

Last Modified: 3-27-2012	6.4 C	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000002MQ300VX
Title: POWER DISTRIBUTION: ELECTRIC POWER CONTROL SYSTEM: B1010: BIU System Error (2013 FR-S)		

DTC	B1010	BIU System Error
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DESCRIPTION

B1010 is stored when there is an internal malfunction in the Main body ECU (network gateway ECU).

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B1010	Main body ECU (network gateway ECU) internal error	Main body ECU (network gateway ECU)

INSPECTION PROCEDURE

PROCEDURE

1.	CLEAR DTC
-----------	------------------

(a) Clear the DTCs .

NEXT



2.	CHECK FOR DTC
-----------	----------------------

(a) Check for DTCs .

Result

RESULT	PROCEED TO
DTC B1010 is output	A
DTC is not output	B

B  **USE SIMULATION METHOD TO CHECK**

A  **REPLACE MAIN BODY ECU (NETWORK GATEWAY ECU)**



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Last Modified: 3-27-2012	6.4 C	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000002MQ300WX
Title: POWER DISTRIBUTION: ELECTRIC POWER CONTROL SYSTEM: B1011: Battery Power Supply Control Circuit (2013 FR-S)		

DTC	B1011	Battery Power Supply Control Circuit
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DESCRIPTION

B1011 is stored when a malfunction is detected in the BMPX circuit.

HINT:

In some cases, none of the functions of the main body ECU (network gateway ECU) may function when B1012 is stored together with B1011.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B1011	When BMPX voltage is 8.3 V or less, or 16.7 V or more (BMPX circuit malfunction)	• Main body ECU (network gateway ECU) • Instrument panel junction block assembly • Harness or connector

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:
Inspect the fuses for circuits related to this system before performing the following inspection procedure.

PROCEDURE

1.

CLEAR DTC

(a) Clear the DTCs INFO .

NEXT
▼

2.

CHECK FOR DTC

(a) Check for DTCs INFO .

Result

RESULT	PROCEED TO
DTC B1011 is output	A
DTC is not output	B

B ► USE SIMULATION METHOD TO CHECK

A

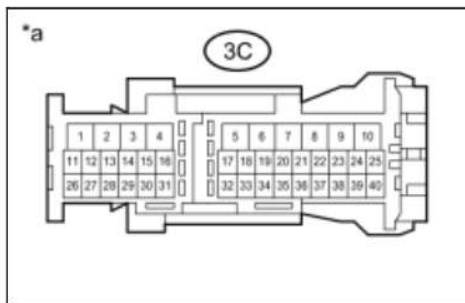


3. CHECK HARNESS AND CONNECTOR (BMPX VOLTAGE)

(a) Disconnect the 3C instrument panel junction block assembly connector.

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

Standard Voltage :



TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
3C-19 - Body ground	Always	11 to 14 V

Text in Illustration

*a	Front view of wire harness connector (to Instrument Panel Junction Block Assembly)
----	---

**REPAIR OR REPLACE HARNESS OR
NG ► CONNECTOR**

OK



4. CHECK HARNESS AND CONNECTOR (ECU GROUND)

(a) Disconnect the D6 and A73 main body ECU (network gateway ECU) connector.

(b) Disconnect the 3B instrument panel junction block assembly connector.

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

Standard Resistance :

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
D6-1 (GND) - Body ground	Always	Below 1 Ω
A73-4 (GND) - Body ground	Always	Below 1 Ω

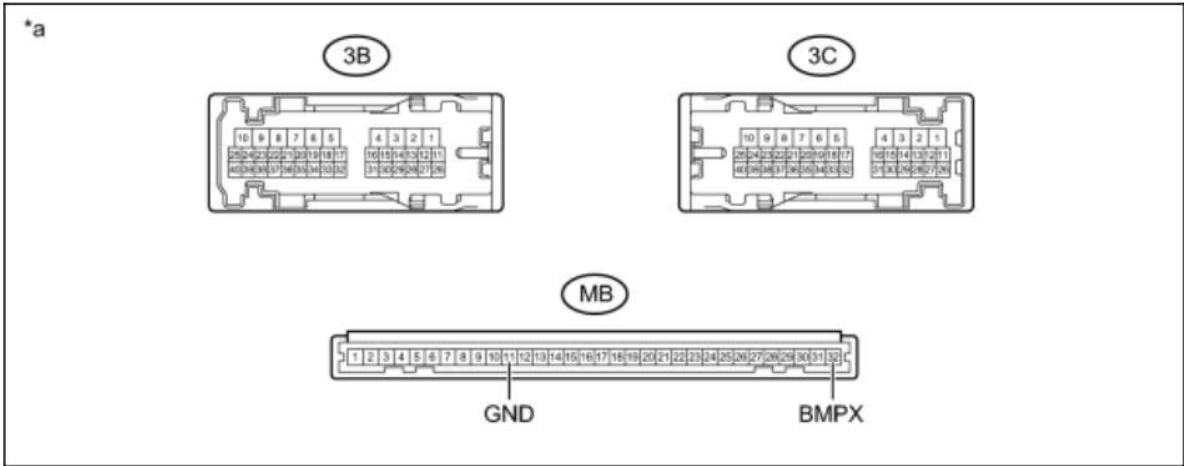
3B-18 - Body ground	Always	Below 1 Ω
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NG ▶ REPAIR OR REPLACE HARNESS OR CONNECTOR

OK
▼

5. INSPECT INSTRUMENT PANEL JUNCTION BLOCK ASSEMBLY

- (a) Remove the instrument panel junction block assembly INFO .
- (b) Remove the main body ECU (network gateway ECU) from the instrument panel junction block assembly.



Text in Illustration

*a	Component without harness connected (Instrument Panel Junction Block Assembly)	-	-
----	---	---	---

- (c) Measure the resistance according to the value(s) in the table below.
- Standard Resistance :

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
3C-19 - MB-32 (BMPX)	Always	Below 1 Ω
3B-18 - MB-11 (GND)	Always	Below 1 Ω

NG ▶ REPLACE INSTRUMENT PANEL JUNCTION BLOCK ASSEMBLY

REPLACE MAIN BODY ECU (NETWORK

OK  GATEWAY ECU)



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Last Modified: 3-27-2012	6.4 C	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000002MQ300XX
Title: POWER DISTRIBUTION: ELECTRIC POWER CONTROL SYSTEM: B1012: Battery Power Supply Back Up Circuit (2013 FR-S)		

DTC	B1012	Battery Power Supply Back Up Circuit
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DESCRIPTION

B1012 is stored when a malfunction is detected in the BECU circuit.

HINT:

In some cases, none of the functions of the main body ECU (network gateway ECU) may function when B1011 is stored together with B1012.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B1012	When BECU voltage is 8.3 V or less, or 16.7 V or more (BECU circuit malfunction)	• Main body ECU (network gateway ECU) • Instrument panel junction block assembly • Harness or connector

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:
Inspect the fuses for circuits related to this system before performing the following inspection procedure.

PROCEDURE

1.

CLEAR DTC

(a) Clear the DTCs INFO .

NEXT
▼

2.

CHECK FOR DTC

(a) Check for DTCs INFO .

Result

RESULT	PROCEED TO
DTC B1012 is output	A
DTC is not output	B

B

USE SIMULATION METHOD TO CHECK

A

3.

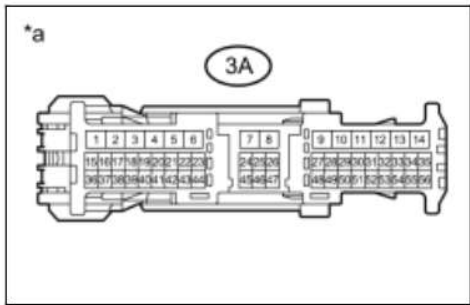
CHECK HARNESS AND CONNECTOR (BECU VOLTAGE)

(a) Disconnect the 3A instrument panel junction block assembly connector.

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

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
3A-27 - Body ground	Always	11 to 14 V



Text in Illustration

*a	Front view of wire harness connector (to Instrument Panel Junction Block Assembly)
----	---

NG

REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

4.

CHECK HARNESS AND CONNECTOR (ECU GROUND) INFO

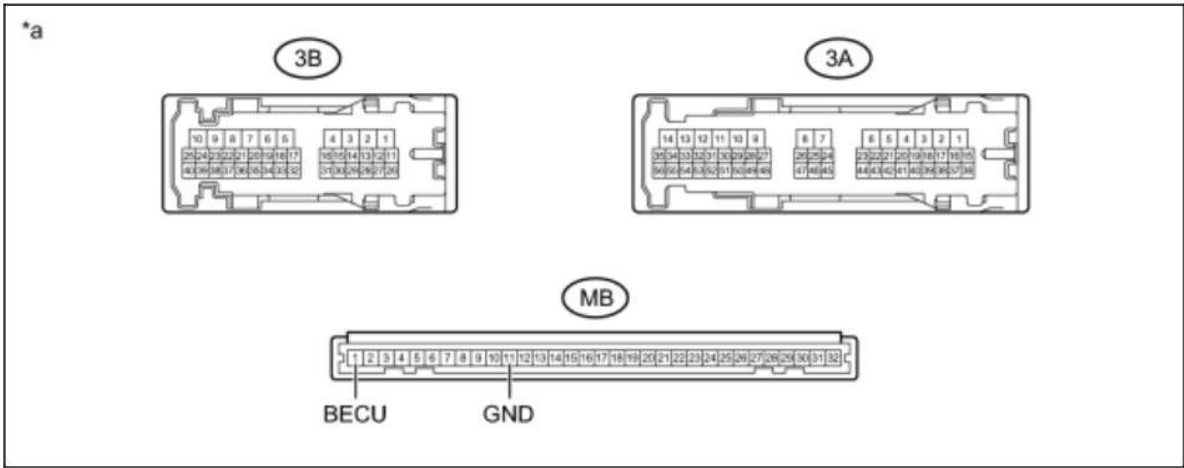
NG

REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

5. INSPECT INSTRUMENT PANEL JUNCTION BLOCK ASSEMBLY

- (a) Remove the instrument panel junction block assembly INFO .
- (b) Remove the main body ECU (network gateway ECU) from the instrument panel junction block assembly.



