

**DTC****B2416****Height Control Sensor Malfunction****DESCRIPTION**

w/ Air suspension system:

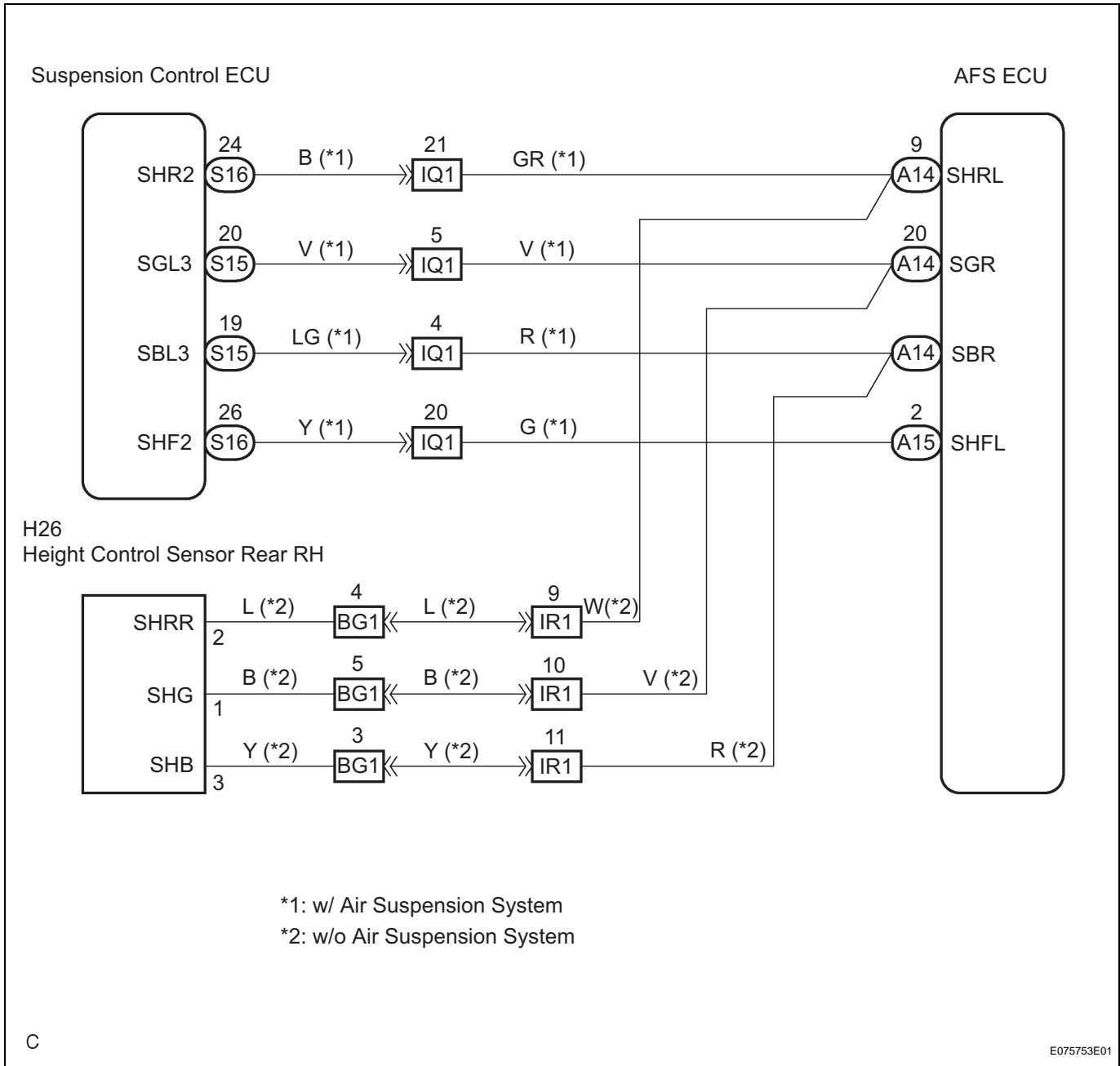
The AFS ECU receives signals regarding the height of the front / rear of the vehicle from the suspension control ECU.

w/o Air suspension system:

The AFS ECU receives the signals from the height control sensor rear RH.

