

<b>DTC</b>	<b>B1810/53</b>	<b>SHORT IN D SQUIB (DUAL STAGE – 2ND STEP) CIRCUIT</b>
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<b>DTC</b>	<b>B1811/53</b>	<b>OPEN IN D SQUIB (DUAL STAGE – 2ND STEP) CIRCUIT</b>
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<b>DTC</b>	<b>B1812/53</b>	<b>SHORT IN D SQUIB (DUAL STAGE – 2ND STEP) CIRCUIT (TO GROUND)</b>
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<b>DTC</b>	<b>B1813/53</b>	<b>SHORT IN D SQUIB (DUAL STAGE – 2ND STEP) CIRCUIT (TO B+)</b>
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## CIRCUIT DESCRIPTION

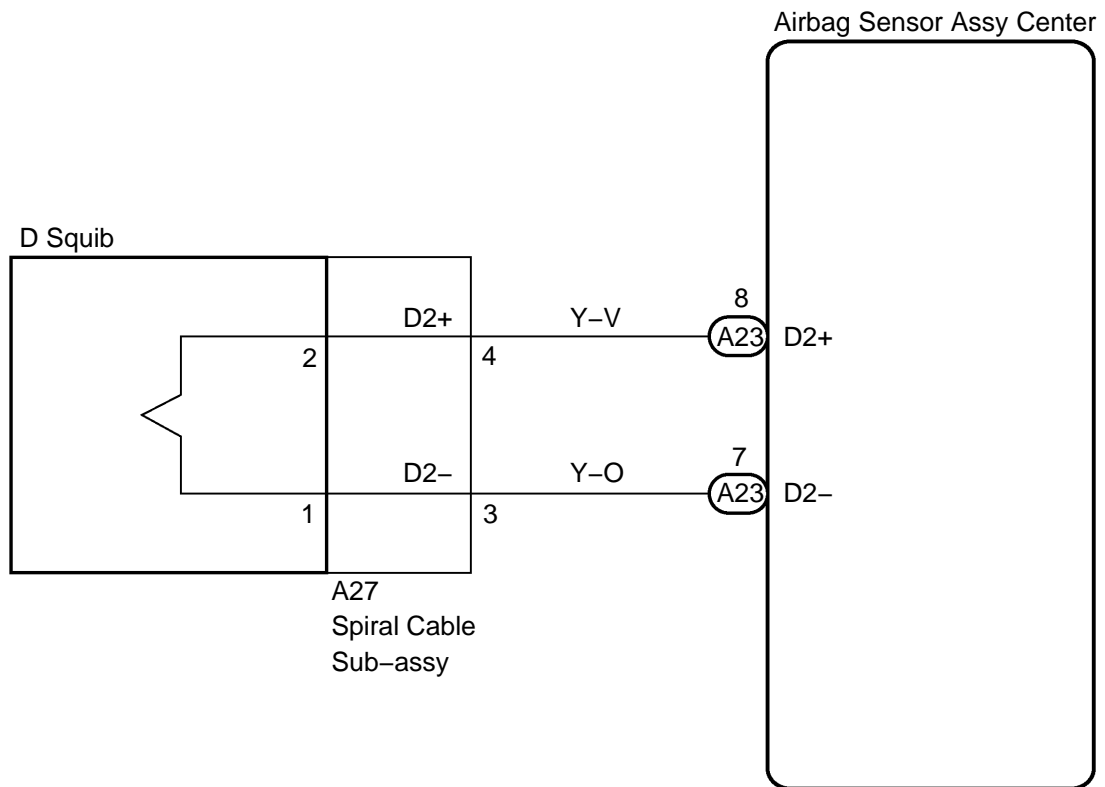
The D squib (Dual stage – 2nd step) circuit consists of the airbag sensor assy center, the spiral cable sub-assy and the horn button assy.

The circuit instructs the SRS to deploy when deployment conditions are met.

These DTCs are recorded when a malfunction is detected in the D squib (Dual stage – 2nd step) circuit.

