DI8D2–01

DTC	C1737 / 31 to C1740 / 34	Height Control Solenoid Valves Circuit

DTC	C1735 / 35	Height Control Exhaust Valve Circuit

CIRCUIT DESCRIPTION

The ECU energizes the height control solenoid valve, which opens the valve and leads compressed air to the pneumatic cylinder, thus raising the vehicle height.

When the vehicle height is lowered, the ECU energizes not only the height control solenoid valve but also the exhaust valve which open the valve and discharge the compressed air in the pneumatic cylinder to the atmosphere.

Front and rear height control valves have 2 solenoid valves to control right hand and left hand pneumatic cylinders separately.

The exhaust valve is located on the compressor unit, and has one valve only.

DTC No.	DTC Detecting Condition	Trouble Area
C1737 / 31 C1738 / 32 C1739 / 33 C1740 / 34	Either the condition 1. or 2. is detected: 1. With the height control solenoid valve (or exhaust valve) is deactivated, open is detected 8 times consecutively. 2. With the height control solenoid valve (or exhaust valve) activated, a short signal of valve is detected 8 times successively.	• Right front, left front, right rear, left rear height control solenoid valves • Each height control solenoid valve circuit • Suspension control ECU
C1735 / 35		• Height control exhaust valve • Height control exhaust valve circuit • Suspension control ECU

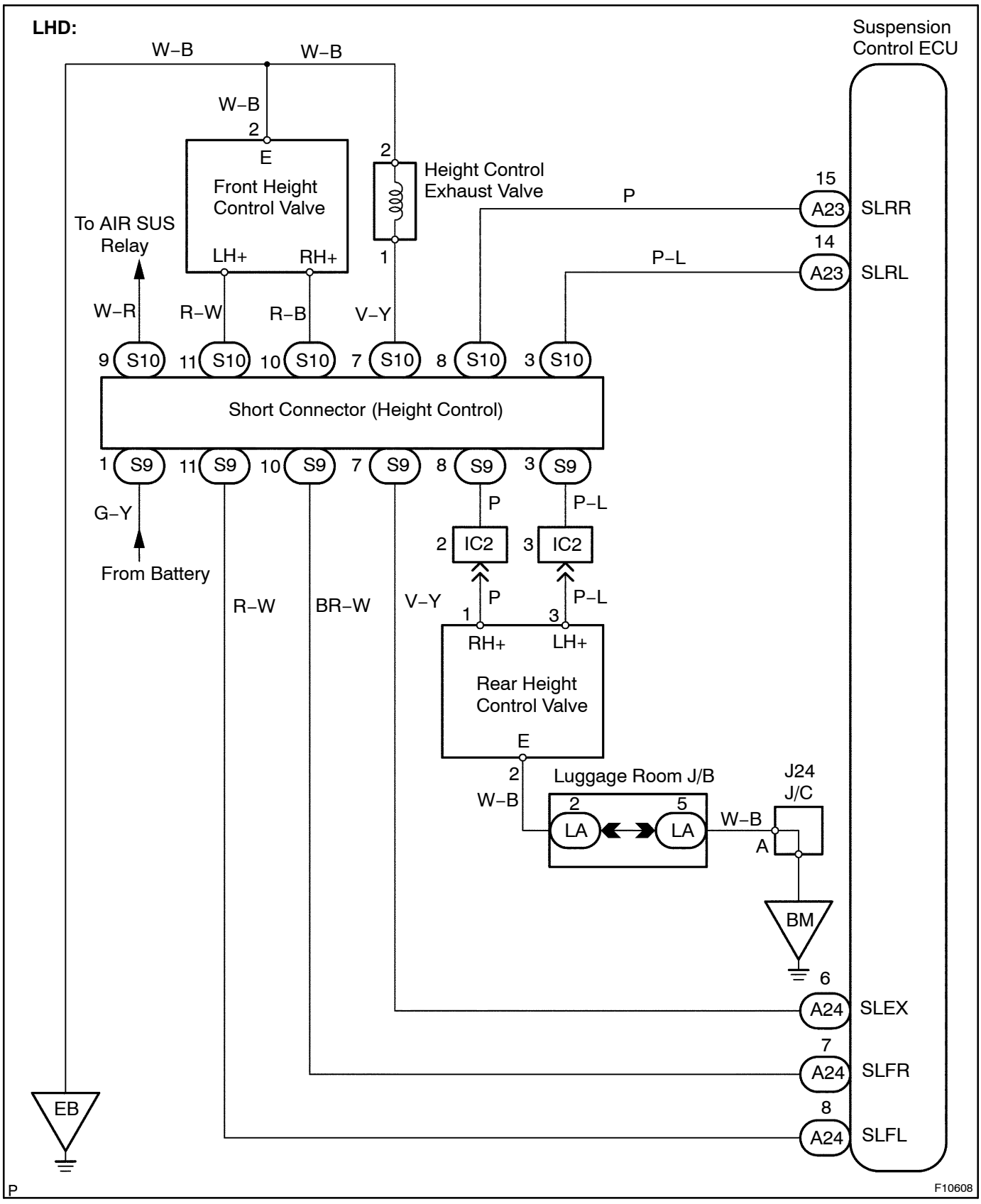
HINT:

- Code C1737 / 31 corresponds to the right front height control solenoid valve circuit.
- Code C1738 / 32 corresponds to the left front height control solenoid valve circuit.
- Code C1739 / 33 corresponds to the right rear height control solenoid valve circuit.
- Code C1740 / 34 corresponds to the left rear height control solenoid valve circuit.

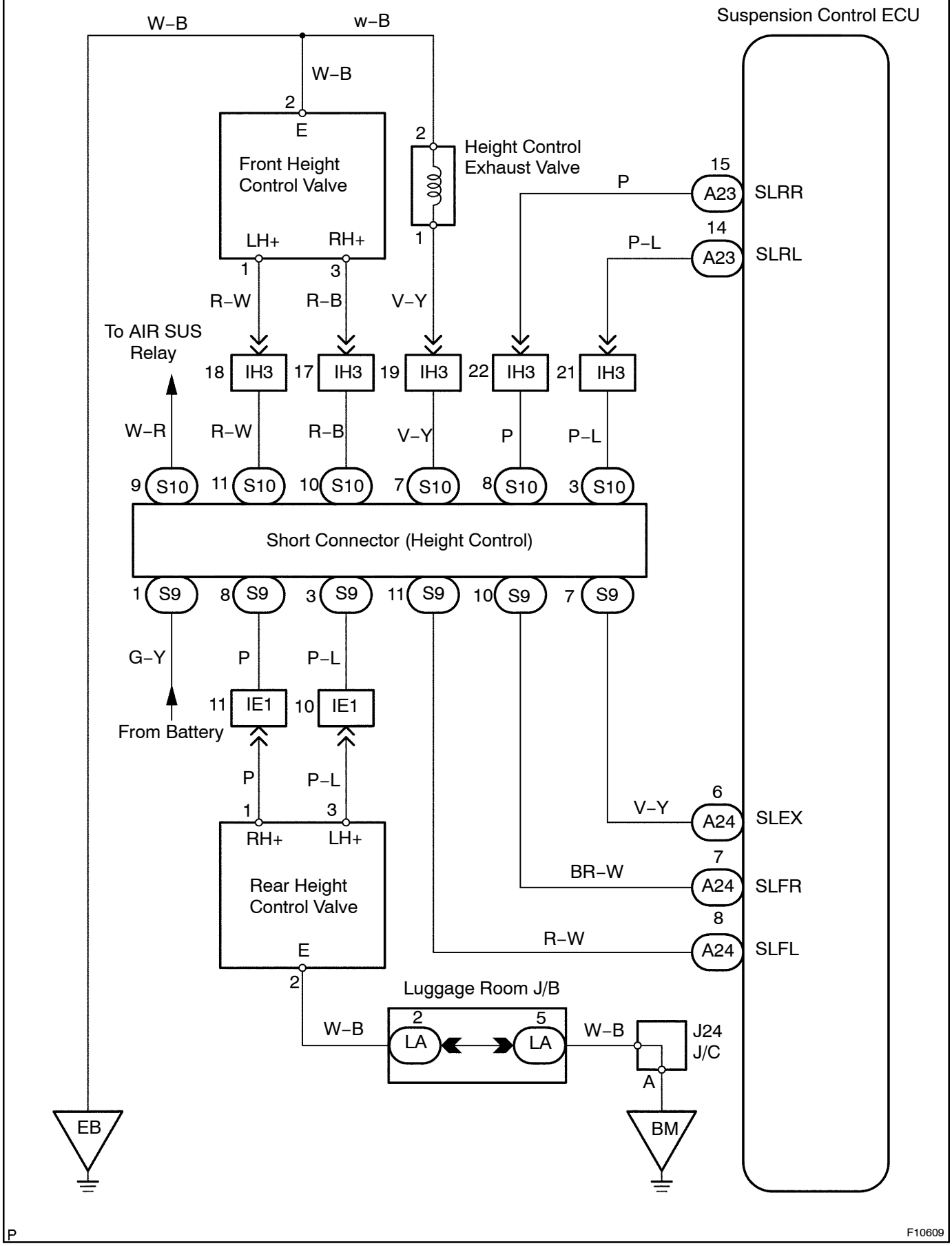
Once the ECU stores DTC C1737 / 31, C1738 / 32, C1739 / 33, C1740 / 34 or C1735 / 35 in memory, the vehicle height control is not carried out until a normal signal is input to the ECU from the height control solenoid valves and exhaust valve.