DTC No.	DTC Detecting Condition	Trouble Area
B2416	<ul style="list-style-type: none"> <li>• Malfunction of suspension control ECU</li> <li>• Open or short in suspension control ECU circuit</li> <li>• Open or short in height control sensor rear RH circuit</li> </ul>	<ul style="list-style-type: none"> <li>• Suspension control ECU (w/ air suspension)</li> <li>• Height control sensor sub-assembly rear RH (w/o air suspension)</li> <li>• Harness or connector</li> <li>• AFS ECU</li> </ul>

**WIRING DIAGRAM**



**1 CHECK VEHICLE CONDITION**

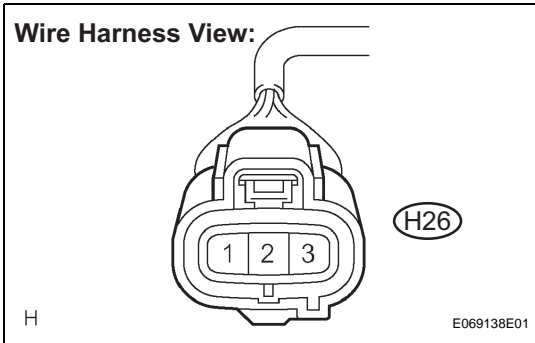
(a) Check the vehicle condition.

Condition	Proceed to
w/o Air Suspension System	A
w/ Air Suspension System	B



A

**2 CHECK HARNESS AND CONNECTOR (HEIGHT CONTROL SENSOR SUB-ASSEMBLY REAR RH POWER SOURCE)**



- (a) Disconnect the H26 connector from the height control sensor rear RH.
- (b) Measure the voltage according to the value(s) in the table below.

**Voltage**

Tester connection	Condition	Specified condition
SHB (H26-3) - SHG (H26-1)	Ignition switch ON	4.5 to 5.5 V