DTC No.	DTC Detecting Condition	Trouble Area
B1810/53	<ul style="list-style-type: none"> <li>• The airbag sensor assy center receives a line short circuit signal 5 times in the D squib (Dual stage – 2nd step) circuit during primary check.</li> <li>• Spiral cable sub-assy malfunction</li> <li>• D squib (Dual stage – 2nd step) malfunction</li> <li>• Airbag sensor assy center malfunction</li> </ul>	<ul style="list-style-type: none"> <li>• Horn button assy (D squib, Dual stage – 2nd step)</li> <li>• Spiral cable sub-assy</li> <li>• Airbag sensor assy center</li> <li>• Instrument panel wire</li> </ul>
B1811/53	<ul style="list-style-type: none"> <li>• The airbag sensor assy center receives an open circuit signal in the D squib (Dual stage – 2nd step) circuit for 2 seconds.</li> <li>• Spiral cable sub-assy malfunction</li> <li>• D squib (Dual stage – 2nd step) malfunction</li> <li>• Airbag sensor assy center malfunction</li> </ul>	<ul style="list-style-type: none"> <li>• Horn button assy (D squib, Dual stage – 2nd step)</li> <li>• Spiral cable sub-assy</li> <li>• Airbag sensor assy center</li> <li>• Instrument panel wire</li> </ul>
B1812/53	<ul style="list-style-type: none"> <li>• The airbag sensor assy center receives a short circuit to ground signal in the D squib (Dual stage – 2nd step) circuit for 0.5 second.</li> <li>• Spiral cable sub-assy malfunction</li> <li>• D squib (Dual stage – 2nd step) malfunction</li> <li>• Airbag sensor assy center malfunction</li> </ul>	<ul style="list-style-type: none"> <li>• Horn button assy (D squib, Dual stage – 2nd step)</li> <li>• Spiral cable sub-assy</li> <li>• Airbag sensor assy center</li> <li>• Instrument panel wire</li> </ul>
B1813/53	<ul style="list-style-type: none"> <li>• The airbag sensor assy center receives a short circuit to B+ signal in the D squib (Dual stage – 2nd step) circuit for 0.5 second.</li> <li>• Spiral cable sub-assy malfunction</li> <li>• D squib (Dual stage – 2nd step) malfunction</li> <li>• Airbag sensor assy center malfunction</li> </ul>	<ul style="list-style-type: none"> <li>• Horn button assy (D squib, Dual stage – 2nd step)</li> <li>• Spiral cable sub-assy</li> <li>• Airbag sensor assy center</li> <li>• Instrument panel wire</li> </ul>

## WIRING DIAGRAM



## INSPECTION PROCEDURE

### CAUTION:

**Be sure to perform the following procedures before troubleshooting to avoid unexpected airbag deployment.**

- (a) Turn the ignition switch to the LOCK position.
- (b) Disconnect the negative (–) terminal cable from the battery, and wait for at least 90 seconds.
- (c) Disconnect the connectors from the airbag sensor assy center.
- (d) Disconnect the connectors from the horn button assy.
- (e) Disconnect the connectors from the front passenger airbag assy.
- (f) w/ Side airbag:  
Disconnect the connector from the front seat airbag assy LH.
- (g) w/ Side airbag:  
Disconnect the connector from the front seat airbag assy RH.
- (h) w/ Curtain shield airbag:  
Disconnect the connector from the curtain shield airbag assy LH.
- (i) w/ Curtain shield airbag:  
Disconnect the connector from the curtain shield airbag assy RH.
- (j) Disconnect the connector from the front seat outer belt assy LH.
- (k) Disconnect the connector from the front seat outer belt assy RH.

### 1 CHECK READ METHOD OF DTC

- (a) Proceed to each step according to DTC readings.
  - (1) If using the hand-held tester (read the 5-digit of DTC):  
Using the hand-held tester, check the DTCs (see page [05-1464](#)).

#### Result:

DTC B1810 is output.	A
DTC B1811 is output.	B
DTC B1812 is output.	C
DTC B1813 is output.	D

- (2) If not using the hand-held tester (read the 2-digit of DTC):  
Check the DTCs (see page [05-1464](#)).

#### Result:

DTC 53 is output.	E
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**B** ➤ Go to step 4

**C** ➤ Go to step 5

**D** ➤ Go to step 6

**E** ➤ Go to step 7

**A**

**2 CHECK CONNECTOR**

- (a) Check that the spiral cable sub-assy connectors (on the horn button assy side) are not damaged.

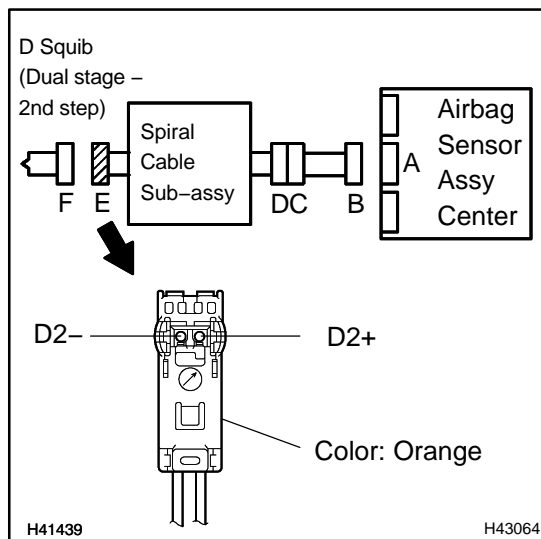
**OK:**

The lock button is not disengaged, or the claw of the lock is not deformed or damaged.

**NG**

**REPLACE SPIRAL CABLE SUB-ASSY  
(SEE PAGE 60-34)**

**OK**

**3 CHECK D SQUIB (DUAL STAGE – 2ND STEP) CIRCUIT (SHORT)**

- (a) Release the activation prevention mechanism built into connector "B" (see page 05-1456).
- (b) Measure the resistance according to the value(s) in the table below.

