

2040 and 2240 Tractor



TECHNICAL MANUAL 2040 and 2240 Tractor

TM1221 (01NOV80) English

John Deere Tractor Works TM1221 (01NOV80)

LITHO IN U.S.A. ENGLISH



2040 and 2240 Tractors (Serial No. 350,000L-)

Technical Manual TM-1221 (Nov-80)

CONTENTS

SECTION TO	- GENERAL
Group 00 — Group 05 — Group 10 — Group 15 — Group 20 —	Specifications and Special Tools Pre-delivery, Delivery and After-Sales Inspections Lubrication and Periodic Service Engine and Tractor Tune-Up Tractor Separation
SECTION 20	— ENGINE
Group 00 — Group 05 — Group 10 — Group 15 — Group 20 — Group 25 — Group 30 — Group 35 —	Specifications and Special Tools General Information, Diagnosing Malfunctions Cylinder Head and Camshaft Cylinder Block, Liners, Pistons and Connecting Rods Crankshaft, Main Bearings and Flywheel Timing Gear Train Engine Lubrication System Engine Cooling System
SECTION 30	- FUEL SYSTEM
Group 00 — Group 05 — Group 10 — Group 15 — Group 20 — Group 25 — Group 30 — Group 35 —	Specifications and Special Tools Diagnosing Malfunctions Fuel Tank, Fuel Transfer Pump and Fuel Filter Roto Diesel Fuel Injection Pump Fuel Injection Nozzles Ether Starting Aid Speed Control Linkage Air Intake System
SECTION 40	ELECTRICAL SYSTEM
Group 00 — Group 05 — Group 10 — Group 15 — Group 20 — Group 25 — Group 30 — Group 35 —	Specifications and Special Tools Description and Diagnosing Malfunctions Wiring Harnesses Controls and Instruments Lighting Systems Wiring Diagram Starting Motor Alternator

