DTC	C1713/13	RIGHT REAR HEIGHT CONTROL SENSOR CIRCUIT

DTC	C1714/14	LEFT REAR HEIGHT CONTROL SENSOR CIRCUIT

CIRCUIT DESCRIPTION

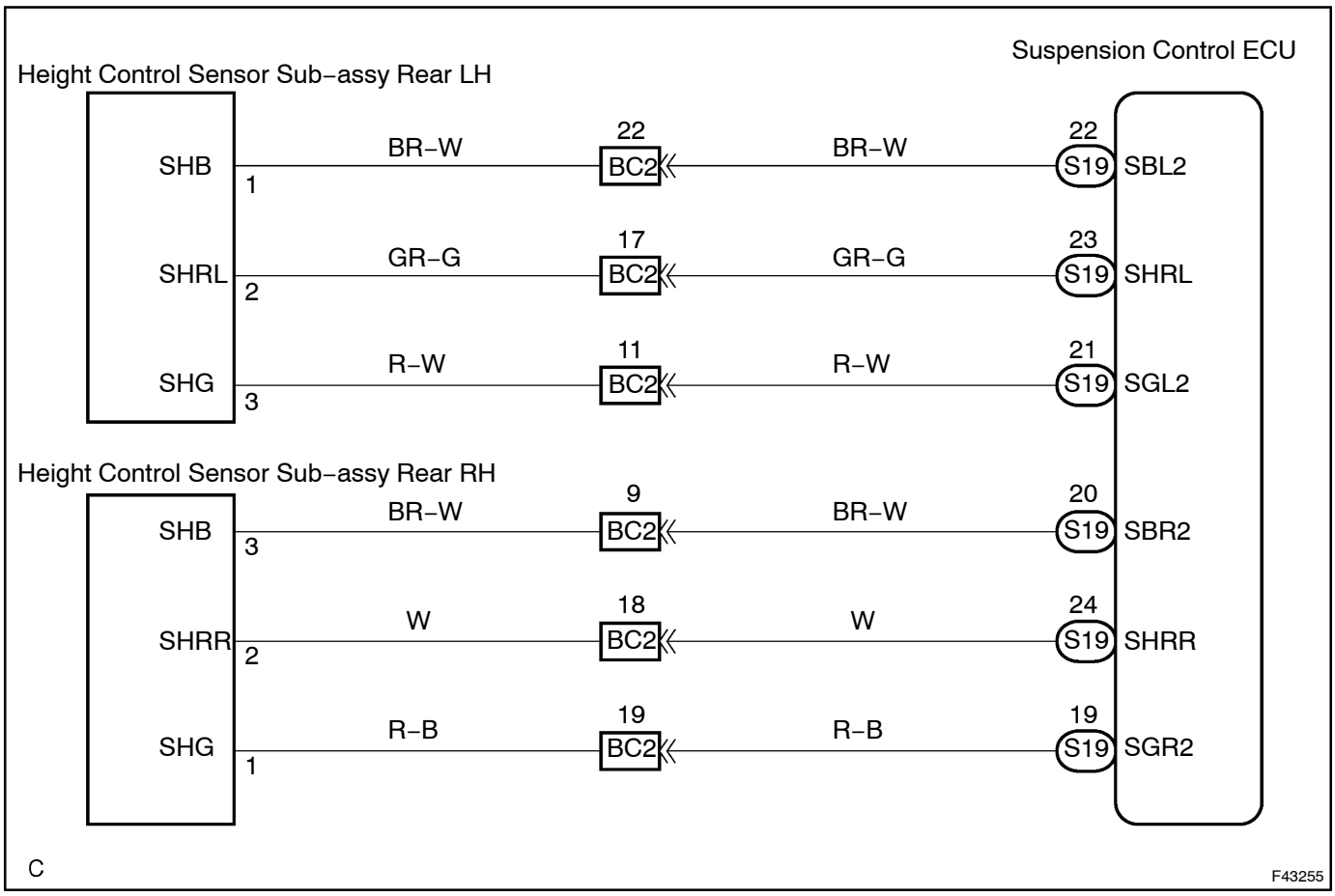
At inside of each sensor, a brush integrated with the control sensor rotor shaft moves above the resister, providing linear output. Since the resistance value between the brush and resistor terminal changes in proportion to the shaft rotation angle, the fixed voltage applied to the resistor by the ECU is modified by the sensor and output to the ECU as a voltage indicating the shaft rotation angle.

