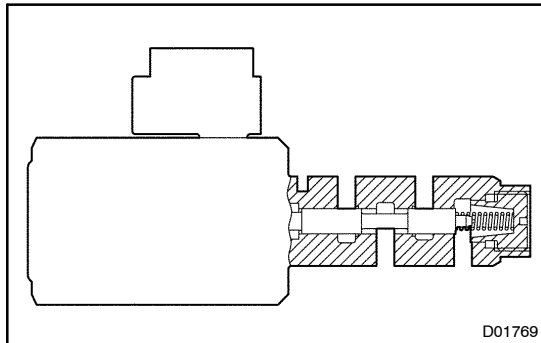


DTC	P2757	Torque Converter Clutch Pressure Control Solenoid Performance(Shift Solenoid Valve SLU)
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SYSTEM DESCRIPTION

The ECM uses the signals from the Throttle Position Sensor and Air-flow Meter to monitor the engagement condition of the lock-up clutch.

Then the ECM compares the engagement condition of the lock-up clutch with the lock-up schedule in the ECM memory to detect mechanical trouble of the shift solenoid valve SLU, valve body, torque converter clutch and automatic transmission assembly (clutch, brake or gear etc.).

DTC No.	DTC Detecting Condition	Trouble Area
P2757	Lock-up does not occur when driving in the lock-up range (normal driving at 80 km/h [50 mph]), or lock-up remains ON in the lock-up OFF range. (2-trip detection logic)	• Shift solenoid valve SLU is stuck open or closed • Valve body blocked up or stuck • Lock-up clutch • Automatic transmission assembly

MONITOR DESCRIPTION

The ECM controls the oil pressure to the lock-up clutch based on engine-load information from the throttle position sensor, crankshaft position sensor, input speed sensor, and the oil pressure sensor for shift-solenoid SLU. The ECM commands the shift-solenoid SLU using a duty-cycle control signal. In turn, the shift solenoid operates the lock-up control valve and causes lock-up or flexible lock-up of the torque converter clutch.

To monitor the condition of the lock up clutch, the ECM monitors the signals from the input speed sensor, crank position sensor, the throttle position sensor, and air flow meter. The ECM uses this information to determine when the vehicle's torque converter clutch should be locked-up. The ECM can detect many mechanical problems in the shift solenoids, valve body, and the transmission clutches, brakes, and gears. If the ECM detects that the torque converter clutch locked below the minimum lock-up speed, it will illuminate the MIL and store the DTC.

MONITOR STRATEGY

Related DTCs	P2757	Shift solenoid valve SLU/OFF malfunction
		Shift solenoid valve SLU/ON malfunction
Required sensors/Components	Main	Shift solenoid valve SLU
	Sub	Valve body, Vehicle speed sensor, Throttle position sensor, Speed sensor (NT), Speed sensor (NO)
Frequency of operation	Continuous	
Duration	OFF malfunction	2 sec.
	ON malfunction	1.8 sec.
MIL operation	2 driving cycles	
Sequence of operation	None	

TYPICAL ENABLING CONDITIONS

Item	Specification	
	Minimum	Maximum
The following items are common to all conditions below: OFF malfunction and ON malfunction		
The monitor will run whenever the following DTCs are not present.	See page DI-361	
Turbine speed sensor (NT) circuit	There is no malfunction in the circuits shown on the left.	
Output speed sensor (NO) circuit		
Shift solenoid "A" (S1) circuit		
Shift solenoid "B" (S2) circuit		
Shift solenoid "E" (SR) circuit		
Torque converter clutch pressure control solenoid circuit		
KCS sensor circuit		
ETCS (Electric throttle control system)	Not system down	
Transmission shift position	"D"	
ECT (Engine coolant temperature)	40° C (104° F) or more	–
Spark advance from Max. retard timing by KCS control	0° CA or more	–
Engine	Running	
ECM selected gear	4th or 5th	
Vehicle speed	25 km/h or more	–
Shift solenoid "A" (S1) circuit	There is no malfunction in the circuits shown on the left.	
Shift solenoid "B" (S2) circuit		
Pressure control solenoid "B" (SL2) circuit		
1–2 Shift valve		
Transfer neutral position switch	OFF	
Transfer range	"HIGH"*1	
Transfer range "HIGH" *1 (This condition is applied only 4WD)		
*1 Following conditions met		
Vehicle speed sensor "A" circuit	There is no malfunction in the sensor circuits shown on the left.	
Output shaft speed sensor circuit		
Transfer output speed	143 rpm or more	–
NO/NOTf (Transfer input speed/Transfer output speed)	0.9 or more	Less than 1.1
OFF malfunction		
ECM lock-up command	ON (SLU pressure: 513kpa or more)	
Vehicle speed	–	Less than 100 km/h (62 mph)
ON malfunction		
ECM lock-up command	OFF (SLU pressure: less than 4kpa)	
Throttle valve opening angle	9% or more	–
Vehicle speed	–	Less than 60 km/h (38 mph)

TYPICAL MALFUNCTION THRESHOLDS

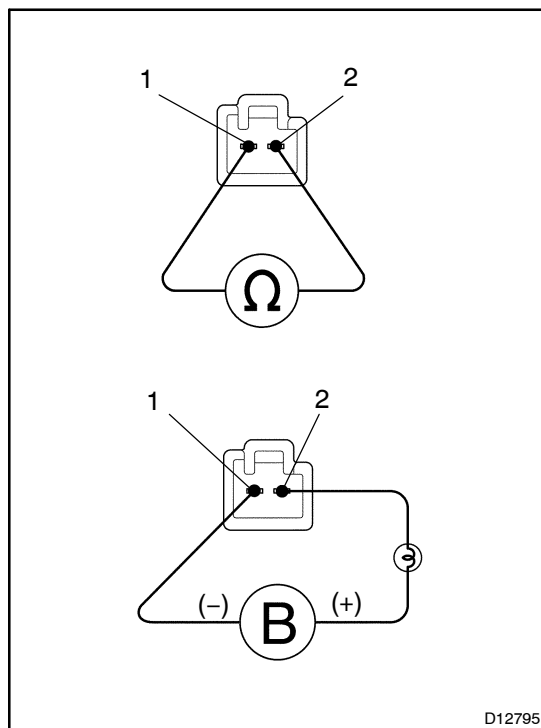
Detection criteria	Threshold
OFF malfunction	
Engine speed – Turbine speed	70 rpm or more
ON malfunction	
It is necessary 2 detections/one driving cycle 1st detection; temporary flag ON 2nd detection; pending fault code ON	
Vehicle speed must be under 10 km/h (6 mph) once before 2nd detection	
Engine speed – Turbine speed	Less than 35 rpm

COMPONENT OPERATING RANGE

Parameter	Standard value
Speed sensor (NT)	Input speed is equal to engine speed when lock-up ON.

INSPECTION PROCEDURE

1	Check shift solenoid valve SLU operation.
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PREPARATION:

- Jack up the vehicle.
- Remove the oil pan.
- Remove the shift solenoid valve SLU.

CHECK:

- Measure the resistance between terminals 1 and 2 of solenoid connector.

Standard: 5.0 to 5.6 Ω at 20°C (68°F)

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

Standard: Solenoid sounds operation noise.

OK:

Standard

NG

**Replace the shift solenoid valve SLU
(See page AT-8).**

OK

2	Check valve body (See page DI-397).
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NG	Replace the valve body (See page AT-8).
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OK

3	Check torque converter clutch (See page AT-34).
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OK	Repair or replace transmission (See page AT-30).
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NG

Replace the torque converter clutch (See page AT-30).
