

<b>DTC</b>	<b>P0746</b>	<b>PRESSURE CONTROL SOLENOID "A" PERFORMANCE (SHIFT SOLENOID VALVE SL1)</b>
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## SYSTEM DESCRIPTION

The ECM uses signals from the vehicle speed sensor to detect the actual gear position (1st, 2nd, 3rd or O/D gear).

Then the ECM compares the actual gear with the shift schedule in the ECM memory to detect mechanical problems of the shift solenoid valves and valve body.

DTC No.	DTC Detecting Condition	Trouble Area
P0746	The gear required by the ECM does not match the actual gear when driving (2-trip detection logic)	<ul style="list-style-type: none"><li>• Shift solenoid valve SL1 remains open or closed</li><li>• Valve body is blocked</li><li>• Shift solenoid valve SL1</li><li>• Automatic transaxle (clutch, brake or gear etc.)</li><li>• ECM</li></ul>

## MONITOR DESCRIPTION

The ECM commands gear shifts by turning the shift solenoid valves "ON/OFF". According to the input shaft revolution, intermediate (counter) shaft revolution and output shaft revolution, the ECM detects the actual gear position (1st, 2nd, 3rd or O/D gear position). When the gear position commanded by the ECM and the actual gear position are not same, the ECM illuminates the MIL.

Example:

When either condition (a) or (b) is met, the ECM detects a malfunction.

- (a) The ECM commands the 1st gear, but the actual gear is 2nd.
- (b) The ECM commands the 2nd gear, but the actual gear is 1st.

## INSPECTION PROCEDURE

### HINT:

Performing the Intelligent Tester II Active Test allows relay, Vacuum Switching Valve (VSV), actuator and other items to be operated without removing any parts. Performing the Active Test early in troubleshooting is one way to shorten labor time. The Data List can be displayed during the Active Test.

- Warm up the engine.
- Turn the ignition switch off.
- Connect the Intelligent Tester II to the DLC3.
- Turn the ignition switch to the ON position.
- Turn on the tester.
- Clear the DTC.
- Select the item "Diagnosis / OBD-MOBD / Powertrain / Engine and ECT / Active Test / Control the Shift Position".
- Follow the instructions on the tester and read the Active Test.

### HINT:

While driving, the shift position can be forcibly changed with the Intelligent Tester II.

Comparing the shift position commanded by the ACTIVE TEST with the actual shift position enables you to confirm the problem (see page 05-778).

Item	Test Details	Diagnostic Note
Control the Shift Position	[Test Details] Operate the shift solenoid valve and set the each shift position by yourself. [Vehicle Condition] • IDL: ON • Less than 50 km/h (31 mph) [Others] • Press → button: Shift Up • Press ← button: Shift Down	Possible to check the operation of the shift solenoid valves.

### HINT:

- This test can be conducted when the vehicle speed is 50 km/h (31 mph) or less.
- The shift position commanded by the ECM is shown in the DATA LIST (Shift Status) display on the Intelligent Tester II.

## 1 CHECK OTHER DTCs OUTPUT (IN ADDITION TO DTC P0746)

- Connect the Intelligent Tester II to the DLC3.
- Turn the ignition switch to the ON position.
- Turn on the tester.
- Select the item "Powertrain / Engine and ECT / DTC / Current or Pending".
- Read the DTCs using the Intelligent Tester II.

### Result:

Display (DTC output)	Proceed to
Only "P0746" is output	A
"P0746" and other DTCs	B

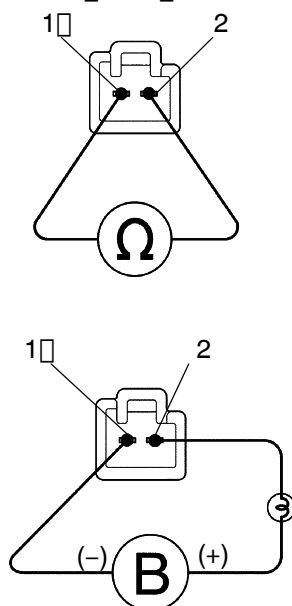
### HINT:

If any other codes besides "P0746" is output, perform the troubleshooting for those DTCs first.

**B**

**GO TO RELEVANT DTC CHART  
(SEE PAGE 05-783)**

**A**

**2 INSPECT SHIFT SOLENOID VALVE (SL1)****Shift Solenoid Valve SL1:**

D25466

- (a) Remove the shift solenoid valve SL1.  
(b) Measure the resistance according to the value(s) in the table below.

**Standard:**

Tester Connection	Specified Condition 20°C (68°F)
1 - 2	5.0 to 5.6 Ω

- (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 an operating noise.

**NG****REPLACE SHIFT SOLENOID VALVE (SL1)****OK****3 INSPECT TRANSMISSION VALVE BODY ASSY (See chapter 2 in the problem symptoms table) (SEE PAGE 05-766)****OK:**

There are no foreign objects on each valve and they operate smoothly.

**NG**

**REPAIR OR REPLACE TRANSMISSION VALVE BODY ASSY**  
(See Pub. No. RM864E, page 40-26)

**OK****4 INSPECT TORQUE CONVERTER CLUTCH ASSY (See Pub. No. RM864E, page 40-19)****OK:**

The torque converter clutch operates normally.

**NG**

**REPLACE TORQUE CONVERTER CLUTCH ASSY**

**OK**

**REPAIR OR REPLACE AUTOMATIC TRANSAXLE ASSY (See Pub. No. RM864E, page 40-7)**