Copyright © 1980 DEERE & COMPANY Moline, Illinois

All rights reserved

oog

CONTENTS — Continued

SECTION 50	— POWER TRAIN
Group 00 —	Specifications and Special Tools
Group 05 —	Engine Clutches and Clutch Linkages
Group 10 —	Hi-Lo Shift Unit
Group 15 —	Reverser Transmission
Group 20 —	Synchronized Transmission and Transmission Oil Pump
Group 25 —	Collar Shift Transmission and Transmission Oil Pump
Group 30 —	Differential
Group 35 —	Final Drives
Group 40 —	Independent PTO Shaft
Group 45 —	Continuous-Running PTO
Group 50 —	Mechanical Front Wheel Drive
SECTION 60	— STEERING SYSTEM AND BRAKES
Group 00 —	Specifications and Special Tools
Group 05	Power Steering
Group 10 —	Brakes
SECTION 70	- HYDRAULIC SYSTEM
SECTION 70 Group 00 —	HYDRAULIC SYSTEM Specifications and Special Tools
Group 00 —	Specifications and Special Tools
Group 00 — Group 05 — Group 06 — Group 10 —	Specifications and Special Tools Hydraulic System Operation
Group 00 — Group 05 — Group 06 — Group 10 — Group 15 —	Specifications and Special Tools Hydraulic System Operation Hydraulic System Tests
Group 00 — Group 05 — Group 06 — Group 10 — Group 15 — Group 20 —	Specifications and Special Tools Hydraulic System Operation Hydraulic System Tests Oil Reservoir, Filter, Valves and Oil Cooler Hydraulic Pump Rockshaft
Group 00 — Group 05 — Group 06 — Group 10 — Group 15 — Group 20 — Group 25 —	Specifications and Special Tools Hydraulic System Operation Hydraulic System Tests Oil Reservoir, Filter, Valves and Oil Cooler Hydraulic Pump Rockshaft Selective Control Valves and Breakaway Coupler
Group 00 — Group 05 — Group 06 — Group 10 — Group 15 — Group 20 —	Specifications and Special Tools Hydraulic System Operation Hydraulic System Tests Oil Reservoir, Filter, Valves and Oil Cooler Hydraulic Pump Rockshaft
Group 00 — Group 05 — Group 06 — Group 10 — Group 15 — Group 20 — Group 25 —	Specifications and Special Tools Hydraulic System Operation Hydraulic System Tests Oil Reservoir, Filter, Valves and Oil Cooler Hydraulic Pump Rockshaft Selective Control Valves and Breakaway Coupler
Group 00 — Group 05 — Group 06 — Group 10 — Group 15 — Group 20 — Group 25 — Group 30 —	Specifications and Special Tools Hydraulic System Operation Hydraulic System Tests Oil Reservoir, Filter, Valves and Oil Cooler Hydraulic Pump Rockshaft Selective Control Valves and Breakaway Coupler Remote Cylinder
Group 00 — Group 05 — Group 06 — Group 10 — Group 15 — Group 20 — Group 25 — Group 30 — SECTION 80	Specifications and Special Tools Hydraulic System Operation Hydraulic System Tests Oil Reservoir, Filter, Valves and Oil Cooler Hydraulic Pump Rockshaft Selective Control Valves and Breakaway Coupler Remote Cylinder - MISCELLANEOUS
Group 00 — Group 05 — Group 06 — Group 10 — Group 15 — Group 20 — Group 25 — Group 30 — SECTION 80 Group 00 —	Specifications and Special Tools Hydraulic System Operation Hydraulic System Tests Oil Reservoir, Filter, Valves and Oil Cooler Hydraulic Pump Rockshaft Selective Control Valves and Breakaway Coupler Remote Cylinder - MISCELLANEOUS Specifications
Group 00 — Group 05 — Group 06 — Group 10 — Group 15 — Group 20 — Group 25 — Group 30 — SECTION 80 Group 00 — Group 05 —	Specifications and Special Tools Hydraulic System Operation Hydraulic System Tests Oil Reservoir, Filter, Valves and Oil Cooler Hydraulic Pump Rockshaft Selective Control Valves and Breakaway Coupler Remote Cylinder - MISCELLANEOUS Specifications Front Axle
Group 00 — Group 05 — Group 06 — Group 10 — Group 15 — Group 20 — Group 25 — Group 30 — SECTION 80 Group 00 — Group 05 — Group 10 —	Specifications and Special Tools Hydraulic System Operation Hydraulic System Tests Oil Reservoir, Filter, Valves and Oil Cooler Hydraulic Pump Rockshaft Selective Control Valves and Breakaway Coupler Remote Cylinder - MISCELLANEOUS Specifications Front Axle Belt Pulley

Section 10

GENERAL

CONTENTS OF THIS SECTION

Page	Page
GROUP 00 — SPECIFICATIONS AND SPECIAL TOOLS	GROUP 05 — PREDELIVERY, DELIVERY AND AFTER-SALES INSPECTIONS
Specifications10-00-3	Tractor Storage 10-05-1
Serial Numbers 10-00-3	Predelivery Inspection 10-05-2
Model Numbers 10-00-3	Delivery Inspection 10-05-8
Engine 10-00-3	After-Sales Inspection 10-05-8
Engine Clutch 10-00-4	•
Cooling System 10-00-4	GROUP 10 - LUBRICATION AND SERVICE
Fuel System 10-00-4	Lubrication and Service 10-10-1
Electrical System 10-00-5	
Synchronized Transmission 10-00-5	GROUP 15 - TUNE-UP
Collar Shift Transmission 10-00-5	Preliminary Engine Testing 10-15-1
Hi-Lo Shift Unit 10-00-5	Dynamometer Test 10-15-1
Reverser Transmission 10-00-5	Testing Compression Pressure 10-15-2
Differential and Final Drives 10-00-6	Tune-up 10-15-3
Differential Lock 10-00-6	Checking Tractor Operation 10-15-8
PTO 10-00-6	Standard Torques 10-15-9
Mechanical Front Wheel Drive 10-00-7	
Power Steering 10-00-7	GROUP 20 — TRACTOR SEPARATION
Foot Brakes 10-00-7	Separating Between Engine and
Handbrake10-00-7	Tractor Front End 10-20-1
Hydraulic System 10-00-7	Removal and Installation of
Capacities 10-00-7	Engine 10-20-5
Travel Speeds 10-00-8	Removal and Installation of
Front and Rear Wheels10-00-8	Clutch Housing 10-20-7
Dimensions and Weights 10-00-8	Removal and Installation of
Predelivery, Delivery and	Final Drives 10-20-9
After-Sales Inspections 10-00-10	Removal and Installation of
Lubrication and Service 10-00-11	Rockshaft10-20-10
Tune-up 10-00-12	
Tractor Separation10-00-13	
Standard Torques 10-00-14	
Special Tools	

