

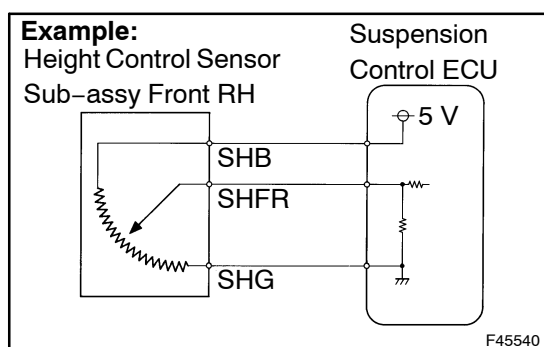
DTC	C1711	RIGHT FRONT HEIGHT CONTROL SENSOR CIRCUIT
------------	--------------	--

DTC	C1712	LEFT FRONT HEIGHT CONTROL SENSOR CIRCUIT
------------	--------------	---

DTC	C1713	RIGHT REAR HEIGHT CONTROL SENSOR CIRCUIT
------------	--------------	---

DTC	C1714	LEFT REAR HEIGHT CONTROL SENSOR CIRCUIT
------------	--------------	--

CIRCUIT DESCRIPTION



The height control sensor sub-assy controls the resistance value by following changes in vehicle height. The suspension control ECU detects the change in vehicle height from the transformed voltage. The suspension control ECU outputs a constant voltage of 5 V to the SHB terminal of the height control sensor sub-assy.

In the height control sensor, the voltage is changed due to resistance. The changed voltage is output from the SHFR terminal of the height control sensor sub-assy to suspension control ECU, thus the vehicle height is detected.

HINT:

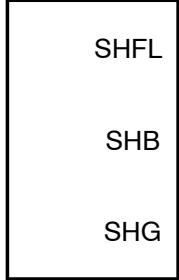
- If DTC C1711, C1712, C1713 or C1714 is output, vehicle height control is suspended.
- If the normal signal is output from the height control sensor sub-assy while suspending vehicle height control, vehicle height control is resumed. The operation is also resumed when the ignition switch is turned off once, then turned on again.

DTC No.	DTC Detecting Condition	Trouble Area
C1711	With the ignition switch ON, a voltage of 4.7 V or more, or 0.3 V or less at right front height control sensor sub-assy is detected for 1 sec.	<ul style="list-style-type: none"> • Right front height control sensor sub-assy • Right front height control sensor circuit • Suspension control ECU
C1712	With the ignition switch ON, a voltage of 4.7 V or more, or 0.3 V or less at left front height control sensor sub-assy is detected for 1 sec.	<ul style="list-style-type: none"> • Left front height control sensor sub-assy • Left front height control sensor circuit • Suspension control ECU
C1713	With the ignition switch ON, a voltage of 4.7 V or more, or 0.3 V or less at right rear height control sensor sub-assy is detected for 1 sec.	<ul style="list-style-type: none"> • Right rear height control sensor sub-assy • Right rear height control sensor circuit • Suspension control ECU
C1714	With the ignition switch ON, a voltage of 4.7 V or more, or 0.3 V or less at left rear height control sensor sub-assy is detected for 1 sec.	<ul style="list-style-type: none"> • Left rear height control sensor sub-assy • Left rear height control sensor circuit • Suspension control ECU

WIRING DIAGRAM

LHD:

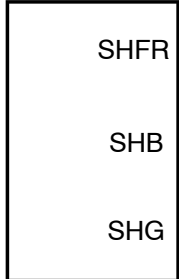
H13
Height Control
Sensor Front LH



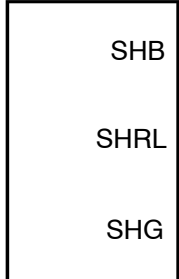
Air Suspension ECU
(Suspension Control ECU)



