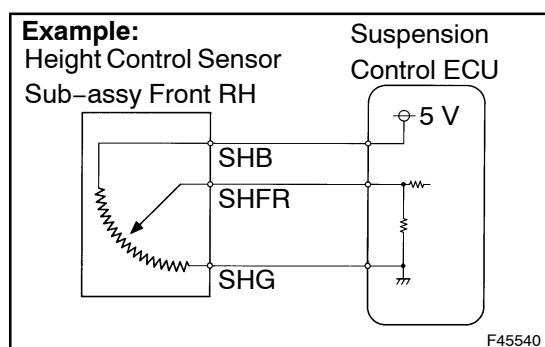


DTC	C1711	RIGHT FRONT HEIGHT CONTROL SENSOR CIRCUIT
DTC	C1712	LEFT FRONT HEIGHT CONTROL SENSOR CIRCUIT
DTC	C1713	RIGHT REAR HEIGHT CONTROL SENSOR CIRCUIT
DTC	C1714	LEFT REAR HEIGHT CONTROL SENSOR CIRCUIT

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:

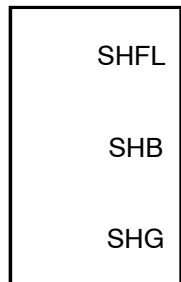
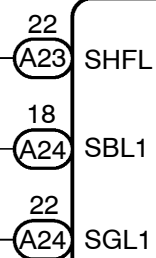
- If DTC C1711, C1712, C1713 or C1714 is output, vehicle height control is suspended.
- If the normal signal is output from the height control sensor sub-assy while suspending vehicle height control, vehicle height control is resumed. The operation is also resumed when the ignition switch is turned off 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.	• 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.	• 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.	• 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.	• Left rear height control sensor sub-assy • Left rear height control sensor circuit • Suspension control ECU

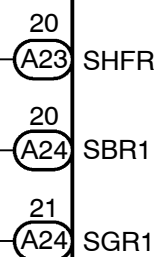
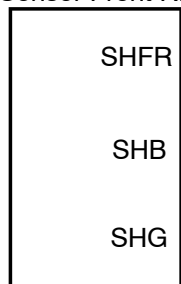
WIRING DIAGRAM

LHD:

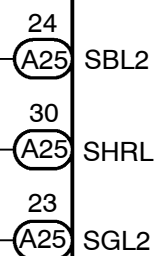
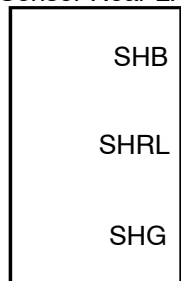
H13

Height Control
Sensor Front LHAir Suspension ECU
(Suspension Control ECU)

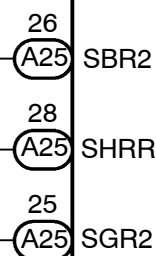
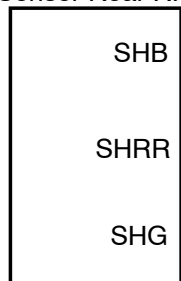
H14