Group 05 PREDELIVERY, DELIVERY AND AFTER-SALES INSPECTIONS

The John Deere Delivery Receipt, when properly filled out and signed by the dealer and customer, verifies that the predelivery and delivery services were satisfactorily performed. When delivering this machine, give the customer his copy of the delivery receipt and the operator's manual. Explain their purpose to him.

An inspection tag (Predelivery Information) is attached to each carefully tested new tractor before it leaves the factory.

According to this inspection tag the dealer will carry out a predelivery inspection including the repair of any possible shipping damage and giving the finishing touches to the tractor.

After the first 50 to 100 operating hours it is very important that the dealer carries out a further inspection. This is to ensure complete customer satisfaction and to make sure that the tractor is in good operating condition.

After completing the factory-recommended dealer checks and services listed on the predelivery inspection tag, send a copy to the factory and file the original with the shop order for the job. This will certify that the tractor has received proper delivery service.

TRACTOR STORAGE

When storing a new tractor, proceed as follows:

SHORT-TERM (UNDER 30 DAYS)

1. Fill full tank. This prevents condensation of moisture in tank.

- 2. Check engine oil level, transmission-hydraulic oil level, and coolant level. Add oil or coolant if necessary. During cold weather, be sure coolant contains sufficient anti-freeze.
- 3. Check electrolyte level in batteries. If electrolyte does not cover plates, add distilled water. Make sure batteries are fully charged.
- 4. Store tractor in a dry, protected place. If necessary to store tractor outside, cover it with a protective material. Protect tires from heat, sunlight, and petroleum products.

LONG TERM (OVER 30 DAYS)

To protect engine, fuel system, transmission and hydraulic system, use AR 41785 Rust Inhibitor. The above part no. includes one can of rust inhibitor, masking tape and protective caps to cover all engine openings.

Protect the engine as follows:

- 1. Add 300 c.c. (9 oz.) of rust inhibitor to the engine oil.
- 2. Add 225 c.c. (7.5 oz.) of rust inhibitor to the oil in the transmission/hydraulic system.
- 3. Drain fuel tank, pour 150 c.c. (5 oz.) of rust inhibitor into the empty tank and add approx. 10 liters (2.6 U.S. gals.) of fuel. Start engine and operate it at fast idle for 15 to 20 minutes to distribute the mixture through the whole fuel system. While the engine is running, operate the complete hydraulic system several times. Shut off engine in time to leave some fuel in the tank. Then allow the engine to cool down for 15 to 20 minutes.
- 4. Prepare 15 c.c. (0.5 oz.) of rust inhibitor for each cylinder. Remove plug of intake manifold or connecting pipe of starting fluid adapter at the

intake manifold, whichever applies, inject rust inhibitor into the intake manifold. Pull out shut-off knob and crank engine with starter several times.

However, do not allow the engine to start. Otherwise the whole procedure must be repeated.

After the rust inhibitor has been added, the engine may not be started again.

IMPORTANT! Rust inhibitor agents evaporate very easily. For this reason, seal all openings after the inhibitor has been added. Also, always keep the inhibitor container closed.

- 5. Fill the fuel tank.
- 6. Remove batteries. Add distilled water, if necessary. Charge the batteries and store in a cool, dry place where they will not freeze.
- 7. Seal all openings such as the vent tube and exhaust outlet.
- 8. Slacken fan belt and air conditioning compressor belt (if equipped).
- 9. Replace or repair damaged parts. Touch up any painted surfaces which are scratched or chipped.
- 10. Coat exposed metal surfaces, such as axles and piston rods of hydraulic cylinders, with grease or corrosion preventative.
- 11. Store the tractor in a dry, protected place. If the tractor is stored outside, cover it with a waterproof tarpaulin.
- 12. Block up the tractor so that tires do not touch the ground. Protect tires from heat and sunlight.