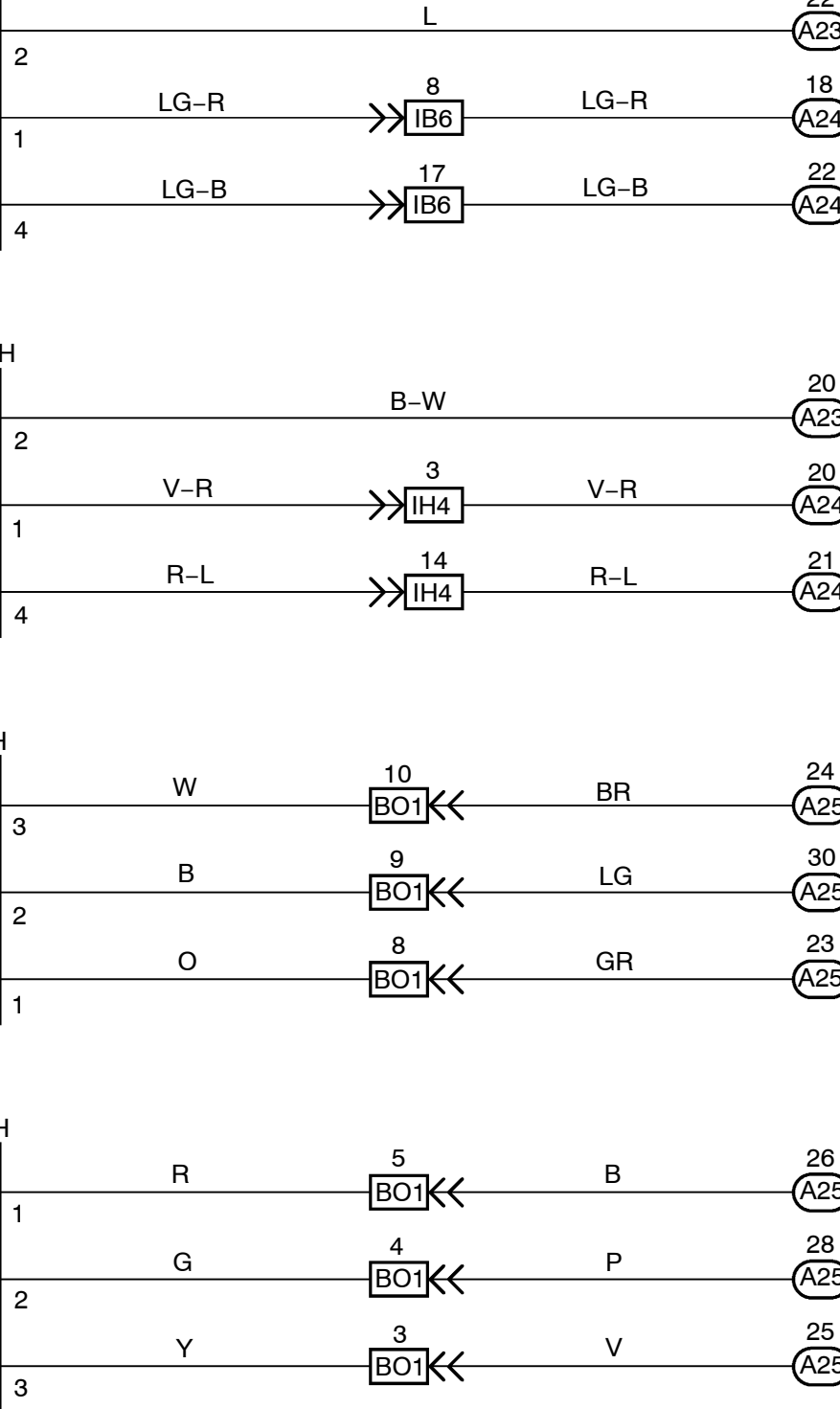
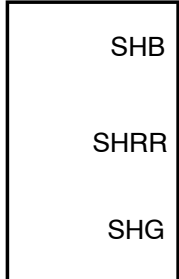
H14
Height Control
Sensor Front RH



H30
Height Control
Sensor Rear LH

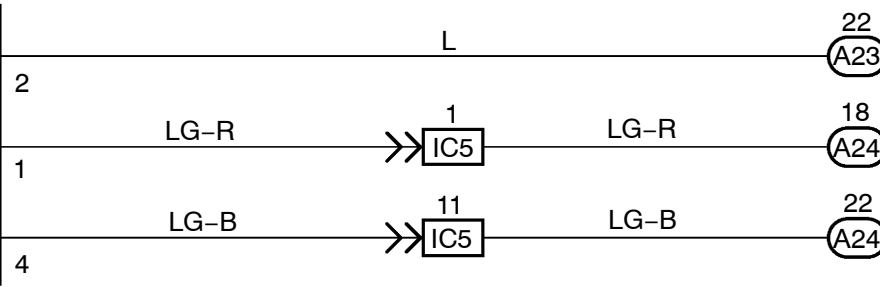
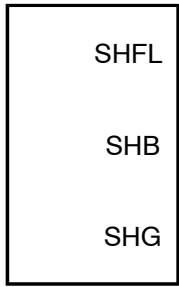


H31
Height Control
Sensor Rear RH



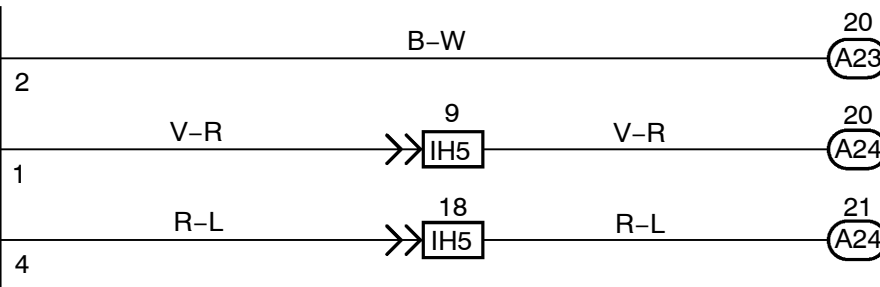
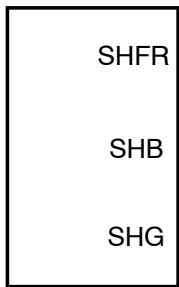
RHD:

H13
Height Control
Sensor Front LH

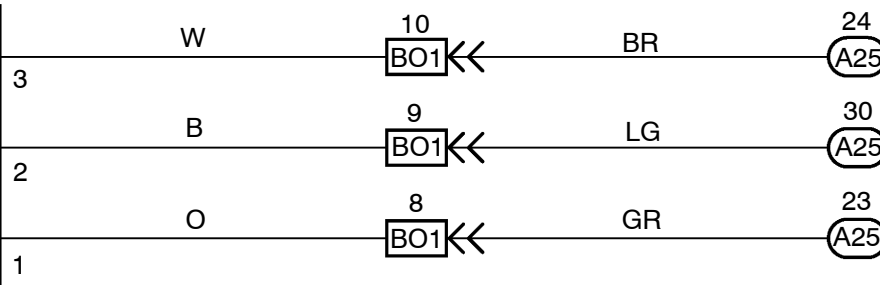
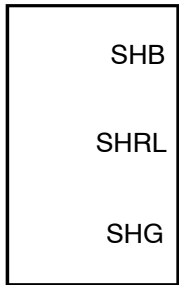


Air Suspension ECU
(Suspension Control ECU)

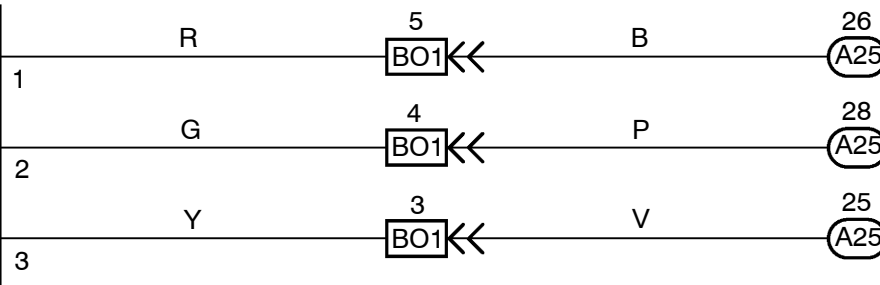
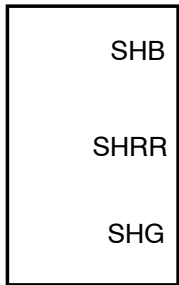
H14
Height Control
Sensor Front RH



H30
Height Control
Sensor Rear LH



H31
Height Control
Sensor Rear RH



INSPECTION PROCEDURE

HINT:

Proceed to troubleshooting following the flow chart, regardless of whether or not DTC C1711, C1712, C1713 or C1714 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 not 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 READ VALUE ON INTELLIGENT TESTER

(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 DATA LIST and read its value displayed on the intelligent tester II.

AIRSUS:

Item	Normal condition
FR HEIGHT	Min.: 10 mm (0.39 in.) Max.: 30 mm (1.81 in.)
FL HEIGHT	Min.: 10 mm (0.39 in.) Max.: 30 mm (1.81 in.)
RR HEIGHT	Min.: 10 mm (0.39 in.) Max.: 30 mm (1.81 in.)
RL HEIGHT	Min.: 10 mm (0.39 in.) Max.: 30 mm (1.81 in.)

(d) Check the vehicle height value of each sensor while pressing the height control switch "UP" and "DOWN".

OK:

Vehicle height value changes.

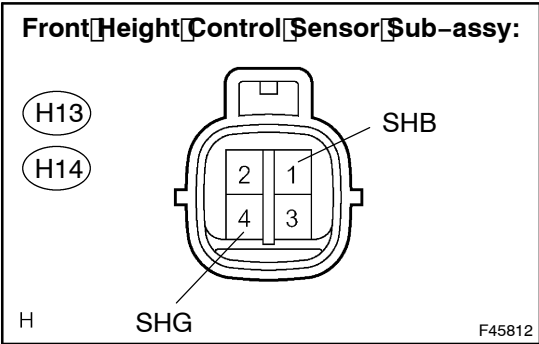
NG

Go to step 3

OK

REPLACE SUSPENSION CONTROL ECU (SEE PAGE 25-20)

3 CHECK HARNESS AND CONNECTOR (HEIGHT CONTROL SENSOR SUB-ASSY POWER SOURCE) (SEE PAGE 01-44)



- (a) Disconnect the height control sensor sub-assy connector.
- (b) Turn the ignition switch to the ON position.
- (c) Measure the voltage according to the value(s) in the table below.

