DTC	C1715	RIGHT FRONT ACCELERATION SENSOR CIRCUIT

DTC	C1716	LEFT FRONT ACCELERATION SENSOR CIRCUIT

DTC	C1717	REAR ACCELERATION SENSOR CIRCUIT

DTC	C1791	RIGHT FRONT ACCELERATION SENSOR CIRCUIT (TEST DIAGNOSIS)

DTC	C1792	LEFT FRONT ACCELERATION SENSOR CIRCUIT (TEST DIAGNOSIS)

DTC	C1793	REAR ACCELERATION SENSOR CIRCUIT (TEST DIAGNOSIS)

CIRCUIT DESCRIPTION

The acceleration sensors (assy) detect up–and–down acceleration of the vehicle. The acceleration sensors (assy) 3 in total are mounted in the absorber control ECU, at the forward of the glove compartment door at the instrument panel safety pad position and in the rear luggage, and detect up–and down acceleration of the vehicle, respectively. The acceleration sensors (assy) convert the resistance into electrical signals and output to the absorber control ECU.

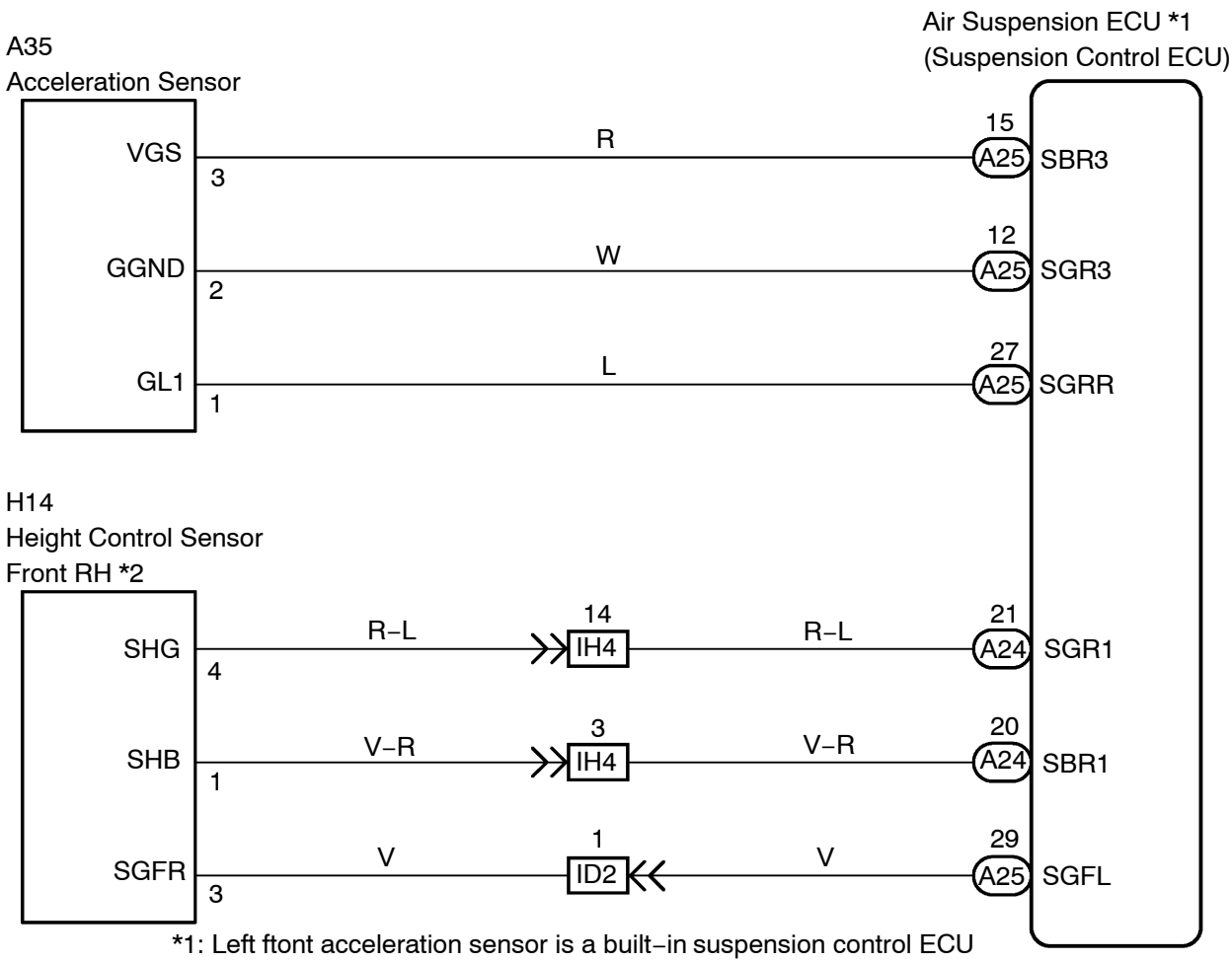
DTC No.	DTC Detecting Condition	Trouble Area
C1715 C1791	Acceleration sensor power source is less than 4.3 V or more than 5.5 V, Acceleration sensor signal is less than 0.3 V or more than 4.7 V continuously output for 1 second.	• Right front acceleration sensor assy (Right front acceleration sensor is a built–in right front height control sensor) • Right front acceleration sensor circuit • Suspension control ECU
C1716 C1792	Acceleration sensor power source is less than 4.3 V or more than 5.5 V, Acceleration sensor signal is less than 0.3 V or more than 4.7 V continuously output for 1 second.	• Suspension control ECU (Left front acceleration sensor is a built–in suspension control ECU)
C1717 C1793	Acceleration sensor power source is less than 4.3 V or more than 5.5 V, Acceleration sensor signal is less than 0.3 V or more than 4.7 V continuously output for 1 second.	• Rear acceleration sensor • Rear acceleration sensor circuit • Suspension control ECU