Height Control
Sensor Front RH

H30

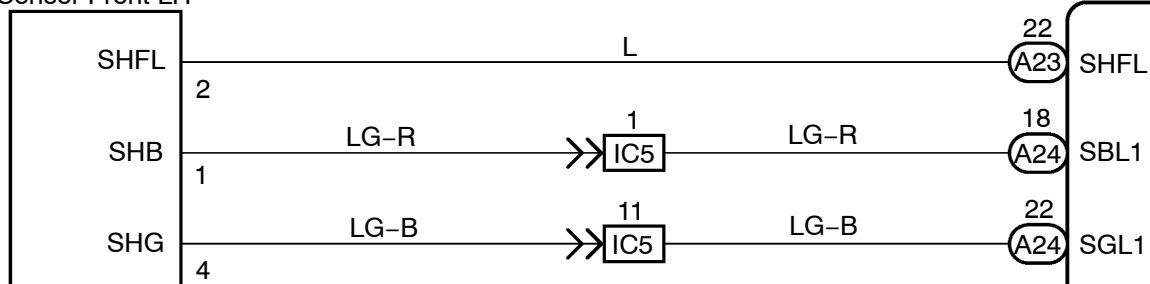
Height Control
Sensor Rear LH

H31

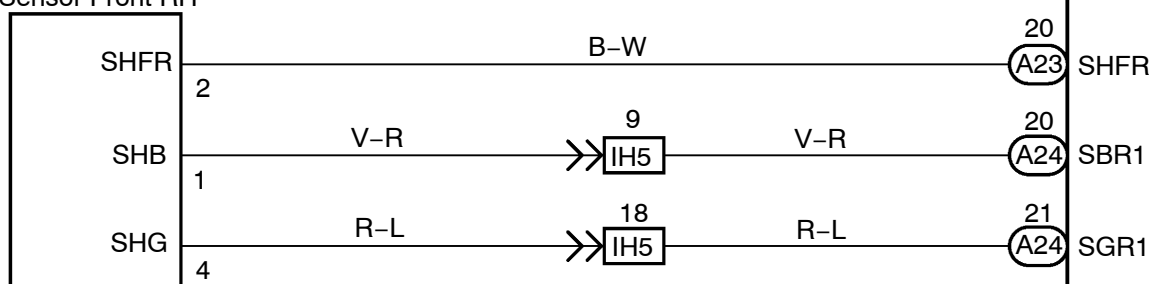
Height Control
Sensor Rear RH

RHD:

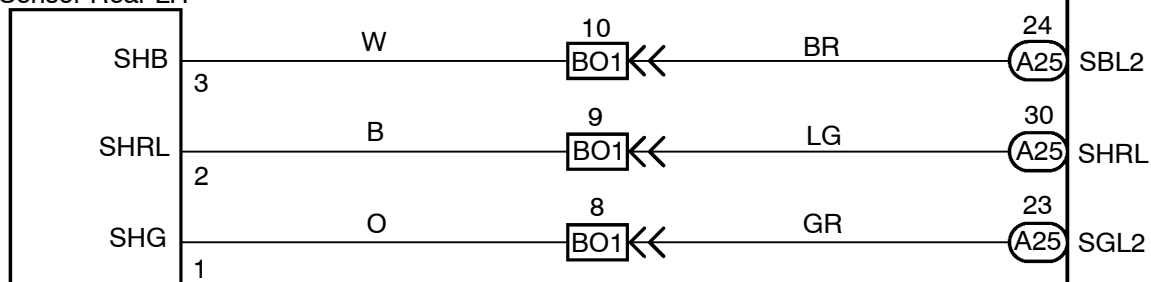
H13

Height Control
Sensor Front LH

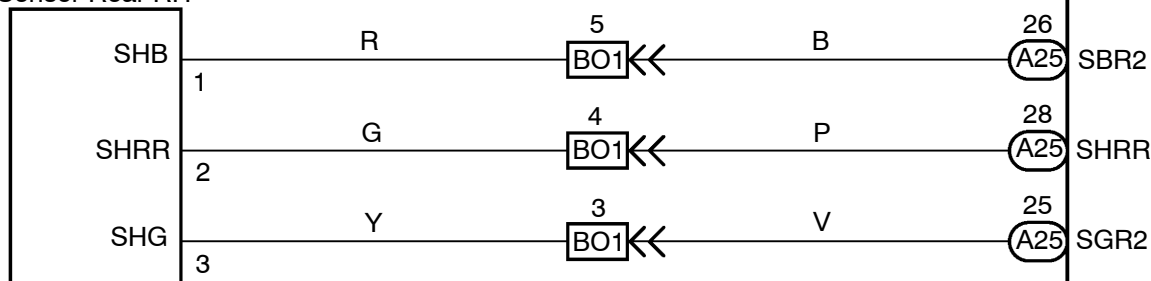
H14

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

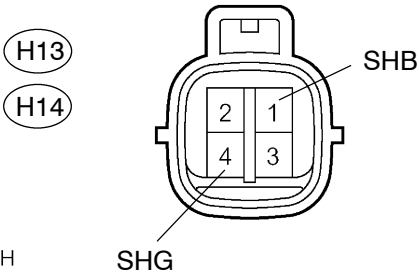
Go to step 3

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)