DTC No.	DTC Detecting Condition	Trouble Area
C1713/13	With the ignition switch ON, a voltage of 4.7 V or more or 0.3 V or less at each height control sensor sub–assy rear is detected for 1 sec.	• Height control sensor sub–assy rear RH • Right rear height control sensor circuit • Suspension control ECU
C1714/14		• Height control sensor sub–assy rear LH • Left rear height control sensor circuit • Suspension control ECU

HINT:

- Once ECU stores DTC C1713/13 or C1714/14 in memory, vehicle height control is not carried out until a normal signal is input to the ECU from the height control sensor sub–assy. However, the control resumes if the ignition switch is once turned OFF, and then turned ON again.
- When suspension control ECU detects a malfunction in the height control sensor, the height control indicator lamp ”N” comes on or blinks, and the height control switch (”HI” and ”LO”) is suspended.
- When either one of the right or left height control sensor sub–assy is faulty, the suspension control ECU uses the other one (normal one) to adjust the vehicle height to the normal height. When both of the height control sensor sub–assy are faulty, the suspension control ECU suspend the height control immediately.

WIRING DIAGRAM



INSPECTION PROCEDURE

HINT:

- Proceed to troubleshooting following the flow chart, regardless of whether or not DTC C1713/13 or C1714/14 is displayed.
- If DTC C1761/61 (ECU malfunction) and/or C1774/74 (power source circuit) is displayed, perform the inspection necessary for DTC C1761/61 (See page 05–630) and/or C1774/74 (See page 05–632) first.
  (If DTC C1761/61 and C1774/74 are output at the same time, perform the inspection necessary for DTC C1774/74 first.)
- 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.

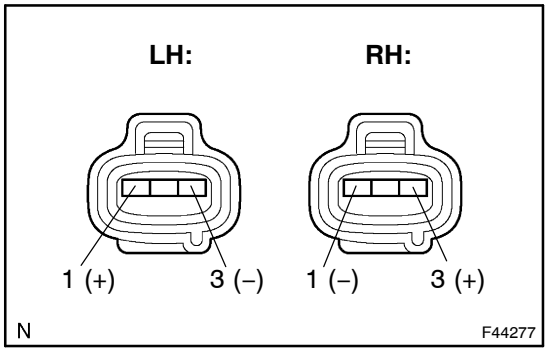
1	READ VALUE OF HAND–HELD TESTER

(a) Connect the hand–held tester to DLC3.
(b) Turn the ignition switch to ON, and turn the hand–held tester main switch to ON.
(c) Select the item ”RL HEIGHT” or ”RR HEIGHT” in the DATA LIST, and read its value displayed on the hand–held tester.
(d) Check the vehicle height value of the height control sensor sub–assy rear with the hand–held tester while pressing the height control switch ”UP” and ”DOWN”.
Standard:
Vehicle height value changes.

OK → **CHECK AND REPLACE SUSPENSION CONTROL ECU (See page 01–36)**

NG

2	CHECK HARNESS AND CONNECTOR(HEIGHT CONTROL SENSOR SUB–ASSY REAR POWER SOURCE)



(a) Disconnect the height control sensor sub–assy rear connector.
(b) Height control sensor sub–assy rear LH:
Turn the ignition switch to ON, and measure voltage between terminal 1 (SHB) and 3 (SHG) of the height control sensor sub–assy rear wire harness side connector.
Standard:
4.5 – 5.5 V
(c) Height control sensor sub–assy rear RH:
Turn the ignition switch to ON, and measure voltage between terminal 1 (SHG) and 3 (SHB) of the height control sensor sub–assy rear wire harness side connector.
Standard:
4.5 – 5.5 V

OK → **Go to step 4**

NG

3	CHECK HARNESS AND CONNECTOR(HEIGHT CONTROL SENSOR SUB–ASSY REAR – SUSPENSION CONTROL ECU)

Height control sensor sub–assy rear LH:

(a) Check for open and short circuit in the harness and the connector between the terminal 1 (SHB) of the height control sensor sub–assy rear and the S19–22 (SBL2) of the suspension control ECU (See page 01–36).