Standard (Front RH): (C1711)

Tester Connection	Specified Condition
H14-1 (SHB) - H14-4 (SHG)	4.5 to 5.5 V

Standard (Front LH): (C1712)

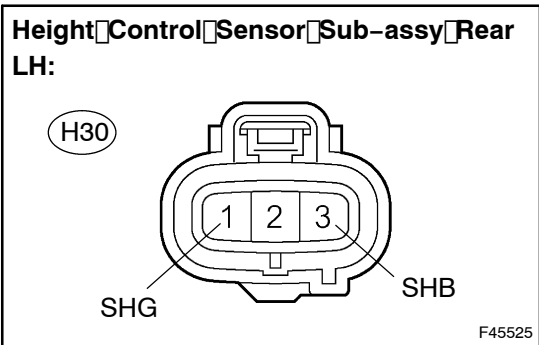
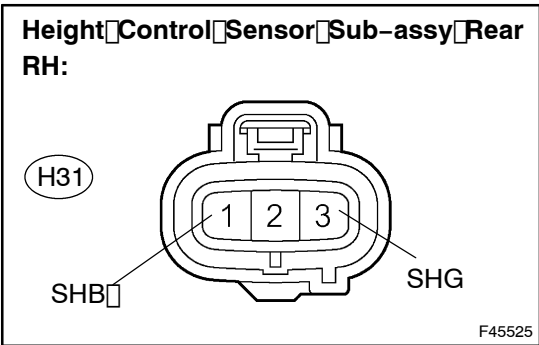
Tester Connection	Specified Condition
H13-1 (SHB) - H13-4 (SHG)	4.5 to 5.5 V

Standard (Rear RH): (C1713)

Tester Connection	Specified Condition
H31-1 (SHB) - H31-3 (SHG)	4.5 to 5.5 V

Standard (Rear LH): (C1714)

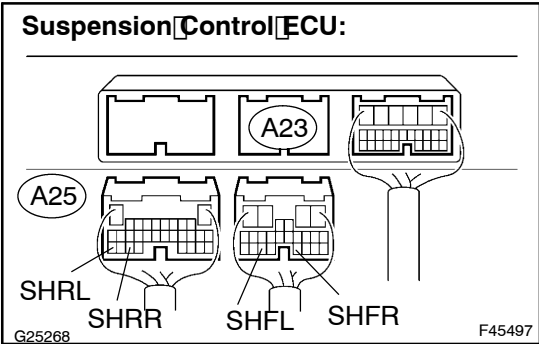
Tester Connection	Specified Condition
H30-1 (SHG) - H30-3 (SHB)	4.5 to 5.5 V



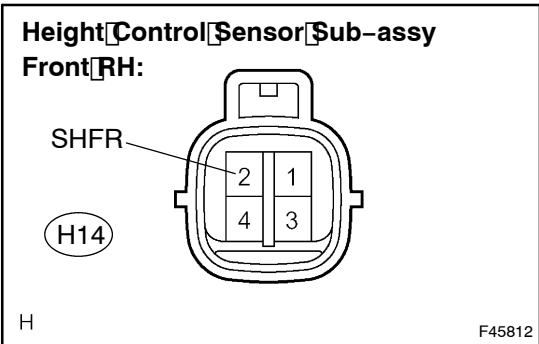
NG Go to step 6

OK

4 CHECK HARNESS AND CONNECTOR (SUSPENSION CONTROL ECU - HEIGHT CONTROL SENSOR SUB-ASSY) (SEE PAGE 01-44)

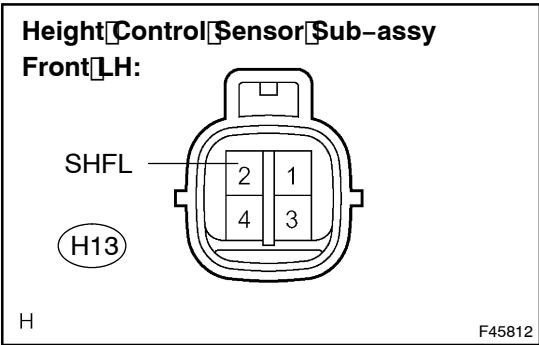


- (a) Disconnect the suspension control ECU A23 or A25 connector.
- (b) Measure the resistance according to the value(s) in the table below.



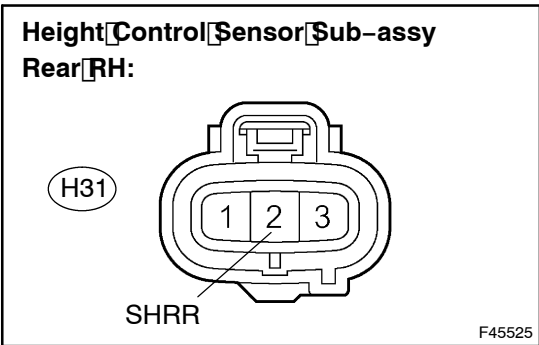
HEIGHT CONTROL SENSOR FRONT RH: (C1711)
Standard:

Tester Connection	Specified Condition
A23-20 (SHFR) - H14-2 (SHFR)	Below 1 Ω
A23-20 (SHFR) - Body ground	10 kΩ or higher



