DTC	P0753/62, P0758/63	Shift Solenoid A/B Electrical Malfunction (No.1/No.2 Solenoid Valve)

CIRCUIT DESCRIPTION

Shifting from 1st to O/D is performed in combination with ON and OFF of the No.1 and No.2 solenoid valves controlled by Engine & ECT ECU. If an open or short circuit occurs in either of the solenoid valves, the Engine & ECT ECU controls the remaining normal solenoid valve to allow the vehicle to be operated smoothly (Fail safe function).

Range	NORMAL			NO.1 SOLENOID MALFUNCTIONING			NO.2 SOLENOID MALFUNCTIONING			BOTH SOLENOIDS MALFUNCTIONING
	Solenoid valve		Gear	Solenoid valve		Gear	Solenoid valve		Gear	Gear when shift selector is manually operated
	No.1	No.2		No.1	No.2		No.1	No.2		
D	ON	OFF	1st	X	ON	3rd	ON	X	1st	O/D
	ON	ON	2nd	X	ON	3rd	OFF	X	O/D	O/D
	OFF	ON	3rd	X	ON	3rd	OFF	X	O/D	O/D
	OFF	OFF	O/D	X	OFF	O/D	OFF	X	O/D	O/D
2	ON	OFF	1st	X	ON	3rd	ON	X	1st	3rd
	ON	ON	2nd	X	ON	3rd	OFF	X	3rd	3rd
	OFF	ON	3rd	X	ON	3rd	OFF	X	3rd	3rd
L	ON	OFF	1st	X	OFF	1st	ON	X	1st	1st
	ON	ON	2nd	X	ON	2nd	ON	X	1st	1st

X: Malfunctions

HINT:

Check the No.1 solenoid valve when DTC P0753/62 is output and check the No.2 solenoid valve when DTC P0758/63 is output.

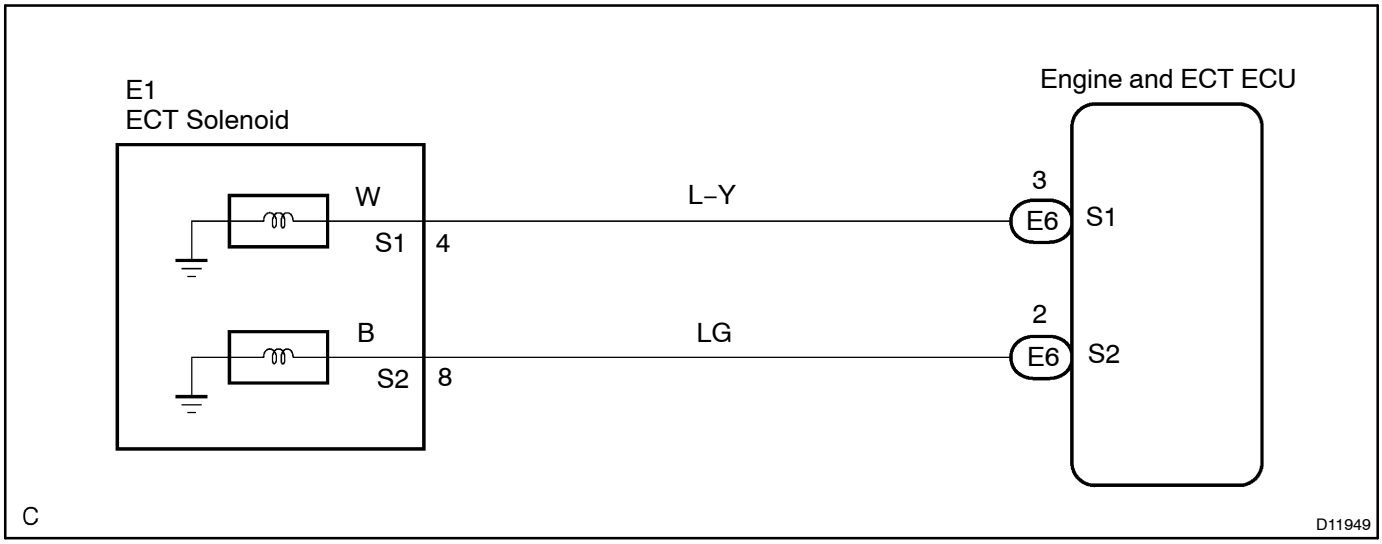
DTC No.	DTC Detecting Condition	Trouble Area
P0753/62 P0758/63	The Engine & ECT ECU checks for an open or short circuit in the No.1 or No.2 solenoid valve circuit when it changes. The Engine & ECT ECU records DTC P0753/62 or P0758/63 if condition (a) or (b) is detected once, but it does not light up check engine warning light. After Engine & ECT ECU detects condition (a) or (b) continuously 8 times or more in one–trip, it causes the check engine warning light light up until condition (a) or (b) disappears. After that, if the Engine & ECT ECU detects condition (a) or (b) once, it starts lighting up check engine warning light again. (a) Solenoid resistance is 8 Ω or less (short circuit) when the solenoid is energized. (b) Solenoid resistance is 100 kΩ or more (open circuit) when the solenoid is not energized.	• Open or short in No.1/No.2 solenoid valve circuit • No.1/No.2 solenoid valve • Engine & ECT ECU

Fail Safe Function:

If either of the solenoid valve circuits develops an open or short, the Engine & ECT ECU turns the other solenoid valve ON and OFF to shift to the gear positions shown in the table above. The Engine & ECT ECU also turns the SL solenoid valve OFF at the same time. If both solenoids malfunction, hydraulic control cannot be performed electronically and must be done manually.

