

Last Modified: 12-04-2024	6.11:8.1.0	Doc ID: RM100000029244
Model Year Start: 2023	Model: Prius Prime	Prod Date Range: [12/2022 -]
Title: DOOR / HATCH: POWER BACK DOOR SYSTEM: Power Back Door cannot be Operated Using Any Switch; 2023 - 2024 MY Prius Prius Prime [12/2022 -]		

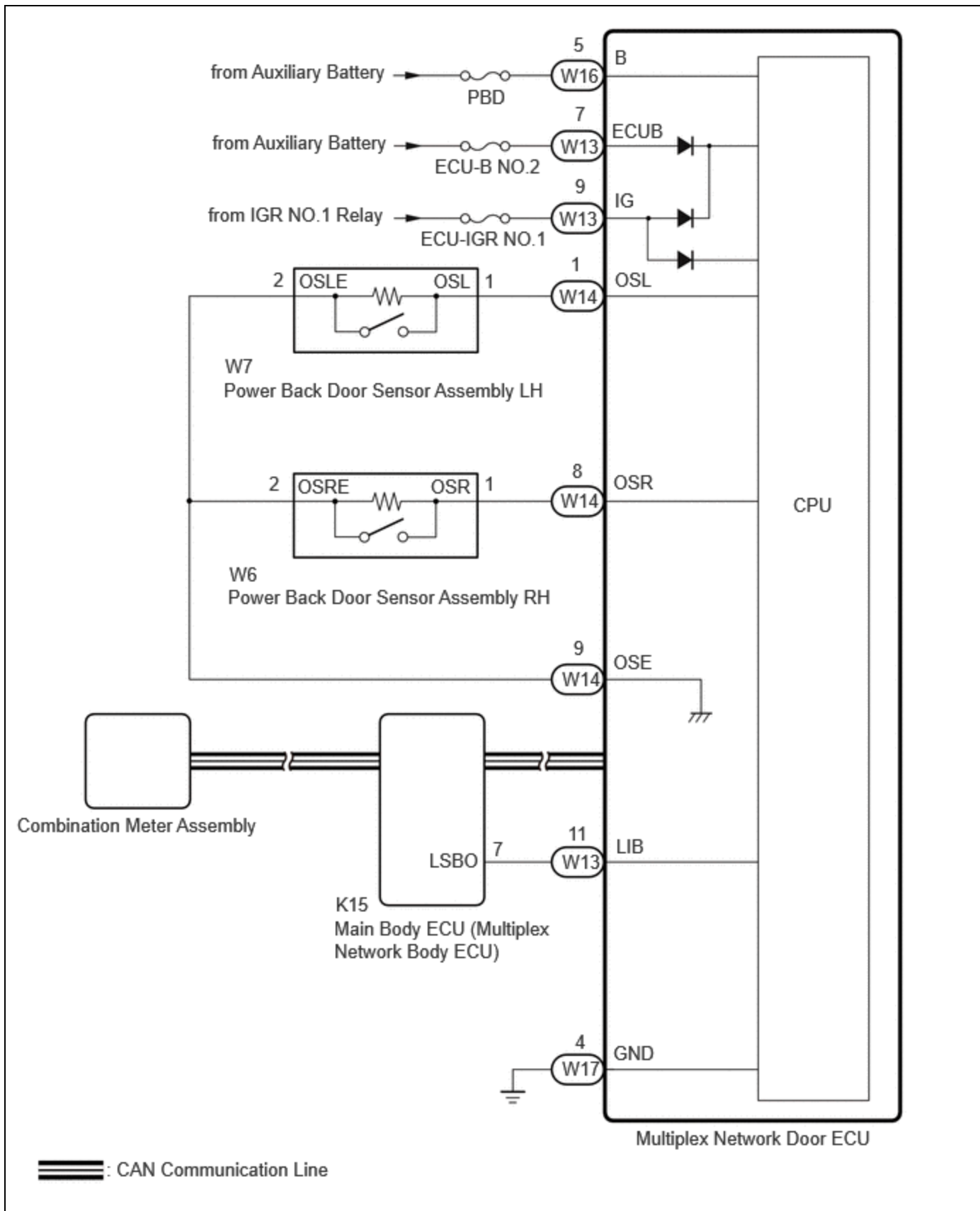
Power Back Door cannot be Operated Using Any Switch

DESCRIPTION

The power back door is controlled by the multiplex network door ECU and drives the back door motor.

If the power back door does not operate using any of the operations, a malfunction related to the power back door operation conditions or multiplex network door ECU are possible causes.

