DTC	P0778	PRESSURE CONTROL SOLENOID ”B” ELECTRICAL (SHIFT SOLENOID VALVE SL2)

CIRCUIT DESCRIPTION

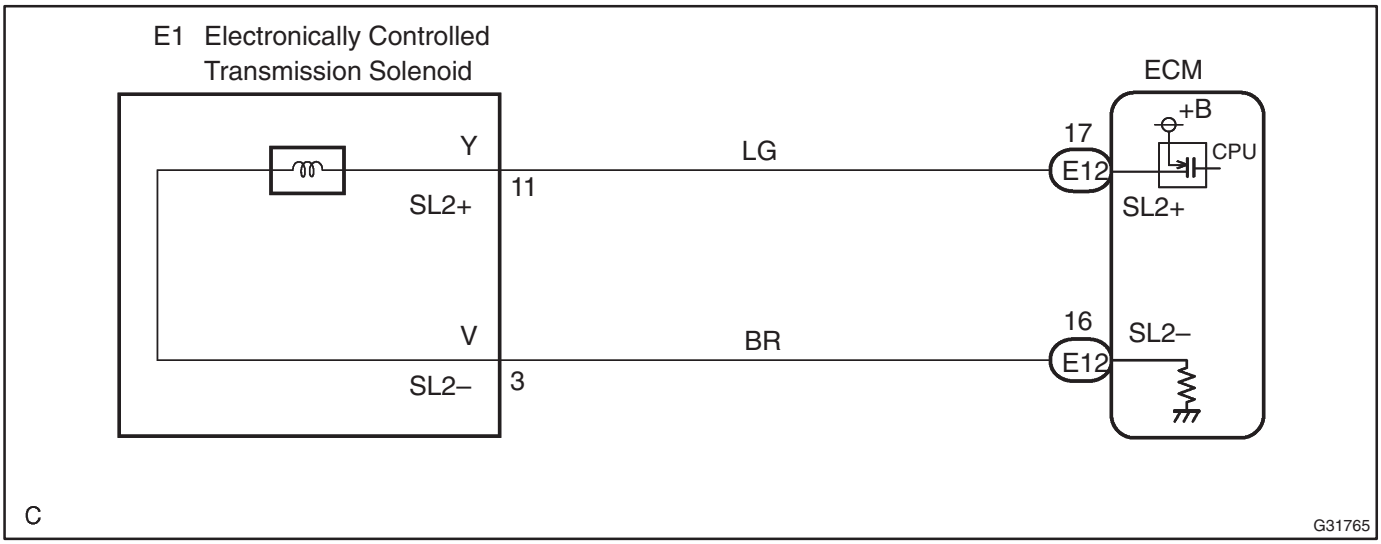
Shifting from 1st to 5th is performed in combination with ”ON” and ”OFF” operation of the shift solenoid valves SL1, SL2, S1, S2 and SR which are controlled by the ECM. If an open or short circuit occurs in either of the shift solenoid valves, the ECM controls the remaining normal shift solenoid valves to allow the vehicle to be operated smoothly (see page 05–1045).

DTC No.	DTC Detection Condition	Trouble Area
P0778	The ECM checks for an open or short in the shift solenoid valve SL2 circuit while driving and shifting gears. (1–trip detection logic) • Output signal duty equals to 100%. (NOTE: SL2 output signal duty is less than 100% under normal condition.)	• Open or short in shift solenoid valve SL2 circuit • Shift solenoid valve SL2 • ECM

MONITOR DESCRIPTION

This DTC indicates an open or short in the shift solenoid valve SL2 circuit. The ECM commands gear shift by turning the shift solenoid valves ”ON/OFF”. When there is an open or short circuit in any shift solenoid valve circuit, the ECM detects the problem and illuminates the MIL and stores the DTC. And the ECM performs the fail–safe function and turns the other normal shift solenoid valves ”ON/OFF”. (In case of an open or short circuit, the ECM stops sending current to the circuit.)
While driving and shifting gears, if the ECM detects an open or short in the shift solenoid valve SL2 circuit, the ECM determines there is a malfunction (see page 05–1045).