Front Height Control Sensor Sub-assy:



- (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

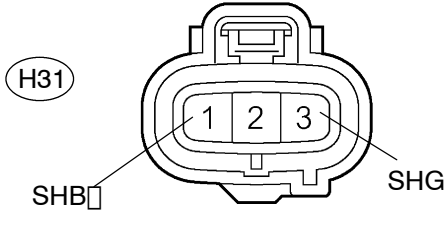
Standard (Rear RH): (C1713)

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

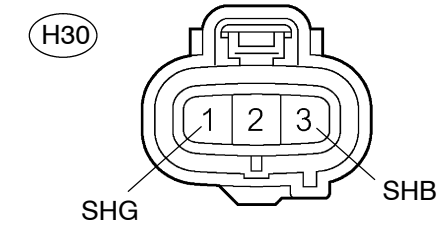
Standard (Rear LH): (C1714)

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

Height Control Sensor Sub-assy Rear RH:



Height Control Sensor Sub-assy Rear LH:



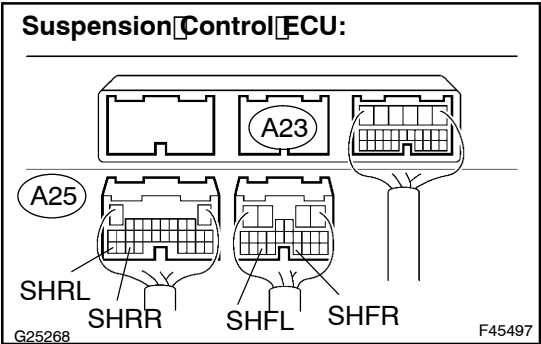
NG

Go to step 6

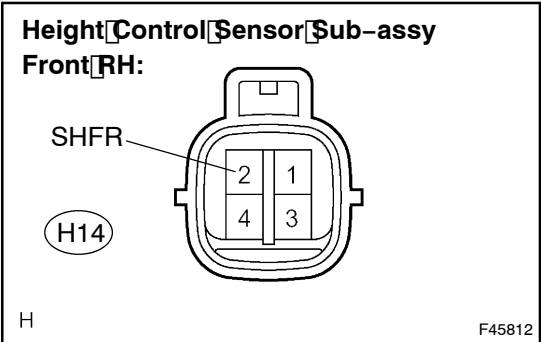
OK

4

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



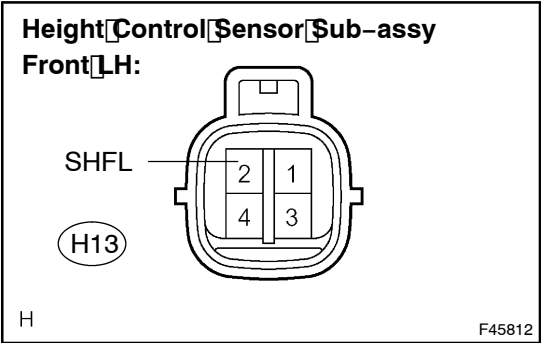
- (a) Disconnect the suspension control ECU A23 or A25 connector.
- (b) Measure the resistance according to the value(s) in the table below.



HEIGHT CONTROL SENSOR FRONT RH: (C1711)

Standard:

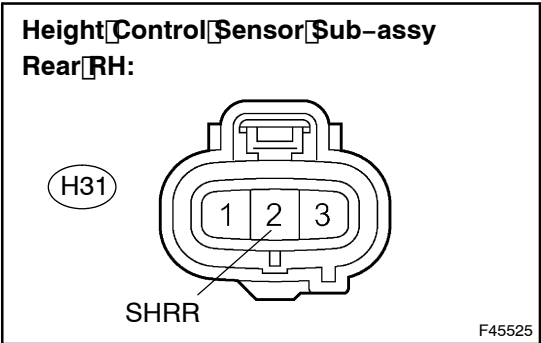
Tester Connection	Specified Condition
A23-20 (SHFR) - H14-2 (SHFR)	Below 1 Ω
A23-20 (SHFR) - Body ground	10 k Ω or higher