Text in Illustration

*a	Component without harness connected (Instrument Panel Junction Block Assembly)	-	-
----	---	---	---

- (c) Measure the resistance according to the value(s) in the table below.
- Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
3A-27 - MB-1 (BECU)	Always	Below 1 Ω
3B-18 - MB-11 (GND)	Always	Below 1 Ω

- NG** ▶ REPLACE INSTRUMENT PANEL JUNCTION BLOCK ASSEMBLY
- OK** ▶ REPLACE MAIN BODY ECU (NETWORK GATEWAY ECU)

Last Modified: 3-27-2012	6.4 C	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000002MQ300YX
Title: POWER DISTRIBUTION: ELECTRIC POWER CONTROL SYSTEM: B1013: IG Power Supply Circuit (2013 FR-S)		

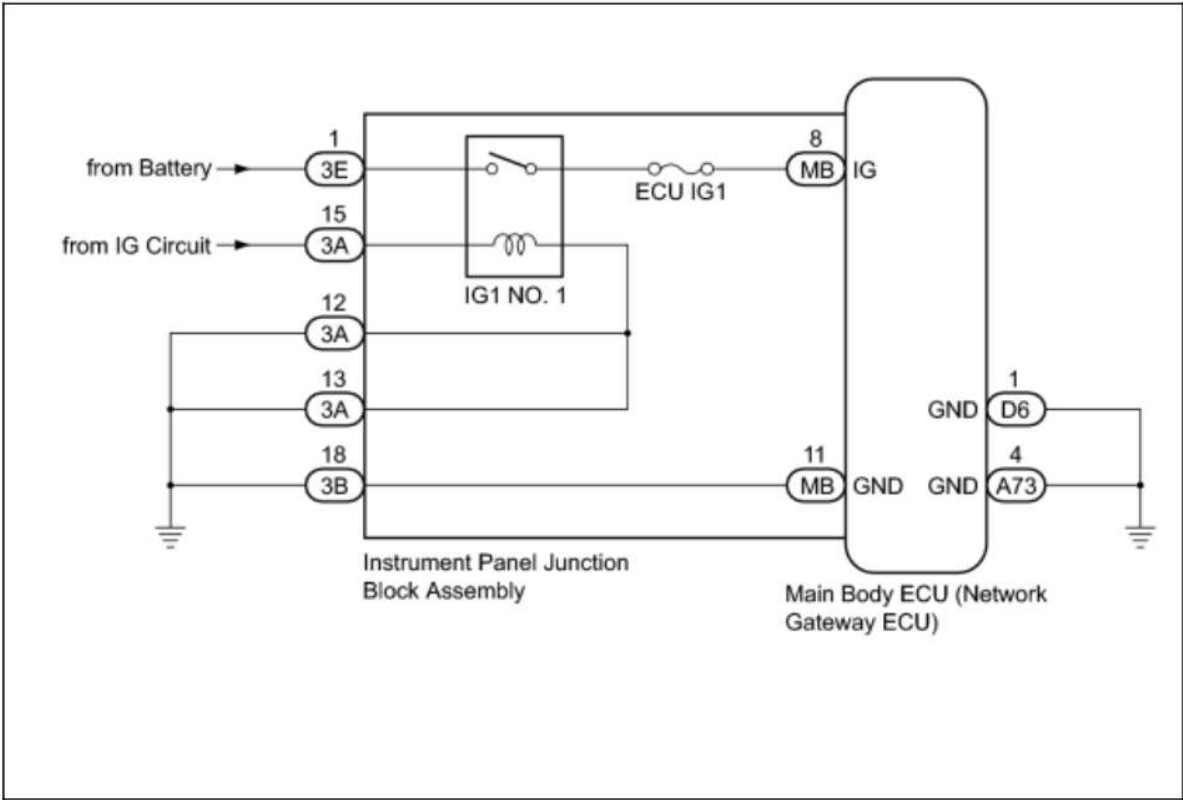
DTC	B1013	IG Power Supply Circuit
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DESCRIPTION

B1013 is stored when a malfunction is detected in the IG circuit.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B1013	When IG voltage is 8.3 V or less, or 16.7 V or more (IG circuit malfunction)	• Main body ECU (network gateway ECU) • Instrument panel junction block assembly • Harness or connector

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

PROCEDURE

1. CLEAR DTC

(a) Clear the DTCs [INFO](#) .

NEXT



2. CHECK FOR DTC

(a) Check for DTCs [INFO](#) .

Result

RESULT	PROCEED TO
DTC B1013 is output	A
DTC is not output	B

B **USE SIMULATION METHOD TO CHECK**

A



3. CHECK HARNESS AND CONNECTOR (VOLTAGE)

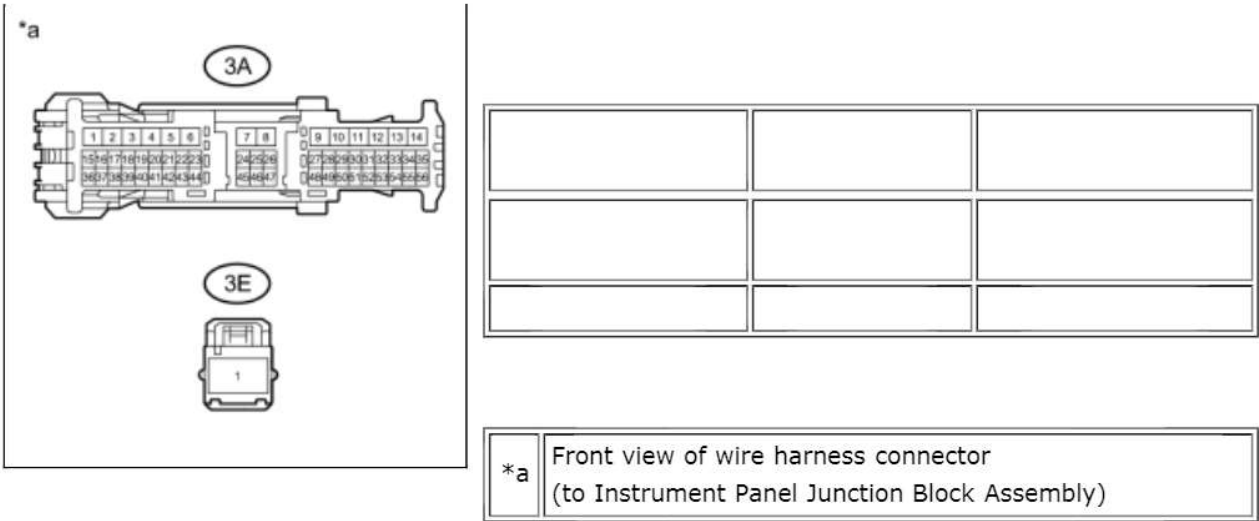
(a) Disconnect the 3A and 3E instrument panel junction block assembly connector.

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

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
3A-15 - Body ground	Ignition switch ON	11 to 14 V
3E-1 - Body ground	Always	11 to 14 V

Text in Illustration



NG

REPAIR OR REPLACE HARNESS OR
CONNECTOR

OK

4. CHECK HARNESS AND CONNECTOR (GROUND)

- (a) Disconnect the D6 and A73 main body ECU (network gateway ECU) connector.
- (b) Disconnect the 3A and 3B instrument panel junction block assembly connector.
- (c) Measure the resistance according to the value(s) in the table below.

Standard Resistance :

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
D6-1 (GND) - Body ground	Always	Below 1 Ω
A73-4 (GND) - Body ground	Always	Below 1 Ω
3A-12 - Body ground	Always	Below 1 Ω
3A-13 - Body ground	Always	Below 1 Ω
3B-18 - Body ground	Always	Below 1 Ω

NG

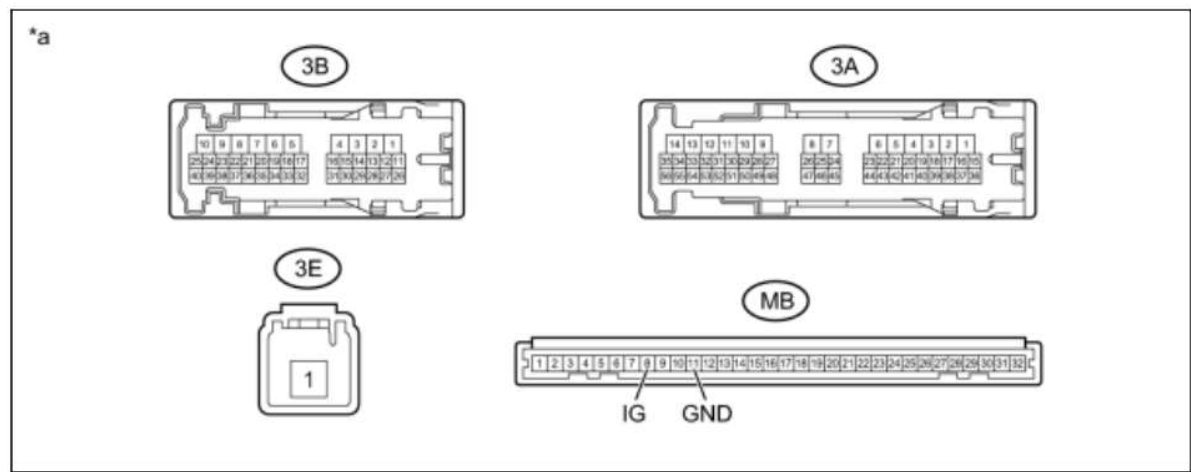
REPAIR OR REPLACE HARNESS OR
CONNECTOR

OK



5. INSPECT INSTRUMENT PANEL JUNCTION BLOCK ASSEMBLY

- (a) Remove the instrument panel junction block assembly INFO.
- (b) Remove the main body ECU (network gateway ECU) from the instrument panel junction block assembly.