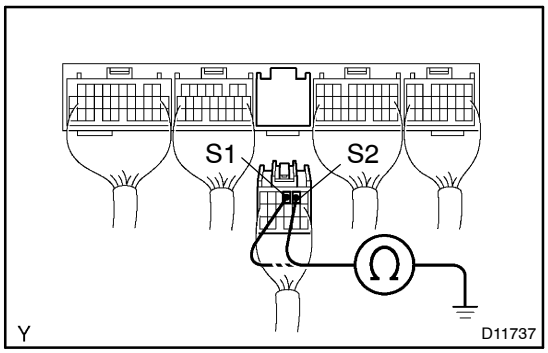
Manual shifting as shown in the above table must be done (In the case of a short circuit, the Engine & ECT ECU stops sending current to the short circuited solenoid).

WIRING DIAGRAM



INSPECTION PROCEDURE

1	**Measure resistance between terminal S1 or S2 of Engine & ECT ECU and body ground.**



PREPARATION:

Disconnect the connector from the Engine & ECT ECU.

CHECK:

Measure resistance between terminal S1 or S2 of the Engine & ECT ECU and body ground.

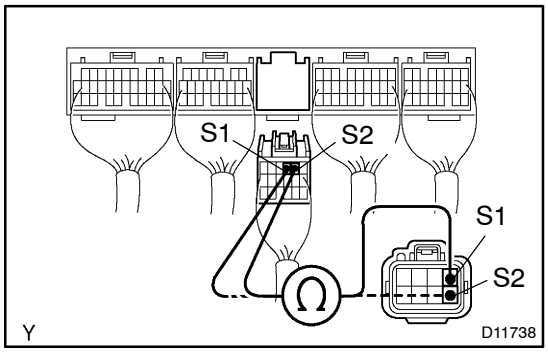
OK:

Resistance: 11 – 15 Ω at 20°C (68°F)

OK	**Check and replace Engine & ECT ECU (See page IN–26).**

NG

2	**Check harness and connector between Engine & ECT ECU and automatic transmission solenoid connector.**



PREPARATION:

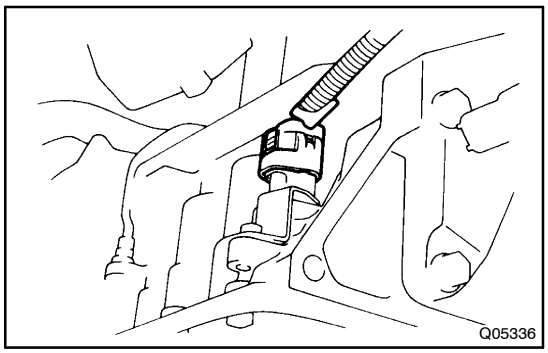
Disconnect the solenoid connector from the automatic transmission.

CHECK:

Check the harness and connector between terminal S1 or S2 of the Engine & ECT ECU and terminal S1 or S2 of the solenoid connector.

OK:

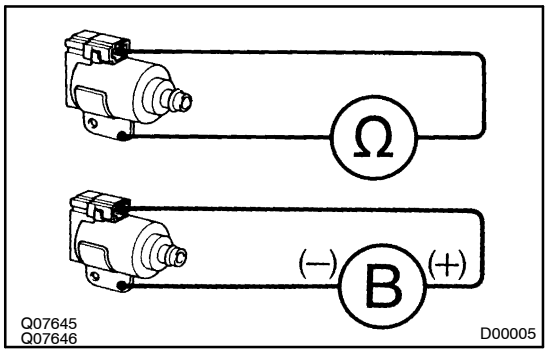
There is no open and short circuit.



NG → **Repair or replace harness or connector (See page IN–26).**

OK

3	Check No. 1 or No. 2 solenoid valve.



PREPARATION:

(a) Remove the oil pan.
(b) Disconnect the solenoid connector.
(c) Remove the No. 1 or No. 2 solenoid valve.

CHECK:

(a) Measure resistance between solenoid connector and body ground.
(b) Connect positive (+) lead of the battery to terminal of solenoid connector, negative (–) lead of the battery to solenoid body.

OK:

(a) Resistance: 11 – 15 Ω at 20°C (68°F)
(b) The solenoid makes an operating noise.

NG → **Replace solenoid valve.**

OK

Repair or replace solenoid wire.