Last Modified: 12-04-2024	6.11:8.1.0	**Doc ID:** RM1000000028X3V
Model Year Start: 2023	**Model:** Prius Prime	**Prod Date Range:** [12/2022 -]
Title: BRAKE CONTROL / DYNAMIC CONTROL SYSTEMS: ELECTRONICALLY CONTROLLED BRAKE SYSTEM: C11031C; Brake Pedal Position Sensor "B" Supply Voltage Circuit Voltage Out of Range; 2023 - 2024 MY Prius Prius Prime [12/2022 -]		

DTC	**C11031C**	**Brake Pedal Position Sensor "B" Supply Voltage Circuit Voltage Out of Range**

DESCRIPTION

Refer to DTC C110000.

Click here INFO

DTC NO.	DETECTION ITEM	DTC DETECTION CONDITION	TROUBLE AREA	MIL	DTC OUTPUT FROM	PRIORITY	NOTE
C11031C	Brake Pedal Position Sensor "B" Supply Voltage Circuit Voltage Out of Range	The sensor supply voltage (VSK2) is 4.7 V or less, or 5.3 V or more for 0.2 seconds or more.	• Wire harness and connector • Brake pedal stroke sensor assembly • No. 2 skid control ECU (brake actuator assembly)	Comes on	Brake/EPB	A	• SAE Code: C1103 (Case 1) • Output ECU: No. 2 skid control ECU (brake actuator assembly)

MONITOR DESCRIPTION

The No. 2 skid control ECU (brake actuator assembly) monitors the power supply voltage of the brake pedal stroke sensor assembly. When the brake pedal stroke sensor assembly power supply voltage is outside of the normal range, the No. 2 skid control ECU (brake actuator assembly) judges that the power supply is abnormal and illuminates the MIL and stores this DTC.

MONITOR STRATEGY

Related DTCs	C1103 (Case 1): Brake pedal position sensor voltage circuit open
Required Sensors/Components(Main)	No. 2 skid control ECU (brake actuator assembly)
Required Sensors/Components(Related)	No. 2 skid control ECU (brake actuator assembly)
Frequency of Operation	Continuous
Duration	0.198 seconds

MIL Operation	Immediately
Sequence of Operation	None

TYPICAL ENABLING CONDITIONS

Monitor runs whenever the following DTCs are not stored	None
All of the following conditions are met	A, B, C and D
A. Following condition is met	More than 0.22 seconds
+BS voltage	8.5 V or higher
B. +BS voltage	9.5 V or higher
C. IGR voltage	Higher than 10 V
D. IGP voltage	Higher than 10 V

TYPICAL MALFUNCTION THRESHOLDS

Brake pedal position sensor2 power supply	Below 4.8 V, or higher than 5.2 V

COMPONENT OPERATING RANGE

All of the following conditions are met	A and B
A. Following condition is met	More than 0.22 seconds
+BS voltage	8.5 V or higher
B. Brake pedal position sensor2 power supply	4.8 V or higher, and 5.2 V or less

CONFIRMATION DRIVING PATTERN

NOTICE:

When performing the normal judgment procedure, make sure that the driver door is closed and is not opened at any time during the procedure.

HINT:

- After repair has been completed, clear the DTC and then check that the vehicle has returned to normal by performing the following All Readiness check procedure.
- When clearing the permanent DTCs, refer to the "CLEAR PERMANENT DTC" procedure.

1. Connect the GTS to the DLC3.
2. Turn the ignition switch to ON and turn the GTS on.
3. Clear the DTCs (even if no DTCs are stored, perform the clear DTC procedure).
4. Turn the ignition switch off.
5. Turn the ignition switch to ON (READY) and turn the GTS on.
6. Wait for 1 second or more. [*]

HINT:

[*]: Normal judgment procedure.

The normal judgment procedure is used to complete DTC judgment and also used when clearing permanent DTCs.

7. Enter the following menus: Chassis / Brake/EPB* / Utility / All Readiness.

*: Electric Parking Brake System

8. Check the DTC judgment result.

HINT:

- If the judgment result shows NORMAL, the system is normal.
- If the judgment result shows ABNORMAL, the system has a malfunction.
- If the judgment result shows INCOMPLETE, perform driving pattern again.

WIRING DIAGRAM

Refer to DTC C110000.

Click here INFO

PROCEDURE

1.	**CHECK BRAKE PEDAL**

(a) Check that the brake pedal and the brake pedal stroke sensor assembly are properly installed and that the pedal can be depressed normally.

(b) Check and adjust the brake pedal height.

HINT:

Click here INFO

(c) Adjust the brake pedal stroke sensor assembly.

HINT:

Click here INFO

NEXT

2.	**CHECK HARNESS AND CONNECTOR (BRAKE ACTUATOR ASSEMBLY - BRAKE PEDAL STROKE SENSOR ASSEMBLY)**

Pre-procedure1

(a) Turn the ignition switch off.

Procedure1

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

OK:

The connector is securely connected.

Pre-procedure2

(c) Disconnect the A4 No. 2 skid control ECU (brake actuator assembly) connector.

(d) Disconnect the A5 brake pedal stroke sensor assembly connector.

Procedure2

(e) Check both the connector case and the terminals for deformation and corrosion.

OK:

No deformation or corrosion.

Procedure3

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

Standard Resistance:

EWD INFO

Click Location & Routing(A4,A5)
Click Connector(A4)
Click Connector(A5)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
A4-26 (SKG2) - A5-3 (SKG2)	Always	Below 1 Ω	Ω
A4-26 (SKG2) or A5-3 (SKG2) - Body ground	Always	10 kΩ or higher	kΩ
A4-25 (VSK2) - A5-2 (VSK2)	Always	Below 1 Ω	Ω
A4-25 (VSK2) or A5-2 (VSK2) - Body ground	Always	10 kΩ or higher	kΩ

Post-procedure1

(g) None

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

3.	**INSPECT BRAKE ACTUATOR ASSEMBLY (SENSOR OUTPUT)**

Pre-procedure1

(a) Reconnect the A4 No. 2 skid control ECU (brake actuator assembly) connector.

(b) Turn the ignition switch to ON.

Procedure1

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

Standard Voltage:

EWD INFO

Click Location & Routing(A5)
Click Connector(A5)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
A5-2 (VSK2) - A5-3 (SKG2)	Ignition switch ON	4.84 to 5.16 V	V

Post-procedure1

(d) None

OK ▶ **REPLACE BRAKE PEDAL STROKE SENSOR ASSEMBLY** INFO

NG ▶ **REPLACE BRAKE ACTUATOR ASSEMBLY** INFO