Text in Illustration

*a	Component without harness connected (Instrument Panel Junction Block Assembly)	-	-
----	---	---	---

- (c) Measure the resistance according to the value(s) in the table below.
- Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
3E-1 - MB-8 (IG)	No battery voltage is applied across terminals 3A-15 and 3A-12	10 kΩ or higher
3E-1 - MB-8 (IG)	Battery voltage is applied across terminals 3A-15 and 3A-12	Below 1 Ω
3B-18 - MB-11 (GND)	Always	Below 1 Ω

- NG ➤ REPLACE INSTRUMENT PANEL JUNCTION BLOCK ASSEMBLY
- OK ➤ REPLACE MAIN BODY ECU (NETWORK GATEWAY ECU)

Last Modified: 3-27-2012	6.4 C	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000002MQ300ZX
Title: POWER DISTRIBUTION: ELECTRIC POWER CONTROL SYSTEM: B1014: ACC Power Supply Circuit (2013 FR-S)		

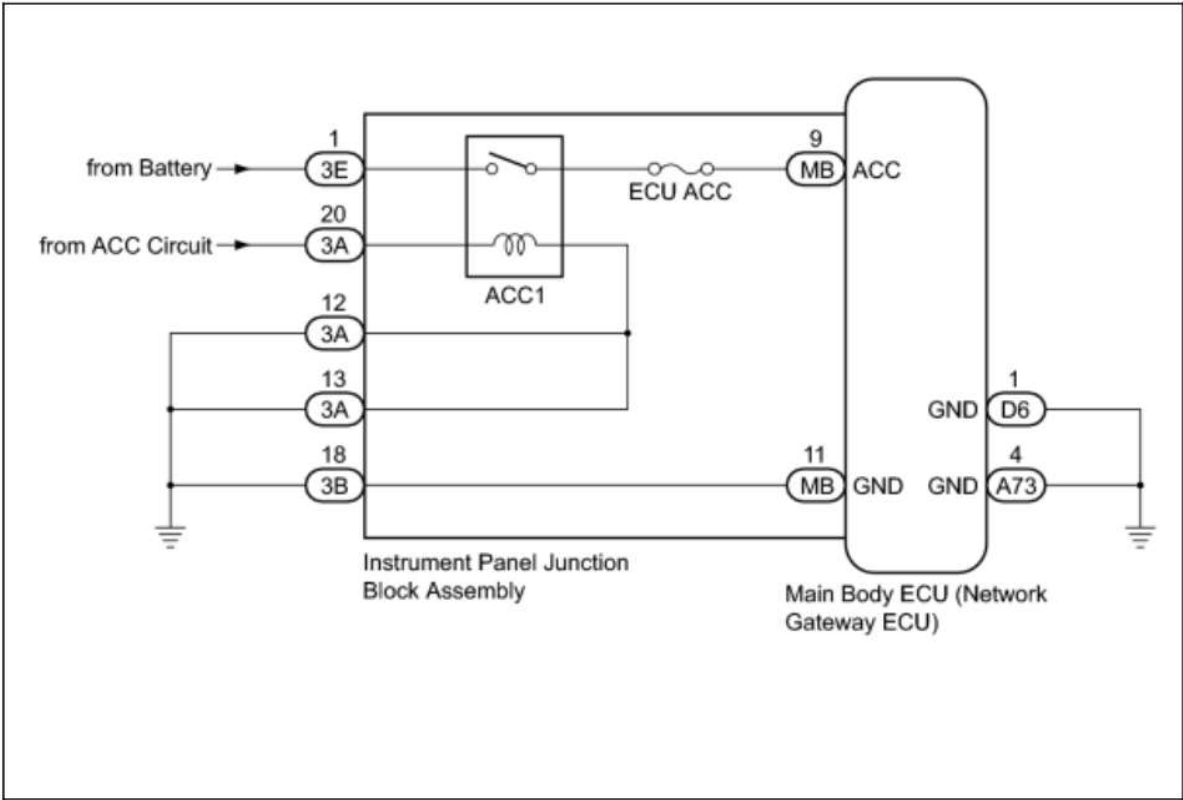
DTC	B1014	ACC Power Supply Circuit
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DESCRIPTION

B1014 is stored when a malfunction is detected in the ACC circuit.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B1014	When ACC voltage is 8.3 V or less, or 16.7 V or more (ACC circuit malfunction)	• Main body ECU (network gateway ECU) • Instrument panel junction block assembly • Harness or connector

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

PROCEDURE

1. CLEAR DTC

(a) Clear the DTCs [INFO](#).

NEXT



2. CHECK FOR DTC

(a) Check for DTCs [INFO](#).

Result

RESULT	PROCEED TO
DTC B1014 is output	A
DTC is not output	B

B **USE SIMULATION METHOD TO CHECK**

A



3. CHECK HARNESS AND CONNECTOR (VOLTAGE)

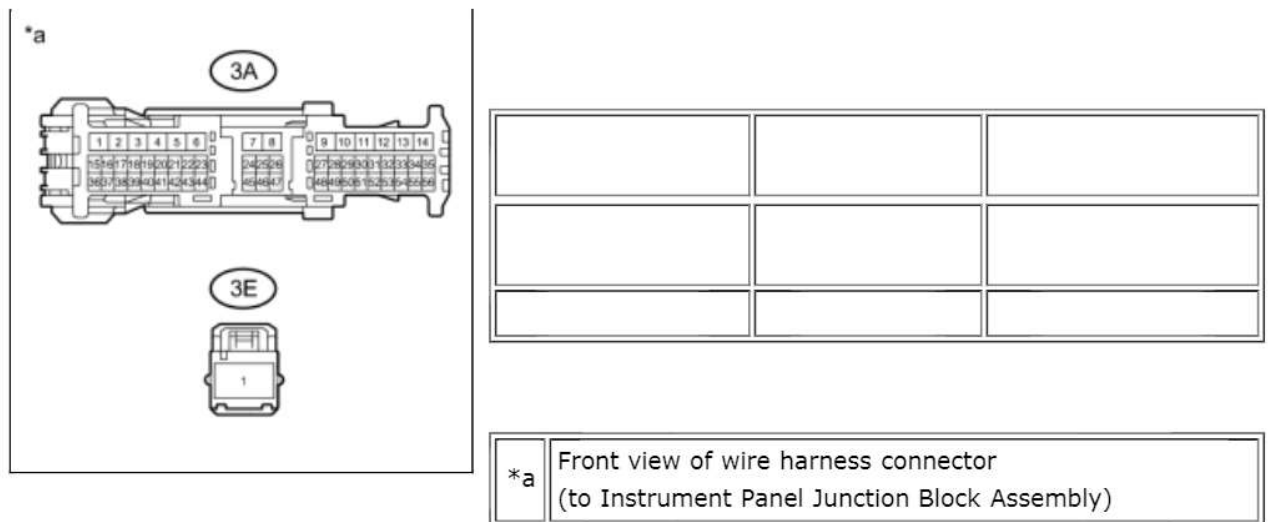
(a) Disconnect the 3A and 3E instrument panel junction block assembly connector.

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

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
3A-20 - Body ground	Ignition switch ACC	11 to 14 V
3E-1 - Body ground	Always	11 to 14 V

Text in Illustration



NG  **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

4. CHECK HARNESS AND CONNECTOR (GROUND)

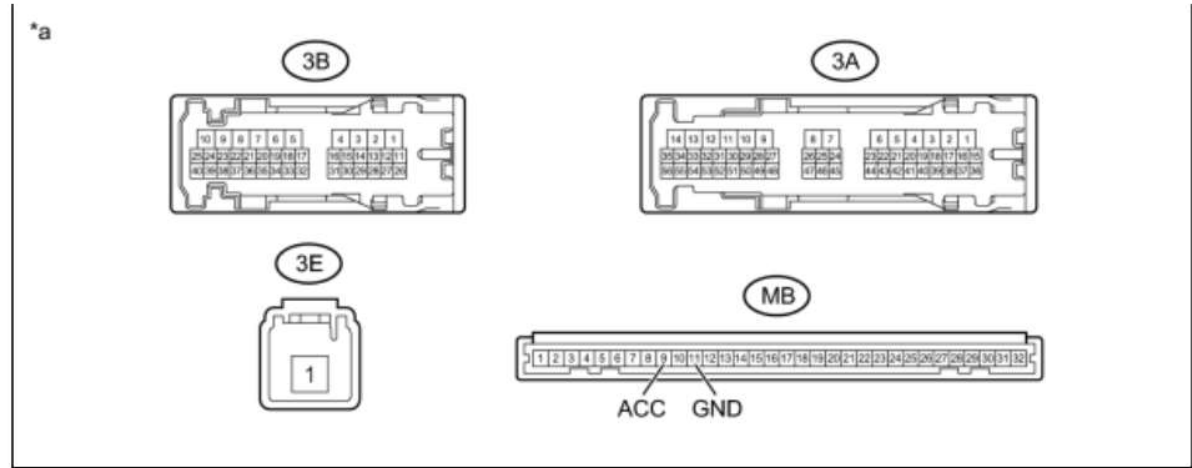
INFO

NG ▶ REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

5. INSPECT INSTRUMENT PANEL JUNCTION BLOCK ASSEMBLY

- Remove the instrument panel junction block assembly .
- Remove the main body ECU (network gateway ECU) from the instrument panel junction block assembly.



