# 4040 AND 4240 TRACTORS

**TECHNICAL MANUAL**

**TM-1181 (SEP-77)**

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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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*TM-1181 (Sep-77) Litho in U.S.A.*
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Tractors - 4040 and 4240
HYDRAULIC SYSTEM:
Type: closed-center, constant-pressure
Standby pressure: 2250 psi (155 bar (155 kg/cm²))

BRAKES:
Type: hydraulically-operated wet disk

ELECTRICAL SYSTEM:
Type: 12-volt, negative ground
Batteries: two, 6-volt, 50 group, 800 amps
Cold cranking: 376 minutes reserve capacity
Alternator: 72-amp with SOUND-GARD body, 61-amp without

TIRES AND THREADS:
DIMENSIONS:
Wheelbase: 104.0 in. (2,642 mm)
Overall length: 153.2 in. (3,892 mm)
Height to muffler cover:
Tractors with SOUND-GARD body: 119.8 in. (3,040 mm)
Tractors without SOUND-GARD body: 111.6 in. (2,837 mm)
Height to top of SOUND-GARD Body:
Tractors with SOUND-GARD body: 109.3 in. (2,775 mm)
Tractors without SOUND-GARD body: 90 in. (2,277 mm)
Overall width (regular axle): 82 in. (2,082 mm)
Width at fender: 54.4 in. (1,382 mm)
Width at roof: 124 in. (3,150 mm)
Turning radius:
Tractors with SOUND-GARD body: 134 in. (3,400 mm)
Tractors without SOUND-GARD body: 136 in. (3,450 mm)

SHIPPING WEIGHT**
9630 lbs. (4,370 kg)
10,900 lbs. (4,975 kg)

*4040 Tractor equipped with 18.4-34 rear tires and 9.5L-15 front tires. 4240 Tractor equipped with 18.4-38 rear tires and 10.00-16 front tires.
**Equipped for average field service, without fuel and ballast. Add approximately 1000 lbs. (450 kg) if equipped with power front-wheel drive.
Subtract 900 lbs. (400 kg) if not equipped with SOUND-GARD Body.

GROUND SPEEDS
Speeds in the following charts are in miles per hour, with kilometers per hour in parenthesis. Speeds are for a 4040 Tractor with 18.4-34 tires or a 4240 Tractor with 18.4-38 tires.

POWER SHIFT TRANSMISSION

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<th>2200 rpm</th>
<th>1500 rpm</th>
<th>2200 rpm</th>
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<td>6.0 (9.7)</td>
</tr>
</tbody>
</table>

TM-1181 (Jun-80) Litho in U.S.A.

Tractors - 4040 and 4240
Right-Hand Lighting Harness Installation on Sound-Gard Body

1. Open roof (A, Fig. 4). Open side window and remove trim moldings (B) at rear of right front post and at bottom of side window.
2. Remove right-hand headlight access panel (C).
3. Disconnect all wires from harness, including headlight and taillight.
4. Attach a wire to one end of the harness and pull the harness out from the other end, so the wire can be used to pull a new harness into position.
5. Attach new harness to wire. Insert Molex connector (molded connector with nine round terminals) through hole in inner roof. Pull harness down into position.
6. Make all connections to the harness. Check all electrical components in the Sound-Gard Body to be sure they all work.
7. Install split hoses around harness where it passes through the top of the fender and the inner roof. Route harness away from any sharp edges.
8. Install grommets on tail light wire. Install trim molding and headlight access panel. Close roof.

Installing Sound-Gard Body Harness

1. Open roof (A, Fig. 5). Remove heater-evaporator cover (B) and right-hand wiper cover (C).

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TM-1181 (Sep-77) Litho in U.S.A.
Tractors - 4040 and 4240
**Power Train Repair**

**A-Dowel Pin**

**B-Bearing Plate**

**C-Inner Roller Bearing**

**D-Motor Housing**

**Fig. 6-Motor Housing (Manifold Removed)**

**IMPORTANT:** The wheel motor bearing plate (B, Fig. 6) and valve plate have lapped surfaces. Do not drop these plates as manifold is removed.

