
- Group 30—Selective Control Valve and Remote Cylinder

SECTION 290—OPERATOR STATION OPERATION AND TESTS

- Group 00—Specifications and Special Tools
- Group 05—Air Conditioning System
- Group 10—Heating System

Section 10 GENERAL

CONTENTS OF THIS SECTION

	Page		Page
GROUP 00—SPECIFICATIONS		GROUP 15—LUBRICATION	
General Tractor Specifications	10-00-1	Lubricants	10-15-1
Predelivery	10-00-4	Engine	10-15-2
Tune-Up	10-00-5	Transmission-Hydraulic System	10-15-3
Lubrication	10-00-5	Hi-Crop Final Drive Housings	10-15-5
Separation	10-00-6	Front Wheel Bearings	10-15-6
Special Tools	10-00-7	Grease Fittings	10-15-6
GROUP 05—PREDELIVERY, DELIVERY, AND AFTER-SALE SERVICES		GROUP 20—SEPARATION	
Dealer Predelivery Service	10-05-1	Removing Sound-Gard® Body without Control Support	10-20-1
Inspection Checks	10-05-11	Removing Sound-Gard Body with Control Support	10-20-5
Dealer Service	10-05-13	Separating Engine from Clutch Housing	10-20-10
After Sale Inspection	10-05-14	Removing Front End	10-20-14
GROUP 10—TUNE-UP		Removing Engine	10-20-18
Preliminary Engine Testing	10-10-1	Separating Clutch Housing from Power Shift Transmission Case	10-20-21
Engine Tune-Up	10-10-1	Separating Clutch Housing from Quad-Range Transmission Case	10-20-24
Operation	10-10-7	Removing Rear Axle Housing	10-20-26
General	10-10-7		

Group 00 SPECIFICATIONS AND AND SPECIAL TOOLS GENERAL TRACTOR SPECIFICATIONS

HORSEPOWER (Factory observed PTO
horsepower at 2200 rpm)

130 hp (97 kW)

ENGINE:

Type	6-cylinder, in-line, valve-in head, diesel, turbocharged,
Slow idle speed	800 rpm
Working speed range	1500 to 2200 rpm
Bore and stroke	4.56 x 4.75 in. (116 x 121 mm)
Displacement	466 cu. in. (7.6 L)
Compression ratio	14.9 to 1
Firing order	1-5-3-6-2-4
Valve clearance	
Intake	0.018 in. (0.46 mm)
Exhaust	0.028 in. (0.71 mm)
Injection pump timing	TDC
Lubrication system	force-feed, pressurized with full-flow filter

FUEL SYSTEM:

Type	direct injection
Injection pump type	in-line
Air cleaner	dry type with safety element

COOLING SYSTEM

Type	dual-pressure with centrifugal pump
Temperature control	dual heavy duty thermostats

CAPACITIES

Fuel tank	65 U.S. gal. (245 L)
Cooling system	36 U.S. qt. (34 L)
Crankcase (with filter change)	16 U.S. qt. (15 L)
Transmission-hydraulic system (Drain and fill)	
Power Shift Transmission	11.0 U.S. gal. (49.2 L)
QUAD-RANGE Transmission	13.0 U.S. gal. (41.6 L)
Add for Power Front-Wheel Drive	4.0 U.S. gal. (15.1 L)

Transmission-hydraulic system (Dry, production fill)	
Power Shift Transmission	15.9 U.S. gal. (60.3 L)
QUAD-RANGE Transmission	15.9 U.S. gal. (60.3 L)
Add for Power Front-Wheel Drive	5.0 U.S. gal. (18.9 L)

POWER SHIFT TRANSMISSION:

Type	planetary gears, hydraulically actuated wet disk clutches and brakes
Gear selections	8 forward and 4 reverse
Shifting	hydraulic, on-the-go and under load

QUAD-RANGE TRANSMISSION

Type	2-speed, power-shifted planetary and 8-speed synchronized
Gear selections	16 forward and 6 reverse
Perma-Clutch	hydraulically-operated, multiple-disk wet clutch

POWER TAKE-OFF:

Type	fully independent
Speed (2200 engine rpm)	dual speed 540-1000 rpm
Size	1-3/8 in. (35 mm)
Clutch	hydraulically-operated, multiple-disk wet clutch

POWER FRONT-WHEEL DRIVE:

Type	hydraulic motor with planetary gear reduction, constant torque and variable speed
Controls	solenoid-operated valves, synchronized with trans- mission controls

HYDRAULIC SYSTEM:

Type	closed-center, constant-pressure
Standby pressure	2250 psi (155 bar) (155 kg/cm ²)

BRAKES:

Type	hydraulically-operated wet disk
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ELECTRICAL SYSTEM:

Type	12-volt, negative ground
Batteries	two, 6-volt, 5D group, 800 amps cold cranking, 376 minutes reserve capacity
Alternator	72-amp with Sound-Gard body 61-amp without

TIRES AND TREADS

see page 05-6 in this section

DIMENSIONS:

Wheelbase	106.7 in. (2709 mm)
Overall length	158.6 in. (4028 mm)
Height to muffler cover*	128.7 in. (3268 mm)
Height to top of Sound-Gard Body*	117.3 in. (2979 mm)
Overall width (regular axle)	90 in. (2277 mm)
Width at fender	82 in. (2082 mm)
Width at roof	54.4 in. (1382 mm)
Turning radius	146 in. (3700 mm)

SHIPPING WEIGHT**

12,000 lbs. (5400 kg)

*Tractor equipped with 20.8-38 R1 rear tires and 11.00-16 front tires.

**Equipped for average field service, without fuel and ballast. Add approximately 1000 lbs. (450 kg) if equipped with power front-wheel drive.

GROUND SPEEDS

Approximate ground speeds are given in the following charts. Speeds are shown in miles per hour, with kilometers per hour in parentheses.

Speeds are for a Tractor with 18.4-38 tires.

POWER SHIFT TRANSMISSION GROUND SPEEDS

Gear	1500 Engine RPM	2200 Engine RPM
1st	1.2 (1.9)	1.8 (2.7)
2nd	1.7 (2.7)	2.5 (4.0)
3rd	2.6 (4.2)	3.8 (6.1)
4th	3.4 (5.5)	4.9 (8.0)
5th	4.4 (7.1)	6.4 (10.5)
6th	5.8 (9.3)	8.2 (13.7)
7th	7.4 (11.9)	11.0 (17.5)
8th	12.6 (20.3)	18.6 (29.8)
1st rev.	1.4 (2.3)	2.2 (3.6)
2nd rev.	2.0 (3.2)	3.0 (5.1)
3rd rev.	3.2 (5.1)	4.6 (7.6)
4th rev.	4.2 (6.8)	5.9 (9.8)

QUAD-RANGE TRANSMISSION GROUND SPEEDS

Range	Speed	1500 Engine RPM	2200 Engine RPM
A	1	1.3 (2.1)	1.9 (3.1)
	2	1.7 (2.7)	2.4 (3.9)
	3	2.2 (3.5)	3.2 (5.1)
	4	2.8 (4.4)	4.0 (6.5)
	1R	2.1 (3.4)	3.1 (5.0)
	2R	2.7 (4.3)	3.9 (6.3)
B	1	3.0 (4.9)	4.4 (7.1)
	2	3.8 (6.2)	5.6 (9.0)
	3	5.0 (8.0)	7.3 (11.8)
	4	6.3 (10.2)	9.3 (15.0)
	1R	4.8 (7.8)	7.1 (11.4)
	2R	6.1 (9.9)	9.0 (14.5)
C	1	3.6 (5.8)	5.2 (8.5)
	2	4.5 (7.3)	6.7 (10.7)
	3	5.9 (9.5)	8.7 (14.0)
	4	7.5 (12.1)	11.0 (17.7)
	1R	5.7 (9.2)	8.4 (13.5)
	2R	7.3 (11.7)	10.7 (17.2)
D	1	5.5 (8.8)	8.1 (13.0)
	2	7.0 (11.2)	10.2 (16.5)
	3	9.1 (14.6)	13.3 (21.4)
	4	11.5 (18.5)	16.9 (27.2)

(Specifications and design subject to change without notice.)