However, the control is resumed if the ignition switch is turned OFF, then ON again.

WIRING DIAGRAM



RHD:


Suspension Control ECU
W–B
w–B
W–B
2
E
Front Height Control Valve
LH+
RH+
1
3
2
Height Control Exhaust Valve
1
15
P
A23
SLRR
14
P–L
A23
SLRL
R–W
R–B
V–Y
To AIR SUS Relay
18 IH3
17 IH3
19 IH3
22 IH3
21 IH3
W–R
R–W
R–B
V–Y
P
P–L
9 S10
11 S10
10 S10
7 S10
8 S10
3 S10
Short Connector (Height Control)
1 S9
8 S9
3 S9
11 S9
10 S9
7 S9
G–Y
P
P–L
From Battery
11 IE1
10 IE1
P
P–L
1
3
RH+
LH+
Rear Height Control Valve
E
2
6
V–Y
A24
SLEX
7
BR–W
A24
SLFR
8
R–W
A24
SLFL
Luggage Room J/B
2
5
LA
LA
W–B
W–B
J24 J/C
A
EB
BM
P
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INSPECTION PROCEDURE

HINT:

- Proceed with troubleshooting in accordance with the flow chart, regardless of whether or not DTC C1737/31, C1738/32, C1739/33, C1740/34 or C1735/35 is displayed.
- When DTC C1737/31 is displayed, check the right front height control solenoid valve circuit.
- When DTC C1738/32 is displayed, check the left front height control solenoid valve circuit.
- When DTC C1739/33 is displayed, check the right rear height control solenoid valve circuit.
- When DTC C1740/34 is displayed, check the left rear height control solenoid valve circuit.
- When DTC C1735/35 is displayed, check the height control exhaust valve circuit.
- If DTC C1774/74 (power source circuit) is displayed, perform the inspection necessary for DTC C1774/74 first (See page DI–308).
- Start the inspection from step 1 in case of using the hand–held tester and start from step 2 in case of not using the hand–held tester.

1	**Check height control valve and height control exhaust valve operation.**

PREPARATION:

(a) Connect the hand–held tester to the DLC3.
(b) Start the engine and push the hand–held tester main switch ON.
(c) Select the ACTIVE TEST mode on the hand–held tester.

CHECK:

(a) Check whether the solenoid makes sound.
(b) Check whether the height control valve is in continuity (having vibration).
(c) Check whether the control exhaust valve discharges air with the hand–held tester.

