

<b>DTC</b>	<b>P0753, P0758</b>	<b>Shift Solenoid A/B Electrical Malfunction (Shift Solenoid Valve No.1/No.2)</b>
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## CIRCUIT DESCRIPTION

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

Fail safe function:

If either of the shift solenoid valve circuits develops an open or a short, the ECM turns the other shift solenoid ON and OFF to shift to the gear positions shown in the table below. The ECM also turns the shift solenoid valve SLU OFF at the same time. If both solenoids are malfunction, hydraulic control cannot be performed electronically and must be done manually.

Manual shifting as shown in the following table must be done. (In the case of a short circuit, the ECM stops sending current to the short circuited solenoid).

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 (OFF)	3rd (O/D)	ON	X	1st	O/D
	ON	ON	2nd	X	ON	3rd	OFF (ON)	X	O/D (1st)	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 (OFF)	3rd (O/D)	ON	X	1st	3rd
	ON	ON	2nd	X	ON	3rd	OFF (ON)	X	3rd (1st)	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

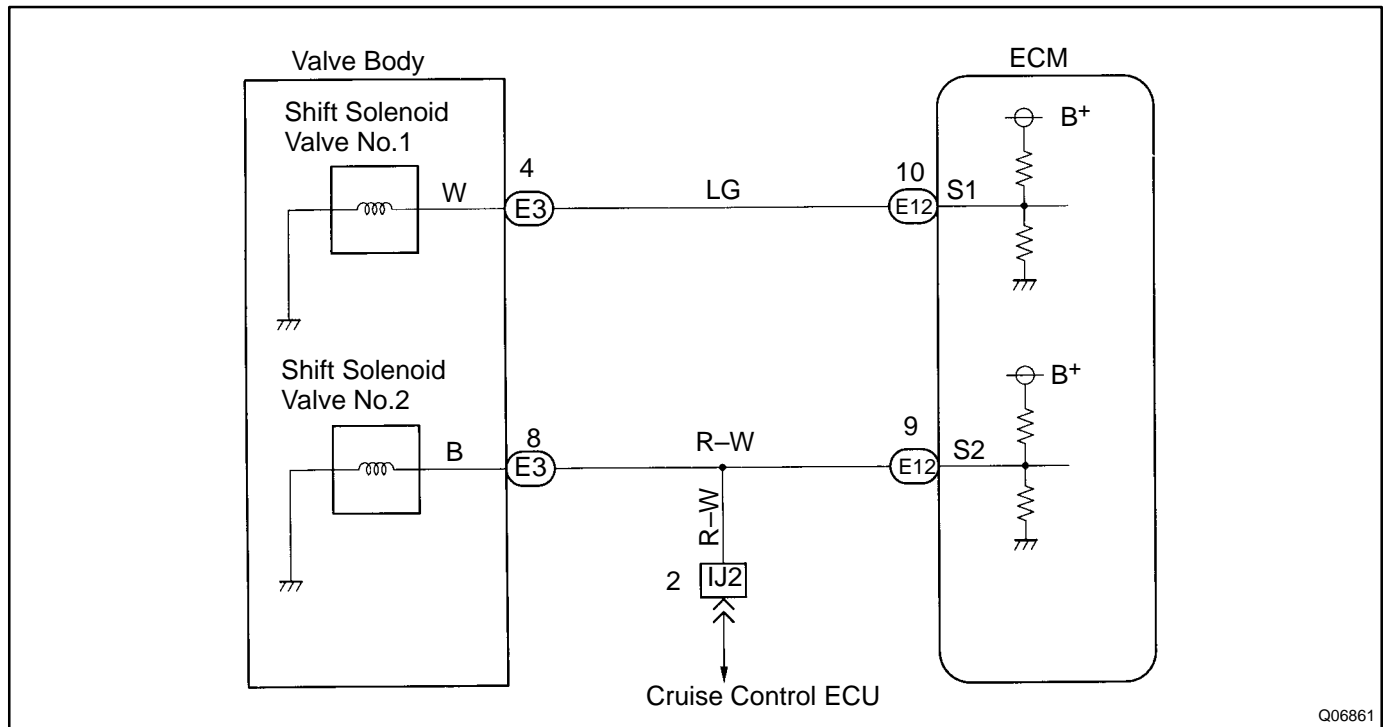
( ): No fail safe function

### HINT:

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

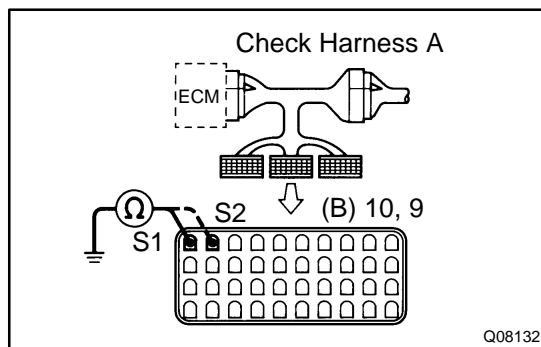
DTC No.	DTC Detecting Condition	Trouble Area
P0753 P0758	<p>The ECM checks for an open or short circuit in the shift solenoid valves No.1 and No.2 circuit when it changes.</p> <p>The ECM records DTC P0753 or P0758 if condition (a) or (b) is detected once, but it does not light up the MIL.</p> <p>After ECM detects condition (a) or (b) continuously 8 times or more in 1 trip, it causes the MIL light up until condition (a) or (b) disappears.</p> <p>After that, if the ECM detects condition (a) or (b) once, it starts light up the MIL again.</p> <p>(a) When the solenoid is energized, the solenoid resistance is 8 Ω or less</p> <p>(b) When the solenoid is not energized, the solenoid resistance is 100 kΩ or more</p>	<ul style="list-style-type: none"> <li>• Open or short in shift solenoid valve No.1 or No.2 circuit</li> <li>• Shift solenoid valve No.1 or No.2</li> <li>• ECM</li> </ul>

