DTC	B1815/54	SHORT IN P SQUIB (DUAL STAGE – 2ND STEP) CIRCUIT

DTC	B1816/54	OPEN IN P SQUIB (DUAL STAGE – 2ND STEP) CIRCUIT

DTC	B1817/54	SHORT IN P SQUIB (DUAL STAGE – 2ND STEP) CIRCUIT (TO GROUND)

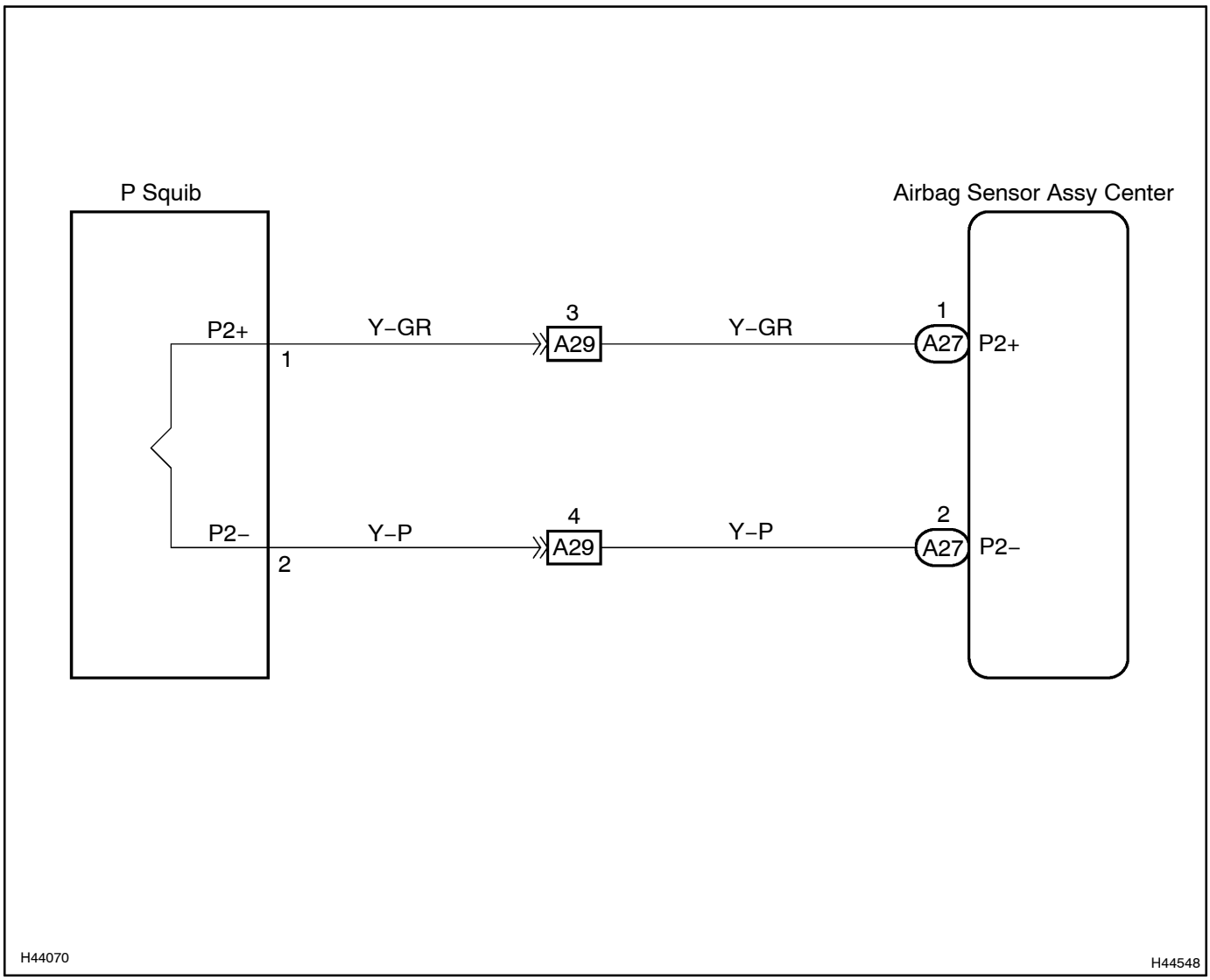
DTC	B1818/54	SHORT IN P SQUIB (DUAL STAGE – 2ND STEP) CIRCUIT (TO B+)

CIRCUIT DESCRIPTION

The P squib (Dual stage – 2nd step) circuit consists of the airbag sensor assy center and the front passenger airbag assy.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are recorded when a malfunction is detected in the P squib (Dual stage – 2nd step) circuit.

