DI5SH–01

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

CIRCUIT DESCRIPTION

Shifting from 1st to 4th is done in combination with ON and OFF of the shift solenoid valves No. 1 and No. 2 controlled by Engine and ECT ECU. If an open or short circuit occurs in either of the shift solenoid valves, the Engine and ECT ECU controls the remaining normal shift solenoid valve to allow the vehicle to be operated smoothly (Fail safe function).

Position	NORMAL			SHIFT SOLENOID VALVE NO. 1 MALFUNCTIONING			SHIFT SOLENOID VALVE NO. 2 MALFUNCTIONING			BOTH SOLENOIDS VALVE 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	4th
	ON	ON	2nd	X	ON	3rd	OFF	X	4th	4th
	OFF	ON	3rd	X	ON	3rd	OFF	X	4th	4th
	OFF	OFF	4th	X	OFF	4th	OFF	X	4th	4th
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 shift solenoid valve No. 1 when DTC P0753/62 is output and check the shift solenoid valve No. 2 when DTC P0758/63 is output.

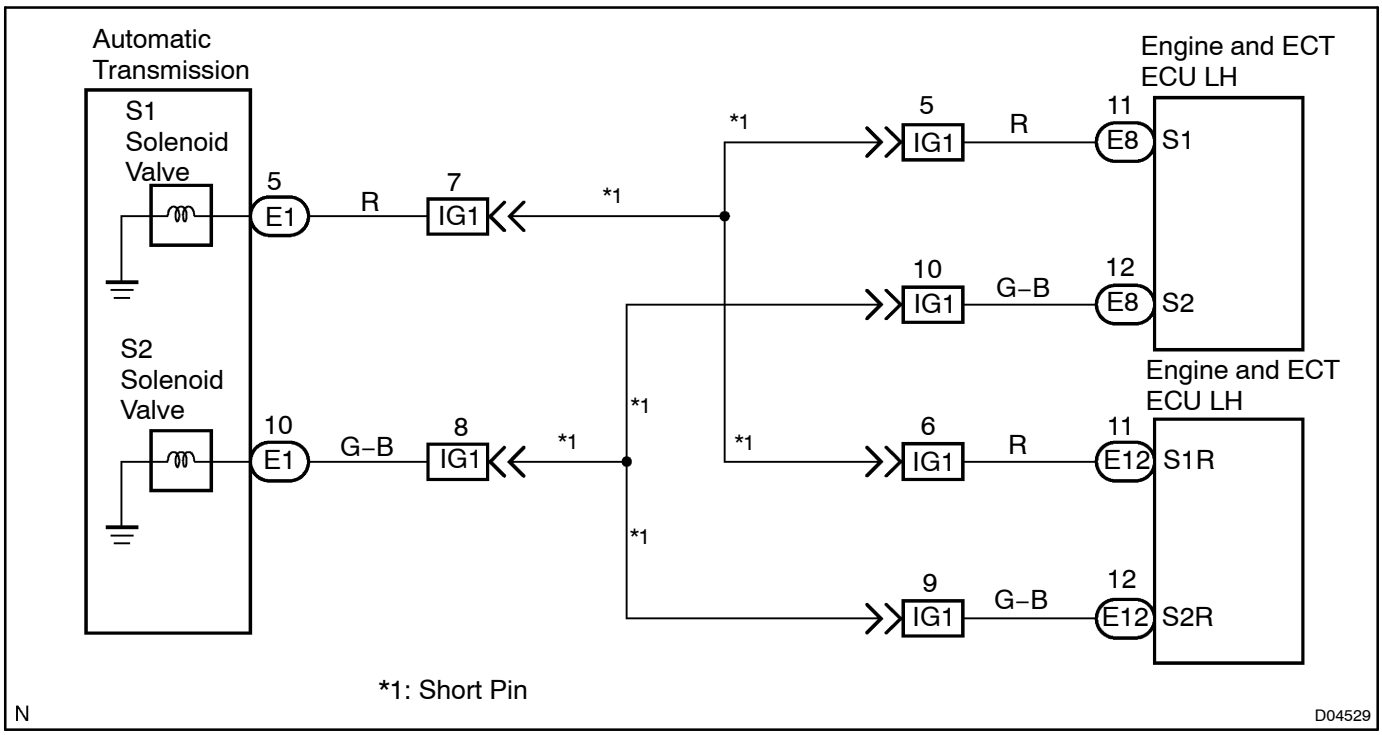
DTC No.	DTC Detecting Condition	Trouble Area
P0753/62 P0758/63	The Engine and ECT ECU checks for an open or short circuit in the shift solenoid valve No. 1 and No. 2 circuit when it changes gear positions. The Engine and ECT ECU records DTC P0753/62 or P0758/63 if condition (a) or (b) is detected once, but it does not light up Multiinformation display. After Engine and ECT ECU detects condition (a) or (b) continuously 8 times or more in 1–trip, it causes the multi warning light to light up until condition (a) or (b) disappears. After that, if the Engine and ECT ECU detects condition (a) or (b) once, it starts lighting up multi 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 shift solenoid valve No. 1/No. 2 circuit • Shift solenoid valve No. 1/No. 2 • Engine and ECT ECU