WIRING DIAGRAM



CAUTION / NOTICE / HINT

NOTICE:

- First perform the communication function inspections in How to Proceed with Troubleshooting to confirm that there are no CAN communication malfunctions before troubleshooting this problem.

Click here [INFO](#)

- Inspect fuses for circuits related to this system before performing the following inspection procedure.
- If the multiplex network door ECU has been replaced, or if any of the connectors has been disconnected, initialize the power back door system.

Click here [INFO](#)

- If the main body ECU (multiplex network body ECU) is replaced, refer to registration.

Click here [INFO](#)

- If the 2-step unlock function is enabled via customize settings, only the driver door unlocks when the first unlock operation is performed and the power back door does not operate as all the doors are not unlocked.

PROCEDURE

1. CHECK VEHICLE CONDITION

(a) Operate the multi-information display in the combination meter assembly and check the customization status.

DISPLAY	DESCRIPTION	DEFAULT	SETTING	RELEVANT ECU
Power back door	Function that enables or disables the power back door operation.	ON	ON or OFF	Multiplex network door ECU

RESULT	PROCEED TO
Customization item is "ON" (power back door system operation is possible)	A
Customization item is "OFF" (power back door system operation is prohibited)	B

B ▶ PERFORM CUSTOMIZE SETTING

A



2. CHECK CUSTOMIZE SETTING (UNLOCK KEY TWICE FUNCTION)

(a) Read the customize setting "Unlock Key Twice Function" according to the display on the GTS.

Click here [INFO](#)

RESULT	PROCEED TO
The customize setting is "Disable"	A
The customize setting is "Enable"	B

B ▶ PERFORM CUSTOMIZE SETTING**A****3. CHECK CUSTOMIZE SETTING (WIRELESS UNLOCK TWICE FUNCTION)**

(a) Read the customize setting "Wireless Unlock Twice Function" according to the display on the GTS.

Click here [INFO](#)

RESULT	PROCEED TO
The customize setting is "Disable"	A
The customize setting is "Enable"	B

B ▶ PERFORM CUSTOMIZE SETTING**A****4. CHECK CUSTOMIZE SETTING (ENTRY UNLOCK TWICE FUNCTION)**

(a) Read the customize setting "Entry Unlock Twice Function" according to the display on the GTS.

Click here [INFO](#)

RESULT	PROCEED TO
The customize setting is "Disable"	A
The customize setting is "Enable"	B

B ▶ PERFORM CUSTOMIZE SETTING**A**

5. CHECK FOR DTC

(a) Check for DTCs.

Body Electrical > Back Door > Trouble Codes

OK:

DTC is not output

NG  **GO TO DIAGNOSTIC TROUBLE CODE CHART**Click here **OK****6. READ VALUE USING GTS**

(a) Read the Data List according to the display on the GTS.

Body Electrical > Back Door > Data List

TESTER DISPLAY	MEASUREMENT ITEM	RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Half Latch Switch	Latch switch signal	ON or OFF	Back door opened condition: ON Back door closed condition: OFF	-
Closer Position Switch	Initial switch signal	ON or OFF	Back door opened condition: ON Back door closed condition: ON	-
Pawl Switch	Pawl switch signal	ON or OFF	Back door opened condition: OFF Back door closed condition: OFF	-
Courtesy Switch	Back door courtesy switch signal	ON or OFF	Back door opened condition: ON Back door closed condition: OFF	-

Body Electrical > Back Door > Data List

TESTER DISPLAY
Half Latch Switch
Closer Position Switch
Pawl Switch
Courtesy Switch

RESULT	PROCEED TO
The ON/OFF switches normally depending on the back door condition (open or close).	A
The ON/OFF not switches normally depending on the back door condition (open or close).	B

B  **GO TO STEP 18**

A


7.	CHECK POWER BACK DOOR SYSTEM CONDITION
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(a) Check the power back door system condition.

RESULT	PROCEED TO
Power back door does not operate normally	A
Power back door operates normally	B

B  **GO TO POWER BACK DOOR CANNOT BE OPERATED FREQUENTLY**

A


8.	CHECK COMBINATION METER FUNCTION
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(a) Operation check

- (1) Check that the shift position indicator light in the combination meter assembly operates correctly in accordance with the operation of the shift lever.
- (2) Confirm that the speedometer indicates 0 km/h when the vehicle is stopped.

OK:

The meter and gauge system operates correctly.