PREDELIVERY, DELIVERY, AND AFTER-SALE SERVICES

Item	Specification
Toe-in	1/8 to 3/8 inch (3 to 9 mm)
Injection pump timing	TDC
Engine speeds	
Slow idle	780 to 820 rpm
Fast idle	2325 to 2425 rpm
Rated speed at full load	2200 rpm

Torque	ft-lbs	N·m	kgm
SOUND-GARD® body or Four-Post ROLL-GARD® mounting bolts	150	200	20
Front axle-to-knee bolts:			
All except Hi-Crop	370	500	50
Hi-Crop	445	600	60
Front wheel-to-hub bolts	100	135	14
Special bolts on rear hubs	300	410	41
Steel wheel-to-hub bolts	240	325	33
Rim clamp-to-wheel bolts	170	230	23
Rockshaft lift arm retaining bolts	300	410	41
Other nuts and cap screws:			

Bolt Diameter	Plain Head*			Three Radial Dashes*			Six Radial Dashes*		
	ft-lbs	N·m	kgm	ft-lbs	N·m	kgm	ft-lbs	N·m	kgm
1/4 in. (6.35 mm)	6	8	0.8	10	14	1.4	14	19	1.9
5/16 in. (7.93 mm)	13	18	1.8	20	27	2.7	30	41	4.1
3/8 in. (9.53 mm)	23	31	3.1	35	47	4.7	50	70	7.0
7/16 in. (11.11 mm)	35	47	4.7	55	75	7.5	80	110	11
1/2 in. (12.70 mm)	55	75	7.5	85	115	12	120	160	16
9/16 in. (14.29 mm)	75	100	10	130	175	18	175	240	24
5/8 in. (15.88 mm)	105	140	14	170	230	23	240	325	33
3/4 in. (19.05 mm)	185	250	25	300	410	41	425	575	58
7/8 in. (22.23 mm)	160	220	22**	445	600	60	685	930	93
1 in. (25.40 mm)	250	340	34**	670	900	90	1030	1400	140

*The types of bolts and cap screws are identified by head markings as follows:

Plain Head: regular machine bolts and cap screws.

3-Dash Head: tempered steel high-strength bolts and cap screws.

6-Dash Head: tempered steel extra high-strength bolts and cap screws.

**Machine bolts and cap screws 7/8-inch and larger are sometimes formed hot rather than cold, which accounts for the lower torque.

TUNE-UP

Item	Specification
PTO horsepower	130 hp (97 kW)
Compression	330 to 370 psi (22.5 to 25.5 bar)
Vacuum (full speed, full load, clean air filters)	10.5 to 11.5 in. (26 to 29 mbar)
Air cleaner indicator switch closing vacuum	24 to 26 in. (60 to 65 mbar)
Manifold pressure (full speed, full load, clean air filters)	14 to 16 psi (0.96 to 0.97 bar)
Thermostat opening temperature	160 to 180°F (71 to 82°C)
Radiator cap pressure release	
Low pressure cap	6.25 to 7.50 psi (0.4 to 0.5 bar)
High pressure cap	14 to 17 psi (0.9 to 1.2 bar)
Engine speeds	
Slow idle	780 to 820 rpm
Fast idle	2325 to 2425 rpm
Rated speed at full load	2200 rpm

LUBRICATION

Engine crankcase oil capacity	16 U.S. qt. (15 L)
Transmission-hydraulic system oil capacity	
(Drain and fill)	
Power Shift Transmission	11.0 U.S. gallons (49.2 L)
QUAD-RANGE Transmission	13.0 U.S. gal. (41.6 L)
Add for Power Front-Wheel Drive	4.0 U.S. gal. (15.1 L)
Transmission-hydraulic system	
(Dry, production fill)	
Power Shift Transmission	15.9 U.S. gal. (60.3 L)
QUAD-RANGE Transmission	15.9 U.S. gal. (60.3 L)
Add for Power Front-Wheel Drive	5.0 U.S. gal. (18.9 L)
Service intervals	
Check engine oil level	Every 10 hours
Change engine oil	Every 100 hours
Replace engine oil filter	Every 200 hours
Clean crankcase breather filter	Every 200 hours
Check transmission-hydraulic system oil level	Every 200 hours
Replace transmission-hydraulic system oil filter (QUAD-RANGE) ..	Every 200 hours
Replace transmission-hydraulic system oil filters (Power Shift) ...	Every 600 hours
Change transmission-hydraulic oil	Every 1200 hours
Clean main hydraulic pump screen	Every 1200 hours
Clean and repack front wheel bearings	Every 1200 hours
Lubricate grease fittings	
Front axle pivot pins, steering spindles, tie rods (10 fittings) ...	Every 10 hours
Wide-swing drawbar rollers (if equipped)	Every 10 hours
Front wheel bearings (only in extremely wet conditions)	Every 10 hours
3-point hitch	Every 200 hours
Load control shaft bushings	Every 200 hours
Rear axle bearings	Every 600 hours