## WIRING DIAGRAM



## INSPECTION PROCEDURE

- |   |   |
|---|---|
| 1 | <b>Measure resistance between terminal S1 or S2 of ECM and body ground.</b> |
|---|---|



### PREPARATION:

- Disconnect connector from ECM.
- Connect the check harness A to the harness side connector.

### NOTICE:

**Do not connect the check harness A to ECM.**

### CHECK:

Measure resistance between terminal S1 or S2 of check harness A connector and body ground.

### OK:

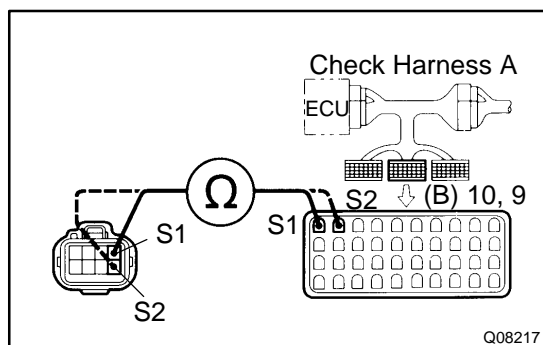
**Resistance: 10 – 16  $\Omega$**

**OK**

**Check and replace ECM.**

**NG**

## 2 Check harness and connector between ECM and automatic transmission solenoid connector.



### PREPARATION:

- Disconnect connector from ECM.
- Connect the check harness A to the harness side connector.
- Disconnect the solenoid connector from the automatic transmission.

### NOTICE:

**Do not connect the check harness A to ECM.**

### CHECK:

Check harness and connector between terminal S1 or S2 of check harness A and terminal S1 or S2 of solenoid connector.

### OK:

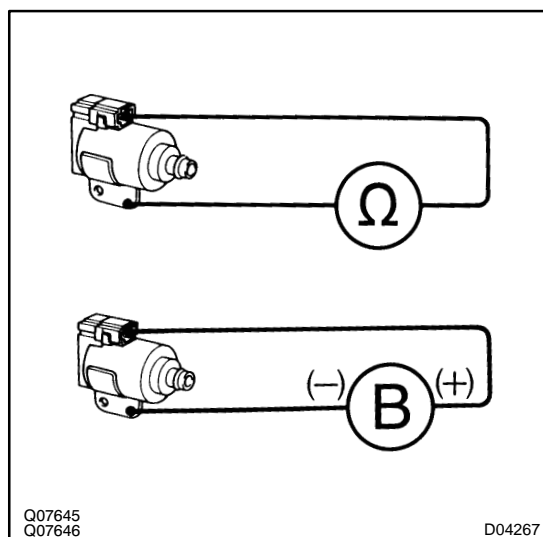
**There is no open or short circuit.**

**NG**

**Repair or replace harness or connector.**

**OK**

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



### PREPARATION:

- Jack up the vehicle.
- Remove the oil pan.
- Disconnect the solenoid connector.
- Remove the shift solenoid valve No.1 or No.2.

### CHECK:

Measure resistance between solenoid connector and body ground.

### OK:

**Resistance: 10 – 16 Ω**

### CHECK:

Connect positive ⊕ lead to terminal of solenoid connector, negative ⊖ lead to solenoid body.

### OK:

**The solenoid makes an operating noise.**

**NG**

**Replace solenoid valve.**

**OK**

**Repair or replace solenoid wire.**

1997 LEXUS SC400/SC300 (RM513U)