

Diag. Code	62, 63	No. 1, No. 2 Solenoid Valve Circuit
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— 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 ECU controls the remaining normal solenoid to allow the vehicle to be operated smoothly (Fail safe function).

Fail Safe Function

If either of the solenoid valve circuits develops a short or an open, the ECU turns the other solenoid ON and OFF to shift the gear positions shown in the table below. If both solenoids malfunction, the hydraulic control is not made electronically and can only be operated manually.

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

— DIAGNOSTIC CHART —

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 (S)	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

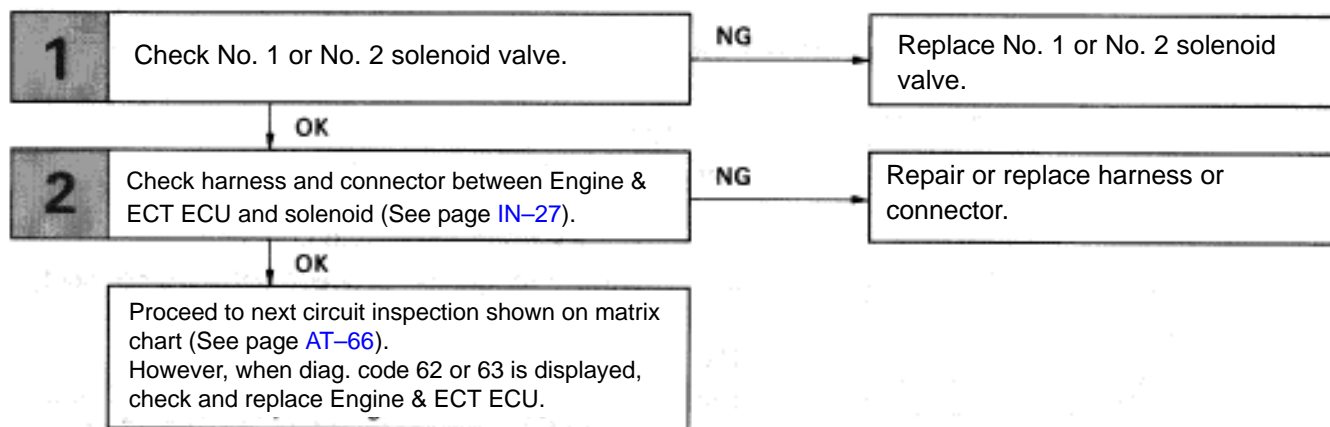
x: Malfunctions

Check the No. 1 solenoid when diagnostic code 62 is output and check the No. 2 solenoid when diagnostic code 63 is output.

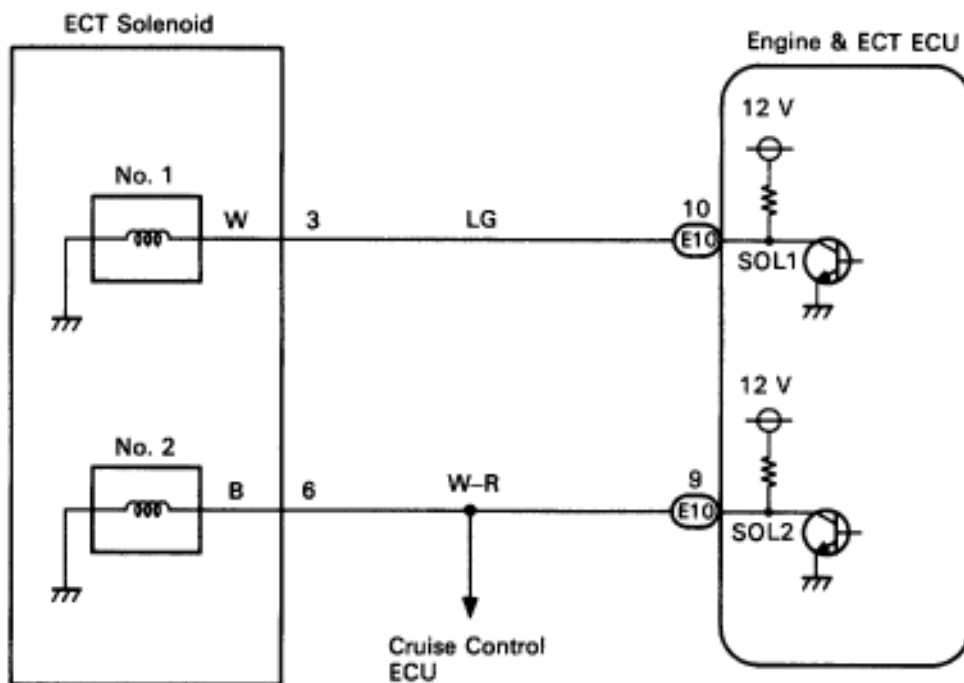
Code No.	Diagnostic Code Detecting Condition	Trouble Area
62, 63	Solenoid resistance of 8 Ω or less is detected (*) 8 times or more when solenoid is energized.	<ul style="list-style-type: none"> •Solenoid valve. •Harness or connector between solenoid and ECU. •ECU
	Solenoid resistance of 100 k Ω or more is detected (*) 8 times or more when solenoid is not energized.	