Text in Illustration

*a	Component without harness connected (Instrument Panel Junction Block Assembly)	-	-
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(c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
3E-1 - MB-9 (ACC)	No battery voltage is applied across terminals 3A-20 and 3A-12	10 kΩ or higher
3E-1 - MB-9 (ACC)	Battery voltage is applied across terminals 3A-20 and 3A-12	Below 1 Ω
3B-18 - MB-11 (GND)	Always	Below 1 Ω

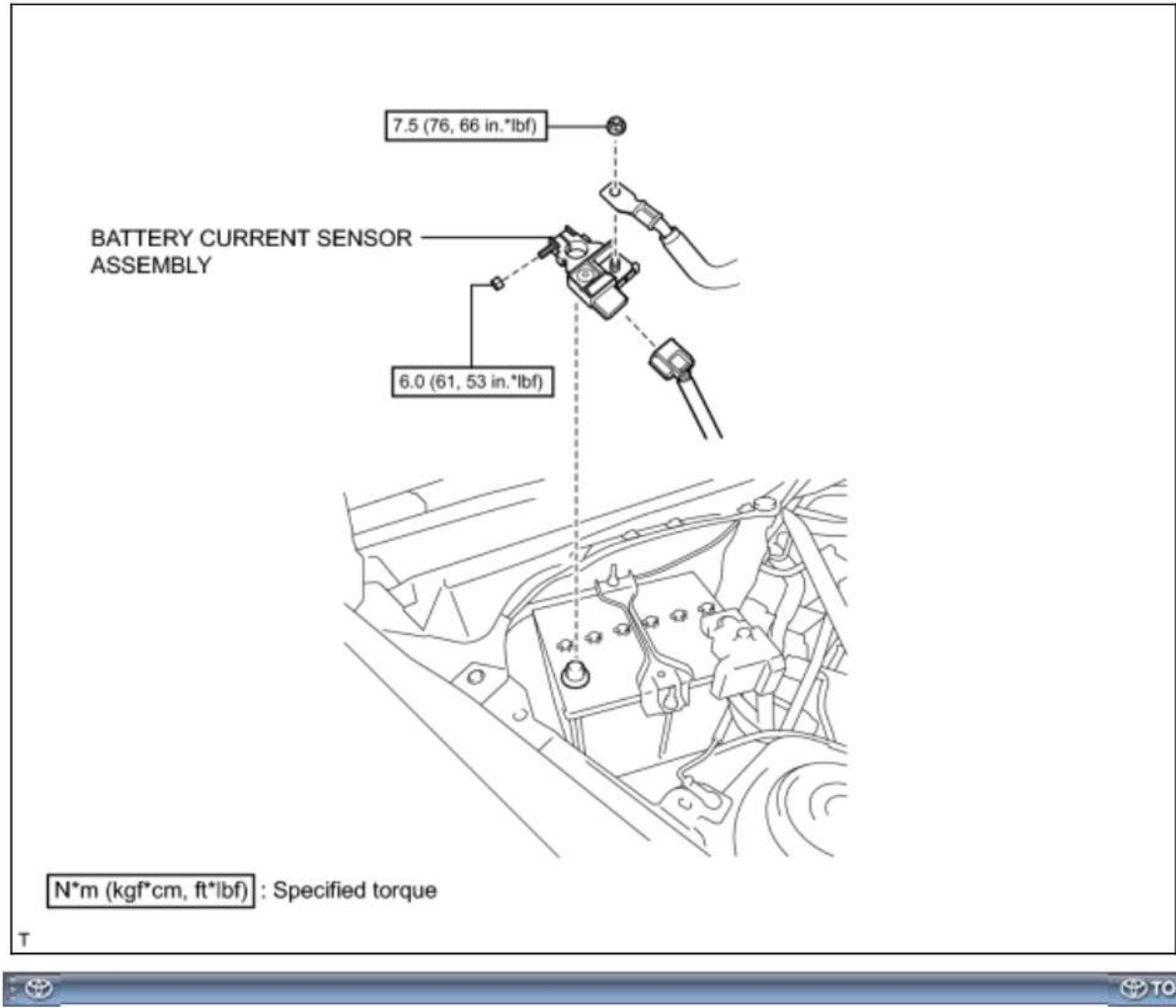
- NG▶ REPLACE INSTRUMENT PANEL JUNCTION BLOCK ASSEMBLY
- OK▶ REPLACE MAIN BODY ECU (NETWORK GATEWAY ECU)



Last Modified: 3-27-2012	6.4 K	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000003QMR00BX
Title: POWER DISTRIBUTION: BATTERY CURRENT SENSOR: COMPONENTS (2013 FR-S)		

COMPONENTS

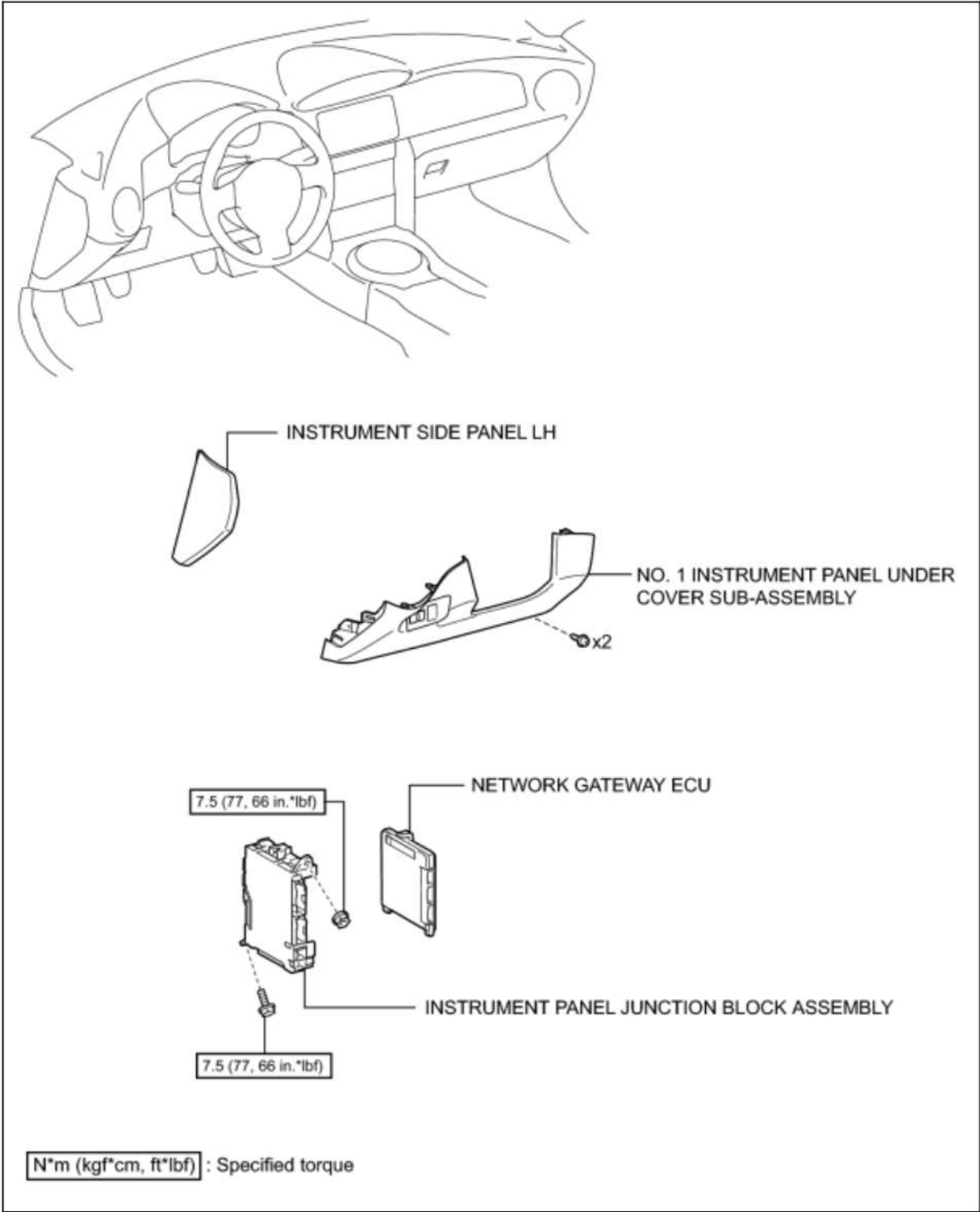
ILLUSTRATION



Last Modified: 3-27-2012	6.4 K	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000003TOD00CX
Title: POWER DISTRIBUTION: MAIN BODY ECU: COMPONENTS (2013 FR-S)		

COMPONENTS

ILLUSTRATION



Last Modified: 3-27-2012	6.4 U	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000000CCZ0BNX
Title: POWER DISTRIBUTION: ELECTRIC POWER CONTROL SYSTEM: DATA LIST / ACTIVE TEST (2013 FR-S)		

DATA LIST / ACTIVE TEST

1. DATA LIST

HINT:

Using the Techstream to read the Data List allows the values or states of switches, sensors, actuators and other items to be read without removing any parts. This non-intrusive inspection can be very useful because intermittent conditions or signals may be discovered before parts or wiring is disturbed. Reading the Data List information early in troubleshooting is one way to save diagnostic time.