NG

**Go to step 5**

LI

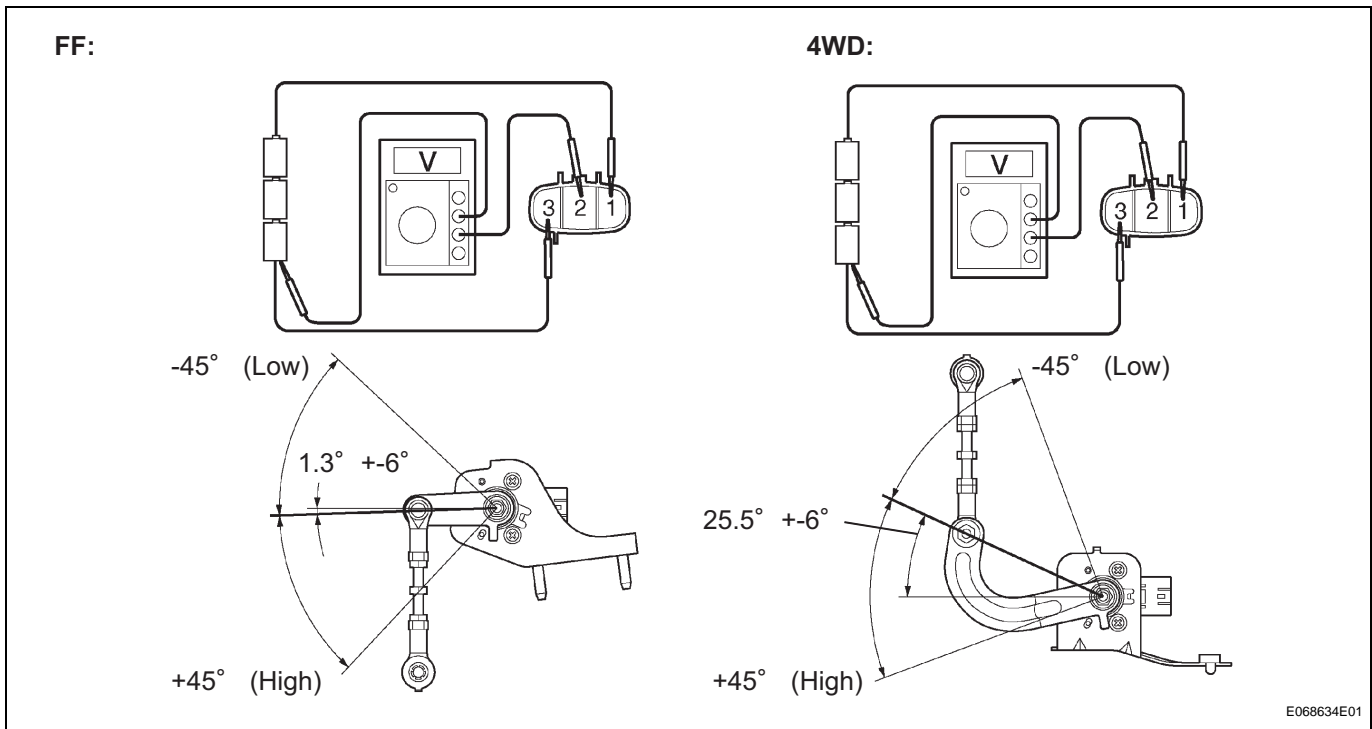
OK

**3 INSPECT HEIGHT CONTROL SENSOR SUB-ASSEMBLY REAR RH**

- (a) Connect 3 dry cell batteries (1.5 V) in a series.
- (b) Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead from the battery to terminal 3.
- (c) Measure the voltage between terminal 2 and terminal 3 when slowly moving the link up and down.

**Voltage**

Link Angle	Standard voltage
+45°(High)	4.5 V
0°(Normal)	2.5 V
-45°(Low)	0.5 V



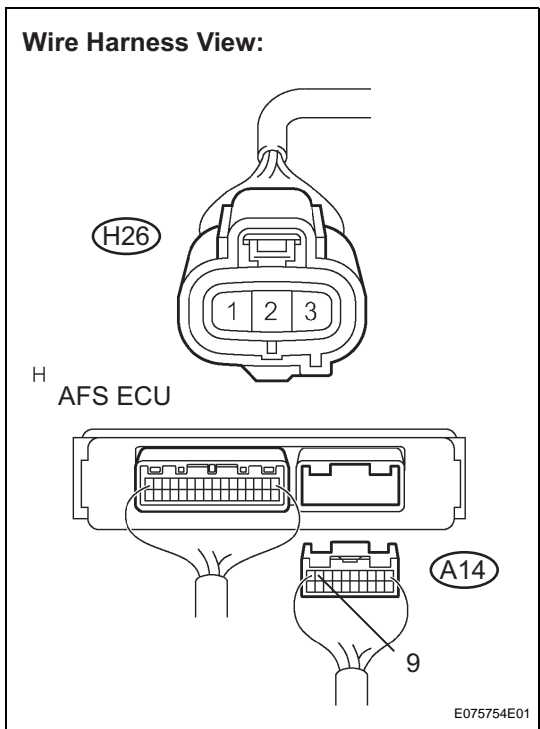
E068634E01

NG

**REPLACE HEIGHT CONTROL SENSOR SUB-ASSEMBLY REAR RH**

OK

**4 CHECK HARNESS AND CONNECTOR (AFS ECU - HEIGHT CONTROL SENSOR SUB-ASSEMBLY REAR RH)**



E075754E01

- (a) Disconnect the A14 connector from the AFS ECU.
- (b) Disconnect the H26 connector from the height control sensor sub-assembly rear RH.
- (c) Measure the resistance according to the value(s) in the following table.