**Standard:**

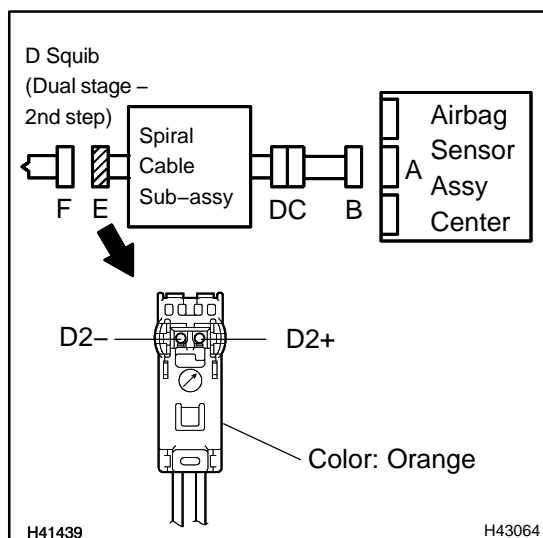
Tester connection	Condition	Specified condition
D2+ – D2–	Always	1 MΩ or Higher

**NG**

**Go to step 13**

**OK**

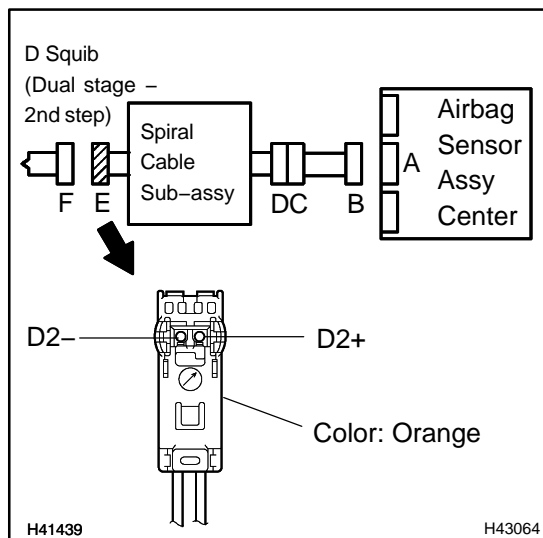
**GO TO STEP 10**

**4 CHECK D SQUIB (DUAL STAGE - 2ND STEP) CIRCUIT (OPEN)**

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

**Standard:**

Tester connection	Condition	Specified condition
D2+ - D2-	Always	Below 1 $\Omega$

**NG****Go to step 15****OK****GO TO STEP 11****5 CHECK D SQUIB (DUAL STAGE - 2ND STEP) CIRCUIT (TO GROUND)**

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

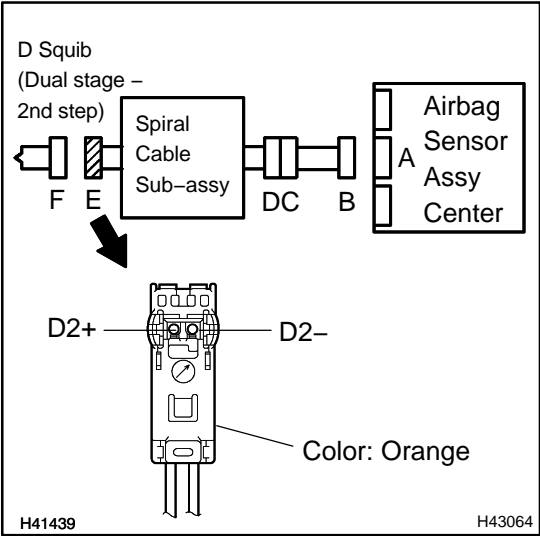
**Standard:**

Tester connection	Condition	Specified condition
D2+ - Body ground	Always	1 M $\Omega$ or Higher
D2- - Body ground	Always	1 M $\Omega$ or Higher

**NG****Go to step 17****OK****GO TO STEP 11**

6

CHECK D SQUIB (DUAL STAGE – 2ND STEP) CIRCUIT (TO B+)



- (a) Connect the negative (–) terminal cable to the battery, and wait for at least 2 seconds.
- (b) Turn the ignition switch to the ON position.
- (c) Measure the voltage according to the value(s) in the table below.

Standard:

Tester connection	Condition	Specified condition
D2+ – Body ground	Ignition switch ON	Below 1 V
D2– – Body ground	Ignition switch ON	Below 1 V

NG

Go to step 19

OK

GO TO STEP 11

**7 CHECK CONNECTOR**

- (a) Check that the spiral cable sub-assy connectors (on the horn button assy side) are not damaged.

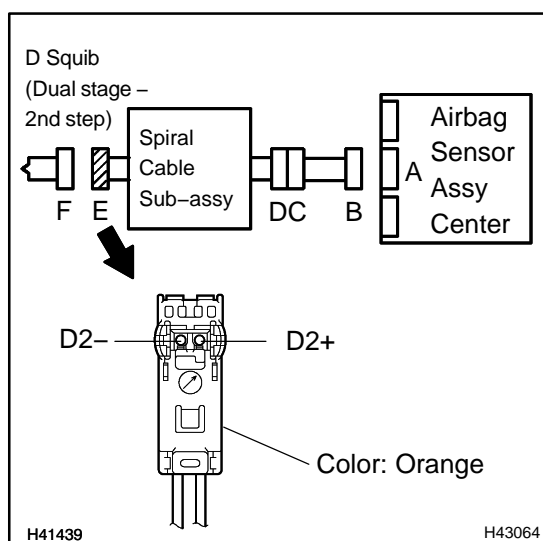
**OK:**

The lock button is not disengaged, or the claw of the lock is not deformed or damaged.

