DTC P075	1 Shift Solenoid Valve S1)	A" Performance (Shift Solenoid
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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
P0751	The gear required by the ECM does not match the actual gear when driving (2 trip detection logic)	 Shift solenoid valve S1 remains open or closed Valve body is blocked Shift solenoid valve S1 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	P0751: Shift solenoid valve S1/OFF malfunction Shift solenoid valve S1/ON malfunction
Required sensor/Components	Shift solenoid valve S1
Frequency of operation	Continuous
Duration	OFF malfunction (A): 0.85 sec. OFF malfunction (B): 0.8 sec. ON malfunction (A) (B): 0.8 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	25% or more
	(Condition varies with engine speed)

OFF malfunction (B)

Current ECM selected gear	4th
Last ECM selected gear	3rd

ON malfunction (A)

Current ECM selected gear	4th
Last ECM selected gear	3rd

ON malfunction (B)

ECM selected gear	4th
V current - V last V current: Vehicle speed at current ECM selected gear V last: Vehicle speed at last ECM selected gear	Less than 15 km/h (9.3 mph)
TH current - TH last TH current: Throttle valve opening angle at current ECM selected gear TH last: Throttle valve opening angle at last ECM selected gear	Less than 30%
Vehicle speed (current)	Less than 85 km/h (52.8 mph)
Throttle valve opening angle (current)	Less than 45%
Engine speed (current)	3,200 rpm or more

TYPICAL MALFUNCTION THRESHOLDS

[OFF malfunction]

Following conditions met: OFF malfunction (A) and (B).

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

OFF malfunction (B)

Input speed/Output speed (NT/NO)	Changes as follows
NT: Input (turbine) speed	0.95 to 1.09 (Last)
NO: Internal counter shaft speed	to
	0.64 to 0.78 (Current)

[ON malfunction]

Following conditions met: ON malfunction (A) and (B).

ON malfunction (A)

Input speed/Output speed (NT/NO)	Does not change as follows
NT: Input (turbine) speed	0.95 to 1.09 (Last)
NO: Internal counter shaft speed	to
	0.64 to 0.78 (Current)

ON malfunction (B)

NE current - NE last	1,100 rpm or more
NE current: Engine speed at current ECM selected gear	
NE last: Engine speed at last ECM last selected gear	