DTC No.	DTC Detecting Condition	Trouble Area
B1815/54	• The airbag sensor assy center receives a line short circuit signal 5 times in the P squib (Dual stage – 2nd step) circuit during primary check. • P squib (Dual stage – 2nd step) malfunction • Airbag sensor assy center malfunction	• Front passenger airbag assy (P squib, Dual stage – 2nd step) • Airbag sensor assy center • Instrument panel wire • Instrument panel wire No.2
B1816/54	• The airbag sensor assy center receives an open circuit signal in the P squib (Dual stage – 2nd step) circuit for 2 seconds. • P squib (Dual stage – 2nd step) malfunction • Airbag sensor assy center malfunction	• Front passenger airbag assy (P squib, Dual stage – 2nd step) • Airbag sensor assy center • Instrument panel wire • Instrument panel wire No.2
B1817/54	• The airbag sensor assy center receives a short circuit to ground signal in the P squib (Dual stage – 2nd step) circuit for 0.5 second. • P squib (Dual stage – 2nd step) malfunction • Airbag sensor assy center malfunction	• Front passenger airbag assy (P squib, Dual stage – 2nd step) • Airbag sensor assy center • Instrument panel wire • Instrument panel wire No.2
B1818/54	• The airbag sensor assy center receives a short circuit to B+ signal in the P squib (Dual stage – 2nd step) circuit for 0.5 second. • P squib (Dual stage – 2nd step) malfunction • Airbag sensor assy center malfunction	• Front passenger airbag assy (P squib, Dual stage – 2nd step) • Airbag sensor assy center • Instrument panel wire • Instrument panel wire No.2

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) Disconnect the connector from the front seat airbag assy LH.
(g) 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 intelligent tester II (read the 5–digit of DTC):
Using the intelligent tester II, check the DTCs (see page 05–16).
Result:

DTC B1815 is output.	A
DTC B1816 is output.	B
DTC B1817 is output.	C
DTC B1818 is output.	D

(2) If not using the intelligent tester II (read the 2–digit of DTC):
Check the DTCs (see page 05–16).
Result:

DTC 54 is output.	E

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 instrument panel wire No.2 connectors (on the front passenger airbag assy side) are not damaged.

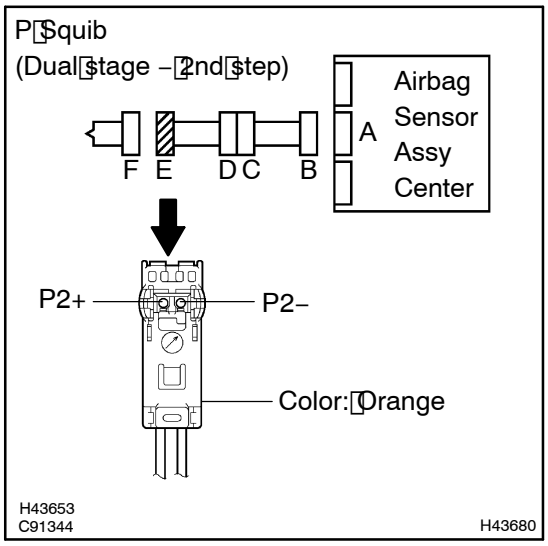
OK:

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

NG → **REPAIR OR REPLACE INSTRUMENT PANEL WIRE NO.2**

OK

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



(a) Release the activation prevention mechanism built into connector "B" (see page 05–10).

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

Standard:

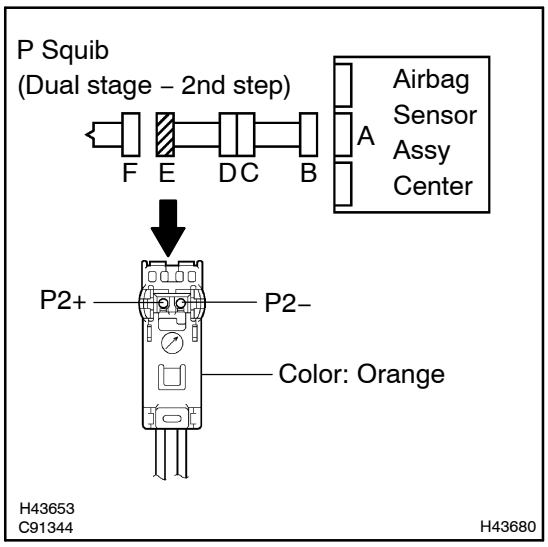
Tester connection	Condition	Specified condition
P2+ – P2–	Always	1 MΩ or Higher

