DESCRIPTION

The current flow to the solenoid is controlled by the duty ratio* of the ECM output signal. The higher the duty ratio becomes, the higher the lock-up hydraulic pressure becomes during the lock-up operation.

*: The duty ratio is the ratio of the continuity to non-continuity in one cycle.

For example, if A is the period of continuity in one cycle, and B is the period of non-continuity, then Duty Ratio = A/(A+B) x 100(%).

MONITOR DESCRIPTION

When an open or short is detected in the shift solenoid valve (SLU) circuit, the ECM determines that there is a malfunction. The ECM turns on the MIL and stores this DTC.

MONITOR STRATEGY

<table>
<thead>
<tr>
<th>DTC No.</th>
<th>DTC Detection Conditions</th>
<th>Trouble Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>P2759</td>
<td>Open or short is detected in shift solenoid valve SLU circuit for 1 second or more while driving (1-trip detection logic)</td>
<td>• Open or short in shift solenoid valve SLU circuit&lt;br&gt;• Shift solenoid valve SLU&lt;br&gt;• ECM</td>
</tr>
</tbody>
</table>

Related DTCs: P2759: Shift solenoid valve SLU/Range check

Required sensors/Components: Shift solenoid valve SLU

Frequency of operation: Continuous

Duration: Condition (A) and (B): 1 second

MIL operation: Immediate

Sequence of operation: None
TYPICAL ENABLING CONDITIONS
The following conditions are common to Condition (A) and (B).

<table>
<thead>
<tr>
<th>Condition</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ignition switch</td>
<td>ON</td>
</tr>
<tr>
<td>Starter</td>
<td>OFF</td>
</tr>
</tbody>
</table>

TYPICAL MALFUNCTION THRESHOLDS
Either of the following conditions is met: Condition (A) or (B)

**Condition (A)**
- Solenoid current cut status: Not cut
- Battery voltage: 11 V or more

**Condition (B)**
- Battery voltage: 8 V or more

COMPONENT OPERATING RANGE
Shift solenoid valve SLU: Resistance: 5.0 to 5.6 Ω at 20°C (68°F)

WIRING DIAGRAM
![Wiring Diagram of Electronically Controlled Transmission Solenoid](image-url)
INSPECTION PROCEDURE

1 INSPECT TRANSMISSION WIRE (SLU)

Transmission Wire Side:
(Connector Front View):

(a) Disconnect the transmission wire connector from the transmission.
(b) Measure the resistance.

**Standard resistance**

<table>
<thead>
<tr>
<th>Tester Connection</th>
<th>Specified Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>13 (SLU+) - 5 (SLU-)</td>
<td>5.0 to 5.6 ( \Omega ) at 20°C (68°F)</td>
</tr>
</tbody>
</table>

(c) Measure the resistance.

**Standard resistance (Check for short)**

<table>
<thead>
<tr>
<th>Tester Connection</th>
<th>Specified Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>13 (SLU+) - Body ground</td>
<td>10 k( \Omega ) or higher</td>
</tr>
<tr>
<td>5 (SLU-) - Body ground</td>
<td>10 k( \Omega ) or higher</td>
</tr>
</tbody>
</table>

NG Go to step 3

OK

2 CHECK HARNESS AND CONNECTOR (TRANSMISSION WIRE - ECM)

ECM:

(a) Connect the transmission wire connector to the transmission.
(b) Disconnect the ECM connector.
(c) Measure the resistance.

**Standard resistance**

<table>
<thead>
<tr>
<th>Tester Connection</th>
<th>Specified Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>B2-15 (SLU+) - B2-14 (SLU-)</td>
<td>5.0 to 5.6 ( \Omega ) at 20°C (68°F)</td>
</tr>
</tbody>
</table>

(d) Measure the resistance.

**Standard resistance (Check for short)**

<table>
<thead>
<tr>
<th>Tester Connection</th>
<th>Specified Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>B2-15 (SLU+) - Body ground</td>
<td>10 k( \Omega ) or higher</td>
</tr>
<tr>
<td>B2-14 (SLU-) - Body ground</td>
<td>10 k( \Omega ) or higher</td>
</tr>
</tbody>
</table>

NG REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE ECM
3 INSPECT SHIFT SOLENOID VALVE SLU

(a) Remove the shift solenoid valve SLU.
(b) Measure the resistance.

**Standard resistance**

<table>
<thead>
<tr>
<th>Tester Connection</th>
<th>Specified Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 2</td>
<td>5.0 to 5.6 Ω at 20°C (68°F)</td>
</tr>
</tbody>
</table>

(c) Connect the positive (+) lead with a 21 W bulb to terminal 2 and the negative (-) lead to terminal 1 of the solenoid valve connector, then check the movement of the valve.

OK: The solenoid makes operating sounds.

NG REPLACE SHIFT SOLENOID VALVE SLU

REPAIR OR REPLACE TRANSMISSION WIRE