**NG**

**REPLACE SPIRAL CABLE SUB-ASSY  
(SEE PAGE 60-34)**

**OK**

**8 CHECK D SQUIB (DUAL STAGE – 2ND STEP) CIRCUIT**

- (a) Connect the negative (–) terminal cable to the battery, and wait for at least 2 seconds.
- (b) Turn the ignition switch to the ON position.
- (c) Measure the voltage according to the value(s) in the table below.

**Standard:**

Tester connection	Condition	Specified condition
D2+ – Body ground	Ignition switch ON	Below 1 V
D2– – Body ground	Ignition switch ON	Below 1 V

- (d) Turn the ignition switch to the LOCK position.
- (e) Disconnect the negative (–) terminal cable from the battery, and wait for at least 90 seconds.
- (f) Measure the resistance according to the value(s) in the table below.

**Standard:**

Tester connection	Condition	Specified condition
D2+ – D2–	Always	Below 1 Ω
D2+ – Body ground	Always	1 MΩ or Higher
D2– – Body ground	Always	1 MΩ or Higher

- (g) Release the activation prevention mechanism built into connector "B" (see page 05-1456).
- (h) Measure the resistance according to the value(s) in the table below.

**Standard:**

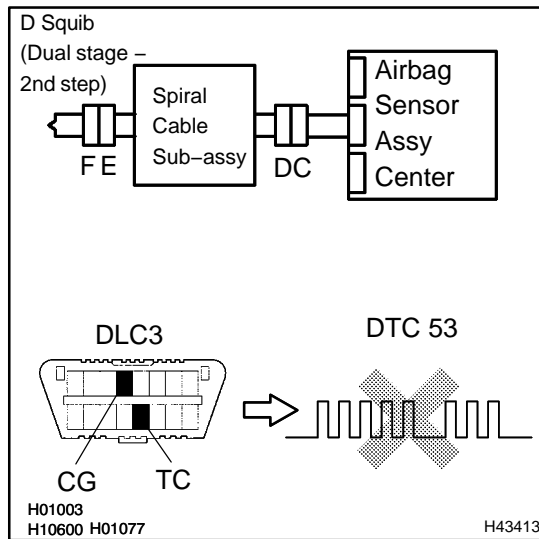
Tester connection	Condition	Specified condition
D2+ – D2–	Always	1 MΩ or Higher

**NG**

**Go to step 21**

**OK**

# 9 REPLACE HORN BUTTON ASSY (D SQUIB, DUAL STAGE - 2ND STEP)



(a) Replace the horn button assy (see page [60-25](#)).

HINT:

Perform the inspection using parts from a normal vehicle if possible.

- (b) Connect the connectors to the airbag sensor assy center.
- (c) Connect the negative (-) terminal cable to the battery, and wait for at least 2 seconds.
- (d) Turn the ignition switch to the ON position, and wait for at least 60 seconds.
- (e) Clear the DTCs stored in memory (see page [05-1464](#)).
- (f) Turn the ignition switch to the LOCK position.
- (g) Turn the ignition switch to the ON position, and wait for at least 60 seconds.
- (h) Check the DTCs (see page [05-1464](#)).

**OK:**

**DTC 53 is not output.**

HINT:

Codes other than code 53 may be output at this time, but they are not related to this check.

**NG**

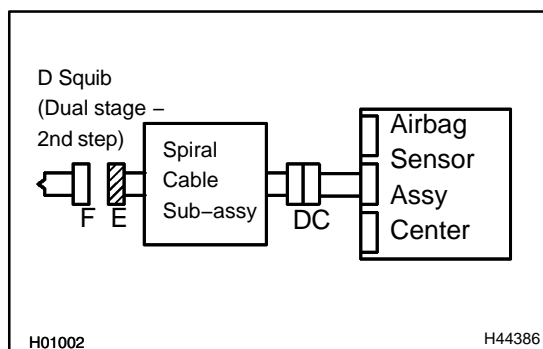
**REPLACE AIR BAG SENSOR ASSY CENTER  
(SEE PAGE [60-59](#))**

**OK**

**END**



# 10 CHECK AIR BAG SENSOR ASSY CENTER



- (a) Connect the connectors to the airbag sensor assy center.
- (b) Connect the negative (–) terminal cable to the battery, and wait for at least 2 seconds.
- (c) Turn the ignition switch to the ON position, and wait for at least 60 seconds.
- (d) Clear the DTCs stored in memory (see page 05-1464).
- (e) Turn the ignition switch to the LOCK position.
- (f) Turn the ignition switch to the ON position, and wait for at least 60 seconds.
- (g) Check the DTCs (see page 05-1464).

**OK:**

**DTC B1810 is not output.**

**HINT:**

Codes other than code B1810 may be output at this time, but they are not related to this check.