NG → **Go to step 13**

OK

GO TO STEP 10

4 CHECK P SQUIB (DUAL STAGE – 2ND STEP) CIRCUIT (OPEN)



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

Standard:

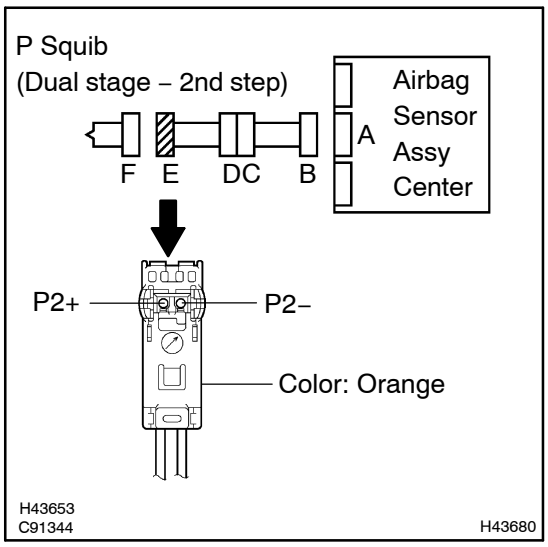
Tester connection	Condition	Specified condition
P2+ – P2–	Always	Below 1 Ω

NG → **Go to step 15**

OK

GO TO STEP 11

5 CHECK P SQUIB (DUAL STAGE – 2ND STEP) CIRCUIT (TO GROUND)



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

Standard:

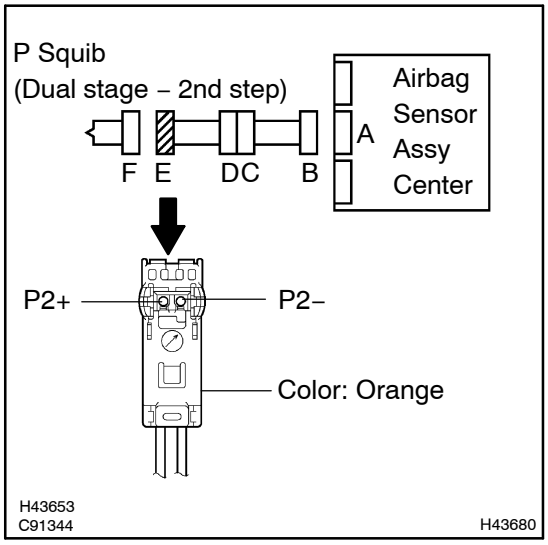
Tester connection	Condition	Specified condition
P2+ – Body ground	Always	1 MΩ or Higher
P2– – Body ground	Always	1 MΩ or Higher

NG → **Go to step 17**

OK

GO TO STEP 11

6	CHECK P 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
P2+ – Body ground	Ignition switch ON	Below 1 V
P2– – Body ground	Ignition switch ON	Below 1 V

NG → **Go to step 19**

OK

GO TO STEP 11

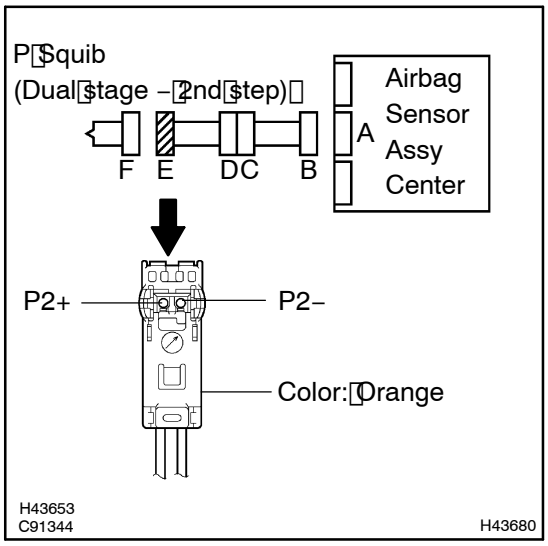
7	CHECK CONNECTOR

(a) Check that the instrument panel wire No.2 connectors (on the front passenger airbag assy side) are not damaged.
OK:
The lock button is not disengaged, or the claw of the lock is not damaged or deformed.

