DTC	C1737	RIGHT FRONT HEIGHT CONTROL SOLENOID VALVE CIRCUIT

DTC	C1738	LEFT FRONT HEIGHT CONTROL SOLENOID VALVE CIRCIUT

DTC	C1739	RIGHT REAR HEIGHT CONTROL SOLENOID VALVE CIRCUIT

DTC	C1740	LEFT REAR HEIGHT CONTROL SOLENOID VALVE CIRCUIT

CIRCUIT DESCRIPTION

FRONT HEIGHT CONTROL SOLENOID VALVE:

The height control valve sub–assy No.1 (front height control solenoid valve) independently opens and closes paths to the pneumatic cylinder for the front wheel side by receiving signals from the suspension control ECU.

HINT:

The right and left solenoid valves are integrated and mounted on front side.

REAR HEIGHT CONTROL SOLENOID VALVE:

The height control valve sub–assy No.2 (rear height control solenoid valve) independently opens and closes paths to the pneumatic cylinder for the rear wheel side by receiving signals from the suspension control ECU.

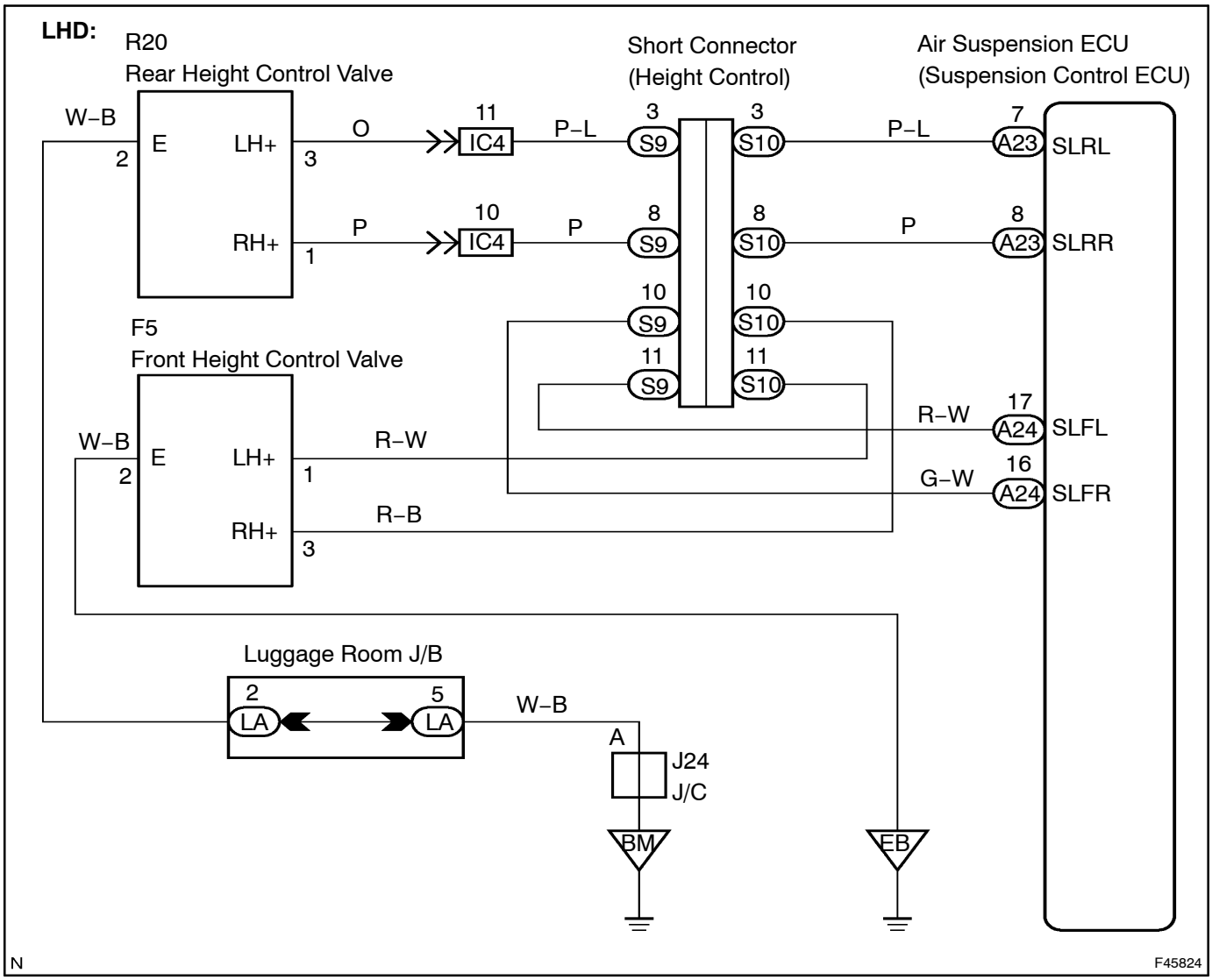
HINT:

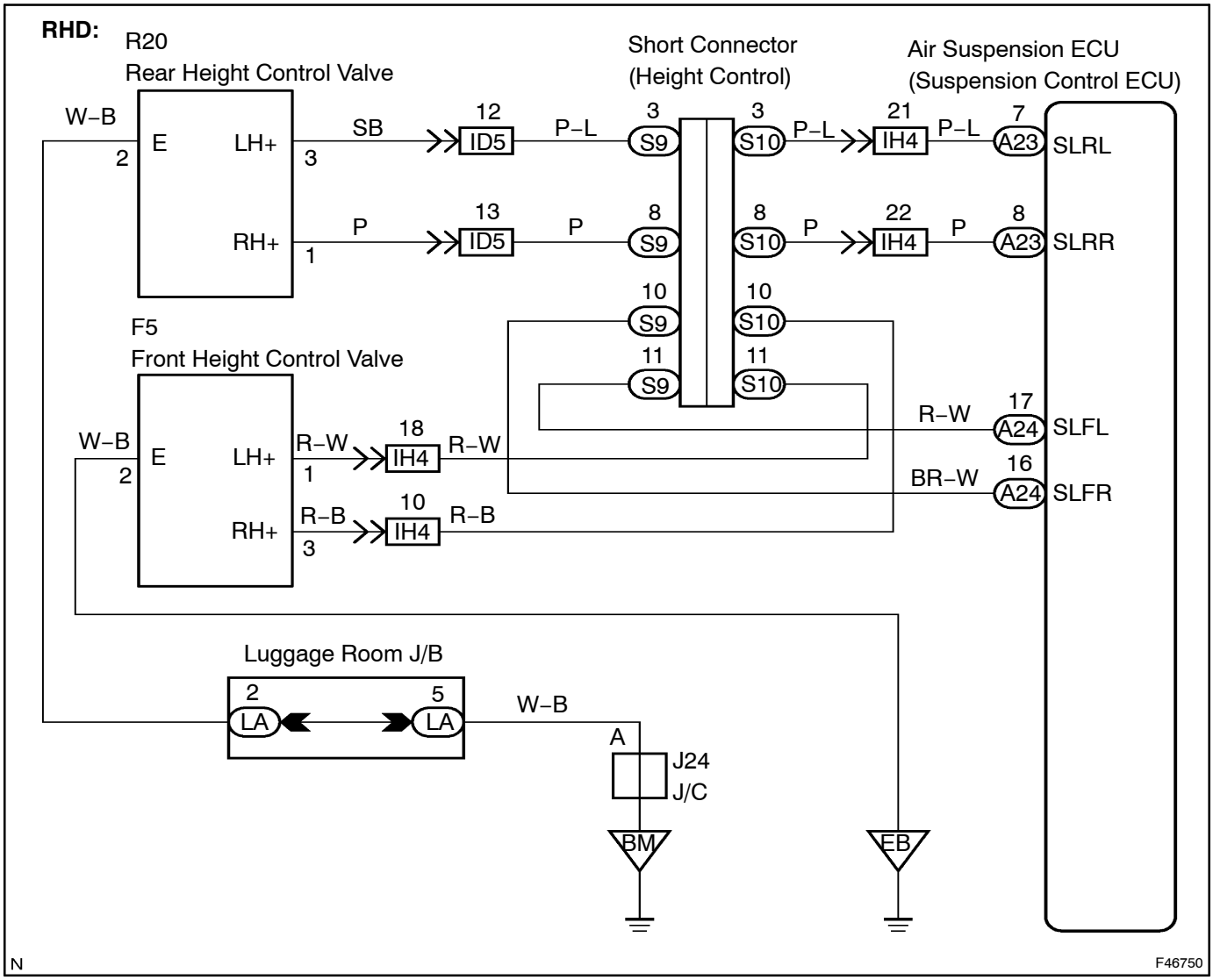
The right and left solenoid valves are integrated and mounted on rear side.