HINT:

- DTCs C1715 and C1791 are for the right front acceleration sensor assy.
- DTCs C1716 and C1792 are for the left front acceleration sensor (left front acceleration sensor is a built–in equipment).
- DTCs C1717 and C1793 are for the rear acceleration sensor.
- DTCs C1791, C1792 and C1793 are output only in the test mode.

WIRING DIAGRAM

LHD:

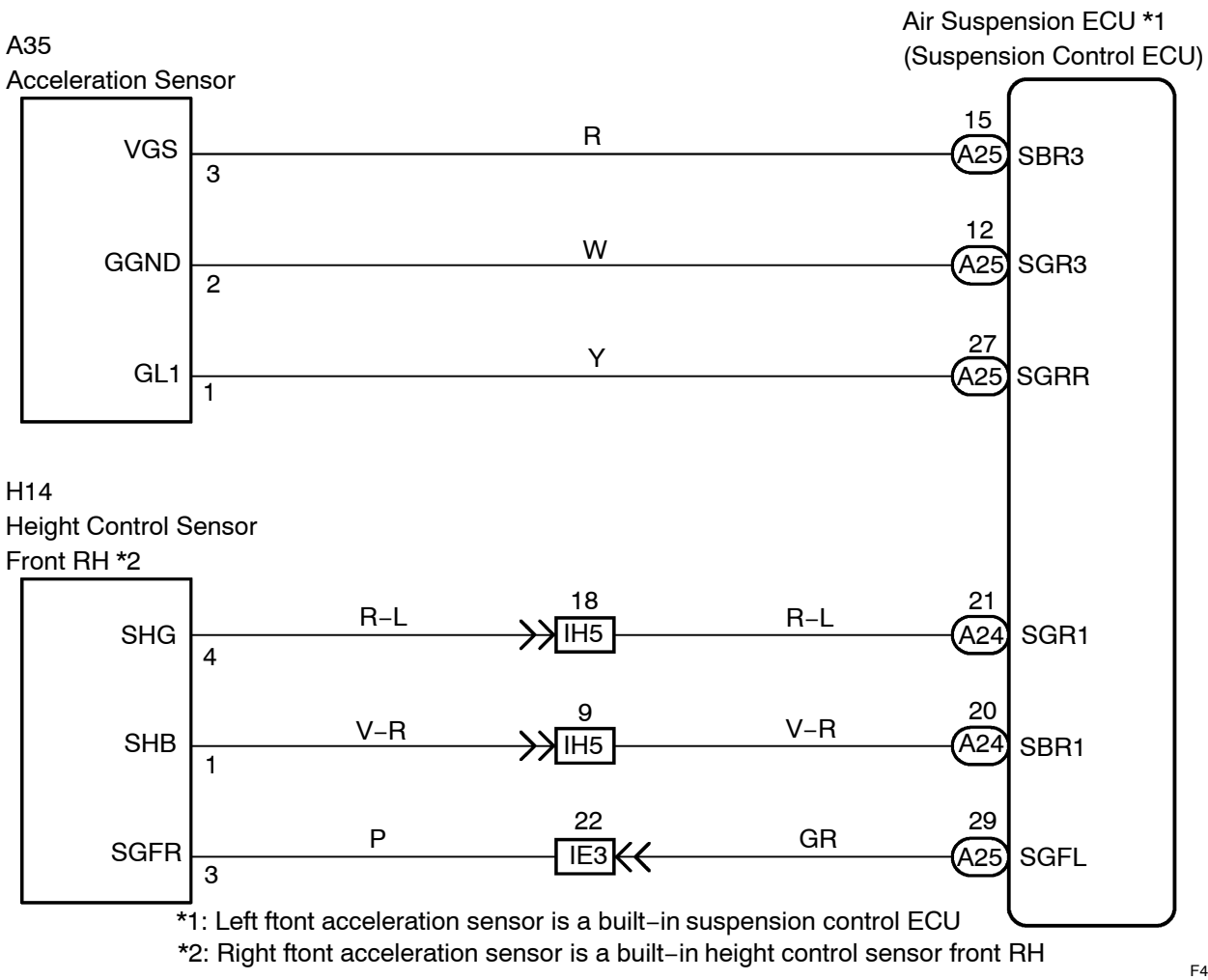


*1: Left ftont acceleration sensor is a built–in suspension control ECU
*2: Right ftont acceleration sensor is a built–in height control sensor front RH

N

F45817

RHD:



*1: Left ftont acceleration sensor is a built–in suspension control ECU
*2: Right ftont acceleration sensor is a built–in height control sensor front RH

N

F45817

INSPECTION PROCEDURE

1	READ VALUE ON 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 DATA LIST and read its value displayed on the intelligent tester II.
AIR SUS:

Item	Normal condition
G (UP & DOWN) FR (Right front acceleration sensor)	0 ± 0.1 G at still condition
G (UP & DOWN) FL (Left front acceleration sensor)	0 ± 0.1 G at still condition
G (UP & DOWN) Rear (Rear acceleration sensor)	0 ± 0.1 G at still condition

(d) Check that the acceleration value of the acceleration sensor observed on the intelligent tester II changes when the vehicle is bounced.