4. Remove motor from housing carefully to avoid damage to lapped inner face of motor housing. Swash plate is located on a dowel pin.

**IMPORTANT:** Do not turn motor across swash plate any more than necessary without lubrication. Piston slippers could score surface of swash plate.

**Brake Housing and Wheel Hub Removal**

1. Remove twelve special screws that secure brake piston housing and remove housing with pistons from motor housing.

2. Grab outer edge of front wheel hub and pivot against housing to remove outer bearing from motor housing.

3. Remove hub and inner bearing.

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or Call 800-443-0625

**Fig. 7-Removing Oil Seal from Motor Housing**

4. To remove oil seal and its spacer from motor housing, pry behind seal on opposite sides. Be careful not to score motor housing surface.

**REPAIR**

**Control Valve**

**A-2 0-rings and 1 Backup Ring**

**B-Retaining Ring**

**C-Sleeve**

**D-Valve**

**E-Plunger**

**F-Spring and Washer**

**G-O-Ring**

**H-Backup Ring**

**I-0-Ring**

**J-Tube**

**K-Solenoid Coils**

**L-Tube and Valve Assembled**

**Fig. 8-Solenoid Valve Assembly**

1. Remove nut from each solenoid that secures coil (K, Fig. 8) to tube and remove tube (J).

2. To disassemble solenoid pilot valves, remove retaining ring (B) from tube and pull sleeve, valve and plunger assembly.

**CLICK ANYWHERE FOR MORE DETAILS**

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**TM-1181 (Jun-80) Litho in U.S.A.**

**Power Front-Wheel Drive 50-45-3**

**Tractors - 4040 and 4240**
Adjustment—Continued

3. Adjust pedal height by adjusting operating rod jam nuts to obtain 5-3/4 to 5-7/8 inches (146-149 mm). Pedal height should be measured with the floor mat removed. Measure at right angle from foot rest to pedal crown.

4. Bleed the brakes as instructed on page 60-10-10.

BRAKE ACCUMULATOR

Testing

1. With the engine stopped for no less than 15 minutes, apply the brakes five times at five second intervals.

2. If there are no power brakes in five applications or less, there is a malfunction in the accumulator.

Removal

1. Open a brake bleed screw and depress the brake pedal to relieve hydraulic oil pressure.

2. Remove the right-hand cowl.

3. Remove the differential lock inlet line (A, Fig. 10) and its lower fitting.

4. Remove the accumulator-to-brake valve pressure line (D).

5. Remove the differential lock operating rod (B) from the lock pedal (C) (if equipped).

6. Remove the accumulator inlet line (E).

7. Remove the retaining clip retaining the accumulator in the tractor and remove the accumulator (F).
How The Air Cleaner Works

Dust-laden air enters the air cleaner inlet (A, Fig. 2), and is forced into a high-speed centrifugal motion. Most of the dust settles out of the air (before it enters the filter elements) and falls to the bottom of the air cleaner body. It is expelled to the outside of the air cleaner (E) through a rubber valve, which automatically ejects the dust and keeps it from accumulating inside the air cleaner body.

As the intake air is drawn through the primary element (C) and a secondary (safety) element (D), the remaining dust particles are retained in the primary element to permit only clean air to enter the intake manifold.

The safety element retains the dust that would otherwise pass into the engine if the primary element should rupture.

See Section 30, Group 05 for service information.

How The Switch Works

A restriction indicator switch (A, Fig. 3) is located on the air intake pipe, just above the air cleaner outlet connection. The purpose of the switch is to warn the operator whenever there is excessive restriction present in the air cleaner, indicating that the air cleaner filter elements probably require servicing.

Whenever the vacuum restriction in the air cleaner reaches 24-26 in. (59.7-64.7 mbar) of water, an electrical connection (B) on the switch activates an indicator lamp on the dash.