**Resistance**

Tester connection	Condition	Specified condition
SHRL (A14-9) - SHRR (H26-2)	Always	Below 1 Ω
SHRL (A14-9) - Body ground	Always	10 kΩ or higher

**Result**

Condition	Proceed to
OK (When checking from the DTC)	A
OK (When checking from the PROBLEM SYMPTOMS TABLE)	B
NG	C

**B** → PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE

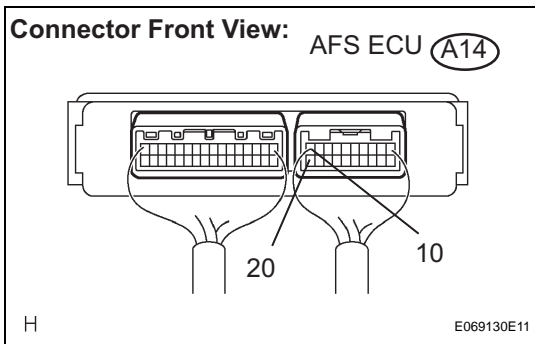
**C** → REPAIR OR REPLACE HARNESS OR CONNECTOR

**A**

**REPLACE AFS ECU**

**LI**

**5 INSPECT AFS ECU**



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

**Voltage**

Tester connection	Condition	Specified condition
SBR (A14-10) - SGR (A14-20)	Ignition switch ON	4.5 to 5.5 V

**Result**

Condition	Proceed to
OK	A
NG (When checking from the DTC)	B
NG (When checking from the PROBLEM SYMPTOMS TABLE)	C

**B** → REPLACE AFS ECU

**C** → PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE

A

**REPAIR OR REPLACE HARNESS OR CONNECTOR (AFS ECU - HEIGHT CONTROL SENSOR REAR RH)**

**6 CHECK DTC (AIR SUSPENSION SYSTEM)**

(a) Check the DTC of the air suspension system (See page [SC-8](#)).

**OK:**

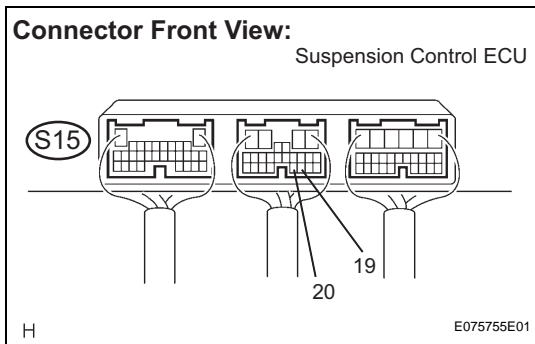
Normal system code is output.

**NG** **GO TO FLOW CHART**

OK

**7 CHECK HARNESS AND CONNECTOR (SUSPENSION CONTROL ECU HEIGHT SIGNAL POWER SOURCE)**

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



**Voltage**

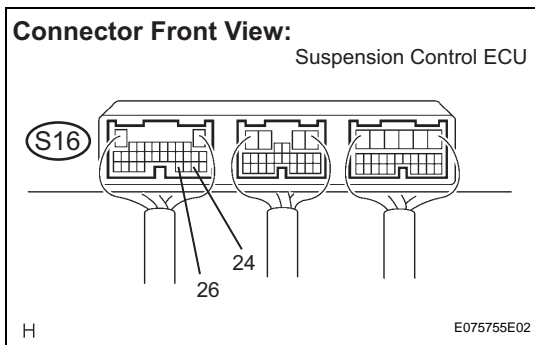
Tester connection	Condition	Specified condition
SBL3 (S15-19) - SGL3 (S15-20)	Ignition switch ON	4.5 to 5.5 V