REMOVING TRACTOR FROM STORAGE

- 1. Remove all protective coverings.
- 2. Check crankcase and transmission/hydraulic system oil levels.
 - 3. Check coolant level.
 - 4. Check tire inflation pressure.
- 5. Install batteries and connect cable and ground strap.
- Adjust fan belt and compressor belt (if equipped) tension.
 - 7. Carry out 500-hour check.
- 8. Run engine at approx. 1500 rpm for some minutes. Check all systems before placing tractor under load.

PREDELIVERY INSPECTION

Before delivering the tractor to the customer, the following checks and services should be performed by the dealer:

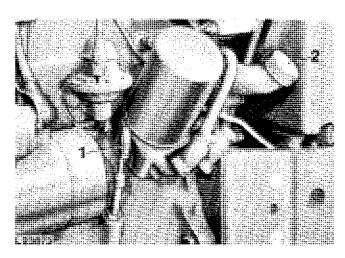
ENGINE

Leaks

1. Check engine and fuel lines for leaks. Repair as necessary.

Checking Crankcase Oil Level

NOTE: Tractor should be on a level surface when oil level is checked. If it is not, check only to make sure the crankcase is not dry. Recheck oil level later, when tractor is on level ground.



1 - Dipstick 2-Filler Cap

Fig. 1 — Engine Oil Dipstick and Filler Cap

- 1. Pull out dipstick (1, Fig. 1) and check oil level.
- 2. If necessary, add oil to bring oil level to top mark on dipstick. Use John Deere TORQ-GARD SUPREME® engine oil SAE 10W-20 or an equivalent oil.

Checking Coolant Level

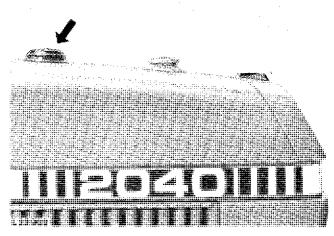


Fig. 2 — Radiator Filler Cap

- 1. Remove radiator filler cap and check coolant level. Coolant level must be midway between the filler neck and top of radiator core.
- 2. If necessary, add coolant to obtain this level. Use permanent type, ethylene glycol antifreeze which contains a rust inhibitor but does not contain a stop leak-additive.

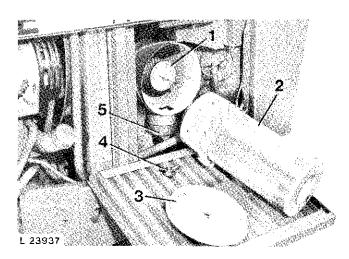
Idle Speeds

- 1. Warm up engine to operating temperature and check slow and fast idle speeds. Adjust, if necessary (see Section 30, Group 30).
 - 2. Slow idle speed: 800 rpm
 - 3. Fast idle speed: 2660 rpm

Engine Shut-Off Cable

- 1. Check operation of shut-off cable. Move hand throttle lever completely forward and idle engine for 1 to 2 minutes.
- 2. Completely pull out shut-off knob, making sure engine stops immediately.
- 3. If necessary, adjust shut-off cable (see Section 30, Group 30).

Air Cleaner and Safety Element



- 1—Safety Element
- 2-Air Cleaner Element 3-Cover
- 4-Wing Nut
- 5-Dust Unloading Valve
- Fig. 3 Air Cleaner and Safety Element
- 1. Check air cleaner and safety elements for proper installation.
- 2. Make sure that dust unloading valve (5, Fig. 3) (rubber cap) is installed on air cleaner.

Air Intake Connections

1. Check air intake connections for tightness. Tighten any loose clamps.

Exhaust Stack

- 1. Install exhaust stack, making sure it is in vertical position.
- 2. Install exhaust stack flap. When closed, flap should not contact exhaust stack end. If necessary, clamp flap to exhaust stack to obtain a clearance of 2 mm (0.08 in.) between flap and stack end.

