

<b>Last Modified:</b> 3-22-2019	6.8:8.0.48	<b>Doc ID:</b> RM000000Z4H042X
<b>Model Year Start:</b> 2013	<b>Model:</b> Prius C	<b>Prod Date Range:</b> [12/2012 - ]
<b>Title:</b> BRAKE CONTROL / DYNAMIC CONTROL SYSTEMS: ELECTRONICALLY CONTROLLED BRAKE SYSTEM: C1311/11,C1312/12; Open in Main Relay 1 Circuit; 2013 MY Prius C [12/2012 - ]		

<b>DTC</b>	<b>C1311/11</b>	<b>Open in Main Relay 1 Circuit</b>
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<b>DTC</b>	<b>C1312/12</b>	<b>Short in Main Relay 1 Circuit</b>
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
## **DESCRIPTION**

The ABS main relay supplies power to the changeover solenoid and the linear solenoid.

The ABS main relay remains on for approximately 2 minutes after the ignition switch is turned off and the input of brake pedal operation signals stops, and supplies power to the system to keep it ready to operate.

DTC NO.	INF CODE	DTC DETECTION CONDITION	TROUBLE AREA
C1311/11	1	<p>Either of the following is detected:</p> <ol style="list-style-type: none"> <li>When the ignition switch is turned to ON (READY): The ABS main relay contact is not turned ON (BS terminal voltage 3.5 V or more) for 0.2 seconds or more when ABS main relay ON is requested while IG1 terminal voltage is 9.5 V or more.</li> <li>When the ignition switch is off: The ABS main relay contact is not turned ON (BS terminal voltage 3.5 V or more) for 0.2 seconds or more when ABS main relay ON is requested.</li> </ol>	<ul style="list-style-type: none"> <li>Open or short in ABS main relay circuit</li> <li>Skid control ECU (Brake booster with master cylinder assembly)</li> </ul>
C1312/12	2	<p>The ABS main relay contact is turned ON (BS terminal voltage 3.5 V or more) for 4.5 seconds or more when ABS main relay OFF is requested from the ECU.</p>	<ul style="list-style-type: none"> <li>Short in ABS main relay circuit</li> <li>ABS main relay internal stuck</li> <li>Skid control ECU (Brake booster with master cylinder assembly)</li> </ul>

## **WIRING DIAGRAM**


Refer to DTCs C1241/41 and C1242/42  .

## **INSPECTION PROCEDURE**

**NOTICE:**

When replacing the skid control ECU (brake booster with master cylinder assembly), perform initialization and calibration of the linear solenoid valve  .


**PROCEDURE****1. PERFORM ACTIVE TEST USING TECHSTREAM (ABS MAIN RELAY)**

- (a) Connect the Techstream to the DLC3.
- (b) Turn the ignition switch to ON (IG).
- (c) Select the Active Test on the Techstream  .

**ABS/VSC/TRAC**

TESTER DISPLAY	TEST PART	CONTROL RANGE	DIAGNOSTIC NOTE
ECB* Main Relay	ABS main relay	Relay ON/OFF	-

\*: Electronically Controlled Brake System

- (d) Select the Data List on the Techstream  .

**ABS/VSC/TRAC**

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
ECB* Main Relay	ABS main relay / ON or OFF	ON: Relay on OFF: Relay off	-

\*: Electronically Controlled Brake System

- (e) Check that the condition of the ABS main relay observed on the Techstream changes according to tester operation.

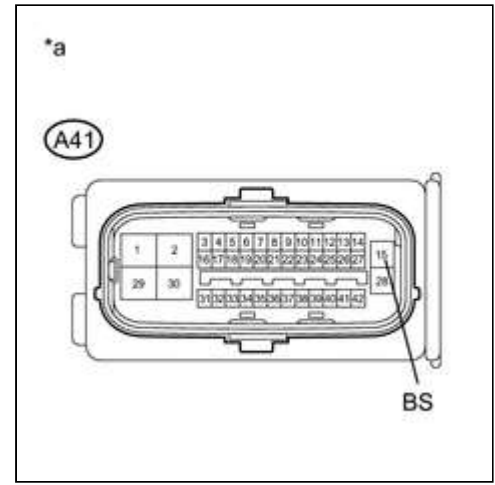
RESULT	PROCEED TO
ABS main relay in the Data List turns ON/OFF using the Active Test.	A
ABS main relay in the Data List does not change using the Active Test.	B

**B**  **GO TO STEP 4**

**A**

**2. CHECK HARNESS AND CONNECTOR (BS TERMINAL)**

- (a) Turn the ignition switch off.