NOTICE:

In the table below, the values listed under "Normal Condition" are reference values. Do not depend solely on these reference values when deciding whether a part is faulty or not.

- Connect the Techstream to the DLC3.
- Turn the ignition switch to ON.
- Turn the Techstream on.
- Enter the following menus: Body Electrical / Main Body / Data List.
- Read the Data List according to the display on the Techstream.

Main Body (Main Body ECU (Network Gateway ECU))

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Battery Power Supply Control Voltage	- Battery power supply control voltage/ - Min.: 0 V, Max.: 21.4 V	11 to 14 V	-
Battery Power Supply Back Up Voltage	- Battery power supply back up voltage/ - Min.: 0 V, Max.: 21.4 V	11 to 14 V	-
IG Power Supply Voltage	- IG power supply voltage/ - Min.: 0 V, Max.: 21.4 V	11 to 14 V	-
ACC Voltage	- ACC voltage/ - Min.: 0 V, Max.: 21.4 V	11 to 14 V	-



Last Modified: 3-27-2012	6.4 S	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000003MXP02LX
Title: POWER DISTRIBUTION: ELECTRIC POWER CONTROL SYSTEM: DIAGNOSTIC TROUBLE CODE CHART (2013 FR-S)		

DIAGNOSTIC TROUBLE CODE CHART

DTC CODE	DETECTION ITEM	SEE PAGE
B1010	BIU System Error	INFO
B1011	Battery Power Supply Control Circuit	INFO
B1012	Battery Power Supply Back Up Circuit	INFO
B1013	IG Power Supply Circuit	INFO
B1014	ACC Power Supply Circuit	INFO



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Last Modified: 3-27-2012	6.4 D	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000000PDK0XLX
Title: POWER DISTRIBUTION: ELECTRIC POWER CONTROL SYSTEM: DTC CHECK / CLEAR (2013 FR-S)		

DTC CHECK / CLEAR

1. CHECK DTC

- (a) Connect the Techstream to the DLC3.
- (b) Turn the ignition switch to ON.
- (c) Turn the Techstream on.
- (d) Enter the following menus: Body Electrical / Main Body / Trouble Codes.
- (e) Check for DTCs.

2. CLEAR DTC

- (a) Connect the Techstream to the DLC3.
- (b) Turn the ignition switch to ON.
- (c) Turn the Techstream on.
- (d) Enter the following menus: Body Electrical / Main Body / Trouble Codes.
- (e) Clear the DTCs.



Last Modified: 3-27-2012	6.4 D	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000000PKJ0E8X
Title: POWER DISTRIBUTION: ELECTRIC POWER CONTROL SYSTEM: HOW TO PROCEED WITH TROUBLESHOOTING (2013 FR-S)		

HOW TO PROCEED WITH TROUBLESHOOTING

HINT:

*: Use the Techstream.

1.	VEHICLE BROUGHT TO WORKSHOP
-----------	------------------------------------

NEXT



2.	INSPECT BATTERY VOLTAGE
-----------	--------------------------------

Standard voltage:
11 to 14 V

If the voltage is below 11 V, recharge or replace the battery before proceeding.

NEXT



3.	CHECK COMMUNICATION FUNCTION OF CAN COMMUNICATION SYSTEM*
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(a) Use the Techstream to check if the CAN communication system is functioning normally INFO

Result

RESULT	PROCEED TO
CAN DTC is not output	A
CAN DTC is output	B

B **Go to CAN COMMUNICATION SYSTEM**



4. CHECK FOR DTC*

- (a) Check for DTCs INFO .
- (b) Clear the DTCs INFO .
- (c) Recheck for DTCs INFO .

Result

RESULT	PROCEED TO
DTC output does not reoccur	A
DTC output reoccurs	B

B ▶ Go to step 6

A
▼

5. OVERALL ANALYSIS AND TROUBLESHOOTING*

- (a) Terminals of ECU INFO .
- (b) Data List / Active Test INFO .

NEXT
▼

6. REPAIR OR REPLACE

NEXT
▼

7. CONFIRMATION TEST

NEXT ▶ END

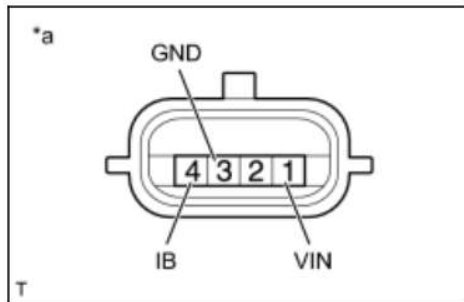


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Last Modified: 3-27-2012	6.4 G	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000003QRB00BX
Title: POWER DISTRIBUTION: BATTERY CURRENT SENSOR: INSPECTION (2013 FR-S)		

INSPECTION

1. INSPECT BATTERY CURRENT SENSOR ASSEMBLY



(a) Check the resistance of the battery current sensor assembly.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
1 (VIN) - 3 (GND)	Always	3 to 10 kΩ
1 (VIN) - 4 (IB)	Always	Below 0.5 kΩ
3 (GND) - 4 (IB)	Always	3 to 10 kΩ

If the result is not as specified, replace the battery current sensor assembly.

Text in illustration

*a	Component without harness connected (Battery Current Sensor Assembly)
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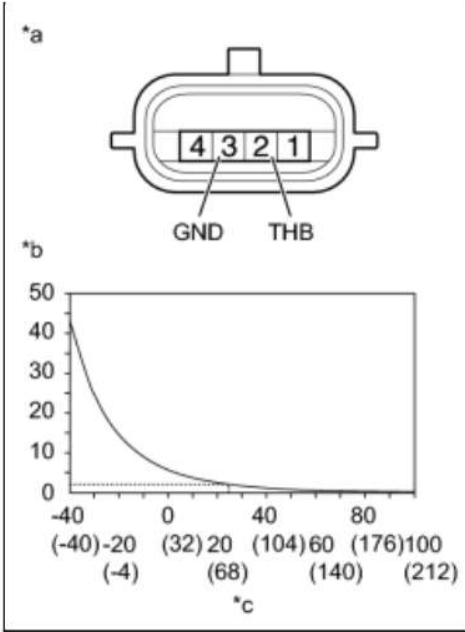
(b) Check the resistance of the battery current sensor assembly.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
2 (THB) - 3 (GND)	20°C (68°F) to 30°C (86°F)	1.5 to 2.6 kΩ

If the result is not as specified, replace the battery current sensor assembly.



Text in illustration

*a	Component without harness connected (Battery Current Sensor Assembly)
*b	[kΩ]
*c	[°C (°F)]

HINT:

The "Condition" indicates the temperature in the vicinity of the sensor, not of the actual sensor itself.



Last Modified: 3-27-2012	6.4 A	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000003QMQ00BX
Title: POWER DISTRIBUTION: BATTERY CURRENT SENSOR: INSTALLATION (2013 FR-S)		

INSTALLATION

1. INSTALL BATTERY CURRENT SENSOR ASSEMBLY

- (a) Install the battery current sensor assembly.
- (b) Tighten the nut.

Torque: 6.0 N·m (61 kgf·cm, 53in·lbf)

- (c) Connect the engine wire with the nut.

Torque: 7.5 N·m (77 kgf·cm, 66in·lbf)

- (d) Connect the connector.



Last Modified: 3-27-2012	6.4 A	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000003TOC00EX
Title: POWER DISTRIBUTION: MAIN BODY ECU: INSTALLATION (2013 FR-S)		

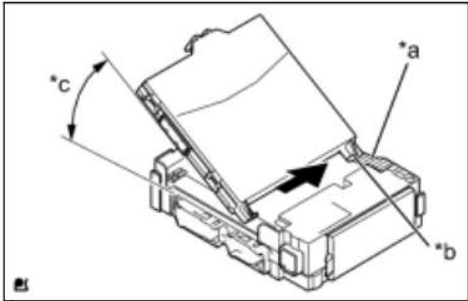
INSTALLATION

1. INSTALL NETWORK GATEWAY ECU

NOTICE:

- Prevent foreign matter from being mixed into the engagement, connector or terminal.
- Do not touch the network gateway ECU connector terminals.

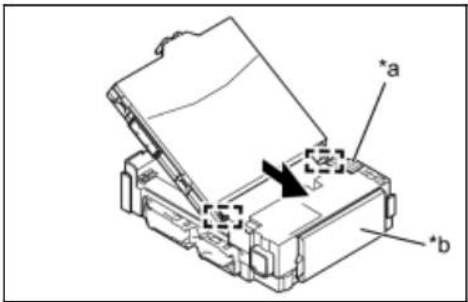
(a) Make the network gateway ECU guide to contact the housing side wall.



HINT:
The angle between the junction block and the network gateway ECU guide should be 20° or more.

Text in illustration

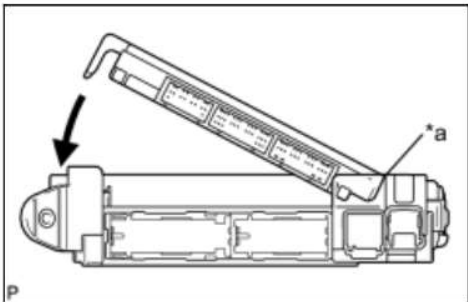
*a	Housing Side Wall
*b	Guide
*c	20° or more



(b) While aligning the guide with the housing side wall, slide the network gateway ECU toward the fuse area of the instrument panel junction block assembly and engage the 2 guides.

