Troubleshooting
242B, 246B, 248B, 252B, 262B and 268B Skid Steer Loaders Interlock Electronic
Control System

Solenoid Valve (Parking Brake) Does Not Function Correctly

System Operation Description:
The parking brake solenoid has no diagnostics for checking for faults in the system. The solenoid will
NOT be energized when there is an open circuit or a short to ground. If the parking brake solenoid is
shorted to the +battery the solenoid will be ON all the time.

Test Step 1. CHECK FOR HYDROSTATIC OPERATION

A. Occupy the seat.
B. Lower the armrest.
C. Turn the key start switch to the ON position.
D. Press and release the parking brake switch.

Expected Result:
The hydrostatic system should energize.

Results:

• OK - The hydrostatic system energizes. Proceed to Test Step 2.
• NOT OK - The hydrostatic system does NOT energize.

Repair: See Troubleshooting, "Switch (Parking Brake)".

Stop.
Test Step 2. CHECK VOLTAGE AT THE SOLENOID VALVE WITH KEY SWITCH OFF

A. Turn the key start switch to the OFF position.

B. Locate the parking brake solenoid under the cab.

C. Disconnect the parking brake solenoid from the electrical connector.

D. Measure the voltage across the two contacts of the harness connector (A958-WH and G939-YL).

Expected Result:
The voltage should be less than 2 DCV.

Results:

- **OK** - The voltage is less than 2 DCV. Proceed to Test Step 3.
- **NOT OK** - The voltage is greater than 2 DCV.

  Repair: The wire harness is shorted to a + battery circuit. Repair the wire harness or replace the wire harness.

  Stop.

Test Step 3. CHECK VOLTAGE AT THE SOLENOID VALVE WITH KEY SWITCH ON

A. Turn the key start switch to the ON position.

B. Measure the voltage across the two contacts of the harness connector (A958-WH and G939-YL).

Expected Result:

Voltage should be less than 2 DCV.

Results:

- **OK** - The voltage is less than 2 DCV. Proceed to Test Step 4.
- **NOT OK** - The voltage is greater than 2 DCV. Proceed to Test Step 6.

Test Step 4. CHECK THE VOLTAGE AT THE SOLENOID VALVE WHILE THE KEY SWITCH IS ON AND THE PARKING BRAKE IS RELEASED

A. Turn the key start switch to the ON position. Press and release the parking brake switch.

  Note: Two people will need to perform this procedure. One person will need to be sitting in the seat with the armrest in the DOWN position.

B. Measure the voltage across the two contacts of the harness connector (A958-WH and G939-YL).
Expected Result:
The voltage should be greater than 10 DCV.

Results:
- **OK** - The voltage is greater than 10 DCV. Proceed to Test Step 5.
- **NOT OK** - The voltage is less than 10 DCV. Proceed to Test Step 7.

**Test Step 5. CHECK RESISTANCE OF THE SOLENOID**

A. Measure the resistance between the two wires of the parking brake solenoid.

**Expected Result:**
The resistance should be 10 ± 2 Ohms.

**Results:**
- **OK** - The resistance is 10 ± 2 Ohms.
  
  **Repair:** The problem does NOT appear to be electrically related.

  **Stop.**

- **NOT OK** - The resistance is NOT 10 ± 2 Ohms.
  
  **Repair:** The solenoid has failed. Replace the solenoid.

  **Stop.**

**Test Step 6. CHECK THE WIRE HARNESS FOR A SHORT CIRCUIT**

A. Locate the Interlock ECM.

B. Disconnect the wire harness.

C. Turn the key start switch to the ON position.

D. Check the resistance from contact 13 of the wire harness to the following contacts: contact 1, contact 11, contact 24, contact 29, contact 62 and contact 70.

**Expected Result:**
The resistances should be above 2 Ohms.

**Results:**
- **OK** - The resistance readings are above 2 Ohms.
  
  **Repair:** The ECM is unlikely to fail. Terminate this procedure and restart the procedures. Verify all the readings.
Stop.

• **NOT OK** - One or more resistance readings are below 2 Ohms.

  **Repair:** The wire harness has failed. Repair the wire harness or replace the wire harness.

  Stop.

**Test Step 7. CHECK THE WIRE HARNESS FOR CONTINUITY**

A. Turn the key start switch to the OFF position.

B. Connect a jumper wire between wires A958-WH and G939-YL on the wire harness at the end of the parking brake solenoid.

C. Locate the Interlock ECM.

D. Disconnect the wire harness.

E. Check the resistance between pin 13 and pin 66 of the wire harness.

**Expected Result:**

The resistance should be less than 2 Ohms.

**Results:**

• **OK** - The resistance is less than 2 Ohms.

  **Repair:** The ECM is very unlikely to have failed. Reconnect all connections and visually inspect the wire harness. Verify that the diagnostic code still exists. If the diagnostic code still exists perform the Test Steps again.Replace the ECM, if the cause of the diagnostic code was not found after the second attempt. See Testing and Adjusting, "Electronic Control Module (ECM) - Replace".

  Stop.

• **NOT OK** - The resistance is greater than 2 Ohms.

  **Repair:** The wire harness has failed. Repair the wire harness or replace the wire harness.

  Stop.