Operation of the restriction indicator switch should be checked whenever a tune-up or overhaul has been performed on the engine, or whenever it is suspected that the switch is not operating properly.

Testing Switch Operation

To test the restriction indicator switch operation, or to determine the amount of restriction in the air intake system, follow these steps:

1. Run the engine and bring to operating temperature.

2. Remove left-hand side shield and grille screen. On 4240 Tractor, also remove air stack extension, muffler, and hood.

3. Disconnect wiring connector (B, Fig. 3) from switch (A). Unscrew switch from connection on pipe.
Tach Light, High-Beam Indicator, and Turn Indicators

1. Remove cowl rear cover and right-hand cowl.

2. On tach light or high-beam indicator, pull bulb socket from back of tube. On turn indicators, remove mounting bolts and raise dash panel.

3. Press bulb slightly inward and twist counterclockwise to remove.

4. Reverse the procedure to install new bulb.

Dome Light and Console Light

To remove dome lamp bulb, remove lens by squeezing sides slightly together. Press bulb slightly inward and twist counterclockwise to remove.

To remove console light bulb, lower lamp housing from roof by removing two screws. Remove bulb socket by twisting slightly counterclockwise. Press bulb lightly inward and twist counterclockwise to remove.
REFERENCE ILLUSTRATIONS FOR TROUBLE SHOOTING OIL FLOWS

A-PTO Clutch Valve Sump
B-Pedal and PTO Clutch Valve Sump
C-PTO Clutch Inlet
D-Unfiltered Oil to Top of Filter Relief Valve
E-To Control Housing From Pedal Valve
F-To PTO Brake
G-To Bottom of Filter Relief Valve, Pedal Valve and PTO Valve
H-Lube Relief Valve Sump
I-From Pedal Valve to Control Valve Housing and C1 and C2 Shift Valves

Fig. 12-Clutch Housing Passages From Pedal Valve and Pressure Regulating Valve Housings

A-To C3
B-To C1
C-To C2
D-From Clutch Pedal Valve
E-To Sump
F-To B3
G-Pressure Oil Direct From Filter
H-To B2
I-To B1
J-To B4
K-To Sump

Fig. 13-Transmission Case and Control Valve Housing Oil Passages

A-From Control Valve Housing to C1
B-Lubrication Oil
C-To PTO Clutch
D-To Filter
E-Inlet From Reservoir
F-From Control Valve Oil Line

Fig. 14-Clutch Housing Passages From Control Valve Housing and Transmission Oil Pump

A-From Control Valve Housing to C1
B-From Control Valve Housing to C2
C-From Pump to Filter
D-To Clutch Housing
E-From Oil Filter
F-From Control Valve Housing

Fig. 15-Transmission Case Oil Passages

Tractors - 4040 and 4240

TM-1181 (Apr-81) Litho in U.S.A.
Regulating Valve—Continued

Adjusting Pressure Regulating Valve

1. Remove suspension front cover.

2. Remove cap screw securing valve lock plate to top of valve housing (Fig. 6).

3. Remove plug from valve bore, and add or subtract washers as necessary. Install a new O-ring on plug before final assembly.

NOTE: Addition of one washer increases pressure 15 psi (1.03 bar) (1.05 kg/cm²).

Hydraulic Oil Reservoir

Main Hydraulic Oil Reservoir

The transmission case serves as the main hydraulic reservoir. A mesh screen in the bottom of the case and attached to the transmission pump inlet tube partially filters reservoir oil. The reservoir filler tube, with breather cap extends through the rockshaft housing at the rear of the tractor.

Additional charge oil is provided to the main pump from the oil reservoir (A, Fig. 8). An air check valve (B) prevents hydraulic oil from entering the air bleed line.

Hydraulic Oil Filters

Tractors with a Quad-Range transmission are equipped with one 10-micron hydraulic oil filter that filters hydraulic function return oil and transmission pump charging oil.