Text in illustration

*a	Hosing Side Wall
*b	Fuse Area



(c) Slide the network gateway ECU until it contacts the A surface.

(d) Rotate the network gateway ECU while holding it against the instrument panel junction block assembly surface (axis of rotation).

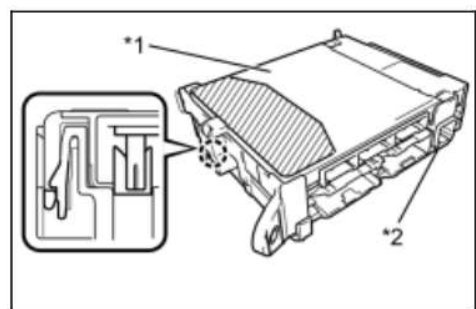
NOTICE:

- Slide the network gateway ECU gently.
- Do not apply strong impact to the side of the network gateway ECU.

Text in illustration

*a	A surface
----	-----------

(e) Rotate the network gateway ECU until it engages with the lock to install it.



NOTICE:

- When pressing the network gateway ECU, press the push area as shown in the illustration.
- A lock sound will be heard when the network gateway ECU is engaged.
- Do not hit or weight the network gateway ECU when it engages with the instrument panel junction block assembly.

HINT:

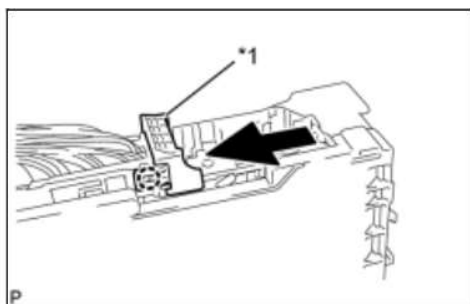
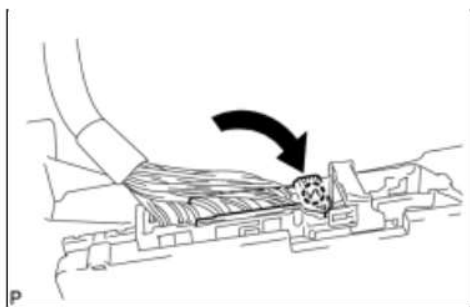
If a lock sound is not heard, visually check the lock engagement. Check that the height of the network gateway ECU and instrument panel junction block assembly match.

Text in illustration

*1	Network Gateway ECU
*2	Instrument Panel Junction Block Assembly
	Push Area

2. INSTALL INSTRUMENT PANEL JUNCTION BLOCK ASSEMBLY

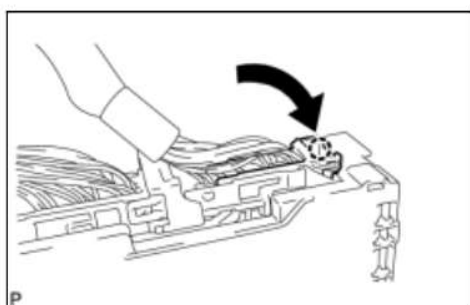
(a) Connect the connector as shown in the illustration.



(b) Slide the lever as indicated by the arrow shown in the illustration.

Text in illustration

*1	Lever
----	-------



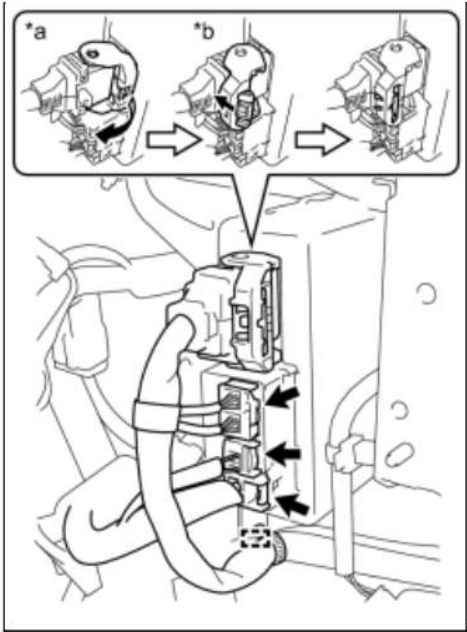
(c) Connect the connector indicated as shown in the illustration.

(d) Install the instrument panel junction block assembly with the bolt and the nut.

Torque: 7.5 N·m (77 kgf·cm, 66in·lbf)

(e) Connect 6 connectors to the instrument panel junction block assembly.

(f) Connect the 3 connectors to the power steering ECU assembly.



- (g) Connect the connector to the power steering ECU assembly.
 - (1) As shown in the illustration, return the lock lever to its original position to connect the connector and securely push in the lock of the lock lever.
- (h) Engage the clamp.

Text in illustration

*a	Return the lock lever
*b	Push the lock

3. INSTALL NO. 1 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY [INFO](#)

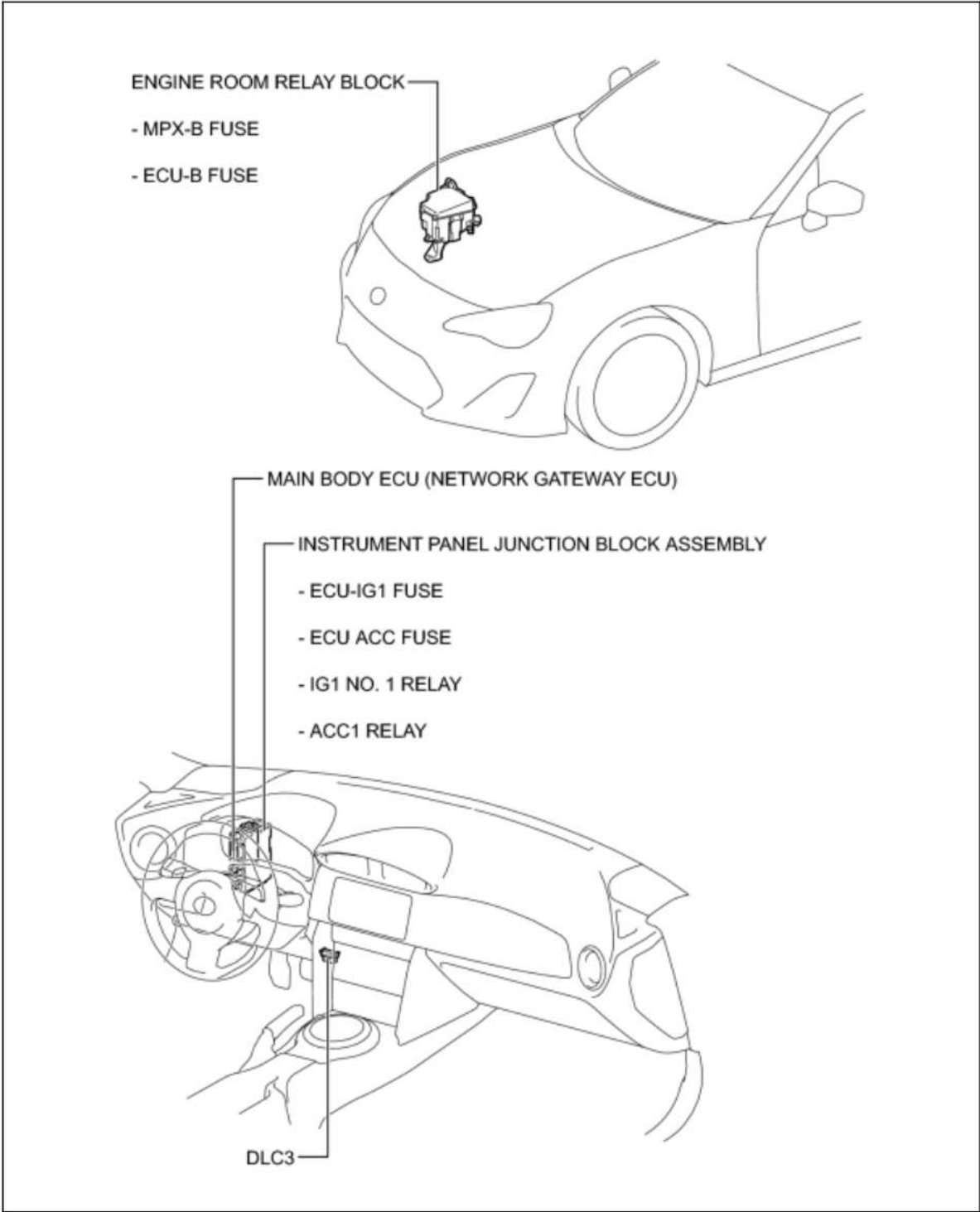
4. INSTALL INSTRUMENT SIDE PANEL LH [INFO](#)



Last Modified: 3-27-2012	6.4 R	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000003HIV00QX
Title: POWER DISTRIBUTION: ELECTRIC POWER CONTROL SYSTEM: PARTS LOCATION (2013 FR-S)		

PARTS LOCATION

ILLUSTRATION



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Last Modified: 3-27-2012	6.4 A	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000003QMS00BX
Title: POWER DISTRIBUTION: BATTERY CURRENT SENSOR: REMOVAL (2013 FR-S)		

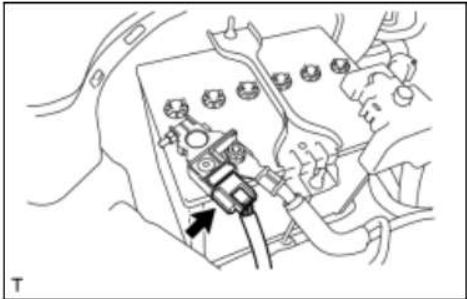
REMOVAL

1. PRECAUTION

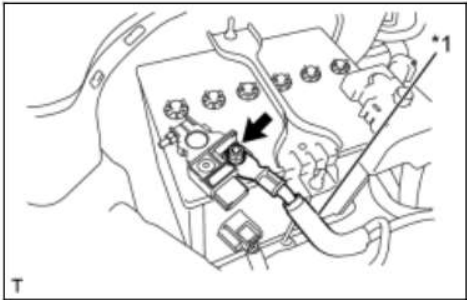
HINT:

After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work INFO.