HEIGHT CONTROL SENSOR FRONT LH: (C1712)

Standard:

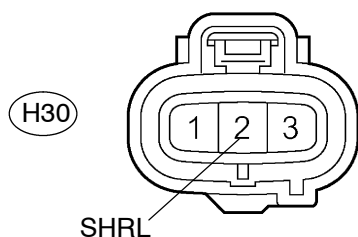
Tester Connection	Specified Condition
A23-22 (SHFL) - H13-2 (SHFL)	Below 1 Ω
A23-22 (SHFL) - Body ground	10 k Ω or higher



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 k Ω or higher

**Height Control Sensor Sub-assy
Rear LH:**


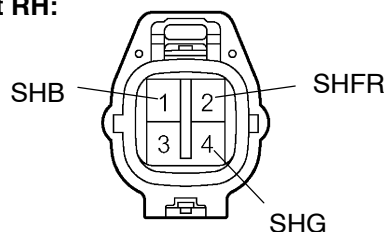
F45525

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
5 INSPECT HEIGHT CONTROL SENSOR SUB-ASSY
**Height Control Sensor Sub-assy
Front RH:**


H

F45815

HEIGHT CONTROL SENSOR FRONT RH: (C1711)

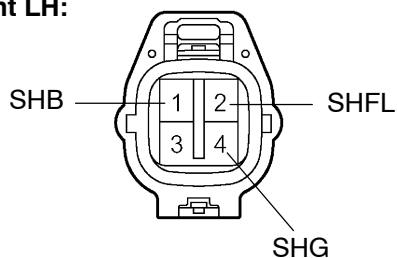
- (a) Measure the resistance according to the value(s) in the table below.

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 Sub-assy
Front LH:**


H

F45815

HEIGHT CONTROL SENSOR FRONT LH: (C1712)

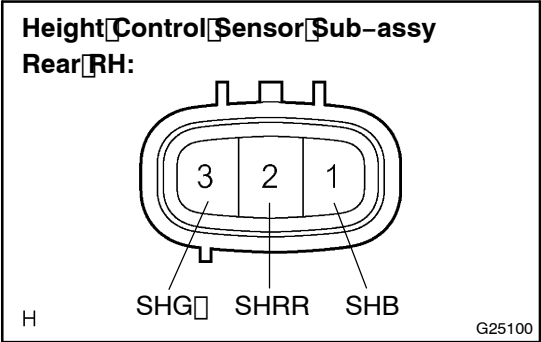
- (a) Measure the resistance according to the value(s) in the table below.

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)

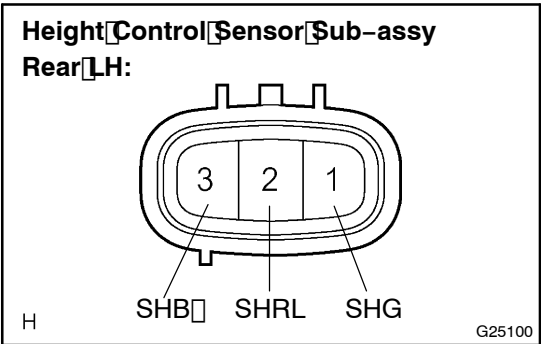
(a) Measure the resistance according to the value(s) in the table below.

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

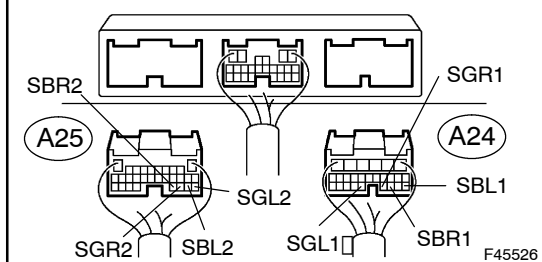
REPLACE HEIGHT CONTROL SENSOR SUB-ASSY REAR LH (SEE PAGE 25-15)

A

REPLACE SUSPENSION CONTROL ECU (SEE PAGE 25-20)

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

Suspension Control ECU:

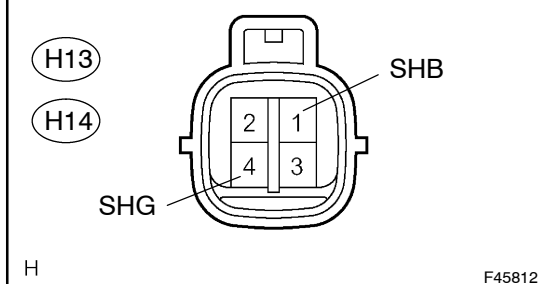


- Disconnect the suspension control ECU A24 or A25 connector.
- Measure the resistance according to the value(s) in the table below.