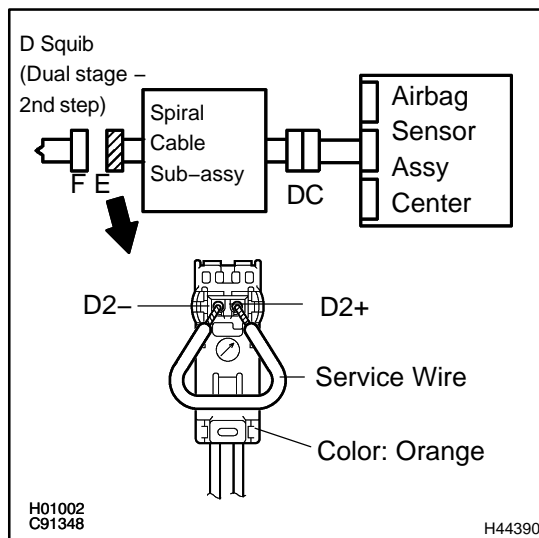
**NG**

**REPLACE AIR BAG SENSOR ASSY CENTER  
(SEE PAGE 60-59)**

**OK**

**GO TO STEP 12**

# 11 CHECK AIR BAG SENSOR ASSY CENTER



- (a) From the step 6:  
Turn the ignition switch to the LOCK position.
- (b) From the step 6:  
Disconnect the negative (-) terminal cable from the battery, and wait for at least 90 seconds.
- (c) Connect the connectors to the airbag sensor assy center.
- (d) Using a service wire, connect D2+ and D2- of connector "E".

## NOTICE:

- **Twist the end of the service wire in order to insert it into the connector.**
- **Do not forcibly insert the twisted service wire into the terminals of the connector when connecting.**

- (e) Connect the negative (-) terminal cable to the battery, and wait for at least 2 seconds.
- (f) Turn the ignition switch to the ON position, and wait for at least 60 seconds.
- (g) Clear the DTCs stored in memory (see page 05-1464).
- (h) Turn the ignition switch to the LOCK position.
- (i) Turn the ignition switch to the ON position, and wait for at least 60 seconds.
- (j) Check the DTCs (see page 05-1464).

## OK:

**DTC B1811, B1812 or B1813 is not output.**

## HINT:

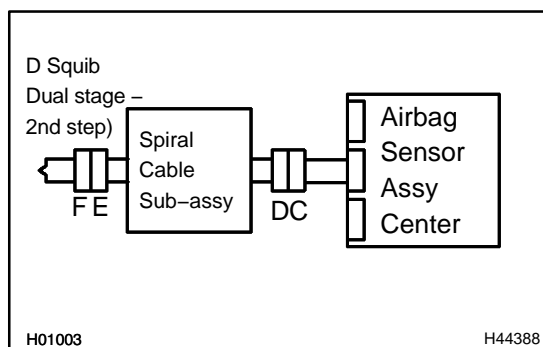
Codes other than code B1811, B1812 and B1813 may be output at this time, but they are not related to this check.

**NG**

**REPLACE AIR BAG SENSOR ASSY CENTER  
(SEE PAGE 60-59)**

**OK**

## 12 CHECK HORN BUTTON ASSY (D SQUIB, DUAL STAGE – 2ND STEP)



- (a) Turn the ignition switch to the LOCK position.
- (b) Disconnect the negative (–) terminal cable from the battery, and wait for at least 90 seconds.
- (c) From the step 11:  
Disconnect the service wire from connector "E".
- (d) Connect the connectors to the horn button assy.
- (e) Connect the negative (–) terminal cable to the battery, and wait for at least 2 seconds.
- (f) Turn the ignition switch to the ON position, and wait for at least 60 seconds.
- (g) Clear the DTCs stored in memory (see page 05-1464).
- (h) Turn the ignition switch to the LOCK position.
- (i) Turn the ignition switch to the ON position, and wait for at least 60 seconds.
- (j) Check the DTCs (see page 05-1464).

**OK:**

**DTC B1810, B1811, B1812 or B1813 is not output.**

**HINT:**

Codes other than code B1810, B1811, B1812 and B1813 may be output at this time, but they are not related to this check.

**NG**

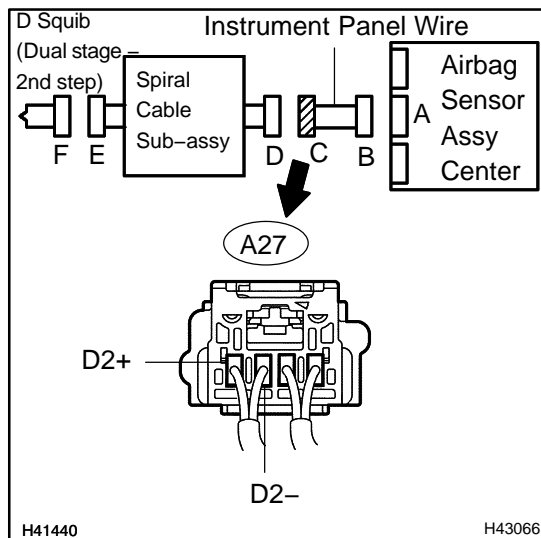
**REPLACE HORN BUTTON ASSY  
(SEE PAGE 60-25)**

**OK**

## USE SIMULATION METHOD TO CHECK (SEE PAGE 05-1456)

**HINT:**

- Perform the simulation method by selecting the check mode with the hand-held tester (see page 05-1452).
- After selecting the check mode, perform the simulation method by wiggling each connector of the air-bag system or driving the vehicle on a city or rough road (see page 05-1452).