2. REMOVE BATTERY CURRENT SENSOR ASSEMBLY



(a) Disconnect the connector.

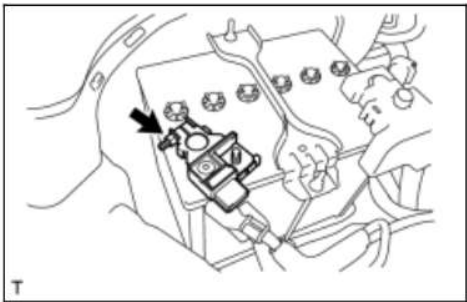


(b) Remove the nut and disconnect the engine wire.

NOTICE:
Since this operation may damage the molding, make sure to fully open the driver and passenger side door windows.

Text in illustration

*1	Engine Wire
----	-------------



(c) Loosen the nut and remove the battery current sensor assembly.

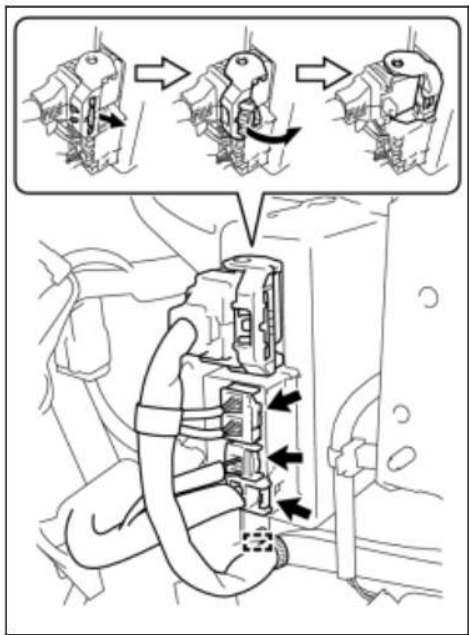


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Last Modified: 3-27-2012	6.4 A	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000003TOE00EX
Title: POWER DISTRIBUTION: MAIN BODY ECU: REMOVAL (2013 FR-S)		

REMOVAL

1. REMOVE INSTRUMENT SIDE PANEL LH INFO
2. REMOVE NO. 1 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY INFO
3. REMOVE INSTRUMENT PANEL JUNCTION BLOCK ASSEMBLY



(a) Disengage the clamp.

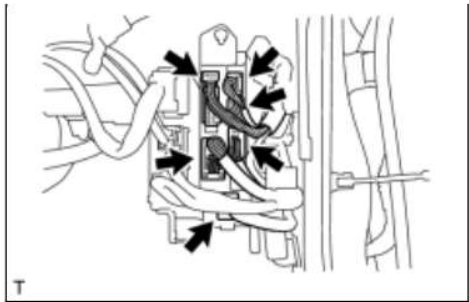
- (b) Disconnect the connector from the power steering ECU assembly.
- (1) As shown in the illustration, pull out the lock of the lock lever and turn the lock lever to disconnect the connector.

Text in illustration

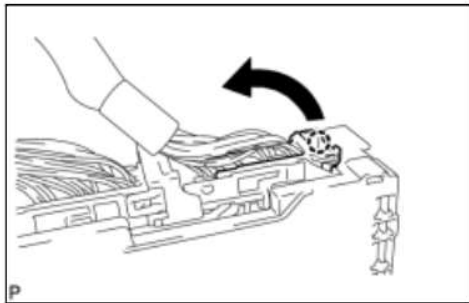
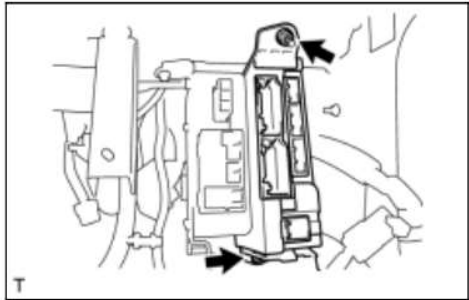
*a	Pull out the lock
*b	Turn the lock lever

- (c) Disconnect the 3 connectors from the power steering ECU.

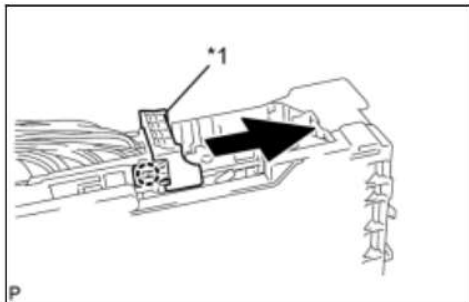
- (d) Disconnect the 6 front side connectors from the instrument panel junction block assembly indicated as shown in the illustration.



(e) Remove the bolt, nut and the instrument panel junction block assembly.



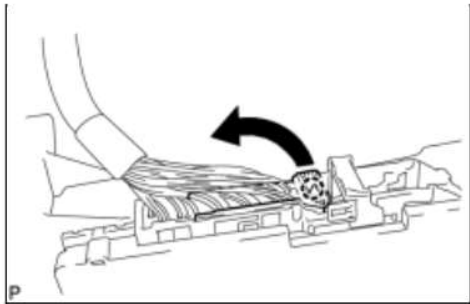
(f) Disconnect the connector indicated as shown in the illustration.



(g) Disengage the claw and slide the lever to the upward.
Text in illustration

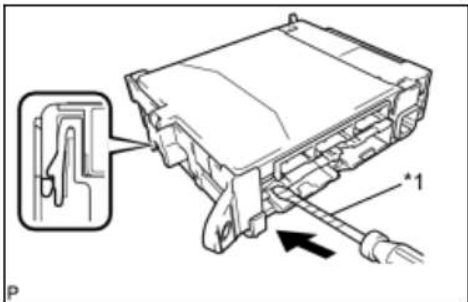
*1	Lever
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(h) Disconnect the connector indicated as shown in the illustration.



(i) Remove the instrument panel junction block assembly.

4. REMOVE NETWORK GATEWAY ECU



- (a) Press the claw of the instrument panel junction block assembly side as shown in the illustration to release the lock.
- (b) With the instrument panel junction block assembly side, insert the screwdriver with its tip wrapped in protective tape between the network gateway ECU and the instrument panel junction block assembly.

NOTICE:
Use a blade screwdriver with a diameter of 5.0 to 6.3 mm (0.197 to 0.248 in.), and with a length of 90mm (3.543 in.) or more.

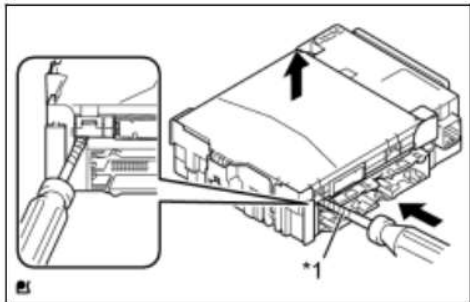
Text in illustration

*1	Protective Tape
----	-----------------

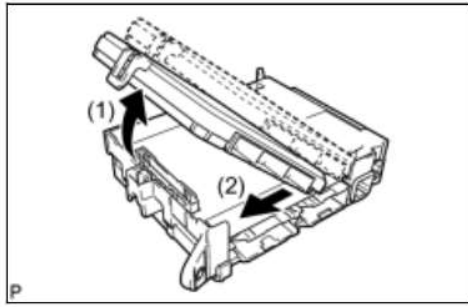
- (c) Using the screwdriver with its tip wrapped with protective tape, carefully raise the network gateway ECU until the connector becomes disengaged.

Text in illustration

*1	Protective Tape
----	-----------------



- NOTICE:**
- Do not twist the screwdriver to raise the network gateway ECU.
 - If any terminals of the connectors, locking parts or cases are deformed or damaged, replace the instrument panel junction block assembly or the network gateway ECU.



- (d) Raise the network gateway ECU as shown by arrow 1, and then pull it out as shown by arrow 2 in the illustration.