Fail Safe Function

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

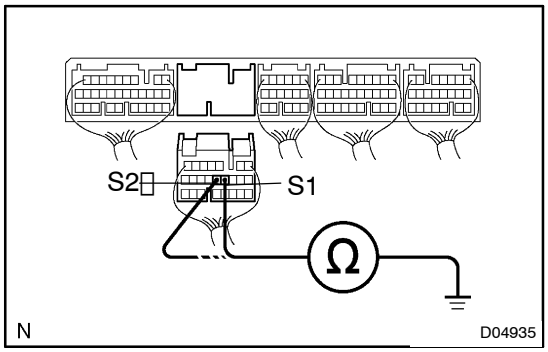
Manual shifting as shown in the above table must be done (In the case of a short circuit, the Engine and ECT ECU stops sending current to the short circuited solenoid).

WIRING DIAGRAM



INSPECTION PROCEDURE

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

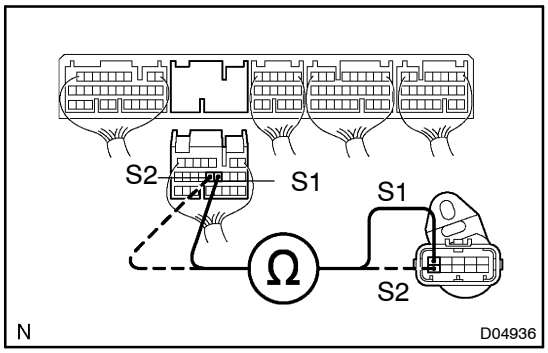


PREPARATION:
Disconnect the connector from Engine and ECT ECU.
CHECK:
Measure resistance between terminal S1 or S2 of Engine and ECT ECU and body ground.
OK:
Resistance: 11 – 15 Ω at 20°C (68°F)

OK	**Check and replace the Engine and ECT ECU (See page IN–30).**

NG

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

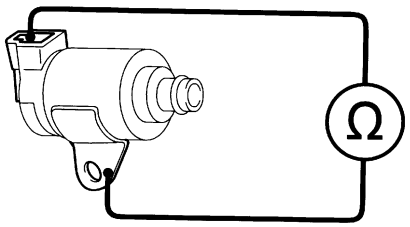


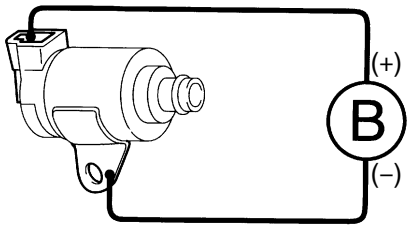
PREPARATION:
(a) Disconnect the connector from Engine and ECT ECU.
(b) Disconnect the solenoid connector from the automatic transmission.
CHECK:
Check the harness and connector between terminal S1 or S2 of Engine and ECT ECU and terminal S1 or S2 of solenoid connector.
OK:
There is no open and short circuit.

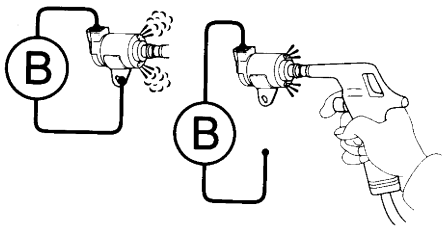
NG	**Repair or replace the harness or connector.**

OK

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







Q08322
Q08321
Q08324
D04915

Electrical Check:

PREPARATION:

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

CHECK:

(a) Measure resistance between solenoid connector and solenoid body.
(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.

Mechanical Check:

PREPARATION:

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

CHECK:

(a) By applying 490 kPa (5 kgf/cm², 71 psi) of compressed air, check that the solenoid valve does not leak air.
(b) When battery positive voltage is supplied to the shift solenoid valve, check that the solenoid valve opens.

OK:

(a) Solenoid valve does not leak air.
(b) Solenoid valve opens.

NG → **Replace the solenoid valve.**

OK

Repair or replace the solenoid wire (See page IN–30).