NG  **GO TO METER / GAUGE SYSTEM**Click here **OK****9.****CHECK HARNESS AND CONNECTOR (MULTIPLEX NETWORK DOOR ECU - AUXILIARY BATTERY AND BODY GROUND)**

- (a) Disconnect the W13, W17 and W16 multiplex network door ECU connectors.
- (b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

 **EWD INFO**[Click Location & Routing\(W17\)](#)[Click Connector\(W17\)](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
W17-4 (GND) - Body ground	Always	Below 1 Ω

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

Standard Voltage:

 **EWD INFO**[Click Location & Routing\(W13,W16\)](#)[Click Connector\(W13\)](#)[Click Connector\(W16\)](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
W13-7 (ECUB) - Body ground	Ignition switch off	11 to 14 V
W16-5 (B) - Body ground	Ignition switch off	11 to 14 V
W13-9 (IG) - Body ground	Ignition switch off	Below 1 V
	Ignition switch ON	11 to 14 V

NG  **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK



10.	READ VALUE USING GTS
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(a) Read the Data List according to the display on the GTS.

Body Electrical > Back Door > Data List

TESTER DISPLAY	MEASUREMENT ITEM	RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
PBD Main Switch	Power back door ON/OFF signal	ON or OFF	Current customize setting displayed	-
Door Lock Signal	Back door condition signal	Lock or Unlock	Lock: Back door locked Unlock: Back door unlocked	-

Body Electrical > Back Door > Data List

TESTER DISPLAY
PBD Main Switch
Door Lock Signal

RESULT	PROCEED TO
Either item is normal	A
"PBD Main SW" item does not switch to "ON" or "OFF" according to customize setting	B
"Door Lock Signal" item does not switch to "Lock" or "Unlock" according to operation to lock or unlock all doors	C

B  **GO TO AUDIO AND VISUAL SYSTEM**

Click here 

C  **GO TO STEP 16**



11.	READ VALUE USING GTS
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(a) Read the Data List according to the display on the GTS.

Body Electrical > Back Door > Data List

TESTER DISPLAY	MEASUREMENT ITEM	RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
PBD Touch Sensor RH	Power back door sensor assembly RH signal	ON, OFF or Open	ON: Power back door sensor assembly RH pressed OFF: Power back door sensor assembly RH not pressed Open: Power back door sensor assembly RH circuit open	-
PBD Touch Sensor LH	Power back door sensor assembly LH signal	ON, OFF or Open	ON: Power back door sensor assembly LH pressed OFF: Power back door sensor assembly LH not pressed Open: Power back door sensor assembly LH circuit open	-

Body Electrical > Back Door > Data List

TESTER DISPLAY
PBD Touch Sensor RH
PBD Touch Sensor LH

RESULT	PROCEED TO
On the GTS screen, ON or OFF is displayed accordingly	A
On the GTS screen, ON or OFF is not displayed accordingly or Open is displayed for power back door sensor assembly RH	B
On the GTS screen, ON or OFF is not displayed accordingly or Open is displayed for power back door sensor assembly LH	C

A **REPLACE MULTIPLEX NETWORK DOOR ECU**

C  **GO TO STEP 14**

B



12. INSPECT POWER BACK DOOR SENSOR ASSEMBLY RH

Click here 

NG  **REPLACE POWER BACK DOOR SENSOR ASSEMBLY RH**

OK



13. CHECK HARNESS AND CONNECTOR (POWER BACK DOOR SENSOR ASSEMBLY RH - MULTIPLEX NETWORK DOOR ECU)

- (a) Disconnect the W6 power back door sensor assembly RH connector.
- (b) Disconnect the W14 multiplex network door ECU connector.
- (c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



[Click Location & Routing\(W6,W14\).](#)

[Click Connector\(W6\).](#)

[Click Connector\(W14\).](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
W6-1 (OSR) - W14-8 (OSR)	Always	Below 1 Ω
W6-2 (OSRE) - W14-9 (OSE)	Always	Below 1 Ω
W6-1 (OSR) or W14-8 (OSR) - Body ground	Always	10 kΩ or higher
W6-2 (OSRE) or W14-9 (OSE) - Body ground	Always	10 kΩ or higher

OK  **REPLACE MULTIPLEX NETWORK DOOR ECU**

NG  **REPAIR OR REPLACE HARNESS OR CONNECTOR**

14. INSPECT POWER BACK DOOR SENSOR ASSEMBLY LH

Click here **NG**  **REPLACE POWER BACK DOOR SENSOR ASSEMBLY LH****OK****15.****CHECK HARNESS AND CONNECTOR (POWER BACK DOOR SENSOR ASSEMBLY LH - MULTIPLEX NETWORK DOOR ECU)**

