

DTC	P0766	SHIFT SOLENOID "D" PERFORMANCE (SHIFT SOLENOID VALVE S4)
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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
P0766	The gear required by the ECM does not match the actual gear when driving (2-trip detection logic)	<ul style="list-style-type: none"> • Shift solenoid valve S4 remains open or closed • Valve body is blocked • Shift solenoid valve S4 • Automatic transaxle (clutch, brake or gear etc.) • ECM

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 and stores the DTC.

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 P0766)

- 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 "P0766" is output	A
"P0766" and other DTCs	B

HINT:

If any other codes besides "P0766" is output, perform the troubleshooting for those DTCs first.

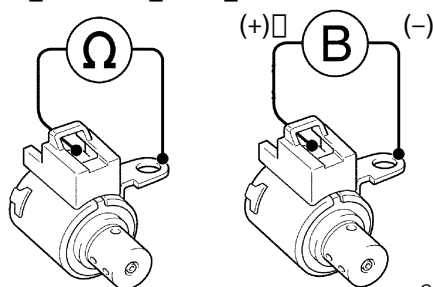
B

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

A

2 INSPECT SHIFT SOLENOID VALVE(S4)

Shift Solenoid Valve S4:



- Remove the shift solenoid valve S4.
- Measure the resistance according to the value(s) in the table below.

Standard:

Tester Connection	Specified Condition 20°C (68°F)
Solenoid Connector (S4) – Solenoid Body (S4)	11 to 15 Ω

- Connect positive (+) lead to the terminal of solenoid connector, negative (-) lead to the solenoid body.

OK:

The solenoid makes an operating noise.

NG

REPLACE SHIFT SOLENOID VALVE(S4)

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)