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 k Ω or higher
A24-21 (SGR1) - Body ground	10 k Ω or higher

Front Height Control Sensor Sub-assy:



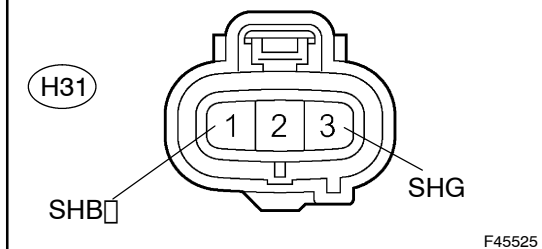
Standard (Front LH): (C1712)

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 k Ω or higher
A24-22 (SGL1) - Body ground	10 k Ω 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 k Ω or higher
A25-26 (SBR2) - Body ground	10 k Ω or higher

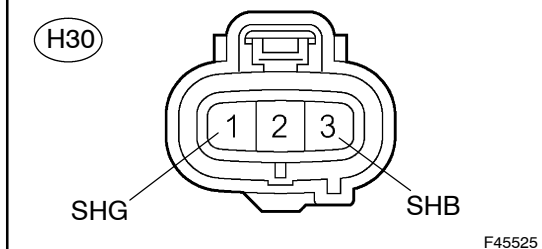
Height Control Sensor Sub-assy Rear RH:



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 k Ω or higher
A25-24 (SBL2) - Body ground	10 k Ω or higher

Height Control Sensor Sub-assy Rear LH:



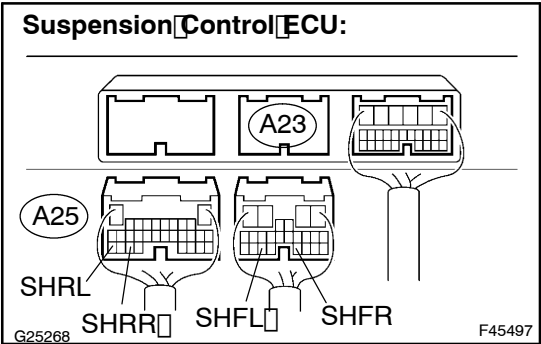
NG

REPAIR OR REPLACE HARNESS OR CONNECTOR

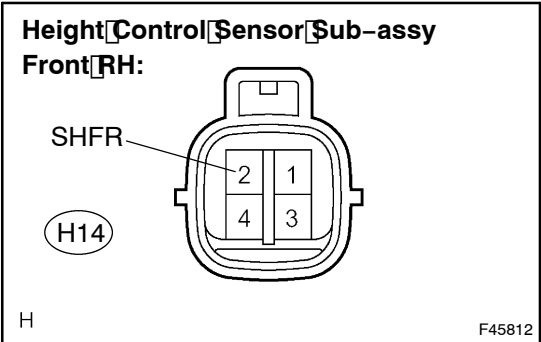
OK

7

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



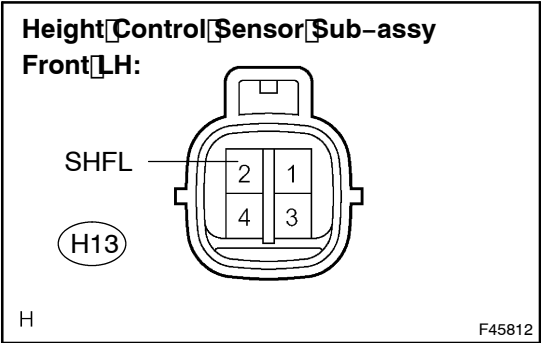
- (a) Disconnect the suspension control ECU A23 or A25 connector.
- (b) Measure the resistance according to the value(s) in the table below.



