DTC	P2716	Pressure Control Solenoid "D" Electrical (Shift Solenoid Valve SLT)

DESCRIPTION

The linear solenoid valve (SLT) controls the transmission line pressure for smooth transmission operation based on signals from the throttle position sensor and the vehicle speed sensor. The ECM adjusts the duty cycle of the SLT solenoid valve to control hydraulic line pressure coming from the primary regulator valve. Appropriate line pressure assures smooth shifting with varying engine outputs.

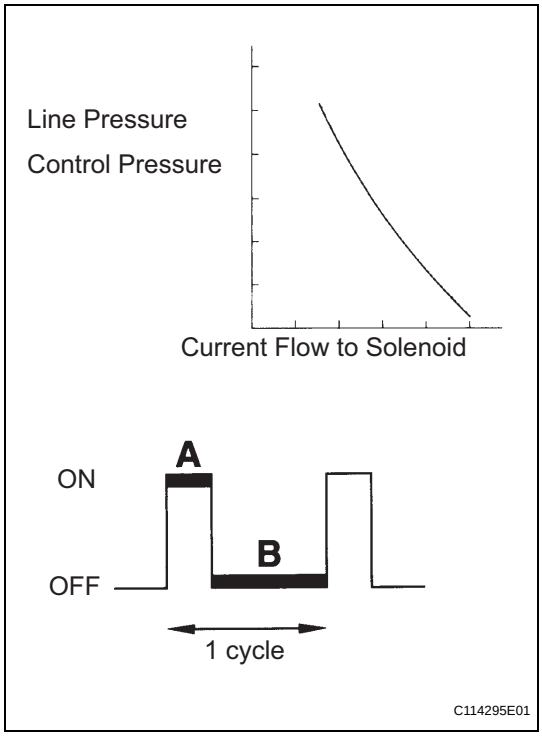
(*): Duty Ratio

The duty ratio is the ratio of the period of continuity in one cycle.

For example, if A is the period of continuity in one cycle, and B is the period of non-continuity, then

Duty Ratio = A/(A + B) x 100(%)

DTC No.	DTC Detection Condition	Trouble Area
P2716	Open or short is detected in shift solenoid valve SLT circuit for 1 second or more while driving (1-trip detecting logic).	• Open or short in shift solenoid valve SLT circuit • Shift solenoid valve SLT • ECM



MONITOR DESCRIPTION

When an open or short in the linear solenoid valve (SLT) circuit is detected, the ECM interprets this as a fault. The ECM will turn on the MIL and store the DTC.

MONITOR STRATEGY

Related DTCs	P2716: Shift solenoid valve SLT/Range check
Required sensors/Components	Shift solenoid valve SLT
Frequency of operation	Continuous
Duration	1 sec.
MIL operation	Immediate
Sequence of operation	None

AX

TYPICAL ENABLING CONDITIONS

The monitor will run whenever this DTC is not present.	None
Solenoid current cut status	Not cut
Battery voltage	11 V or more
Ignition switch	ON
Starter	OFF
CPU commanded duty ratio to SLT	19% or more

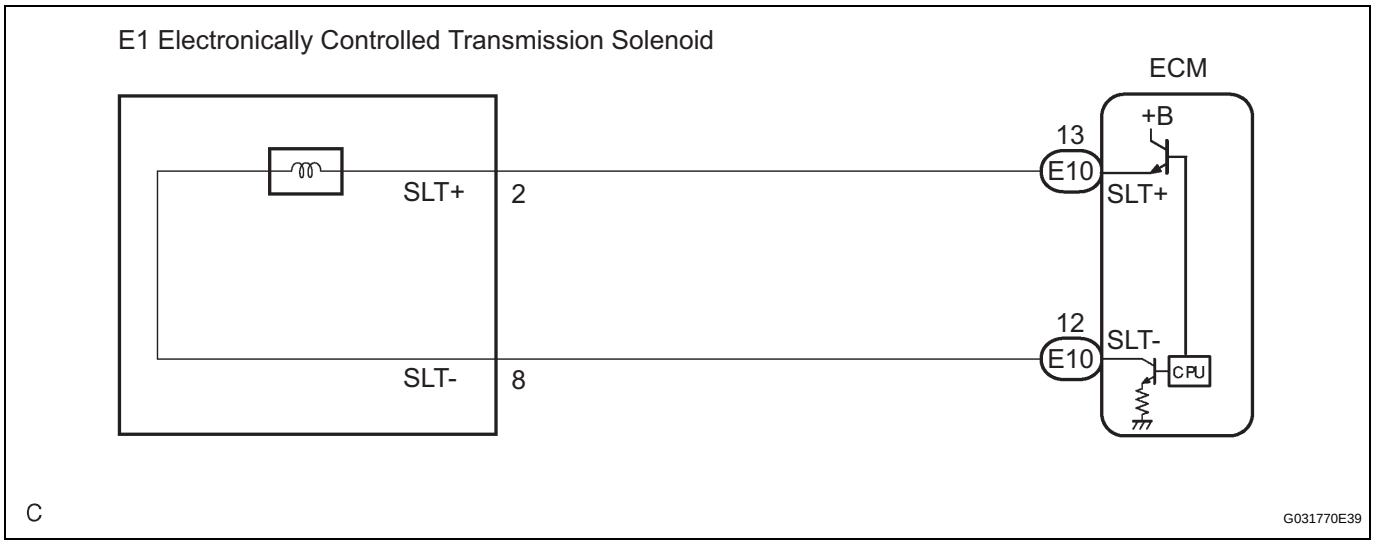
TYPICAL MALFUNCTION THRESHOLDS

Solenoid status from IC	Fail (Open or short)