**13 CHECK INSTRUMENT PANEL WIRE (SHORT)**

- (a) Disconnect the instrument panel wire connector from the spiral cable sub-assy.

**HINT:**

The activation prevention mechanism of connector "B" has already been released.

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

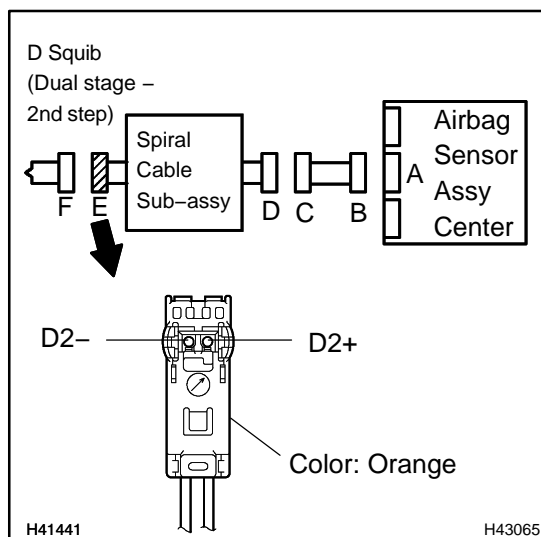
**Standard:**

Tester connection	Condition	Specified condition
A27-4 (D2+) - A27-3 (D2-)	Always	1 MΩ or Higher

**NG**

**REPAIR OR REPLACE INSTRUMENT PANEL WIRE**

**OK**

**14 CHECK SPIRAL CABLE SUB-ASSY (SHORT)**

- (a) Release the activation prevention mechanism built into connector "D" (see page 05-1456).

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

**Standard:**

Tester connection	Condition	Specified condition
D2+ - D2-	Always	1 MΩ or Higher

**NG**

**REPLACE SPIRAL CABLE SUB-ASSY (SEE PAGE 60-34)**

**OK**

**USE SIMULATION METHOD TO CHECK (SEE PAGE 05-1456)**

**HINT:**

- Perform the simulation method by selecting the check mode with the hand-held tester (see page 05-1452).
- After selecting the check mode, perform the simulation method by wiggling each connector of the airbag system or driving the vehicle on a city or rough road (see page 05-1452).

D Squib  
(Dual stage -  
2nd step)

Spiral  
Cable  
Sub-assy

F E D C B

Airbag  
Sensor  
Assy  
Center

A

A27

D2+

D2-

H41440

H43066

- Standard:**

Tester connection	Condition	Specified condition
A27-4 (D2+) – A27-3 (D2-)	Always	Below 1 $\Omega$

## REPAIR OR REPLACE INSTRUMENT PANEL WIRE

**OK**

D Squib  
(Dual stage –  
2nd step)

Spiral  
Cable  
Sub-assy

F E D C B

Airbag  
Sensor  
Assy  
Center

D2- D2+

Color: Orange

H41441 H43065

- Standard:**

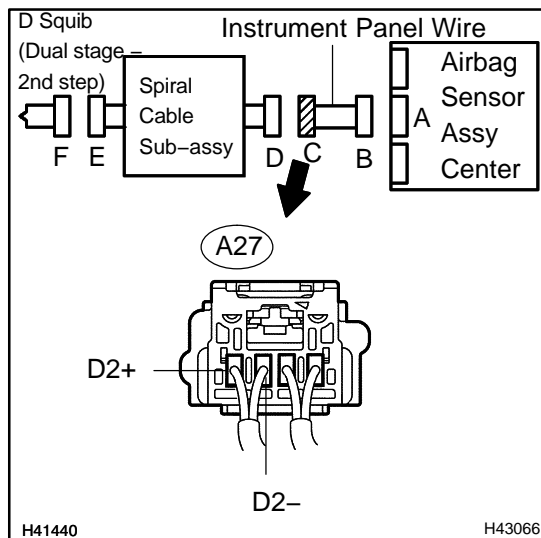
Tester connection	Condition	Specified condition
D2+ – D2–	Always	Below 1 $\Omega$

**REPLACE SPIRAL CABLE SUB-ASSY  
(SEE PAGE 60-34)**

**OK**

HINT:

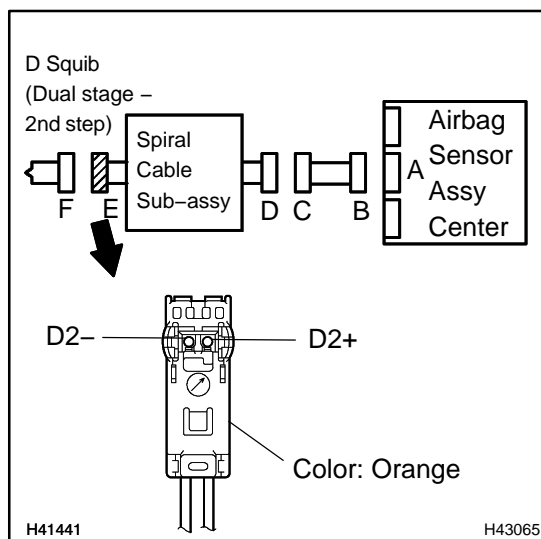
- Perform the simulation method by selecting the check mode with the hand-held tester (see page [05-1452](#)).
- After selecting the check mode, perform the simulation method by wiggling each connector of the air-bag system or driving the vehicle on a city or rough road (see page [05-1452](#)).

