# Service Manual

# Model
# 944E-42

S/N 0160041827 & After

***31200355***

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## 2.4 FLUID AND LUBRICANT CAPACITIES

**Engine Crankcase Oil**

| | |
|---|---|
| Capacity with Filter Change | 13.5 quarts (12.8 liters) |
| Type of Oil | |
| 0° to 104° F (-20° to 40° C) | 15W-40 CD |
| -40° to 0° F (-40° to 20° C) | 0W-40 CD |

**Fuel Tank**

| | |
|---|---|
| Capacity | 45 gallons (171 liters) |
| Type of Fuel | |
| 0° to 104° F (-20° to 40° C) | #2 Diesel |
| -40° to 0° F (-40° to 20° C) | #1 Diesel |
| Anti-Gel | |
| -40° to 0° F (-40° to 20° C) | 16 ounces (0,5 liters) |

**Cooling System**

| | |
|---|---|
| System Capacity W/O Heater | 7.7 gallons (29,1 liters) |
| Type of Coolant | 50/50 ethylene glycol & water |

**Hydraulic System**

| | |
|---|---|
| System Capacity | 50 gallons (190 liters) |
| Reservoir Capacity | 34 gallons (127 liters) |
| Type of Fluid | Mobilfluid 424® Tractor Hydraulic Fluid (ISO 46) |

**Transmission**

| | |
|---|---|
| Capacity with Filter Change | 4.2 gallons (16 liters) |
| Type of Fluid | Mobilfluid 424® Tractor Hydraulic Fluid (ISO 46) |

**Transfer Case**

| | |
|---|---|
| Capacity | 1.7 quarts (1,6 liters) |
| Type of Fluid | Mobilfluid 424® Tractor Hydraulic Fluid (ISO 46) |

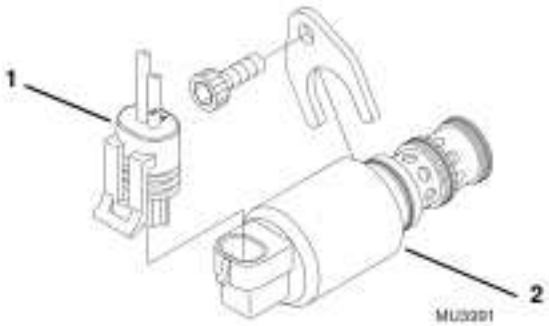
**Axles**

| | |
|---|---|
| Differential Housing Capacity | |
| Front | 12.7 quarts (12,0 liters) |
| Rear | 12.5 quarts (11,8 liters) |
| Wheel End Capacity | |
| Front | 2.1 quarts (2,0 liters) |
| Rear | 2.2 quarts (2,1 liters) |
| Type of Fluid | Mobilfluid 424® Tractor Hydraulic Fluid (ISO 46) |



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4. Label and disconnect the wire harness connector plug (**1**) on the solenoid valve (**2**) to be replaced.
5. Remove the solenoid valve and replace.

**d. Installation**

1. Install the solenoid valve along with the retaining bracket and capscrew.
2. Connect the wire harness connector plug to the solenoid connector plug.
3. Properly connect the batteries.
4. Close and secure the engine cover.
5. Test the operation of the transmission. Verify that each function works properly, that the transmission does not engage when in NEUTRAL (N) and that the proper indicators illuminate on the front dash panel.

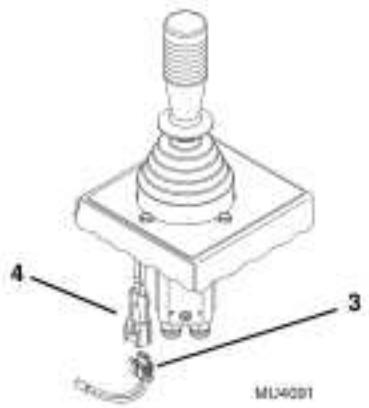
For further transmission information, refer to Section 6, "Transmission."

## 9.11.9 Dual Joystick

This machine is equipped with three separate hydraulic joysticks.

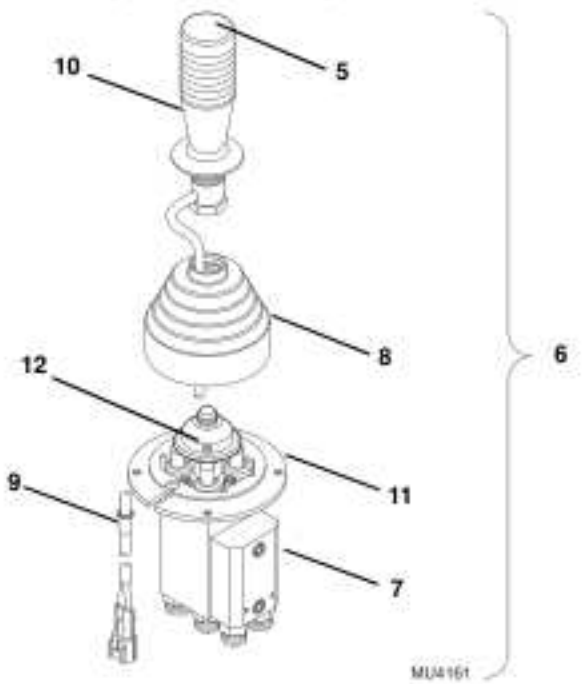
**a. Front Joystick Button Testing**

1. Remove the access panel from the side console.
2. Disconnect the cab wire harness connector plug (**3**) from the joystick connector plug (**4**).