COMPONENT OPERATING RANGE

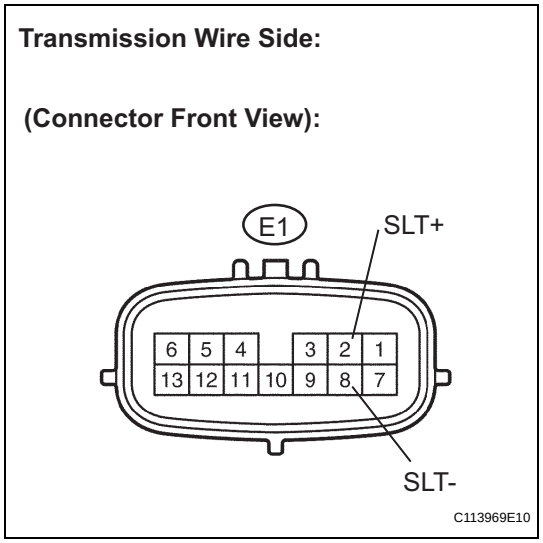
Shift solenoid valve SLT	Resistance: 5.0 to 5.6 Ω at 20°C (68°F)

WIRING DIAGRAM



INSPECTION PROCEDURE

1 INSPECT TRANSMISSION WIRE (SLT)



(a) Disconnect the transmission wire connector from the transaxle.
(b) Measure the resistance according to the value(s) in the table below.
Standard resistance

Tester Connection	Specified Condition 20°C (68°F)
2 (SLT+) - 8 (SLT-)	5.0 to 5.6 Ω

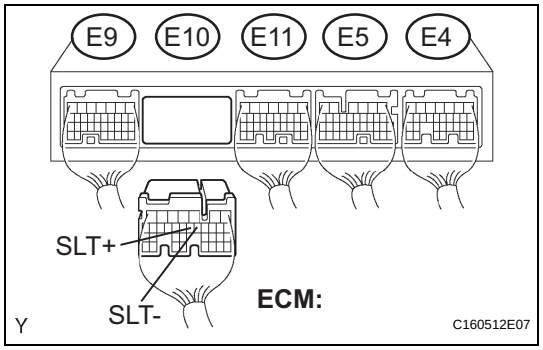
(c) Measure the resistance according to the value(s) in the table below.
Standard resistance (Check for short)

Tester Connection	Specified Condition
2 (SLT+) - Body ground	10 kΩ or higher
8 (SLT-) - Body ground	↑

NG → Go to step 3

OK

2 CHECK HARNESS AND CONNECTOR (TRANSMISSION WIRE - ECM)



(a) Connect the transmission wire connector to the transaxle.
(b) Disconnect the ECM connector.
(c) Measure the resistance according to the value(s) in the table below.
Standard resistance

Tester Connection	Specified Condition 20°C (68°F)
E10-13 (SLT+) - E10-12 (SLT-)	5.0 to 5.6 Ω

(d) Measure the resistance according to the value(s) in the table below.
Standard resistance (Check for short)

Tester Connection	Specified Condition
E10-13 (SLT+) - Body ground	10 kΩ or higher
E10-12 (SLT-) - Body ground	

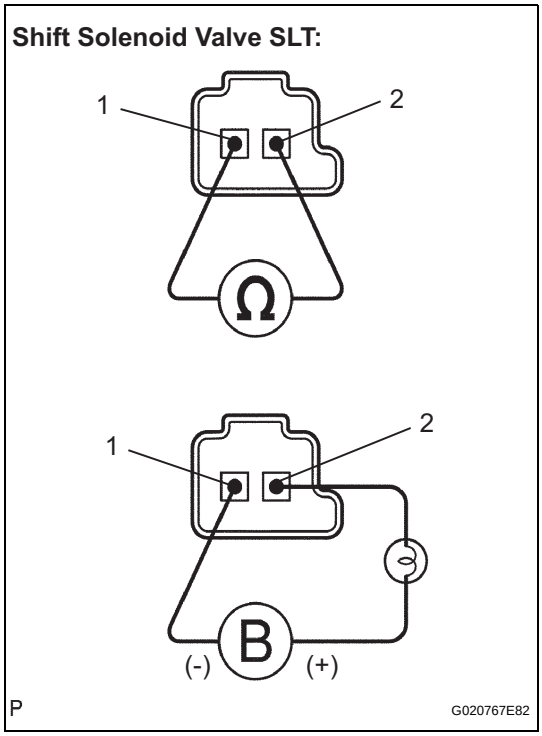
NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE ECM

AX

3	INSPECT SHIFT SOLENOID VALVE SLT



(a) Remove the shift solenoid valve (SLT).

(b) Measure the resistance according to the value(s) in the table below.

Standard resistance

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 sound.

NG → **REPLACE SHIFT SOLENOID VALVE SLT**

OK

REPAIR OR REPLACE TRANSMISSION WIRE