Checking V-Belt Tension

Fan Belt

1. The fan belt should have 19 mm (3/4 in.) flex with 90 N (20 lbs) pull midway between crankshaft and alternator or water pump (use a spring scale).

ELECTRICAL SYSTEM

Batteries

- 1. Check battery terminals and battery cable ends. If they are corroded, clean and coat them with petroleum jelly.
- Check electrolyte level in each battery cell.Add distilled water if necessary to bring level above cell plates.
- 3. If batteries are not fully charged, charge them. Remove battery caps when changing the battery.

Important Notes

- 1. If the engine is to be run for a short time without battery (using a slave battery for starting), do not, under any circumstances, interrupt the circuit by switching off the main switch before stopping the engine by means of the fuel pump shut-off cable. Further it is recommended to use additional current (lights) while engine is running. Do not run engine at a speed above 1000 rpm. Insulate battery end of disconnected starter cable properly to avoid damage to alternator and regulator.
- 2. Connect batteries or battery charger in the proper polarity. If they are improperly connected, the rectifier diodes will be immediately destroyed.

Start Safety Switch

- 1. Check operation of start safety switch.
- 2. If the starting motor does not work although the main switch is in starting position and the range shift lever is in neutral position, check the start safety switch by installing a new switch and check circuit (see Section 40, Group 15).

IMPORTANT! Do not overtighten switch when installing it in the rockshaft housing. Tighten switch to maximum torque of 50 N·m (5 mkp; 35 ft-ibs).

Lighting System

- 1. Check lighting system and repair as necessary. Replace any defective bulbs (see Section 40, Group 20.
- 2. Check headlight adjustment and correct, if necessary (see Section 40, Group 20).

Controls and Instruments

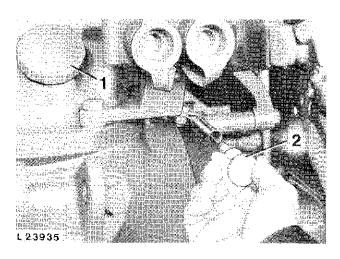
1. Check controls and instruments for proper operation.

NOTE: On tractors with collar shift transmission, transmission oil pressure indicator light glows only when there is a malfunction.

POWER TRAIN

Checking Transmission/Hydraulic System Oil Level

- 1. With the tractor on level ground, run the engine 2 to 3 minutes.
- 2. Place range and gear shift lever in neutral position.
 - 3. Apply handbrake.
 - 4. Lower draft links.
 - 5. Run engine at slow idle (800 rpm).

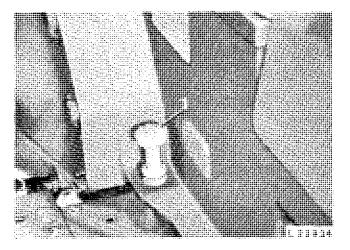


1-Filler Cap 2-Dipstick

Fig. 4 — Transmission/Hydraulic System Dipstick and Filler Cap on Tractors with Synchronized Transmission

- 6. Pull out dipstick and wipe clean.
- 7. Insert dipstick. Remove dipstick and check oil level.
- 8. If necessary, add John DEERE HY-GARD® Transmission and Hydraulic Oil or equivalent oil to bring oil level to top mark on dipstick.

NOTE: Types of oil not meeting our specifications will not give satisfactory service and may result in eventual damage.



1-Dipstick

Fig. 5 — Transmission/Hydraulic System Dipstick on Tractors with Collar Shift Transmission

Transmission

- 1. Check transmission for proper operation.
- 2. While driving tractor, shift transmission through all gears. If transmission does not function properly, refer to Section 50, Group 20 or 25.

Differential Lock

1. Check differential lock for proper operation, If you find any problem, refer to Section 50, Group

PTO

1. Check PTO operation. For this purpose, run engine and move PTO control lever to engaged and disengaged position. If PTO does not operate properly, refer to Section 50, Group 40 or 45.