(b) Check for open and short circuit in the harness and the connector between the terminal 3 (SHG) of the height control sensor sub–assy rear and the S19–21 (SGL2) of the suspension control ECU (See page 01–36).

Height control sensor sub–assy rear RH:

(a) Check for open and short circuit in the harness and the connector between the terminal 1 (SHG) of the height control sensor sub–assy rear and the S19–19 (SGR2) of the suspension control ECU (See page 01–36).

(b) Check for open and short circuit in the harness and the connector between the terminal 3 (SHB) of the height control sensor sub–assy rear and the S19–20 (SBR2) of the suspension control ECU (See page 01–36).

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

OK

4	CHECK HARNESS AND CONNECTOR(HEIGHT CONTROL SENSOR SUB–ASSY REAR – SUSPENSION CONTROL ECU)

Height control sensor sub–assy rear LH:

(a) Check for open and short circuit in the harness and the connector between the terminal 2 (SHRL) of the height control sensor sub–assy rear and the S19–23 (SHRL) of the suspension control ECU (See page 01–36).

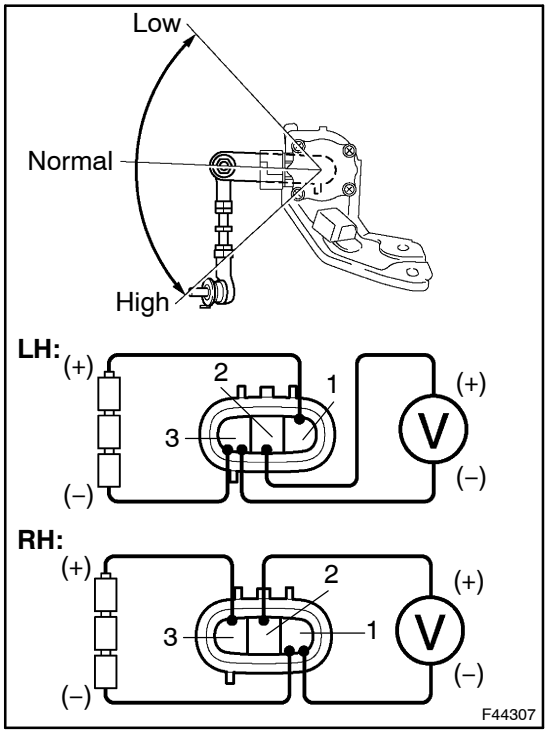
Height control sensor sub–assy rear RH:

(a) Check for open and short circuit in the harness and the connector between the terminal 2 (SHRR) of the height control sensor sub–assy rear and the S19–24 (SHRR) of the suspension control ECU (See page 01–36).

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

OK

5 INSPECT HEIGHT CONTROL SENSOR SUB–ASSY REAR



(a) Remove the height control sensor sub–assy rear LH or RH.

(b) Connect 3 dry batteries of 1.5 V in series.

(c) Height control sensor sub–assy rear LH:
Connect terminal 1 (SHB) to the batteries' positive (+) terminal, and terminal 3 (SHG) to the batteries' negative (–) terminal, then apply approximately 4.5 V between terminal 2 (SHRL) and 3 (SHG) in the following conditions.
Standard:

Position	Voltage
High (0° – 45°)	Approx. 2.53 – 4.33 V
Normal (0°)	Approx. 2.53 V
Low (0° – (–45°))	Approx. 0.81 – 2.53 V

(d) Height control sensor sub–assy rear RH:
Connect terminal 3 (SHB) to the batteries' positive (+) terminal, and terminal 1 (SHG) to the batteries' negative (–) terminal, then apply approximately 4.5 V between terminal 1 (SHG) and 2 (SHRR) in the following conditions.
Standard:

Position	Voltage
High (0° – 45°)	Approx. 2.53 – 4.33 V
Normal (0°)	Approx. 2.53 V
Low (0° – (–45°))	Approx. 0.81 – 2.53 V

NG → **REPLACE HEIGHT CONTROL SENSOR SUB–ASSY REAR LH**

NG → **REPLACE HEIGHT CONTROL SENSOR SUB–ASSY REAR RH**

OK

CHECK AND REPLACE SUSPENSION CONTROL ECU (See page 01–36)