DTC No.	DTC Detecting Condition	Trouble Area
C1737	Either the condition 1 or 2 is detected: 1. With the height control solenoid valve inactivated, an open signal of the height control solenoid valve is detected for 1 sec. or more. 2. With the height control solenoid valve activated, a short signal of the height control solenoid valve is detected 8 times successively.	• Right front height control solenoid valve No.1 • Right front height control solenoid valve circuit • Suspension control ECU
C1738	Either the condition 1 or 2 is detected: 1. With the height control solenoid valve inactivated, an open signal of the height control solenoid valve is detected for 1 sec. or more. 2. With the height control solenoid valve activated, a short signal of the height control solenoid valve is detected 8 times successively.	• Left front height control solenoid valve No.1 • Left front height control solenoid valve circuit • Suspension control ECU

C1739	Either the condition 1 or 2 is detected: 1. With the height control solenoid valve inactivated, an open signal of the height control solenoid valve is detected for 1 sec. or more. 2. With the height control solenoid valve activated, a short signal of the height control solenoid valve is detected 8 times successively.	• Right rear height control solenoid valve No.2 • Right rear height control solenoid valve circuit • Suspension control ECU
C1740	Either the condition 1 or 2 is detected: 1. With the height control solenoid valve inactivated, an open signal of the height control solenoid valve is detected for 1 sec. or more. 2. With the height control solenoid valve activated, a short signal of the height control solenoid valve is detected 8 times successively.	• Left rear height control solenoid valve No.2 • Left rear height control solenoid valve circuit • Suspension control ECU

WIRING DIAGRAM




RHD:
R20
Rear Height Control Valve
Short Connector
(Height Control)
Air Suspension ECU
(Suspension Control ECU)
W–B
2
E
LH+
RH+
SB
3
P
1
12
ID5
13
ID5
P–L
P
3
S9
8
S9
10
S9
11
S9
3
S10
8
S10
10
S10
11
S10
P–L
P
21
IH4
22
IH4
P–L
P
7
A23
8
A23
SLRL
SLRR
F5
Front Height Control Valve
W–B
2
E
LH+
RH+
R–W
1
R–B
3
18
IH4
10
IH4
R–W
R–B
R–W
BR–W
17
A24
16
A24
SLFL
SLFR
Luggage Room J/B
2
LA
5
LA
W–B
A
J24
J/C
BM
EB
N
F46750

INSPECTION PROCEDURE

HINT:
Proceed to troubleshooting following the flow chart, regardless of whether or not DTC C1737, C1738, C1739 or C1740 is displayed.

1	RECONFIRM DTC

(a) Check DTCs (See page 05–248).
(1) Confirm if DTC C1761 and/or C1774 is recorded.
OK:
DTC C1761 and/or C1774 is output.

HINT:
If either DTC C1761 (ECU malfunction) (see page 05–313) or C1774 (power source circuit) (see page 05–316) is displayed, carry out the necessary inspection. If they are output at the same time, carry out the necessary inspection for DTC C1774 first.

NG → **REPAIR CIRCUIT INDICATED BY OUTPUT CODE**

OK

2	PERFORM ACTIVE TEST BY INTELLIGENT TESTER II

(a) Connect the intelligent tester II to the DLC3.
(b) Turn the ignition switch to the ON position and turn the intelligent tester II main switch on.
(c) Select the item below in the ACTIVE TEST and operate it with the intelligent tester II.