HEIGHT CONTROL SENSOR FRONT RH: (C1711)

Standard:

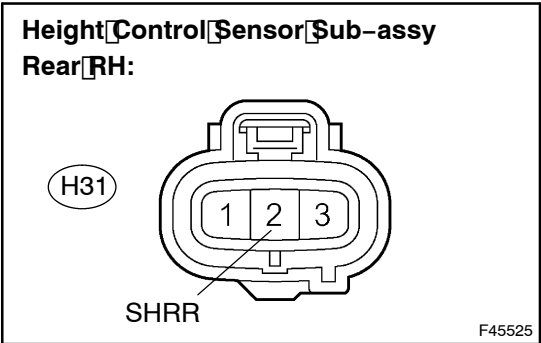
Tester Connection	Specified Condition
A23-20 (SHFR) - H14-2 (SHFR)	Below 1 Ω
A23-20 (SHFR) - Body ground	10 k Ω or higher



HEIGHT CONTROL SENSOR FRONT LH: (C1712)

Standard:

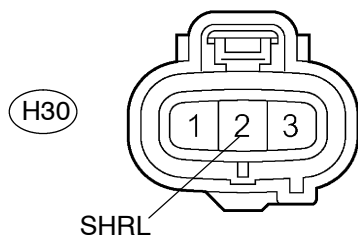
Tester Connection	Specified Condition
A23-22 (SHFL) - H13-2 (SHFL)	Below 1 Ω
A23-22 (SHFL) - Body ground	10 k Ω or higher



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 k Ω or higher

**Height Control Sensor Sub-assy
Rear LH:**


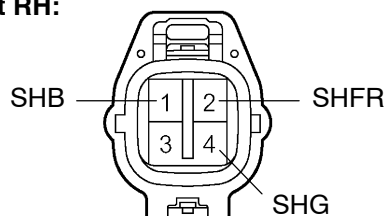
F45525

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 Sub-assy
Front RH:**


H

F45815

HEIGHT CONTROL SENSOR FRONT RH: (C1711)

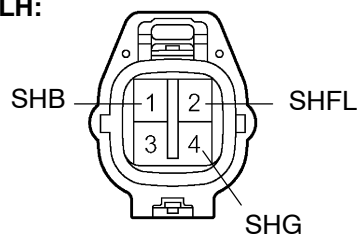
- (a) Measure the resistance according to the value(s) in the table below.

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 Sub-assy
Front LH:**


H

F45815

HEIGHT CONTROL SENSOR FRONT LH: (C1712)

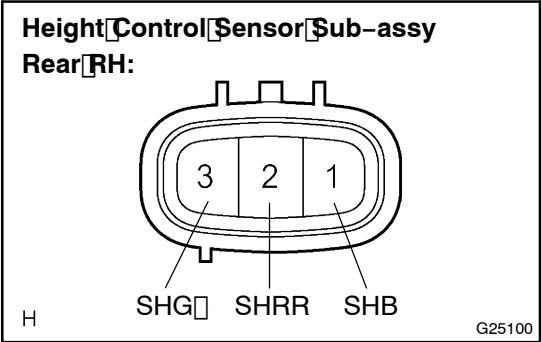
- (a) Measure the resistance according to the value(s) in the table below.

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)

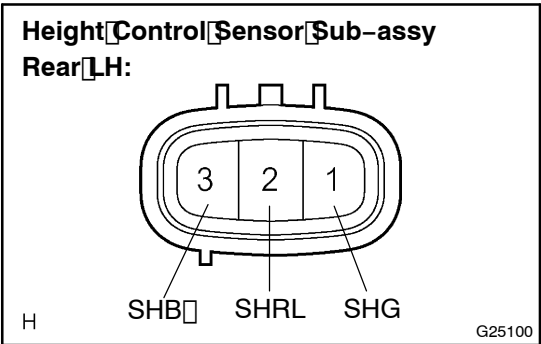
(a) Measure the resistance according to the value(s) in the table below.

Standard:

Tester Connection	Specified Condition
1 (SHB) - 3 (SHG)	3.0 to 5.6 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 5.6 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)