SEPARATION

ITEM	SPECIFICATION
Fan belt tension	New Belt
Single belt	130-140 lbs. (572-622 N)
Dual belt	95-104 lbs. (423-467 N)
	After Run In
All belts	85-94 lbs. (378-423 N)
ITEM	TORQUE
SOUND-GARD body retaining cap screws	150 ft-lbs (203 N·m) (20.3 kgm)
ROLL-GARD (4-post) mounting cap screws	150 ft-lbs (203 N·m) (20.3 kgm)
Engine-to-clutch housing cap screws	1/2 in.—85 ft-lbs (115 N·m) (11.5 kgm)
	3/4 in.—300 ft-lbs (406 N·m) (40.6 kgm)
Clutch housing-to-engine cap screws	300 ft-lbs (406 N·m) (40.6 kgm)
Hydraulic pump support-to-engine cap screws	85 ft-lbs (115 N·m) (11.5 kgm)
Hydraulic pump coupler lock nuts	30 ft-lbs (41 N·m) (4.1 kgm)
Hydraulic pump drive coupling	35 ft-lbs (47 N·m) (4.7 kgm)
Side frames-to-engine	5/8 in.—275 ft-lbs (373 N·m) (37.3 kgm)
	3/4 in.—425 ft-lbs (578 N·m) (57.8 kgm)
Clutch housing-to-transmission case cap screws	5/8 in.—170 ft-lbs (230 N·m) (23 kgm)
	3/4 in.—300 ft-lbs (406 N·m) (40.6 kgm)
Oil filter inlet pipe elbow cap screws	45 ft-lbs (61 N·m) (6.1 kgm)
Axle housing-to-transmission case cap screws	170 ft-lbs (230 N·m) (23 kgm)
Hi-Crop drive shaft housing-to-final drive gear housing	275 ft-lbs (373 N·m) (37.3 kgm)
Radiator hose clamps (clean and dry)	36 in-lbs (4 N·m) (0.4 kgm)
Transmission pump elbow-to-clutch housing cap screws	45 ft-lbs (61 N·m) (6.1 kgm)
Oil pan-to-clutch housing cap screws	85 ft-lbs (115 N·m) (11.5 kgm)
Hose clamps	30 in-lbs (3.4 N·m) (0.3 kgm)

SPECIAL TOOLS**Predelivery, Delivery, and After-Sale Services****TOOL****USE**

JDG-18 Snap Ring Tool

Remove and install snap rings on ends of rear axles

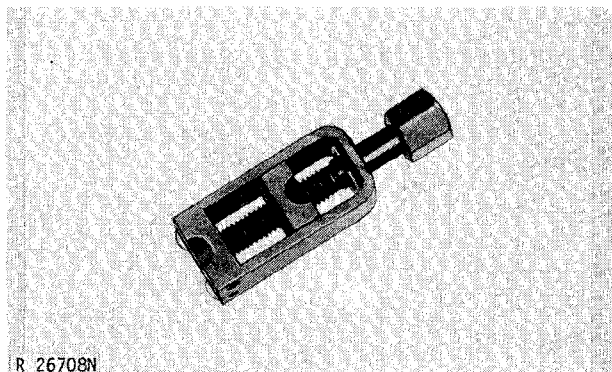
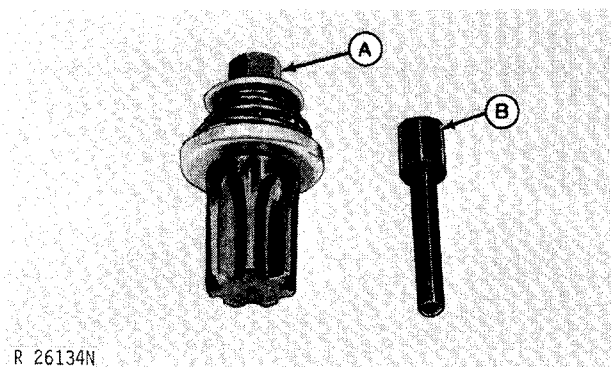