AIRSUS:

Item	Vehicle Condition / Test Details	Diagnostic Note
FR SOL	Turn OFF right front solenoid valve one second after turning it ON	Operation of solenoid (clicking sound) can be heard
FL SOL	Turn OFF left front solenoid valve one second after turning it ON	Operation of solenoid (clicking sound) can be heard
RR SOL	Turn OFF right rear solenoid valve one second after turning it ON	Operation of solenoid (clicking sound) can be heard
RL SOL	Turn OFF left rear solenoid valve one second after turning it ON	Operation of solenoid (clicking sound) can be heard

(d) Check the operation sound of the height control solenoid valve when the solenoid is turned on through the ACTIVE TEST.
OK:
An operation sound is heard 1 second after the height control solenoid valve is turned on.

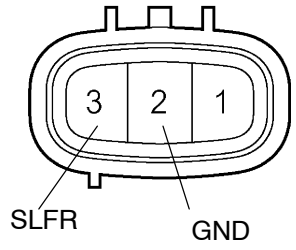
NG → **Go to step 3**

OK

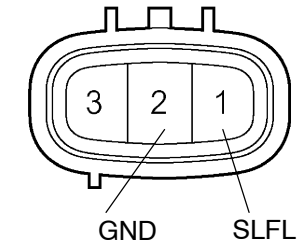
REPLACE SUSPENSION CONTROL ECU (SEE PAGE 25–20)

3 INSPECT HEIGHT CONTROL SOLENOID VALVE

Height Control Solenoid Valve Front RH:



Height Control Solenoid Valve Front LH:



HEIGHT CONTROL SOLENOID VALVE FRONT:

(a) Disconnect the height control solenoid valve connector.

(b) Measure the resistance according to the value(s) in the table below.

Standard (RH): (C1737)

Tester Connection	Specified Condition
2 (GND) – 3 (SLFR)	10 to 14 Ω

Standard (LH): (C1738)

Tester Connection	Specified Condition
1 (SLFL) – 2 (GND)	10 to 14 Ω

(c) RH: (C1737)
Connect terminal 3 (SLFR) to the battery positive (+) terminal, and terminal 2 (GND) to the battery negative (–) terminal.

(d) LH: (C1738)
Connect terminal 1 (SLFL) to the battery positive (+) terminal, and terminal 2 (GND) to the battery negative (–) terminal.

(e) Check the operating sound of the height control solenoid valve.

OK:

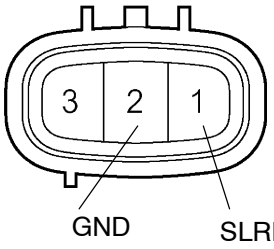
It should make an operating sound (click).

Result:

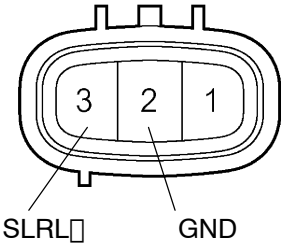
OK	A
NG	B

HINT:
When a malfunction is found in the front solenoid valve, replace the height control valve sub–assy No.1.

Height Control Solenoid Valve Rear RH:



Height Control Solenoid Valve Rear LH:



HEIGHT CONTROL SOLENOID VALVE REAR:

(a) Disconnect the height control solenoid valve connector.

(b) Measure the resistance according to the value(s) in the table below.

Standard (RH): (C1739)

Tester Connection	Specified Condition
1 (SLRR) – 2 (GND)	10 to 14 Ω

Standard (LH): (C1740)

Tester Connection	Specified Condition
2 (GND) – 3 (SLRL)	10 to 14 Ω

(c) RH: (C1739)

Connect terminal 1 (SLRR) to the battery positive (+) terminal, and terminal 2 (GND) to the battery negative (–) terminal.

(d) LH: (C1740)

Connect terminal 3 (SLRL) to the battery positive (+) terminal, and terminal 2 (GND) to the battery negative (–) terminal.

(e) Check the operating sound of the height control solenoid valve.

OK:

It should make an operating sound (click).

Result:

OK	A
NG	C

HINT:

When a malfunction is found in the rear solenoid valve, replace the height control valve sub–assy No.2.