NG	REPAIR OR REPLACE INSTRUMENT PANEL WIRE NO.2

OK

8	CHECK P 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
P2+ – Body ground	Ignition switch ON	Below 1 V
P2– – 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
P2+ – P2–	Always	Below 1 Ω
P2+ – Body ground	Always	1 MΩ or Higher
P2– – Body ground	Always	1 MΩ or Higher

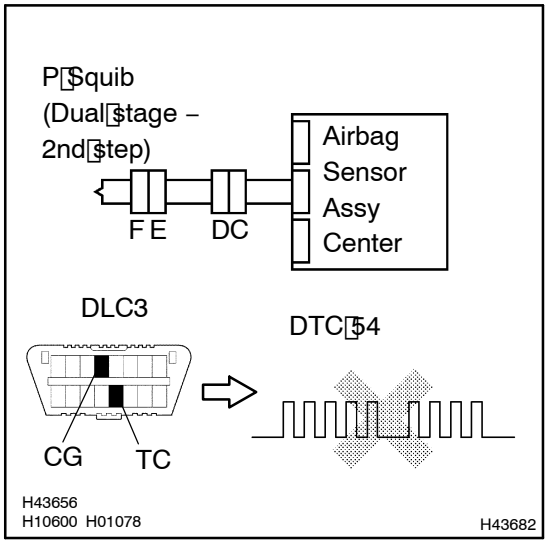
(g) Release the activation prevention mechanism built into connector "B" (see page 05–10).
(h) Measure the resistance according to the value(s) in the table below.
Standard:

Tester connection	Condition	Specified condition
P2+ – P2–	Always	1 MΩ or Higher

NG	Go to step 21

OK

9	REPLACE FRONT PASSENGER AIRBAG ASSY (P SQUIB, DUAL STAGE – 2ND STEP)



(a) Replace the front passenger airbag assy (see page 60–31).

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 05–16).

(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 05–16).

OK:

DTC 54 is not output.

HINT:

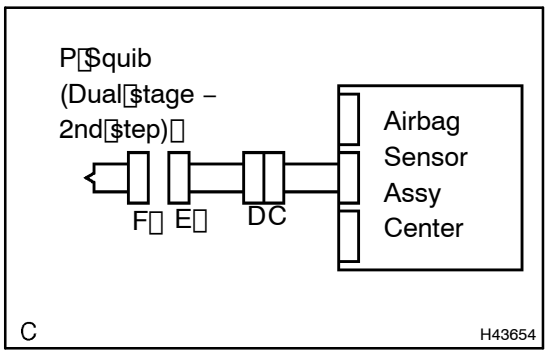
Codes other than code 54 may be output at this time, but they are not related to this check.

NG → **REPLACE AIR BAG SENSOR ASSY CENTER (SEE PAGE 60–40)**

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 05–15).
(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 05–15).

OK:

DTC B1815 is not output.

HINT:

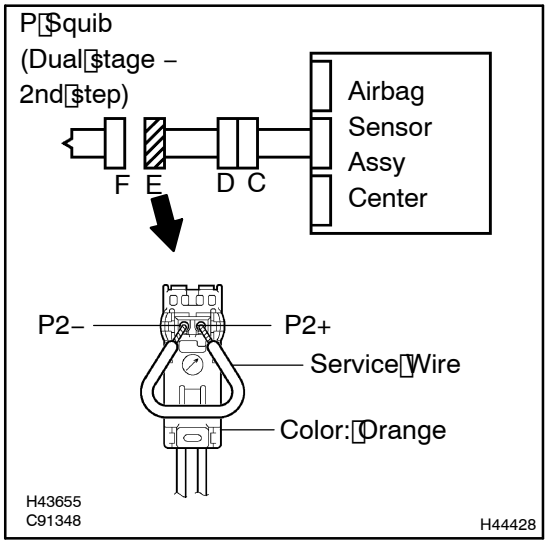
Codes other than code B1815 may be output at this time, but they are not related to this check.

NG	REPLACE AIR BAG SENSOR ASSY CENTER (SEE PAGE 60–40)

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 P+ and P– 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 05–15).

(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 05–15).

OK:

DTC B1816, B1817 or B1818 is not output.