WIRING DIAGRAM



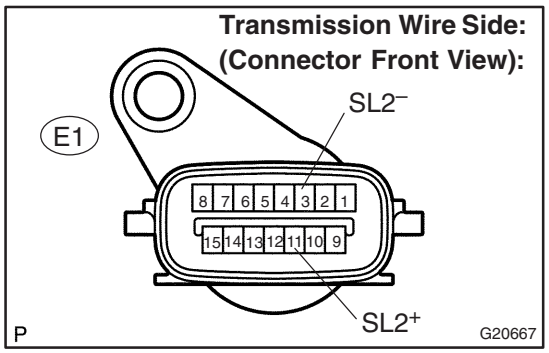
INSPECTION PROCEDURE

HINT:

- The shift solenoid valve SL2 is turned on/off normally when the shift lever is in the D position:

ECM command gearshift	1st	2nd	3rd	4th	5th
Shift solenoid valve SL2	ON	ON	ON	ON	OFF

1 INSPECT TRANSMISSION WIRE(SL2)



(a) Disconnect the transmission wire connector from the transmission.

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

Standard:

Tester Connection	Specified Condition 20°C (68°F)
11 (SL2+) – 3 (SL2–)	5.0 to 5.6 Ω

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

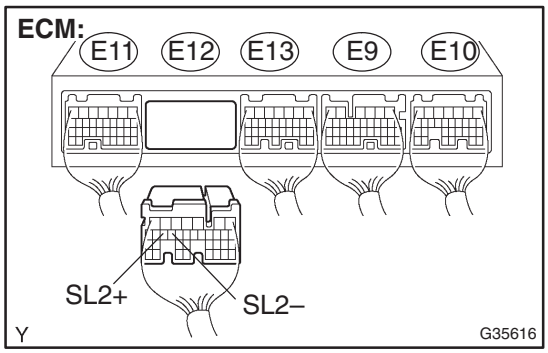
Standard (Check for short):

Tester Connection	Specified Condition
11 (SL2+) – Body ground	10 kΩ or higher
3 (SL2–) – Body ground	↑

NG → **Go to step 3**

OK

2 CHECK HARNESS AND CONNECTOR(TRANSMISSION WIRE – ECM)



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

Standard:

Tester Connection	Specified Condition 20°C (68°F)
E12 – 17 (SL2+) – E12 – 16 (SL2–)	5.0 to 5.6 Ω

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

Standard (Check for short):

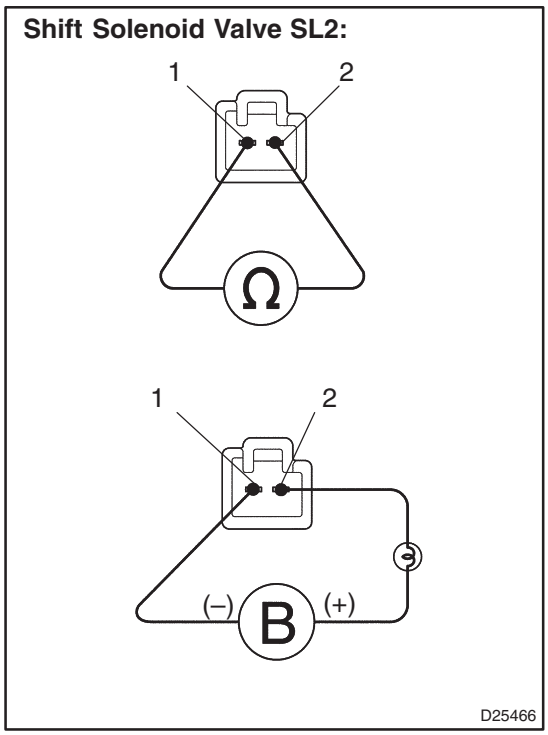
Tester Connection	Specified Condition
E12 – 17 (SL2+) – Body ground	10 kΩ or higher
E12 – 16 (SL2–) – Body ground	↑

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR (SEE PAGE 01–36)**

OK

REPLACE ECM

3 INSPECT SHIFT SOLENOID VALVE(SL2)



(a) Remove the shift solenoid valve SL2.
(b) Measure the resistance according to the value(s) in the table below.

Standard:

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(SL2)**

OK

REPAIR OR REPLACE TRANSMISSION WIRE (SEE PAGE 40–68)