Fig. 1-JDG-18 Snap Ring Tool*

JDE-81-1 Engine Rotation Tool and JDE-81-4 Timing Pin

Turn engine to TDC to check injection pump timing



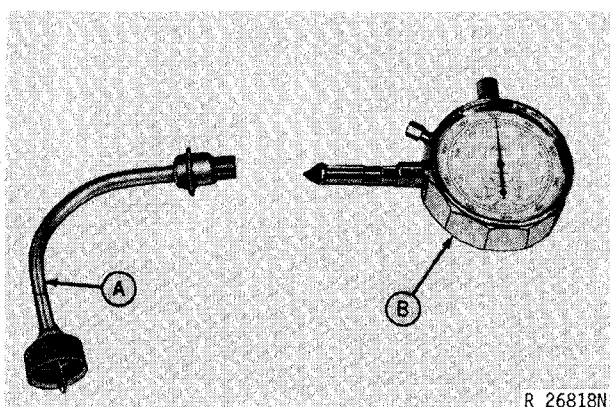
A—JDE-81-1 Engine Rotation Tool*

B—JDE-81-4 Timing Pin*

Fig. 2-Tools Required for Checking Timing

JDE-28 Adapter and Hand Tachometer

Check engine speeds



A—JDE-28 Adapter*

B—Hand Tachometer

Fig. 3-Tools Required for Checking Engine Speeds

Tune-Up

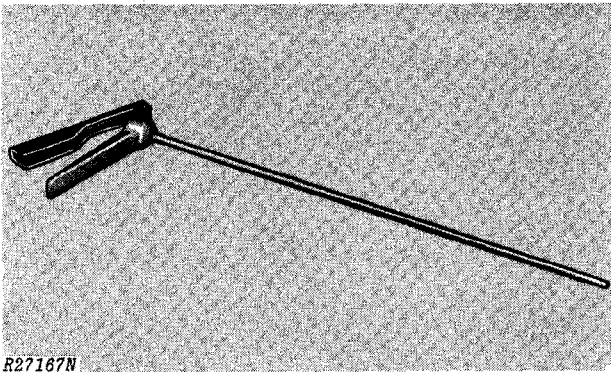


Fig. 4-AR62377 Dry Element Cleaning Gun

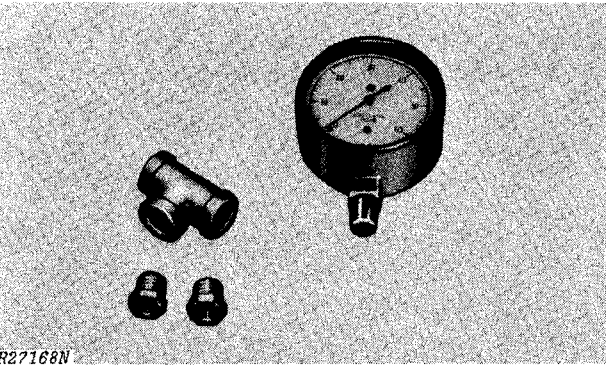


Fig. 5-D-05022ST Water Vacuum Gauge*
(Formerly JDST-11)

TOOL	USE
JDE-81-1 Engine Rotation Tool and JDE-81-4 Timing Pin	Turn engine to TDC to check injection pump timing
JDE-28 Adapter and Hand Tachometer	Check engine speeds
AR62377 Dry Element Cleaning Gun	Clean primary element of air cleaner
D-05022ST Water Vacuum Gauge	Measure air intake vacuum