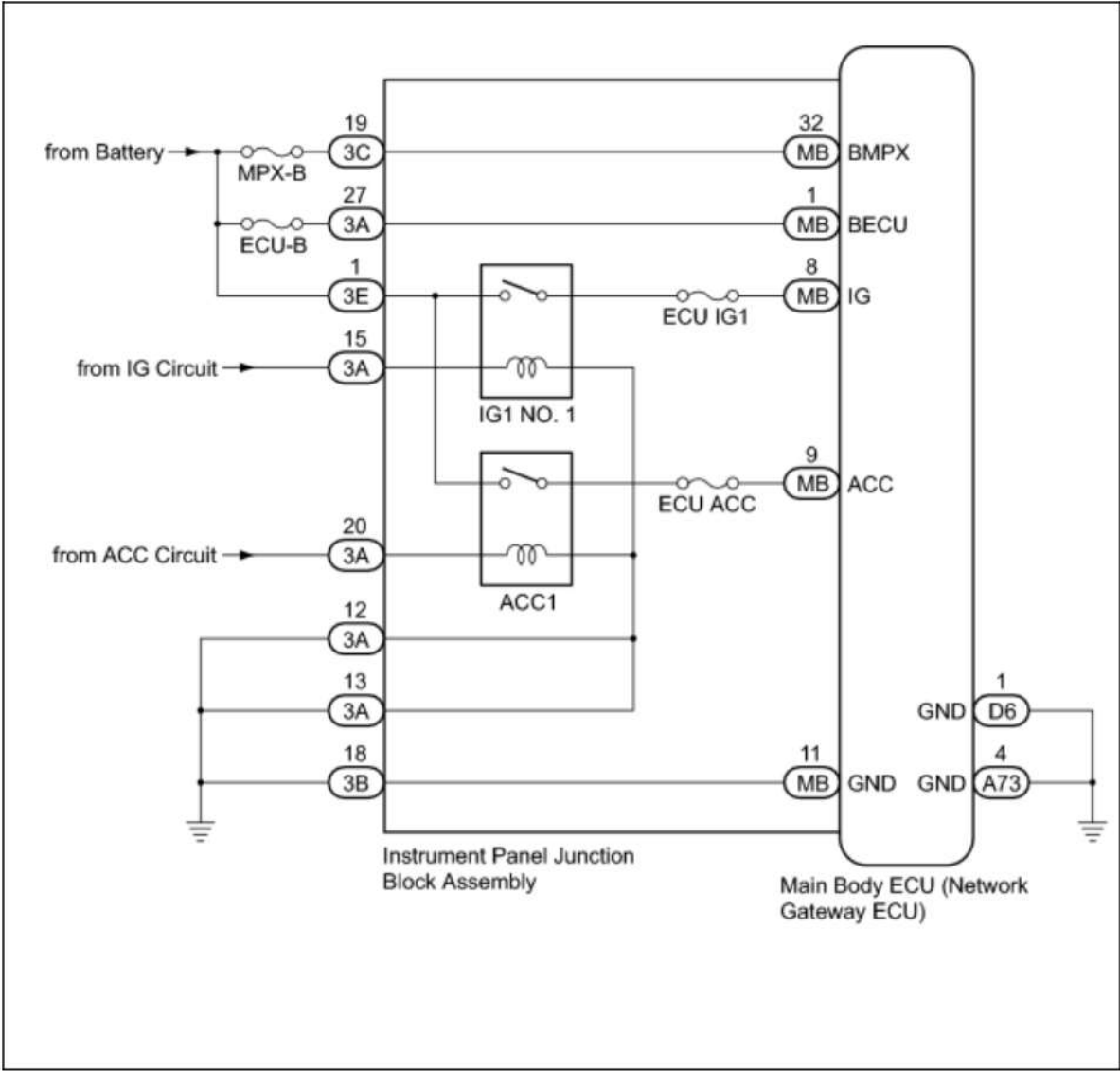
NOTICE:

Do not touch the network gateway ECU connector terminals.



Last Modified: 3-27-2012	6.4 U	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000003HIX016X
Title: POWER DISTRIBUTION: ELECTRIC POWER CONTROL SYSTEM: SYSTEM DIAGRAM (2013 FR-S)		

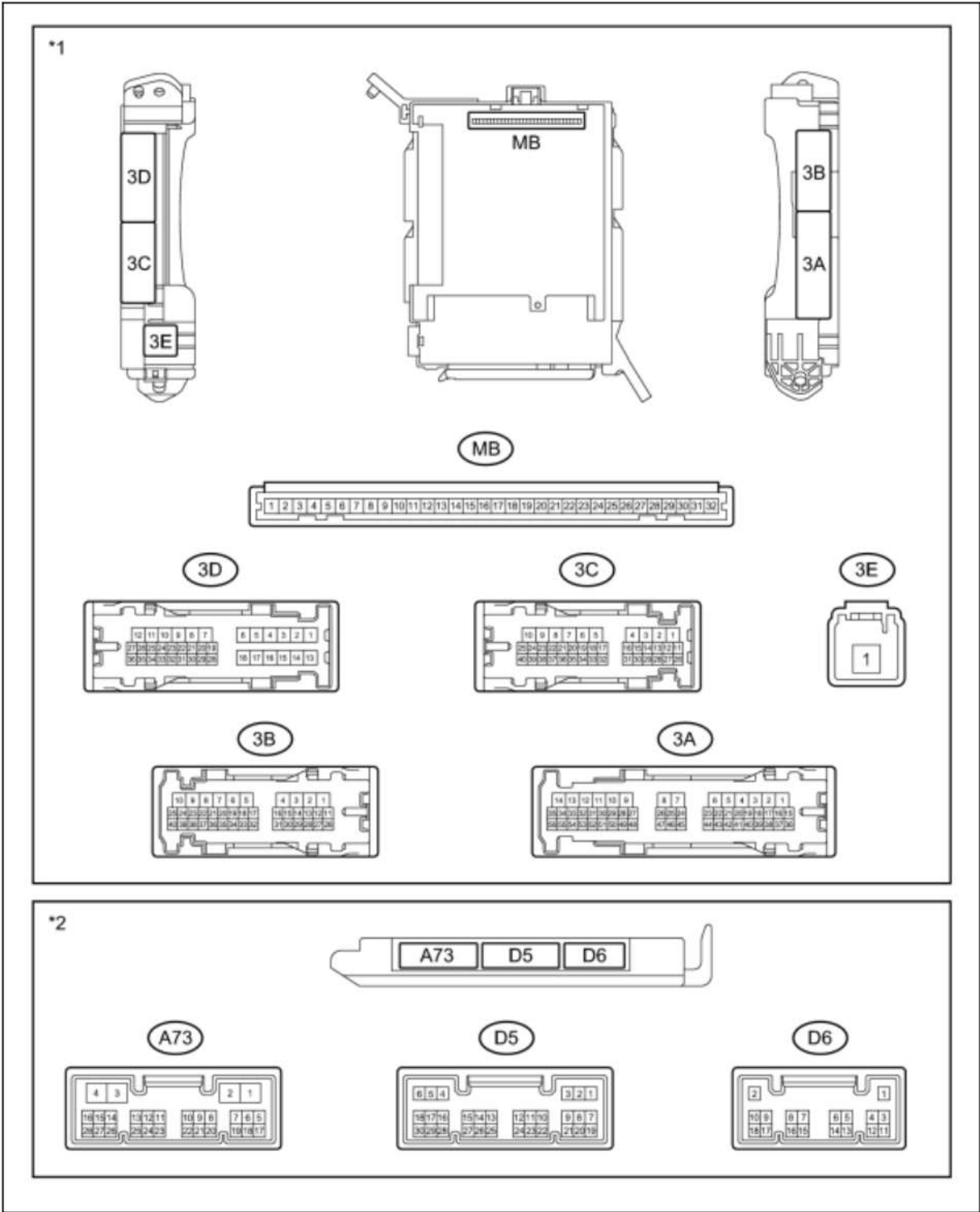
SYSTEM DIAGRAM



Last Modified: 3-27-2012	6.4 U	From: 201203
Model Year: 2013	Model: FR-S	Doc ID: RM000001H7X00KX
Title: POWER DISTRIBUTION: ELECTRIC POWER CONTROL SYSTEM: TERMINALS OF ECU (2013 FR-S)		

TERMINALS OF ECU

1. CHECK INSTRUMENT PANEL JUNCTION BLOCK ASSEMBLY AND MAIN BODY ECU (NETWORK GATEWAY ECU)



Text in Illustration

*1	Instrument Panel Junction Block Assembly	*2	Main Body ECU (Network Gateway ECU)
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(a) Measure the voltage and resistance according to the value(s) in the table below.

HINT:

With the connectors connected, inspect from the rear side of the connectors.

TERMINAL NO. (SYMBOL)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
3A-15 - Body ground	W - Body ground	IG power supply	Ignition switch ON	11 to 14V
3A-20 - Body ground	SB - Body ground	ACC power supply	Ignition switch ON	11 to 14V
3A-27 - Body ground	G-R - Body ground	Battery power supply	Always	11 to 14V
3C-19 - Body ground	L-R - Body ground	Battery power supply	Always	11 to 14V
3E-1 - Body ground	B-R - Body ground	Battery power supply	Always	11 to 14V
3A-12 - Body ground	B - Body ground	Ground	Always	Below 1 Ω
3A-13 - Body ground	B - Body ground	Ground	Always	Below 1 Ω
3B-18 - Body ground	B-Y - Body ground	Ground	Always	Below 1 Ω
D6-1 (GND) - Body ground	B - Body ground	Ground	Always	Below 1 Ω
A73-4 (GND) - Body ground	B-Y - Body ground	Ground	Always	Below 1 Ω

(b) Remove the main body ECU (network gateway ECU) from the instrument panel junction block assembly.

(c) Measure the voltage and resistance according to the value(s) in the table below.

TERMINAL NO. (SYMBOL)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
MB-1 (BECU) - Body ground	None - Body ground	Battery power supply back up voltage	Always	11 to 14V
MB-8 (IG) - Body ground	None - Body ground	IG power supply	Ignition switch ON	11 to 14V
MB-9 (ACC) - Body ground	None - Body ground	ACC power supply	Ignition switch ACC	11 to 14V
MB-32 (BMPX) - Body ground	None - Body ground	Battery power supply control voltage	Always	11 to 14V
MB-11 (GND) - Body ground	None - Body ground	Ground	Always	Below 1 Ω



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