Standard:
Acceleration value must be change.
Result:

OK	A
NG (right front acceleration sensor)	B
NG (rear acceleration sensor)	C
NG (left front acceleration sensor)	D

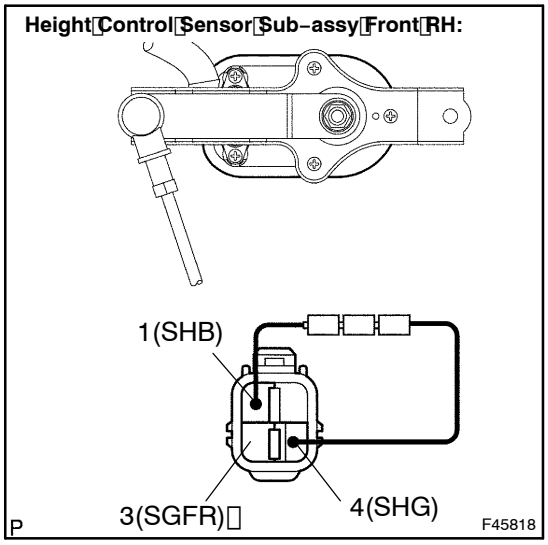
B	Go to step 2
C	Go to step 3
D	REPLACE FRONT LEFT ACCELERATION SENSOR

HINT:
For the left front acceleration sensor failure, replace the suspension control ECU.

A

REPLACE SUSPENSION CONTROL ECU (SEE PAGE 25–20)

2 INSPECT HEIGHT CONTROL SENSOR SUB–ASSY FRONT RH



(a) Remove the height control sensor sub–assy front RH.

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

(c) Connect terminal 1 (SHB) to the batteries' positive (+) terminal, and terminal 4 (SHG) to the batteries' negative (–) terminal, then apply voltage of approximately 4.5 V between terminals 4 (SHG) and 3 (SGFR) for the following conditions.

OK:

Sensor condition	Voltage
Sensor stationary	Approx. 2.3 V
Sensor vibrating vertically	Change between approx. 1.0 to 4.0 V

NOTICE:

- **Do not apply a voltage of more than 6 V.**
- **Do not drop the acceleration sensor assy. If it is dropped, replace it with a new one.**
- **An acceleration sensor assy removed from the vehicle must not be placed upside down.**

HINT:

When the acceleration sensor assy is tilted, it may output a different value.