**NG** **Go to step 10**

OK

**8 INSPECT SUSPENSION CONTROL ECU**

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



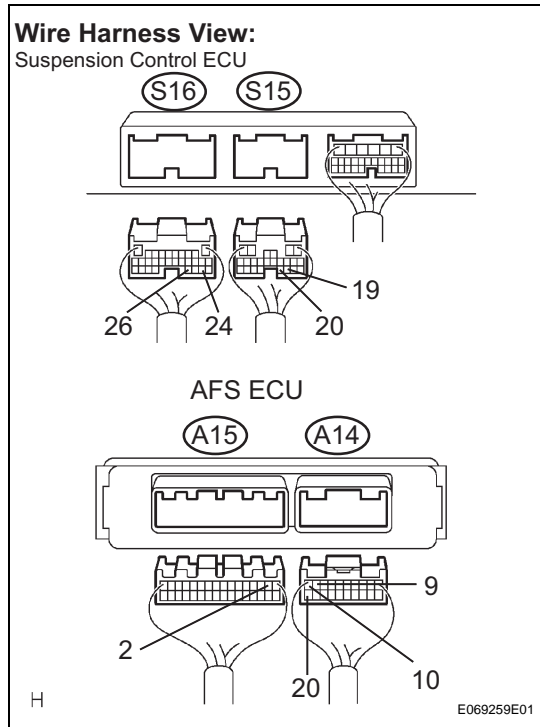
**Voltage**

Tester connection	Condition	Specified condition
SHR2 (S16-24) - Body ground	Ignition switch ON	0.5 to 4.5 V
SHF2 (S16-26) - Body ground	Ignition switch ON	0.5 to 4.5 V

**NG** → **REPLACE SUSPENSION CONTROL ECU**

**OK**

**9 CHECK HARNESS AND CONNECTOR (SUSPENSION CONTROL ECU - AFS ECU)**



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

**LI**

**Resistance**

Tester connection	Condition	Specified condition
SHRL (A14-9) - SHR2 (S16-24)	Always	Below 1 Ω
SGR (A14-20) - SGL3 (S15-20)	Always	Below 1 Ω
SBR (A14-10) - SBL3 (S15-19)	Always	Below 1 Ω
SHFL (A15-2) - SHF2 (S16-26)	Always	Below 1 Ω
SHRL (A14-9) - Body ground	Always	10 kΩ or higher
SGR (A14-20) - Body ground	Always	10 kΩ or higher
SBR (A14-10) - Body ground	Always	10 kΩ or higher
SHFL (A15-2) - Body ground	Always	10 kΩ or higher

**Result**

Condition	Proceed to
OK (When checking from the DTC)	A
OK (When checking from the PROBLEM SYMPTOMS TABLE)	B
NG	C

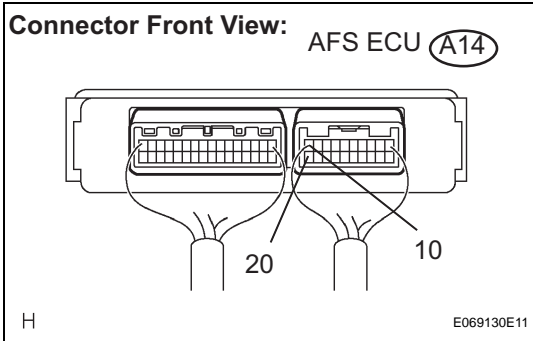
**B** → **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE**

**C** REPAIR OR REPLACE HARNESS OR CONNECTOR

**A**

REPLACE AFS ECU

**10 INSPECT AFS ECU**



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

**Voltage**

Tester connection	Condition	Specified condition
SBR (A14-10) - SGR (A14-20)	Ignition switch ON	4.5 to 5.5 V

**Result**

Condition	Proceed to
OK	A
NG (When checking from the DTC)	B
NG (When checking from the PROBLEM SYMPTOMS TABLE)	C

**B** REPLACE AFS ECU

**C** PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE

**A**

REPAIR OR REPLACE HARNESS OR CONNECTOR (AFS ECU - SUSPENSION CONTROL ECU)