**17 CHECK INSTRUMENT PANEL WIRE (TO GROUND)**

- (a) Disconnect the instrument panel wire connector from the spiral cable sub-assy.
- (b) Measure the resistance according to the value(s) in the table below.

**Standard:**

Tester connection	Condition	Specified condition
A27-4 (D2+) - Body ground	Always	1 MΩ or Higher
A27-3 (D2-) - Body ground	Always	1 MΩ or Higher

**NG****REPAIR OR REPLACE INSTRUMENT PANEL WIRE****OK****18 CHECK SPIRAL CABLE SUB-ASSY (TO GROUND)**

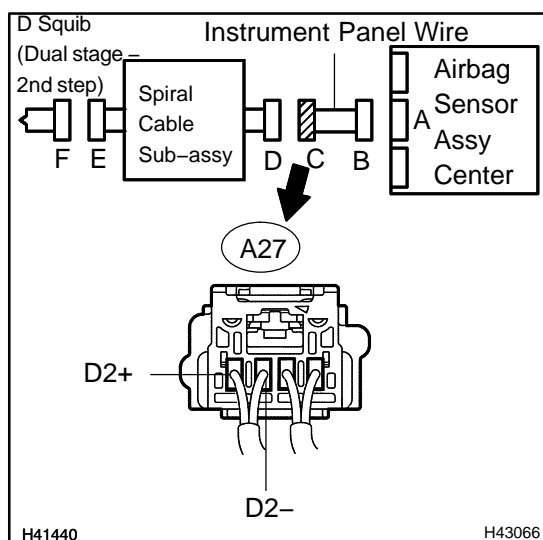
- (a) Measure the resistance according to the value(s) in the table below.

**Standard:**

Tester connection	Condition	Specified condition
D2+ - Body ground	Always	1 MΩ or Higher
D2- - Body ground	Always	1 MΩ or Higher

**NG****REPLACE SPIRAL CABLE SUB-ASSY (SEE PAGE 60-34)****OK****USE SIMULATION METHOD TO CHECK (SEE PAGE 05-1456)****HINT:**

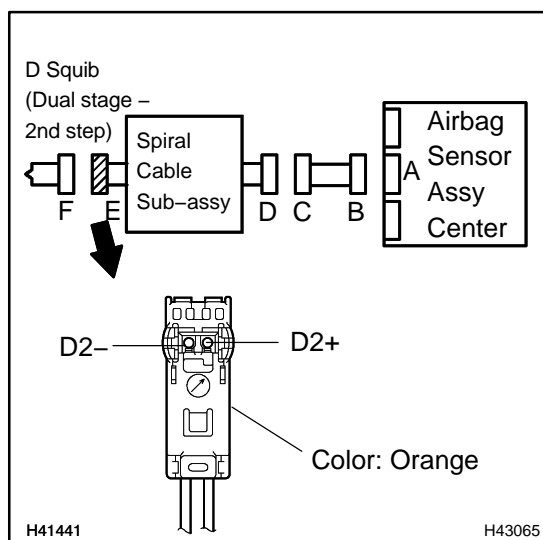
- Perform the simulation method by selecting the check mode with the hand-held tester (see page 05-1452).
- After selecting the check mode, perform the simulation method by wiggling each connector of the air-bag system or driving the vehicle on a city or rough road (see page 05-1452).

**19 CHECK INSTRUMENT PANEL WIRE (TO B+)**

- Turn the ignition switch to the LOCK position.
- Disconnect the negative (–) terminal cable from the battery, and wait for at least 90 seconds.
- Disconnect the instrument panel wire connector from the spiral cable sub-assy.
- Connect the negative (–) terminal cable to the battery, and wait for at least 2 seconds.
- Turn the ignition switch to the ON position.
- Measure the voltage according to the value(s) in the table below.

**Standard:**

Tester connection	Condition	Specified condition
A27–4 (D2+) – Body ground	Ignition switch ON	Below 1 V
A27–3 (D2–) – Body ground	Ignition switch ON	Below 1 V

**NG****REPAIR OR REPLACE INSTRUMENT PANEL WIRE****OK****20 CHECK SPIRAL CABLE SUB-ASSY (TO B+)**

- Measure the voltage according to the value(s) in the table below when the ignition switch is in the ON position.