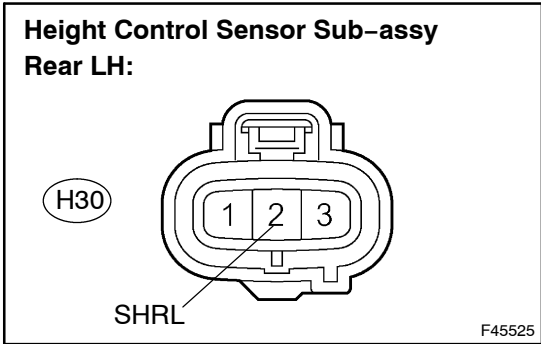
HEIGHT CONTROL SENSOR FRONT LH: (C1712)
Standard:

Tester Connection	Specified Condition
A23-22 (SHFL) - H13-2 (SHFL)	Below 1 Ω
A23-22 (SHFL) - Body ground	10 kΩ or higher



HEIGHT CONTROL SENSOR REAR RH: (C1713)
Standard:

Tester Connection	Specified Condition
A25-28 (SHRR) - H31-2 (SHRR)	Below 1 Ω
A25-28 (SHRR) - Body ground	10 kΩ or higher



HEIGHT CONTROL SENSOR REAR LH: (C1714)

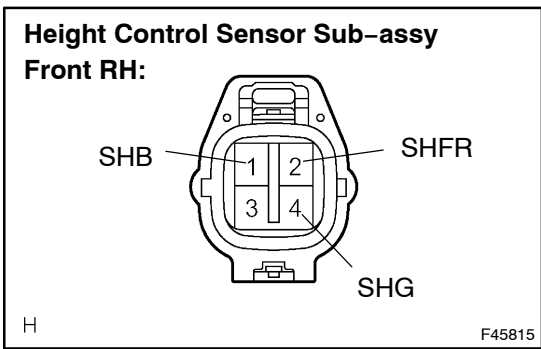
Standard:

Tester Connection	Specified Condition
A25-30 (SHRL) - H30-2 (SHRL)	Below 1 Ω
A25-30 (SHRL) - Body ground	10 kΩ or higher

NG REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

5 INSPECT HEIGHT CONTROL SENSOR SUB-ASSY



HEIGHT CONTROL SENSOR FRONT RH: (C1711)

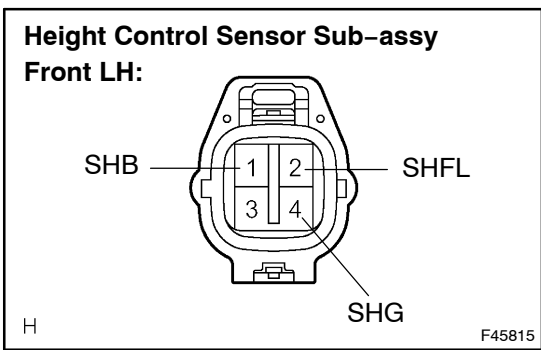
(a) Measure the resistance according to the value(s) in the table below.

Standard:

Tester Connection	Specified Condition
1 (SHB) - 4 (SHG)	3.0 to 5.6 kΩ
1 (SHB) - 2 (SHFR)	0.4 to 3.9 kΩ

Result:

OK	A
NG	B



HEIGHT CONTROL SENSOR FRONT LH: (C1712)

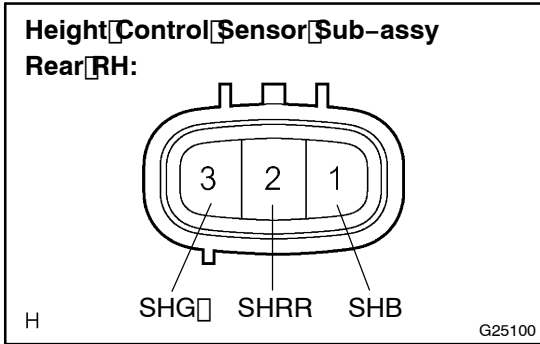
(a) Measure the resistance according to the value(s) in the table below.

Standard:

Tester Connection	Specified Condition
1 (SHB) - 4 (SHG)	3.0 to 5.6 kΩ
1 (SHB) - 2 (SHFL)	0.4 to 3.9 kΩ

Result:

OK	A
NG	C



HEIGHT CONTROL SENSOR REAR RH: (C1713)

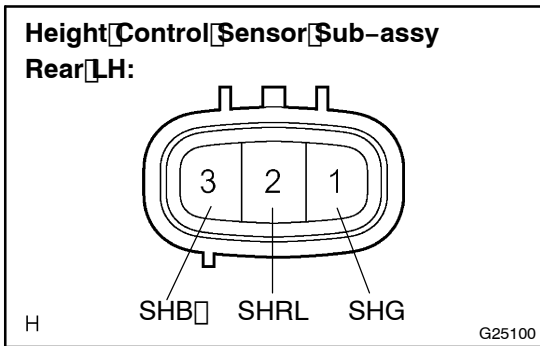
(a) Measure the resistance according to the value(s) in the table below.