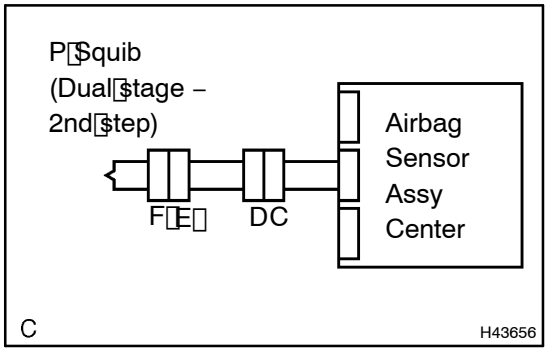
HINT:

Codes other than code B1816, B1817 and B1818 may be output at this time, but they are not related to this check.

NG → **REPLACE AIR BAG SENSOR ASSY CENTER (SEE PAGE 60–40)**

OK

12	CHECK FRONT PASSENGER AIRBAG ASSY (P 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 front passenger airbag 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 05–16).
(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 05–16).
OK:
DTC B1815, B1816, B1817 or B1818 is not output.

HINT:
Codes other than code B1815, B1816, B1817 and B1818 may be output at this time, but they are not related to this check.

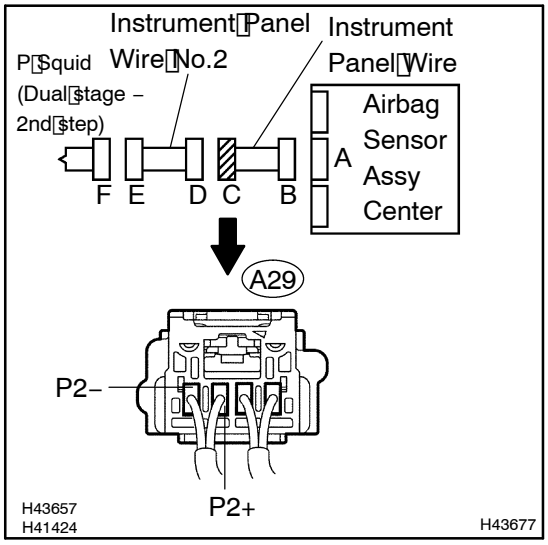
NG → **REPLACE FRONT PASSENGER AIRBAG ASSY (SEE PAGE 60–31)**

OK

USE SIMULATION METHOD TO CHECK (SEE PAGE 05–10)

HINT:
- Perform the simulation method by selecting the check mode with the intelligent tester II (see page 05–19).
- 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 05–19).

13 CHECK INSTRUMENT PANEL WIRE (SHORT)



(a) Disconnect the instrument panel wire connector from the instrument panel wire No.2.

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.

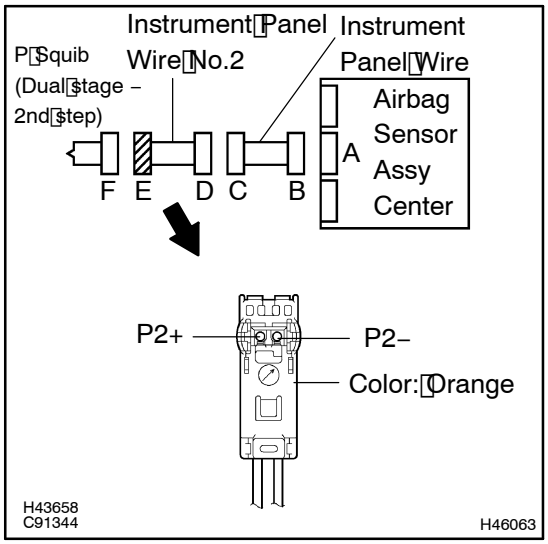
Standard:

Tester connection	Condition	Specified condition
A29–3 (P2+) – A29–4 (P2–)	Always	1 MΩ or Higher

NG → **REPAIR OR REPLACE INSTRUMENT PANEL WIRE**

OK

14 CHECK INSTRUMENT PANEL WIRE NO.2 (SHORT)



(a) Release the activation prevention mechanism built into connector "D" (see page 05–10).