- (b) Make sure that there is no looseness at the locking part and the connecting part of the connector.
- (c) Disconnect the skid control ECU (brake booster with master cylinder assembly) connector.
- (d) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A41-15 (BS) - Body ground	Always	11 to 14 V

**Text in Illustration**

*a	Front view of wire harness connector (to Skid Control ECU (Brake Booster with Master Cylinder Assembly))
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**NG** ► **REPAIR OR REPLACE HARNESS OR CONNECTOR (BS CIRCUIT)**

**OK**

<b>3.</b>	<b>RECONFIRM DTC</b>
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- (a) Reconnect the skid control ECU (brake booster with master cylinder assembly) connector.
- (b) Clear the DTCs INFO .
- (c) Turn the ignition switch to ON (IG).
- (d) Check if the same DTC is output INFO .

RESULT	PROCEED TO
DTCs C1311/11 and C1312/12 are not output.	A

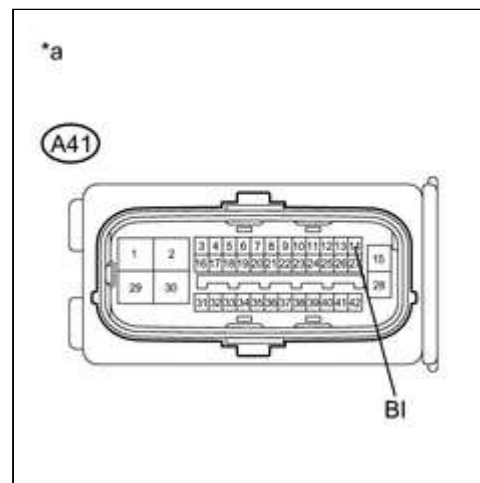
RESULT	PROCEED TO
DTCs C1311/11 and/or C1312/12 are output.	B

**B** ► REPLACE BRAKE BOOSTER WITH MASTER CYLINDER ASSEMBLY

**A** ► CHECK FOR INTERMITTENT PROBLEMS

#### 4. CHECK HARNESS AND CONNECTOR (BI TERMINAL)

(a) Turn the ignition switch off.



(b) Check that the ABS NO. 1 (20 A) and ABS NO. 2 (10 A) fuses are normal.

(c) Make sure that there is no looseness at the locking part and the connecting part of the connector.

(d) Disconnect the skid control ECU (brake booster with master cylinder assembly) connector.

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

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A41-14 (BI) - Body ground	Always	11 to 14 V

#### Text in Illustration

\*a Front view of wire harness connector  
(to Skid Control ECU (Brake Booster with Master Cylinder Assembly))

**NG** ► REPAIR OR REPLACE HARNESS OR CONNECTOR (BI CIRCUIT)

**OK**  
▼

**5. CHECK HARNESS AND CONNECTOR (BS TERMINAL)**

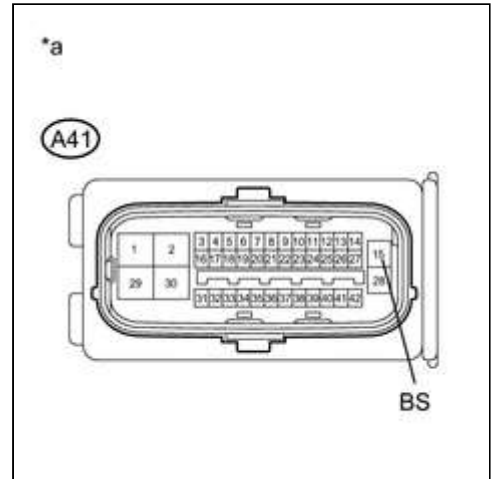
(a) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A41-15 (BS) - Body ground	Always	11 to 14 V

**Text in Illustration**

*a	Front view of wire harness connector (to Skid Control ECU (Brake Booster with Master Cylinder Assembly))
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**NG** ► REPAIR OR REPLACE HARNESS OR CONNECTOR (BS CIRCUIT)

**OK** ► REPLACE BRAKE BOOSTER WITH MASTER CYLINDER ASSEMBLY