Standard:

Tester Connection	Specified Condition
1 (SHB) - 3 (SHG)	3.0 to 3.6 kΩ
2 (SHRR) - 1 (SHB)	0.4 to 3.9 kΩ

Result:

OK	A
NG	D



HEIGHT CONTROL SENSOR REAR LH: (C1714)

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

Standard:

Tester Connection	Specified Condition
1 (SHG) - 3 (SHB)	3.0 to 3.6 kΩ
2 (SHRL) - 3 (SHB)	0.4 to 3.9 kΩ

Result:

OK	A
NG	E

B REPLACE HEIGHT CONTROL SENSOR SUB-ASSY FRONT RH (SEE PAGE 25-12)

C REPLACE HEIGHT CONTROL SENSOR SUB-ASSY FRONT LH (SEE PAGE 25-12)

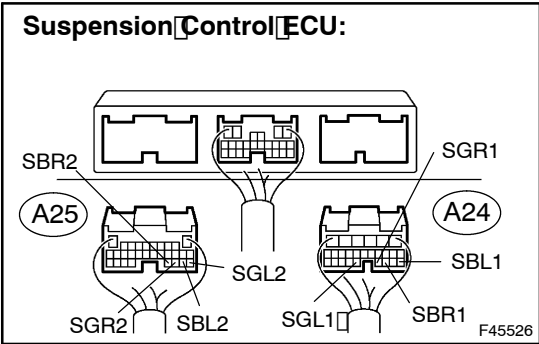
D REPLACE HEIGHT CONTROL SENSOR SUB-ASSY REAR RH (SEE PAGE 25-15)

E REPLACE HEIGHT CONTROL SENSOR SUB-ASSY REAR LH (SEE PAGE 25-15)

A

REPLACE SUSPENSION CONTROL ECU (SEE PAGE 25-20)

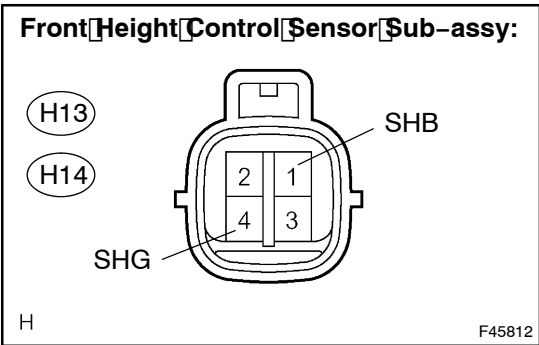
6 CHECK HARNESS AND CONNECTOR (SUSPENSION CONTROL ECU - HEIGHT CONTROL SENSOR SUB-ASSY) (SEE PAGE 01-44)



- (a) Disconnect the suspension control ECU A24 or A25 connector.
- (b) Measure the resistance according to the value(s) in the table below.

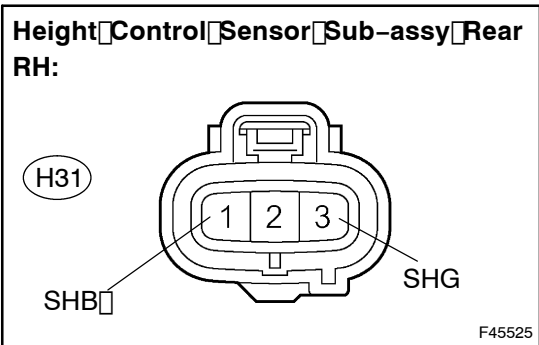
Standard (Front RH): (C1711)

Tester Connection	Specified Condition
A24-20 (SBR1) - H14-1 (SHB)	Below 1 Ω
A24-21 (SGR1) - H14-4 (SHG)	Below 1 Ω
A24-20 (SBR1) - Body ground	10 kΩ or higher
A24-21 (SGR1) - Body ground	10 kΩ or higher



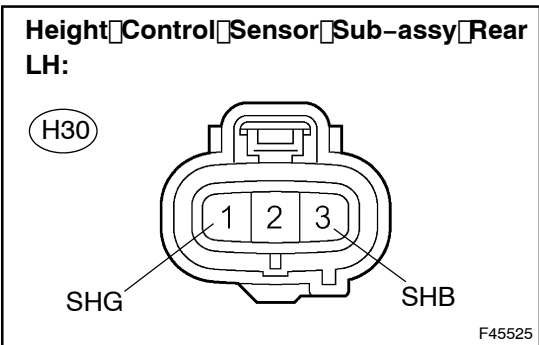
Standard (Front LH): (C1712)

Tester Connection	Specified Condition
A24-18 (SBL1) - H13-1 (SHB)	Below 1 Ω
A24-22 (SGL1) - H13-4 (SHG)	Below 1 Ω
A24-18 (SBL1) - Body ground	10 kΩ or higher
A24-22 (SGL1) - Body ground	10 kΩ or higher



Standard (Rear RH): (C1713)

Tester Connection	Specified Condition
A25-25 (SGR2) - H31-3 (SHG)	Below 1 Ω
A25-26 (SBR2) - H31-1 (SHB)	Below 1 Ω
A25-25 (SGR2) - Body ground	10 kΩ or higher
A25-26 (SBR2) - Body ground	10 kΩ or higher