3. Check the cab harness connector plug (**3**) with a DMM for battery voltage. Place the negative (-) lead on pin B and the positive (+) lead on pin A, and test for battery voltage.
   If battery voltage is not present, the wiring harness is suspect and should be replaced. If battery voltage is present, the harness is functioning properly.
4. If the harness is functioning properly, test the joystick button (**5**) for continuity. With the joystick button pressed down, test across the two pins inside the joystick connector plug for continuity and shorting. If there is no continuity, replace the joystick handle. Refer to Section 4.3.6, "Joystick Assemblies."

**b. Front Joystick Handle Replacement**






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## 10.5 STABIL-TRAK™ HYDRAULIC CIRCUIT OPERATION AND TROUBLESHOOTING

The function of the Stabil-TRAK™ system varies under different operating conditions. The basic modes include the FREE PIVOT MODE, SLOW PIVOT MODE and LOCKED MODE.

The hydraulic operation and troubleshooting information for each of these modes are described below.

### 10.5.1 Troubleshooting Symptom Chart

| Symptom | Conditions | Reference |
|---|---|---|
| With the boom below 40°, when swaying the frame to the right, the left front tire comes off the ground. | Ignition ON, engine running<br>Boom angle is below 40°<br>Travel select lever is in (F) FORWARD or (R) REVERSE<br>Park brake OFF<br>Service brake DISENGAGED | Refer to Section 10.5.4, "Hydraulic Circuit Operation - Free Pivot Mode, Rod Oil Out," and Section 10.5.5, "Hydraulic Troubleshooting - Free Pivot Mode, Rod Oil Out." |
| With the boom below 40°, when swaying the frame to the left, the right front tire comes off the ground. | Ignition ON, engine running<br>Boom angle is below 40°<br>Travel select lever is in (F) FORWARD or (R) REVERSE<br>Park brake OFF<br>Service brake DISENGAGED | Refer to Section 10.5.6, "Hydraulic Circuit Operation - Free Pivot Mode, Base Oil Out," and Section 10.5.7, "Hydraulic Troubleshooting - Free Pivot Mode, Base Oil Out." |
| While traveling, ride feels spongy (riding on 3 wheels). | Ignition ON, engine running<br>Boom angle is above 40°<br>Travel select lever is in (F) FORWARD or (R) REVERSE<br>Park brake OFF<br>Service brake DISENGAGED | Refer to Section 10.5.8, "Hydraulic Circuit Operation - Slow Pivot Mode, Rod Oil Out," and Section 10.5.9, "Hydraulic Troubleshooting - Slow Pivot Mode, Rod Oil Out," or Section 10.5.10, "Hydraulic Circuit Operation - Slow Pivot Mode, Base Oil Out," and Section 10.5.11, "Hydraulic Troubleshooting - Slow Pivot Mode, Base Oil Out." |
| Stabil-TRAK™ lock light in the front dash is not ON. | Ignition ON, engine running<br>Boom angle is above 40°<br>Travel select lever is in (N) NEUTRAL, or Park brake ON, or Service brake ENGAGED | Refer to Section 10.5.12, "Hydraulic Circuit Operation - Locked Mode," and Section , "," or Section 10.5.16, "Hydraulic Troubleshooting - Locked Mode, Will Not Frame Sway Left." |
| With the boom above 40°, when swaying the frame to the right, the left front tire comes off the ground. | Ignition ON, engine running<br>Boom angle is above 40°<br>Travel select lever is in (N) NEUTRAL, or Park brake ON, or Service brake ENGAGED | Refer to Section 10.5.13, "Hydraulic Circuit Operation - Locked Mode, Frame Sway Right," and Section , "." |
| With the boom above 40°, when swaying the frame to the left, the right front tire comes off the ground. | Ignition ON, engine running<br>Boom angle is above 40°<br>Travel select lever is in (N) NEUTRAL, or Park brake ON, or Service brake ENGAGED | Refer to Section 10.5.15, "Hydraulic Circuit Operation - Locked Mode, Frame Sway Left," and Section 10.5.16, "Hydraulic Troubleshooting - Locked Mode, Will Not Frame Sway Left." |



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