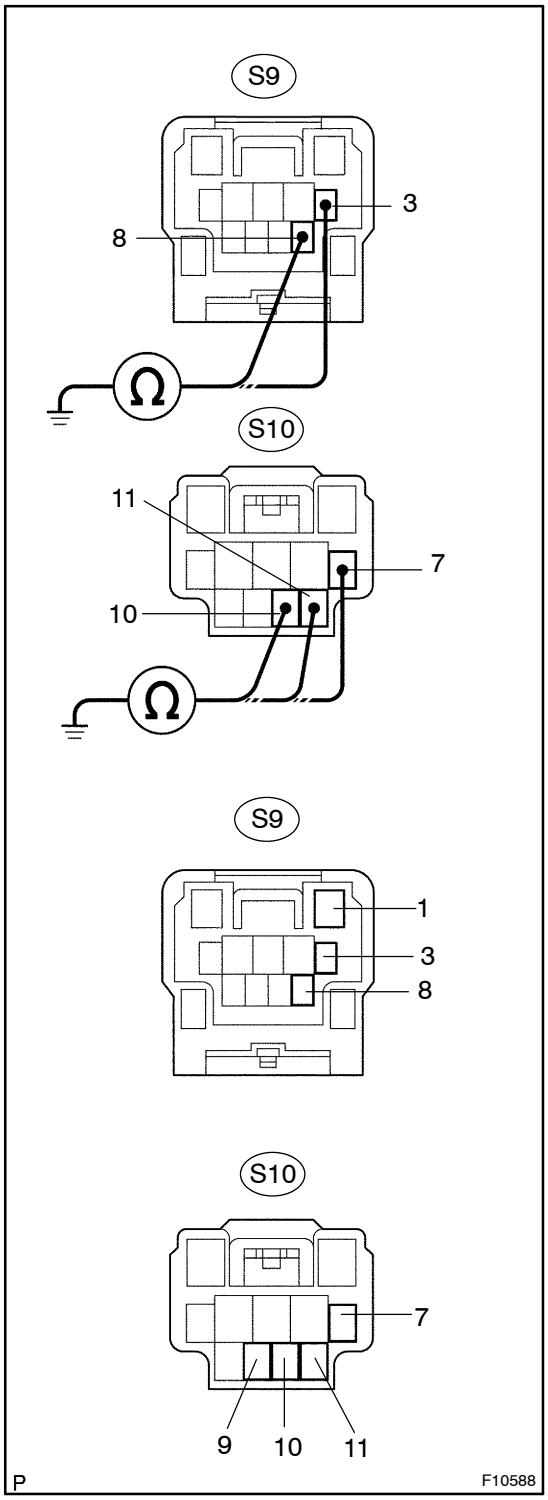
OK:

The operation makes sound when it is in operation, the control valve is in continuity (having vibration) and the height control exhaust value discharges air.

OK → **Proceed to next circuit inspection shown on problem symptoms table (See page DI–263).**

NG

2	**Does vehicle height change when terminals of height control connector are connected?*1**



PREPARATION:

(a) Remove the passenger side scuff plate and pull out the floor carpet.

(b) Disconnect the S10 short connector from the S9 short connector.

CHECK:

Measure resistance between each terminal of S9 and S10 short connector and body ground.

OK:

Terminal	Resistance
(S9–3) – Body ground	10 – 14 Ω
(S9–8) – Body ground	10 – 14 Ω
(S10–7) – Body ground	10 – 14 Ω
(S10–10) – Body ground	10 – 14 Ω
(S10–11) – Body ground	10 – 14 Ω

CHECK:

(a) Turn the ignition switch ON.

(b) Check the change in vehicle height when the terminals of the S9 and S10 short connectors (cowl side) shown below are connected.