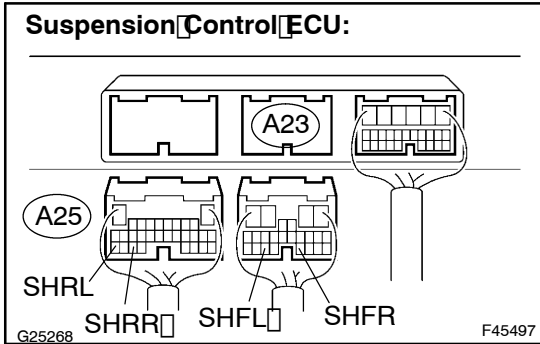
Standard (Rear LH): (C1714)

Tester Connection	Specified Condition
A25-23 (SGL2) - H30-1 (SHG)	Below 1 Ω
A25-24 (SBL2) - H30-3 (SHB)	Below 1 Ω
A25-23 (SGL2) - Body ground	10 kΩ or higher
A25-24 (SBL2) - Body ground	10 kΩ or higher

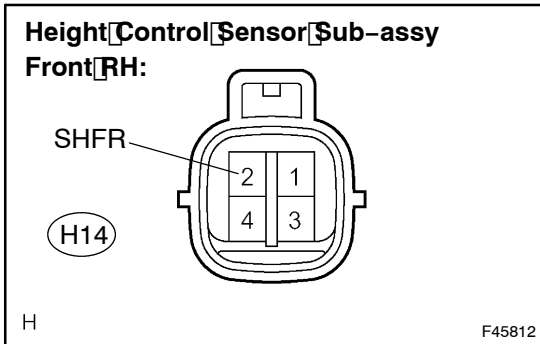
NG REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

7 CHECK HARNESS AND CONNECTOR (SUSPENSION CONTROL ECU - HEIGHT CONTROL SENSOR SUB-ASSY) (SEE PAGE 01-44)

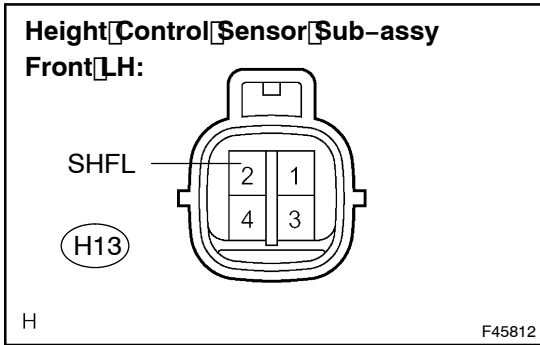


- (a) Disconnect the suspension control ECU A23 or A25 connector.
- (b) Measure the resistance according to the value(s) in the table below.



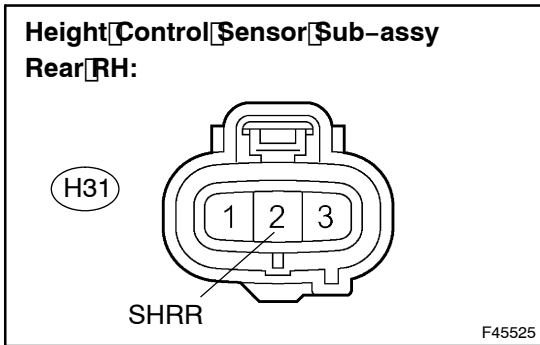
HEIGHT CONTROL SENSOR FRONT RH: (C1711)
Standard:

Tester Connection	Specified Condition
A23-20 (SHFR) - H14-2 (SHFR)	Below 1 Ω
A23-20 (SHFR) - Body ground	10 kΩ or higher



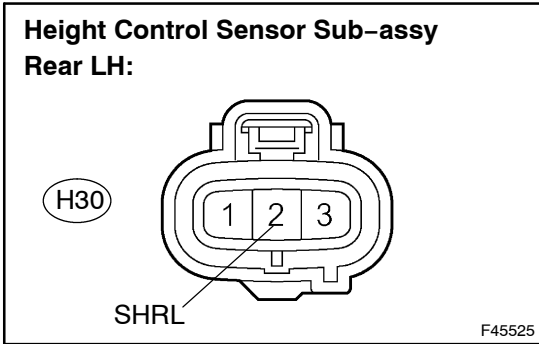
HEIGHT CONTROL SENSOR FRONT LH: (C1712)
Standard:

Tester Connection	Specified Condition
A23-22 (SHFL) - H13-2 (SHFL)	Below 1 Ω
A23-22 (SHFL) - Body ground	10 kΩ or higher



HEIGHT CONTROL SENSOR REAR RH: (C1713)
Standard:

Tester Connection	Specified Condition
A25-28 (SHRR) - H31-2 (SHRR)	Below 1 Ω
A25-28 (SHRR) - Body ground	10 kΩ or higher