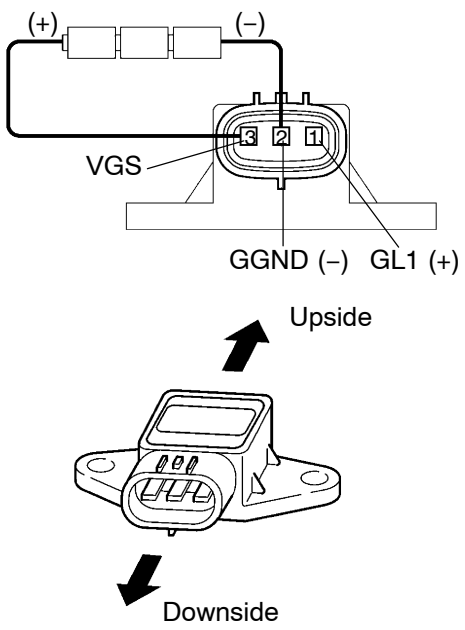
NG → **REPLACE HEIGHT CONTROL SENSOR SUB–ASSY FRONT RH (SEE PAGE 25–12)**

OK

Go to step 4

3 INSPECT ACCELERATION SENSOR

Acceleration Sensor:



C91693
C65181
F41635

(a) Remove the acceleration sensor.
(b) Connect 3 dry batteries of 1.5 V in series.
(c) Connect terminal 3 (VGS) to the batteries' positive (+) terminal, and terminal 2 (GGND) to the batteries' negative (–) terminal, then apply voltage of approximately 4.5 V between terminals 1 (GL1) and 2 (GGND) for the following conditions.

OK:

Sensor condition	Voltage
Sensor stationary	Approx. 2.3 V
Sensor vibrating vertically	Change between approx. 1.0 to 4.0 V

NOTICE:

- **Do not apply a voltage of more than 6 V.**
- **Do not drop the acceleration sensor. If it is dropped, replace it with a new one.**
- **An acceleration sensor removed from the vehicle must not be placed upside down.**

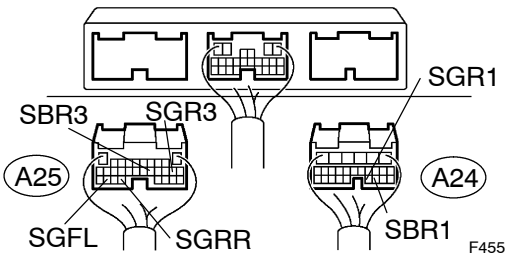
HINT:
When the acceleration sensor is tilted, it may output the different value.

NG → **REPLACE ACCELERATION SENSOR**

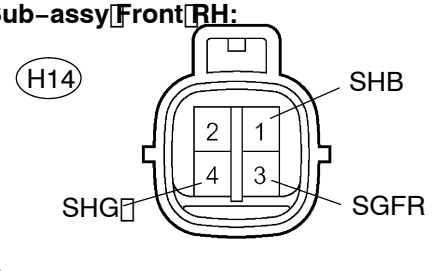
OK

4	CHECK HARNESS AND CONNECTOR(ACCELERATION SENSOR – SUSPENSION CONTROL ECU) (SEE PAGE 01–44)

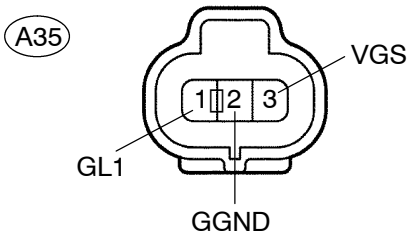
Suspension Control ECU:



Height Control Sensor Sub–assy Front RH:



Acceleration Sensor:



(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): (C1715, C1791)

Tester Connection	Specified Condition
A24–20 (SBR1) – H14–1 (SHB)	Below 1 Ω
A24–21 (SGR1) – H14–4 (SHG)	Below 1 Ω
A25–29 (SGFL) – H14–3 (SGFR)	Below 1 Ω
A24–20 (SBR1) – Body ground	10 kΩ or higher
A24–21 (SGR1) – Body ground	10 kΩ or higher
A25–29 (SGFL) – Body ground	10 kΩ or higher

Standard (Rear): (C1717, C1793)

Tester Connection	Specified Condition
A25–12 (SGR3) – A35–2 (GGND)	Below 1 Ω
A25–15 (SBR3) – A35–3 (VGS)	Below 1 Ω
A25–27 (SGRR) – A35–1 (GL1)	Below 1 Ω
A25–12 (SGR3) – Body ground	10 kΩ or higher
A25–15 (SBR3) – Body ground	10 kΩ or higher
A25–27 (SGRR) – Body ground	10 kΩ or higher

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

OK

REPLACE SUSPENSION CONTROL ECU (SEE PAGE 25–20)