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

Standard:

Tester connection	Condition	Specified condition
P2+ – P2–	Always	1 MΩ or Higher

NG → **REPAIR OR REPLACE INSTRUMENT PANEL WIRE NO.2**

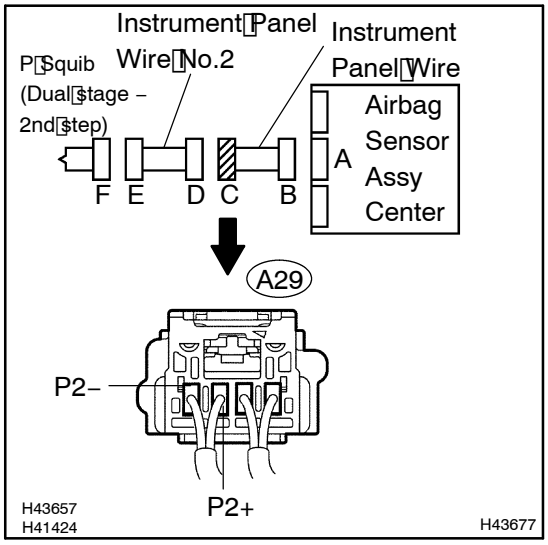
OK

USE SIMULATION METHOD TO CHECK (SEE PAGE 05–10)

HINT:

- Perform the simulation method by selecting the check mode with the intelligent tester II (see page 05–19).
- 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 05–19).

15 CHECK INSTRUMENT PANEL WIRE (OPEN)



(a) Disconnect the instrument panel wire connector from the instrument panel wire No.2.

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

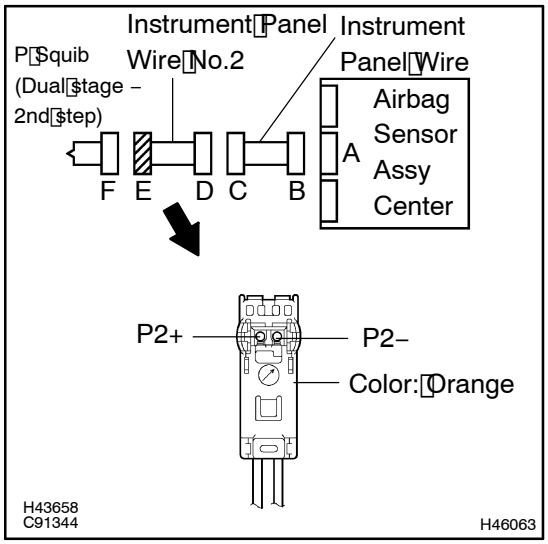
Standard:

Tester connection	Condition	Specified condition
A29–3 (P2+) – A29–4 (P2–)	Always	Below 1 Ω

NG → **REPAIR OR REPLACE INSTRUMENT PANEL WIRE**

OK

16 CHECK INSTRUMENT PANEL WIRE NO.2 (OPEN)



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

Standard:

Tester connection	Condition	Specified condition
P2+ – P2–	Always	Below 1 Ω

NG → **REPAIR OR REPLACE INSTRUMENT PANEL WIRE NO.2**

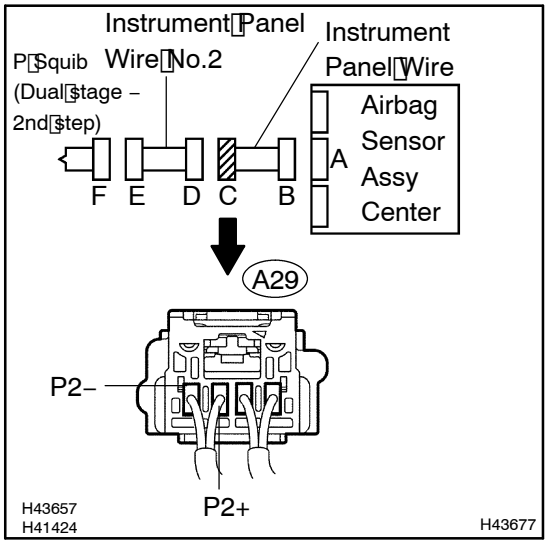
OK

USE SIMULATION METHOD TO CHECK (SEE PAGE 05–10)

HINT:

- Perform the simulation method by selecting the check mode with the intelligent tester II (see page 05–19).
- 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 05–19).

17 CHECK INSTRUMENT PANEL WIRE (TO GROUND)



(a) Disconnect the instrument panel wire connector from the instrument panel wire No.2.