OK

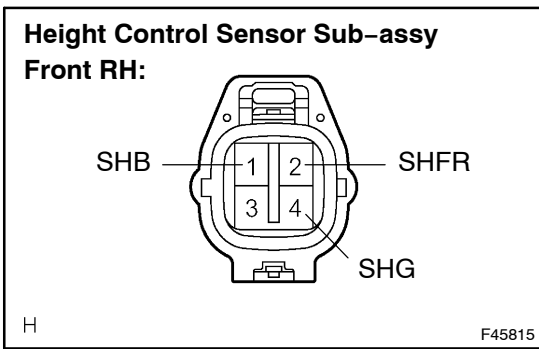
HEIGHT CONTROL SENSOR REAR LH: (C1714)

Standard:

Tester Connection	Specified Condition
A25-30 (SHRL) - H30-2 (SHRL)	Below 1 Ω
A25-30 (SHRL) - Body ground	10 k Ω or higher

NG REPAIR OR REPLACE HARNESS OR CONNECTOR

8 CHECK HEIGHT CONTROL SENSOR SUB-ASSY



HEIGHT CONTROL SENSOR FRONT RH: (C1711)

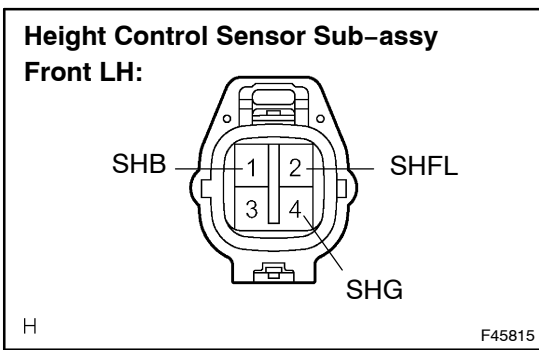
(a) Measure the resistance according to the value(s) in the table below.

Standard:

Tester Connection	Specified Condition
1 (SHB) - 4 (SHG)	3.0 to 5.6 k Ω
1 (SHB) - 2 (SHFR)	0.4 to 3.9 k Ω

Result:

OK	A
NG	B



HEIGHT CONTROL SENSOR FRONT LH: (C1712)

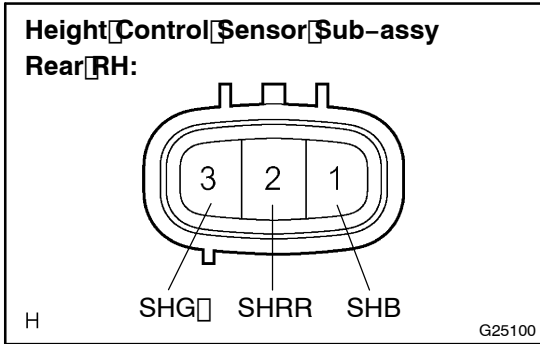
(a) Measure the resistance according to the value(s) in the table below.

Standard:

Tester Connection	Specified Condition
1 (SHB) - 4 (SHG)	3.0 to 5.6 k Ω
1 (SHB) - 2 (SHFL)	0.4 to 3.9 k Ω

Result:

OK	A
NG	C



HEIGHT CONTROL SENSOR REAR RH: (C1713)

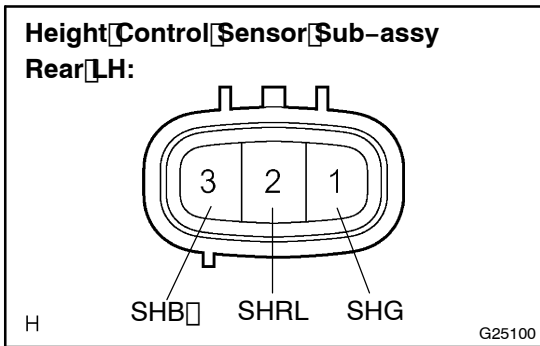
(a) Measure the resistance according to the value(s) in the table below.

Standard:

Tester Connection	Specified Condition
1 (SHB) - 3 (SHG)	3.0 to 3.6 kΩ
2 (SHRR) - 1 (SHB)	0.4 to 3.9 kΩ

Result:

OK	A
NG	D



HEIGHT CONTROL SENSOR REAR LH: (C1714)

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

Standard:

Tester Connection	Specified Condition
1 (SHG) - 3 (SHB)	3.0 to 3.6 kΩ
2 (SHRL) - 3 (SHB)	0.4 to 3.9 kΩ

Result:

OK	A
NG	E

B REPLACE HEIGHT CONTROL SENSOR SUB-ASSY FRONT RH (SEE PAGE 25-12)

C REPLACE HEIGHT CONTROL SENSOR SUB-ASSY FRONT LH (SEE PAGE 25-12)

D REPLACE HEIGHT CONTROL SENSOR SUB-ASSY REAR RH (SEE PAGE 25-15)

E REPLACE HEIGHT CONTROL SENSOR SUB-ASSY REAR LH (SEE PAGE 25-15)

A

REPLACE SUSPENSION CONTROL ECU (SEE PAGE 25-20)