DTC	P0756	Shift Solenoid "B" Performance (Shift Solenoid Valve S2)

DESCRIPTION

The ECM uses signals from the vehicle speed sensor and speed sensor NT 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 the valve body or automatic transaxle (clutch, brake, gear, etc.).

DTC No.	DTC Detecting Condition	Trouble Area
P0756	The gear required by the ECM does not match the actual gear when driving (2 trip detection logic)	• Shift solenoid valve S2 remains open or closed • Valve body is blocked • Shift solenoid valve S2 • Automatic transaxle (clutch, brake, 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 the same, the ECM illuminates the MIL.

MONITOR STRATEGY

Related DTCs	P0756: Shift solenoid valve S2/OFF malfunction Shift solenoid valve S2/ON malfunction
Required sensor/Components	Shift solenoid valve S2
Frequency of operation	Continuous
Duration	0.85 sec.
MIL operation	2 driving cycles
Sequence of operation	None

TYPICAL ENABLING CONDITIONS

The following items are common to all conditions below.

The monitor will run whenever the following DTCs are not present	None
ECT (Engine coolant temperature)	60°C (140°F) or more
Transmission range	"D"
Shift solenoid S1 circuit	Not circuit malfunction
Shift solenoid S2 circuit	Not circuit malfunction
ECT sensor circuit	Not circuit malfunction
Input (turbine) speed sensor circuit	Not circuit malfunction
Internal counter shaft speed sensor circuit	Not circuit malfunction
Throttle position sensor circuit	Not circuit malfunction

OFF malfunction (A)

ECM selected gear	1st
Vehicle speed	9 to 40 km/h (5.6 to 24.9 mph)
Throttle valve opening angle	7% or more at engine speed 1,900 rpm (Condition varies with engine speed)

AX

OFF malfunction (B)

ECM selected gear	3rd
Vehicle speed	9 km/h (5.6 mph) or more
Throttle valve opening angle	7% or more at engine speed 1,900 rpm (Condition varies with engine speed)

OFF malfunction (C)

ECM selected gear	4th
Vehicle speed	9 km/h (5.6 mph) or more
Throttle valve opening angle	7% or more at engine speed 1,900 rpm (Condition varies with engine speed)

ON malfunction (A)

ECM selected gear	2nd
Vehicle speed	9 km/h (5.6 mph) or more
Throttle valve opening angle	7% or more at engine speed 1,900 rpm (Condition varies with engine speed)

ON malfunction (B)

ECM selected gear	3rd
Vehicle speed	9 km/h (5.6 mph) or more
Throttle valve opening angle	7% or more at engine speed 1,900 rpm (Condition varies with engine speed)

ON malfunction (C)

ECM selected gear	4th
Vehicle speed	9 km/h (5.6 mph) or more
Throttle valve opening angle	7% or more at engine speed 1,900 rpm (Condition varies with engine speed)

TYPICAL MALFUNCTION THRESHOLDS

AX

[OFF malfunction]
Following conditions met: OFF malfunction (A), (B) and (C).
2 detections are necessary per driving cycle:
1st detection; temporary flag ON
2nd detection; pending fault code ON

OFF malfunction (A)

Input speed/Output speed (NT/NO) NT: Input (turbine) speed NO: Internal counter shaft speed	1.50 to 1.80

OFF malfunction (B)

Input speed/Output speed (NT/NO) NT: Input (turbine) speed NO: Internal counter shaft speed	0.95 to 1.09

OFF malfunction (C)

Input speed/Output speed (NT/NO) NT: Input (turbine) speed NO: Internal counter shaft speed	0.95 to 1.09

[ON malfunction]
Following conditions met: ON malfunction (A), (B) and (C).

ON malfunction (A)

Input speed/Output speed (NT/NO) NT: Input (turbine) speed NO: Internal counter shaft speed	2.75 to 3.35

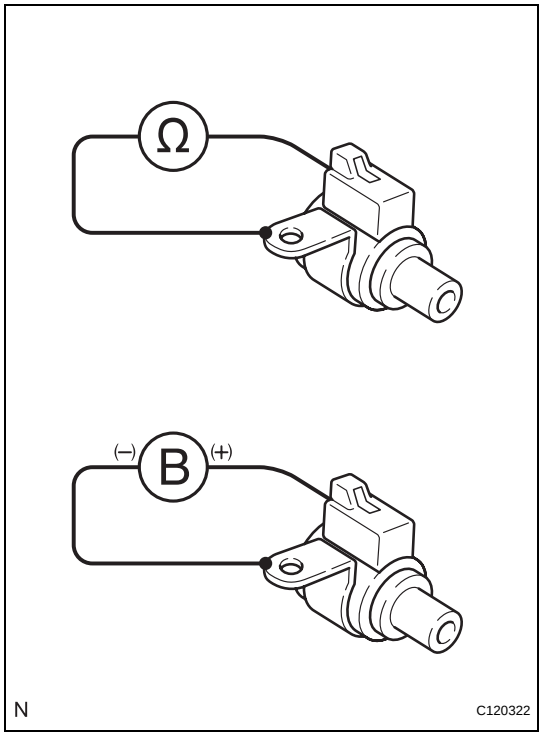
ON malfunction (B)

Input speed/Output speed (NT/NO) NT: Input (turbine) speed NO: Internal counter shaft speed	0.64 to 0.78

ON malfunction (C)

Input speed/Output speed (NT/NO) NT: Input (turbine) speed NO: Internal counter shaft speed	0.64 to 0.78

1 INSPECT SHIFT SOLENOID VALVE S2



(a) Remove the shift solenoid valve S2.
(b) Measure the resistance of the solenoid valve.
Standard resistance:
11 to 15 Ωat 20°C (68°F)
(c) Connect the battery's positive (+) lead to the terminal of the solenoid connector, and the negative (-) lead to the solenoid body.
(d) Check the operating noise of the solenoid valve.
OK:
Solenoid makes operating noise.

NG → **REPLACE SHIFT SOLENOID VALVE S2**

OK

2 INSPECT TRANSMISSION VALVE BODY ASSEMBLY

(a) Check the transmission valve body assembly.
OK:
There are no foreign objects on each valve.

NG → **REPAIR OR REPLACE TRANSMISSION VALVE BODY ASSEMBLY**

OK

REPAIR OR REPLACE AUTOMATIC TRANSAXLE ASSEMBLY

AX