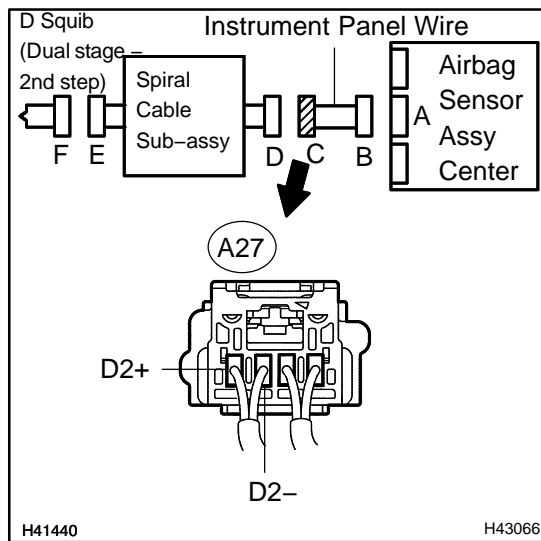
**Standard:**

Tester connection	Condition	Specified condition
D2+ – Body ground	Ignition switch ON	Below 1 V
D2– – Body ground	Ignition switch ON	Below 1 V

**NG****REPLACE SPIRAL CABLE SUB-ASSY (SEE PAGE 60-34)****OK****USE SIMULATION METHOD TO CHECK (SEE PAGE 05-1456)****HINT:**

- Perform the simulation method by selecting the check mode with the hand-held tester (see page 05-1452).
- After selecting the check mode, perform the simulation method by wiggling each connector of the air-bag system or driving the vehicle on a city or rough road (see page 05-1452).

## 21 CHECK INSTRUMENT PANEL WIRE



- Restore the released activation prevention mechanism of connector "B" to the original condition.
- Disconnect the instrument panel wire connector from the spiral cable sub-assy.
- Connect the negative (–) terminal cable to the battery, and wait for at least 2 seconds.
- Turn the ignition switch to the ON position.
- Measure the voltage according to the value(s) in the table below.

### Standard:

Tester connection	Condition	Specified condition
A27-4 (D2+) – Body ground	Ignition switch ON	Below 1 V
A27-3 (D2-) – Body ground	Ignition switch ON	Below 1 V

- Turn the ignition switch to the LOCK position.
- Disconnect the negative (–) terminal cable from the battery, and wait for at least 90 seconds.
- Measure the resistance according to the value(s) in the table below.

### Standard:

Tester connection	Condition	Specified condition
A27-4 (D2+) – A27-3 (D2-)	Always	Below 1 Ω
A27-4 (D2+) – Body ground	Always	1 MΩ or Higher
A27-3 (D2-) – Body ground	Always	1 MΩ or Higher

- Release the activation prevention mechanism built into connector "B" (see page 05-1456).
- Measure the resistance according to the value(s) in the table below.

### Standard:

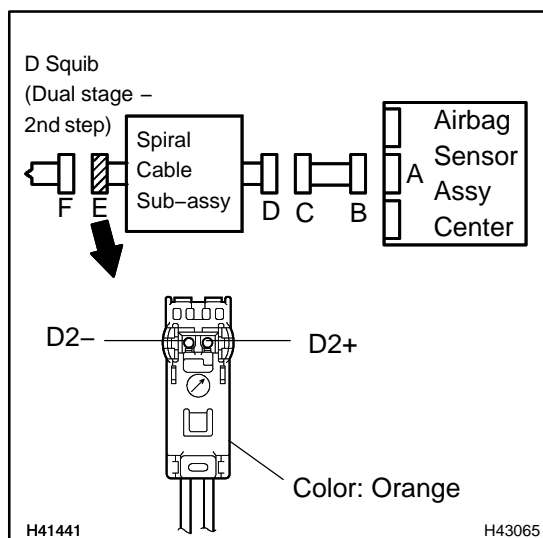
Tester connection	Condition	Specified condition
A27-4 (D2+) – A27-3 (D2-)	Always	1 MΩ or Higher

NG

**REPAIR OR REPLACE INSTRUMENT PANEL WIRE**

OK



**22 CHECK SPIRAL CABLE SUB-ASSY**

- (a) Connect the negative (–) terminal cable from the battery, and wait for at least 2 seconds.
- (b) Turn the ignition switch to the ON position.
- (c) Measure the voltage according to the value(s) in the table below.

**Standard:**

Tester connection	Condition	Specified condition
D2+ – Body ground	Ignition switch ON	Below 1 V
D2– – Body ground	Ignition switch ON	Below 1 V

- (d) Turn the ignition switch to the LOCK position.
- (e) Disconnect the negative (–) terminal cable from the battery, and wait for at least 90 seconds.
- (f) Measure the resistance according to the value(s) in the table below.

**Standard:**

Tester connection	Condition	Specified condition
D2+ – D2–	Always	Below 1 Ω
D2+ – Body ground	Always	1 MΩ or Higher
D2– – Body ground	Always	1 MΩ or Higher

- (g) Release the activation prevention mechanism built into connector "D" (see page 05-1456).
- (h) Measure the resistance according to the value(s) in the table below.

**Standard:**

Tester connection	Condition	Specified condition
D2+ – D2–	Always	1 MΩ or Higher

**NG****REPLACE SPIRAL CABLE SUB-ASSY  
(SEE PAGE 60-34)****OK****USE SIMULATION METHOD TO CHECK (SEE PAGE 05-1456)****HINT:**

- Perform the simulation method by selecting the check mode with the hand-held tester (see page 05-1452).
- After selecting the check mode, perform the simulation method by wiggling each connector of the air-bag system or driving the vehicle on a city or rough road (see page 05-1452).