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

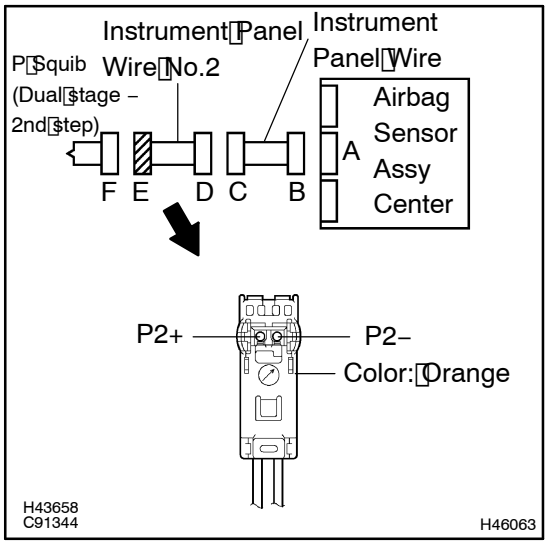
Standard:

Tester connection	Condition	Specified condition
A29–3 (P2+) – Body ground	Always	1 MΩ or Higher
A29–4 (P2–) – Body ground	Always	1 MΩ or Higher

NG → **REPAIR OR REPLACE INSTRUMENT PANEL WIRE**

OK

18 CHECK INSTRUMENT PANEL WIRE NO.2 (TO GROUND)



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

Standard:

Tester connection	Condition	Specified condition
P2+ – Body ground	Always	1 MΩ or Higher
P2– – Body ground	Always	1 MΩ or Higher

NG → **REPAIR OR REPLACE INSTRUMENT PANEL WIRE NO.2**

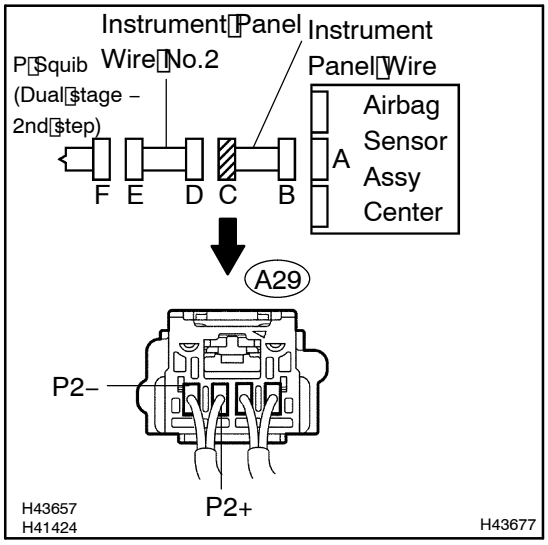
OK

USE SIMULATION METHOD TO CHECK (SEE PAGE 05–10)

HINT:

- Perform the simulation method by selecting the check mode with the intelligent tester II (see page 05–19).
- 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 05–19).

19 CHECK INSTRUMENT PANEL WIRE (TO B+)



(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 instrument panel wire connector from the instrument panel wire No.2.
(d) Connect the negative (–) terminal cable to the battery, and wait for at least 2 seconds.
(e) Turn the ignition switch to the ON position.
(f) Measure the voltage according to the value(s) in the table below.

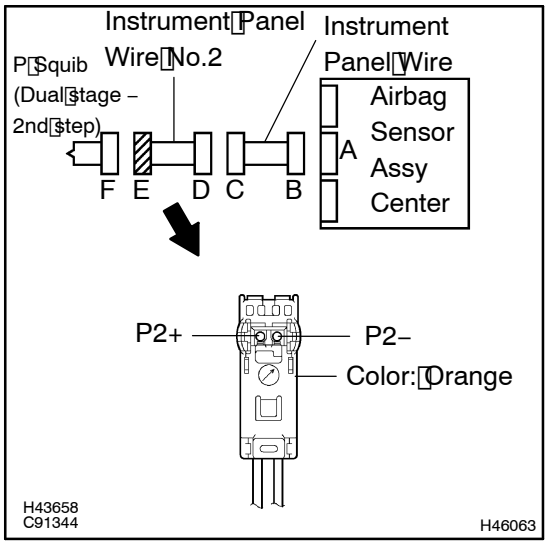
Standard:

Tester connection	Condition	Specified condition
A29–3 (P2+) – Body ground	Ignition switch ON	Below 1 V
A29–4 (P2–) – Body ground	Ignition switch ON	Below 1 V

NG → **REPAIR OR REPLACE INSTRUMENT PANEL WIRE**

OK

20 CHECK INSTRUMENT PANEL WIRE NO.2 (TO B+)



(a) 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
P2+ – Body ground	Ignition switch ON	Below 1 V
P2– – Body ground	Ignition switch ON	Below 1 V