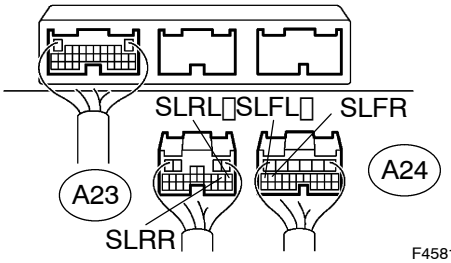
B → **REPLACE HEIGHT CONTROL VALVE SUB–ASSY NO.1 (SEE PAGE 25–17)**

C → **REPLACE HEIGHT CONTROL VALVE SUB–ASSY NO.2 (SEE PAGE 25–19)**

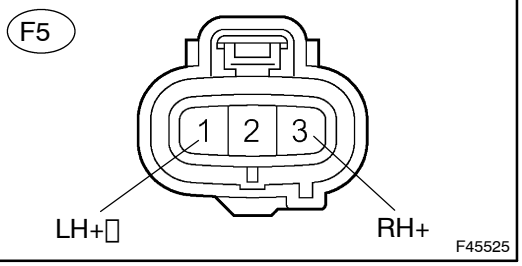
A

4	CHECK HARNESS AND CONNECTOR(SUSPENSION CONTROL ECU – HEIGHT CONTROL SOLENOID VALVE) (SEE PAGE 01–44)

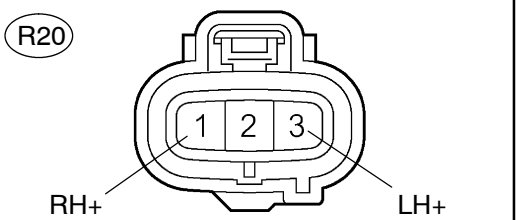
Suspension Control ECU:



Front Height Control Solenoid Valve:



Rear Height Control Solenoid Valve:



(a) Disconnect the suspension control ECU A24 or A23 connector.

(b) Measure the resistance according to the value(s) in the table below.

Standard (Front RH): (C1737)

Tester Connection	Specified Condition
A24–16 (SLFR) – F5–3 (RH+)	Below 1 Ω
A24–16 (SLFR) – Body ground	10 kΩ or higher

Standard (Front LH): (C1738)

Tester Connection	Specified Condition
A24–17 (SLFL) – F5–1 (LH+)	Below 1 Ω
A24–17 (SLFL) – Body ground	10 kΩ or higher

Standard (Rear RH): (C1739)

Tester Connection	Specified Condition
A23–8 (SLRR) – R20–1 (RH+)	Below 1 Ω
A23–8 (SLRR) – Body ground	10 kΩ or higher

Standard (Rear LH): (C1740)

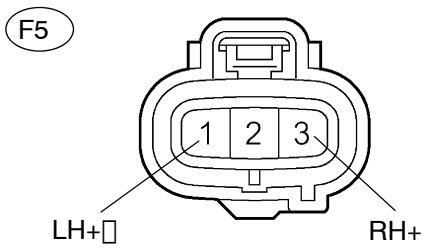
Tester Connection	Specified Condition
A23–7 (SLRL) – R20–3 (LH+)	Below 1 Ω
A23–7 (SLRL) – Body ground	10 kΩ or higher

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

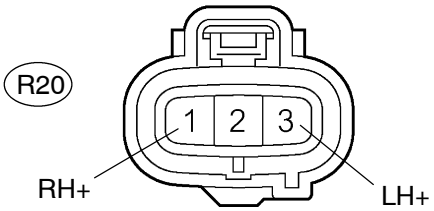
OK

5	CHECK HARNESS AND CONNECTOR(HEIGHT CONTROL SOLENOID VALVE – BODY GROUND) (SEE PAGE 01–44)

Front Height Control Solenoid Valve:



Rear Height Control Solenoid Valve:



(a) Measure the resistance according to the value(s) in the table below.

Standard (Front RH): (C1737)

Tester Connection	Specified Condition
F5–3 (RH+) – Body ground	Below 1 Ω

Standard (Front LH): (C1738)

Tester Connection	Specified Condition
F5–1 (LH+) – Body ground	Below 1 Ω

Standard (Rear RH): (C1739)

Tester Connection	Specified Condition
R20–1 (RH+) – Body ground	Below 1 Ω

Standard (Rear LH): (C1740)

Tester Connection	Specified Condition
R20–3 (LH+) – Body ground	Below 1 Ω

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ↓

REPLACE SUSPENSION CONTROL ECU (SEE PAGE 25–20)