(*) If the above failures are detected less than 8 times, the ECU memorizes the malfunction code but the O/D OFF indicator light doesn't blink.

DIAGNOSTIC CHART



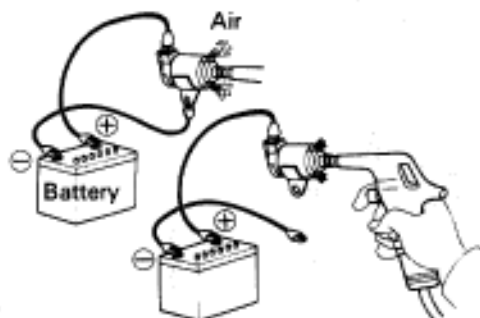
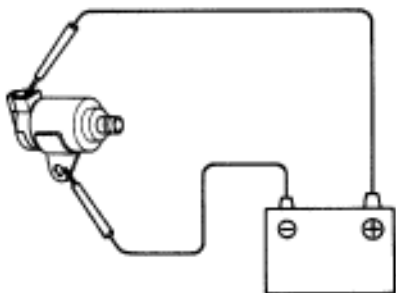
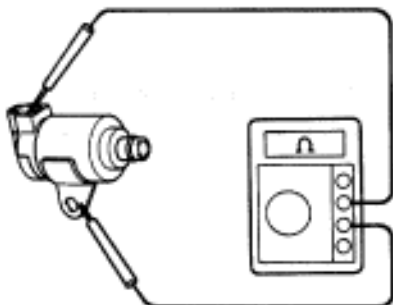
WIRING DIAGRAM



INSPECTION PROCEDURE

1

Check No. 1, No. 2 solenoid valves.

AT5530
AT5531
AT5528

Electrical Check

P

1. Jack up the vehicle.
2. Remove oil pan.
3. Disconnect the connector

C

Measure resistance between solenoid connector and body ground.

OK

Resistance: 10 – 16 Ω

C

Connect positive \oplus lead to terminal of solenoid connector, negative \ominus lead to solenoid body.

OK

The solenoid makes an operating noise.

Mechanical Check

P

1. Remove oil pan.
2. Remove the No. 1 and No. 2 solenoid valves.

C

1. Applying 490 kPa (5 kgf/cm², 71 psi) of compressed air, check that the solenoid valves do not leak the air.
2. When battery voltage is supplied to the solenoid valves, check that the solenoid valves open.

OK

NG

Replace solenoid valve.

2

Check harness and connector between Engine & ECT ECU and solenoid (See page IN-27).

OK

NG

Repair or replace harness or connector.

Proceed to next circuit inspection shown on matrix chart (See page AT-66), However, when diag. code 62 or 63 is displayed, check and replace Engine & ECT ECU.

–MEMO–