NG → **REPAIR OR REPLACE INSTRUMENT PANEL WIRE NO.2**

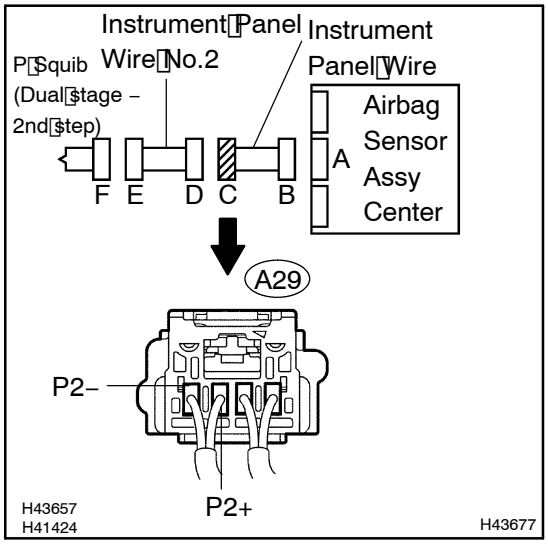
OK

USE SIMULATION METHOD TO CHECK (SEE PAGE 05–10)

HINT:

- Perform the simulation method by selecting the check mode with the intelligent tester II (see page 05–19).
- 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 05–19).

21 CHECK INSTRUMENT PANEL WIRE



(a) Restore the released activation prevention mechanism of connector "B" to the original condition.
(b) Disconnect the instrument panel wire connector from the instrument panel wire No.2.
(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.
(e) Measure the voltage according to the value(s) in the table below.

Standard:

Tester connection	Condition	Specified condition
A29–3 (P2+) – Body ground	Ignition switch ON	Below 1 V
A29–4 (P2–) – Body ground	Ignition switch ON	Below 1 V

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

Standard:

Tester connection	Condition	Specified condition
A29–3 (P2+) – A29–4 (P2–)	Always	Below 1 Ω
A29–3 (P2+) – Body ground	Always	1 MΩ or Higher
A29–4 (P2–) – Body ground	Always	1 MΩ or Higher

(i) Release the activation prevention mechanism built into connector "B" (see page 05–10).
(j) Measure the resistance according to the value(s) in the table below.

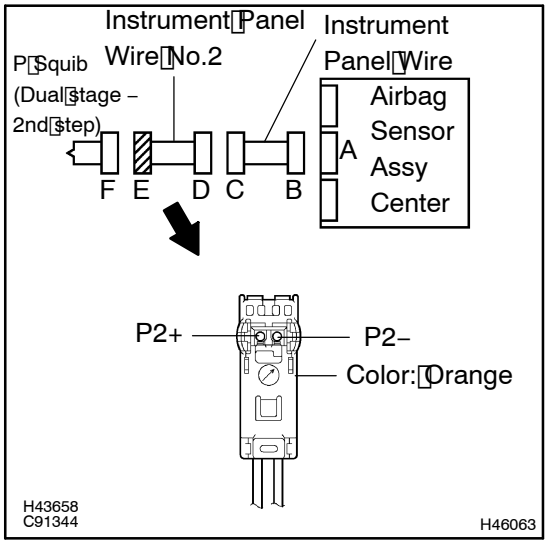
Standard:

Tester connection	Condition	Specified condition
A29–3 (P2+) – A29–4 (P2–)	Always	1 MΩ or Higher

NG → **REPAIR OR REPLACE INSTRUMENT PANEL WIRE**

OK

22 CHECK INSTRUMENT PANEL WIRE NO.2



(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
P2+ – Body ground	Ignition switch ON	Below 1 V
P2– – 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
P2+ – P2–	Always	Below 1 Ω

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

Standard:

Tester connection	Condition	Specified condition
P2+ – Body ground	Always	1 MΩ or Higher
P2– – Body ground	Always	1 MΩ or Higher

(h) Release the activation prevention mechanism built into the connector "D" (see page 05–10).
(i) Measure the resistance according to the value(s) in the table below.

Standard:

Tester connection	Condition	Specified condition
P2+ – P2–	Always	1 MΩ or Higher

NG → **REPAIR OR REPLACE INSTRUMENT PANEL WIRE NO.2**

OK

USE SIMULATION METHOD TO CHECK (SEE PAGE 05–10)

HINT:

- Perform the simulation method by selecting the check mode with the intelligent tester II (see page 05–19).
- 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 05–19).