- (a) Disconnect the W7 power back door sensor assembly LH connector.
- (b) Disconnect the W14 multiplex network door ECU connector.
- (c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

[Click Location & Routing\(W7,W14\).](#)[Click Connector\(W7\).](#)[Click Connector\(W14\).](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
W7-1 (OSL) - W14-1 (OSL)	Always	Below 1 Ω
W7-2 (OSLE) - W14-9 (OSE)	Always	Below 1 Ω
W7-1 (OSL) or W14-1 (OSL) - Body ground	Always	10 k Ω or higher
W7-2 (OSLE) or W14-9 (OSE) - Body ground	Always	10 k Ω or higher

OK  **REPLACE MULTIPLEX NETWORK DOOR ECU****NG**  **REPAIR OR REPLACE HARNESS OR CONNECTOR****16.****CHECK HARNESS AND CONNECTOR (MAIN BODY ECU (MULTIPLEX NETWORK BODY ECU) - MULTIPLEX NETWORK DOOR ECU)**

- (a) Disconnect the K15 main body ECU (multiplex network body ECU) connector.
- (b) Disconnect the W13 multiplex network door ECU connector.
- (c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

EWD INFO

[Click Location & Routing\(K15,W13\)](#)

[Click Connector\(K15\)](#)

[Click Connector\(W13\)](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K15-7 (LSBO) - W13-11 (LIB)	Always	Below 1 Ω
K15-7 (LSBO) or W13-11 (LIB) - Body ground	Always	10 kΩ or higher

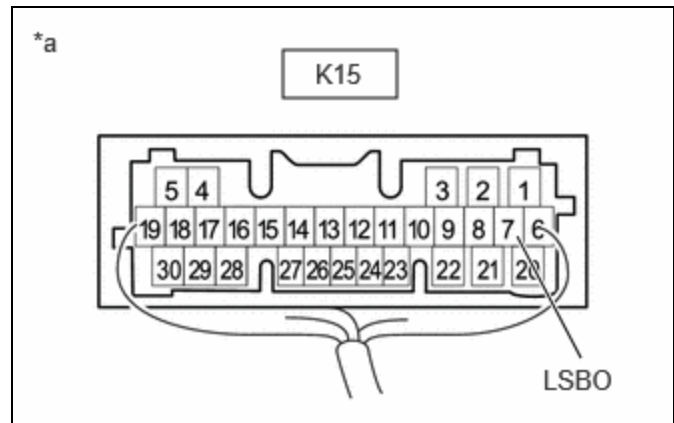
NG **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK



17. CHECK MAIN BODY ECU (MULTIPLEX NETWORK BODY ECU)

(a) Remove the main body ECU (multiplex network body ECU) with the connector(s) still connected.



*a	Component with harness connected (Main Body ECU (Multiplex Network Body ECU))
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(b) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

EWD INFO

[Click Location & Routing\(K15\)](#)

[Click Connector\(K15\)](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K15-7 (LSBO) - Body ground	Back door unlocked	Below 1 V

OK ▶ REPLACE MULTIPLEX NETWORK DOOR ECU

NG ▶ REPLACE MAIN BODY ECU (MULTIPLEX NETWORK BODY ECU)

Click here [INFO](#)

18. INSPECT BACK DOOR LOCK WITH COURTESY LIGHT SWITCH ASSEMBLY

Click here [INFO](#)

NG ▶ REPLACE BACK DOOR LOCK WITH COURTESY LIGHT SWITCH ASSEMBLY

OK
▼

19. CHECK HARNESS AND CONNECTOR (MULTIPLEX NETWORK DOOR ECU - BACK DOOR LOCK WITH COURTESY LIGHT SWITCH ASSEMBLY)

- (a) Disconnect the W17 multiplex network door ECU connector.
- (b) Disconnect the W9 back door lock with courtesy light switch assembly connector.
- (c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



[Click Location & Routing\(W17,W9\).](#)

[Click Connector\(W17\).](#)

[Click Connector\(W9\).](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
W17-2 (DC+) - W9-2 (M+)	Always	Below 1 Ω
W17-6 (DC-) - W9-1 (M-)	Always	Below 1 Ω
W17-2 (DC+) or W9-2 (M+) - Body ground	Always	10 kΩ or higher
W17-6 (DC-) or W9-1 (M-) - Body ground	Always	10 kΩ or higher

OK ▶ REPLACE MULTIPLEX NETWORK DOOR ECU

NG ▶ REPAIR OR REPLACE HARNESS OR CONNECTOR