Hi-Lo Shift Unit

Check Hi-Lo Shift Unit as Follows:

- 1. Operate tractor in both high and low ranges, carefully observing both operations.
- 2. Use the brakes to simulate a load condition on the tractor.
- 3. Low oil pressure will be indicated by disk pack slippage, which causes the clutch pack to become noisy.
- 4. A mechanical failure in the Hi-Lo shift unit will also be indicated by unusual noise.
- 5. If you find any problems, refer to Section 50, Group 10.

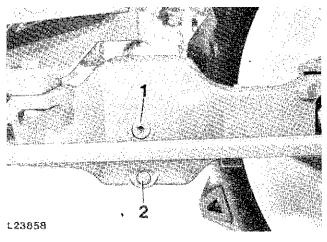
Clutch Pedal

- 1. Check clutch pedal free travel. It should be 25 mm (1 in.).
- 2. Make sure that clutch is fully disengaged before pedal contacts stop bracket. Adjust clutch pedal free travel, if necessary (see Section 50, Group 05).

Mechanical Front Wheel Drive

Checking Axle Housing Oil Level

- 1. Remove level plug (1, Fig. 6). Oil should be level with plug bore.
- 2. If necessary, top up with oil, using EP transmission oil (SAE 90) according to specification MIL-L-2105 B.

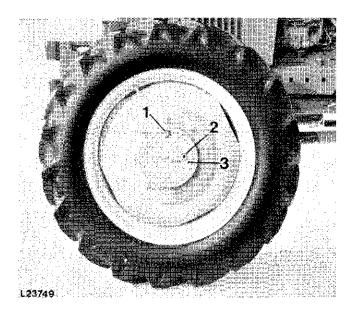


1—Level Plug 2—Drain Plug

Fig. 6 — Checking Axle Housing Oil Level

Checking Final Drives Oil Level

- 1. Turn wheel until mark (3, Fig. 7) is in level position.
- 2. Remove level plug (2). Oil should be level with plug bore.



- 1-Drain Plug
- 2-Level Plug
- 3-Oil Level Mark

Fig. 7 — Checking Final Drives Oil Level

3. Add oil, if necessary, using EP transmission oil (SAE 90) according to specification MIL-L-2105 B.

MFWD Operation

1. Check MFWD for proper operation. If you find any problems, refer to section 50, Group 50.

STEERING AND BRAKES

Steering

1. Check steering system for proper operation. In case of a malfunction, refer to Section 60, Group 05.

Brakes

1. Check footbrakes and handbrake for proper operation. Adjust brakes, if necessary. Refer to Section 60, Group 10 if a malfunction occurs.

HYDRAULIC SYSTEM

Three-Point Hitch

- 1. Free lift arms.
- 2. Install and/or adjust draft links and center link (see operator's manual).

Rockshaft

1. Check rockshaft operation. In case of a malfunction, refer to Section 70, Group 20.

Selective Control Valves

1. Check operation of selective control valves.

Leaks

1. Check entire hydraulic system for leaks. Repair or replace components as necessary.

MISCELLANEOUS

Wheel Bolts

1. Tighten all wheel bolts to the specified torque. See Section 80, Group 05.

Tire Pressures

1. Check tire pressures (see operator's manual).

Tread Width

1. Adjust tread width to customer's needs (see operator's manual).

Toe-In

1. Check toe-in and adjust, if necessary (see Section 80, Group 05).

Lubricating Points

1. Lubricate all lubricating points on tractor.

ROLL-GARD

- 1. Check ROLL-GARD for proper installation.
- 2. Tighten cap screws to specified torque (see Section 80, Group 20).

Guards

1. Check all guards for proper installation.

Operator's Seat

- 1. Check whether operator's seat can be adjusted properly.
- 2. Check seat belt for proper condition and correct installation.
- 3. Remove plastic cover from SMV (Slow Moving Vehicle) emblem and install emblem on back of operator's seat.

Decals and Paint

1. Check decals and paint for proper condition.

DELIVERY INSPECTION

A thorough discussion of the operation and service of the tractor at the time of its delivery helps to assure complete customer satisfaction.

Proper delivery should be an important phase of the dealer's program.