Front RH Vehicle Height	Terminal
Raised	(S9–1) – (S10–9) – (S10–10)
Lowered	(S9–1) – (S10–7) – (S10–10)

Front LH Vehicle Height	Terminal
Raised	(S9–1) – (S10–9) – (S10–11)
Lowered	(S9–1) – (S10–7) – (S10–11)

Rear RH Vehicle Height	Terminal
Raised	(S9–1) – (S9–8) – (S10–9)
Lowered	(S9–1) – (S9–8) – (S10–7)

Rear LH Vehicle Height	Terminal
Raised	(S9–1) – (S9–3) – (S10–9)
Lowered	(S9–1) – (S9–3) – (S10–7)

OK:

The vehicle height is raised or lowered as shown in the above table.

NOTICE:

- **Do not operate the compressor if a valve is in the exhaust condition.**
- **Do not operate the compressor for more than 5 minutes.**

HINT:
The checks can also be done with the hand–held tester. (See the operation's manual.).

NO	**Go to step 4.**

YES

*1: When the compressor motor, front and rear height control solenoid valves and exhaust valve are actuated directly with the height control connector, the ECU stores DTC C1737 / 31, C1738 / 32, C1739 / 33, C1740 / 34, C1735 / 35 or C1741 / 41 in memory.
Furthermore, if the vehicle height is not raised or lowered in step 1, it may be possible that battery voltage is not applied to terminal 7 of the height control connector.

3	**Check for open and short circuit in harness and connector between suspension control ECU and S9 or S10 short connector (See page IN–35).**

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

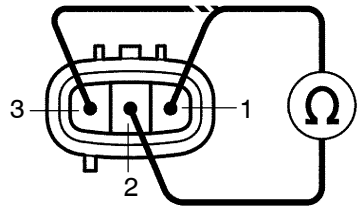
OK

Proceed to next circuit inspection shown on problem symptoms table (See page DI–263).*2

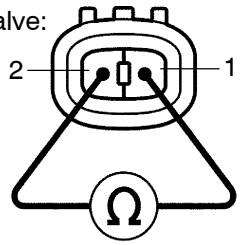
*2: When a problem cannot be found by performing the inspection in step 1 and 2, the circuit for the front and rear height control solenoid valves and exhaust valve can be judged NORMAL.
However, if DTCs C1737 / 31, C1738 / 32, C1739 / 33, C1740 / 34 or C1735 / 35 is displayed prior to step 1 and 2, check and replace the suspension control ECU.

4	**Check height control solenoid valve or exhaust valve.**

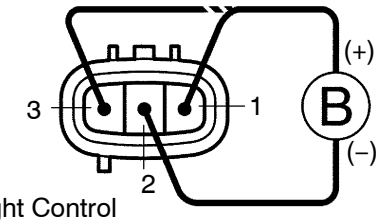
Height Control Solenoid Valve:



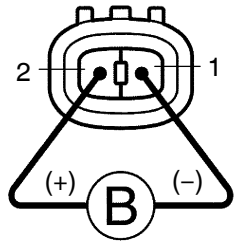
Height Control Exhaust Valve:



Height Control Solenoid Valve:



Height Control Exhaust Valve:



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PREPARATION:

Front height control solenoid valve and exhaust valve:

(a) Remove the RH front wheel and front fender liner.
(b) Disconnect the valve connector.

Rear height control solenoid valve:

(a) Remove the luggage compartment trim front cover.
(b) Disconnect the valve connector.

CHECK:

Measure resistance between terminals.

OK:

Valve	Terminals	Resistance
Front height control valve	1 – 2	10 – 14 Ω
Front height control valve	2 – 3	10 – 14 Ω
Rear height control valve	1 – 2	10 – 14 Ω
Rear height control valve	2 – 3	10 – 14 Ω
Exhaust valve	1 – 2	10 – 14 Ω

CHECK:

Check the operating sound of valves when battery voltage is applied to the terminals shown below.

Valve	Battery ⊕	Battery ⊖
Front height control valve	1	2
	3	2
Rear height control valve	1	2
	3	2
Exhaust valve	2	1

OK:

It should make an operating sound (click).

NG → **Replace height control solenoid valve or exhaust valve.**

OK

5	Check for open and short circuit in harness and connector between suspension control ECU and valve, valve and body ground (See page IN–35).

NG → Repair or replace harness or connector.

OK →

Replace suspension control ECU.