It is a well-known act that many complaints have arisen simply because the owner was not shown how to operate and service his new tractor properly. Therefore, enough time should be devoted, at the customer's convenience, to introducing him to his new tractor and explaining to him how to operate and service it.

Using the tractor operator's manual as a guide, be sure that the owner understands the following points properly:

- 1. Operation of control levers and instruments
- 2. Starting and shutting off the engine
- 3. The importance of the tractor break-in period
- 4. Use of counterweights and proper tire inflation pressure as well as filling of tires with water and calcium chloride, if required
 - 5. All functions of the hydraulic system
- 6. Operating the PTO and belt pulley (if equipped)
 - 7. The importance of the safety rules
- 8. The importance of lubrication and periodic service

Give particular emphasis to sway blocks, rock-shaft speed-of-drop, rockshaft selector lever (load and depth control), transmission oil pressure indicator light, engine oil pressure indicator light (whether temperature or pressure and what to do if lights go on) and alternator indicator light (indicating whether alternator is charging). These areas are very often misunderstood.

AFTER-SALES INSPECTION

In the interest of the purchaser and the dealer an after-sales inspection should be carried out by the dealer after the first 100 hours of using a new John Deere tractor.

The purpose of this inspection is to make sure that the customer is receiving satisfactory performance from his tractor. At the same time, the inspection should reveal whether or not the tractor is being operated, lubricated and serviced properly.

Through this inspection a needless volume of service work can be eliminated by preventing minor difficulties from developing into serious problems later on. It also will promote stronger dealer-customer relations and give the customer an opportunity to ask questions that may have arisen during the first few days of use.

Thereby the dealer has the further opportunity of promoting the possible sale of other new equipment.

The following inspection program is recommended:

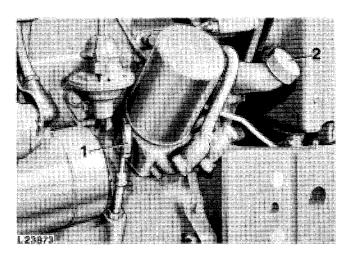
ENGINE

Leaks

1. Check engine and fuel lines for leaks. Repair as necessary.

Checking Crankcase Oil Level

NOTE: Tractor should be on a level surface when oil level is checked. If it is not, check only to make sure the crankcase is not dry. Recheck oil level later, when tractor is on level ground.



- 1-Dipstick 2-Filler Cap
 - Fig. 8 Engine Oil Dipstick and Filler Cap
- 1. Pull out dipstick (1, Fig. 8) and check oil level.
- 2. If necessary, add oil to bring oil level to top mark on dipstick. Use John Deere TORQ-GARD SUPREME engine oil SAE 10W-20 or an equivalent oil.

Checking Valve Clearance

1. Using a feeler gauge, check valve clearance (see Section 20, Group 10).

Valve clearance (with the engine cold or warm) Intake valve0.35 mm (0.014 in.)

Checking Coolant Level

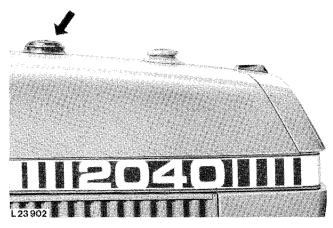


Fig. 9 - Radiator Filler Cap

- 1. Remove radiator filler cap and check coolant level. Coolant level must be midway between the filler neck and top of radiator core.
- 2. If necessary, add coolant to obtain this level. Use permanent type, ethylene glycol antifreeze which contains a rust inhibitor but does not contain a stop leak-additive.

Idle Speeds

- 1. Warm up engine to operating temperature and check slow and fast idle speeds. Adjust, if necessary (see Section 30, Group 30).
 - 2. Slow idle speed: 800 rpm
 - 3. Fast idle speed: 2660 rpm

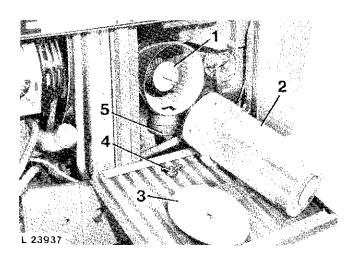
Hand Throttle Lever

1. Check whether hand throttle lever can be moved properly. Adjust, if necessary.

Engine Shut-Off Cable

- 1. Check operation of shut-off cable. Move hand throttle lever completely forward and idle engine for 1 to 2 minutes.
- 2. Completely pull out shut-off knob, making sure engine stops immediately.
- 3. If necessary, adjust shut-off cable (see Section 30, Group 30).

Air Cleaner and Safety Element



- 1-Safety Element
- 4-Wing Nut
- 2-Air Cleaner Element

3-Cover

5-Dust Unloading Valve

Fig. 10 - Air Cleaner and Safety Element

- 1. Check air cleaner and safety elements for proper installation.
- 2. Make sure that dust unloading valve (5, Fig. 10) (rubber cap) is installed on air cleaner.

Air Intake Connections

1. Check air intake connections for tightness. Tighten any loose clamps.

Checking V-Belt Tension

Fan Belt

1. The fan belt should have 19 mm (3/4 in.) flex with 90 N (20 lbs) pull midway between crankshaft and alternator or water pump (use a spring scale).

ELECTRICAL SYSTEM

Batteries

- 1. Check battery terminals and battery cable ends. If they are corroded, clean and coat them with petroleum jelly.
- 2. Check specific gravity of battery cells. At an electrolyte temperature of 20°C (68°F), a fully charged battery should have a specific gravity of 1.28 under normal and arctic conditions and 1.23 in tropical areas.
- 3. Check electrolyte level in each battery cell. Add distilled water if necessary to bring level above cell plates.
- If batteries are not fully charged, charge them. Remove battery caps when charging the battery.

Important Notes

- 1. If the engine is to be run for a short time without battery (using a slave battery for starting), do not, under any circumstances, interrupt the circuit by switching off the main switch before stopping the engine by means of the fuel pump shut-off cable. Further, it is recommended to use additional current (lights) while engine is running. Do not run engine at a speed above 1000 rpm. Insulate battery end of disconnected starter cable properly to avoid damage to alternator and regulator.
- 2. Connect batteries or battery charger in the proper polarity. If they are improperly connected, the rectifier diodes will be immediately destroyed.

Start Safety Switch

- 1. Check operation of start safety switch.
- 2. If the starting motor does not work although the main switch is in starting position and the range shift lever is in neutral position, check the start safety switch by installing a new switch and check circuit (see Section 40, Group 15).

IMPORTANT! Do not overtighten switch when installing it in the rockshaft housing. Tighten switch to maximum torque of 50 N·m (35 ft-lbs).

Lighting System

- 1. Check lighting system and repair as necessary. Replace any defective bulbs (see Section 40, Group 20).
- 2. Check headlight adjustment and correct, if necessary (see Section 40, Group 20).

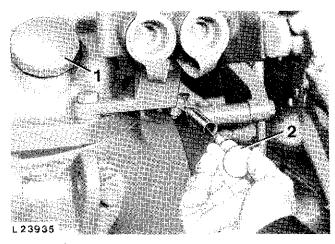
Controls and Instruments

1. Check controls and instruments for proper operation.

POWER TRAIN

Checking Transmission/Hydraulic System Oil Level

- 1. With the tractor on level ground, run the engine 2 to 3 minutes.
- 2. Place range and gear shift lever in neutral position.
 - 3. Apply handbrake.
 - 4. Lower draft links.
 - 5. Run engine at slow idle (800 rpm).



1—Filler Cap 2—Dipstick

Fig. 11 — Transmission/Hydraulic System Dipstick and Filler Cap on Tractor with Synchronized Transmission

- 6. Pull out dipstick and wipe clean.
- 7. Insert dipstick. Remove dipstick and check oil level.
- 8. If necessary, add John Deere HY-GARD Transmission and Hydraulic Oil or equivalent oil to bring oil level to top mark on dipstick.

NOTE: Types of oil not meeting our specifications will not give satisfactory service and may result in eventual damage.



Download the full PDF manual instantly.

Our customer service e-mail: aservicemanualpdf@yahoo.com