

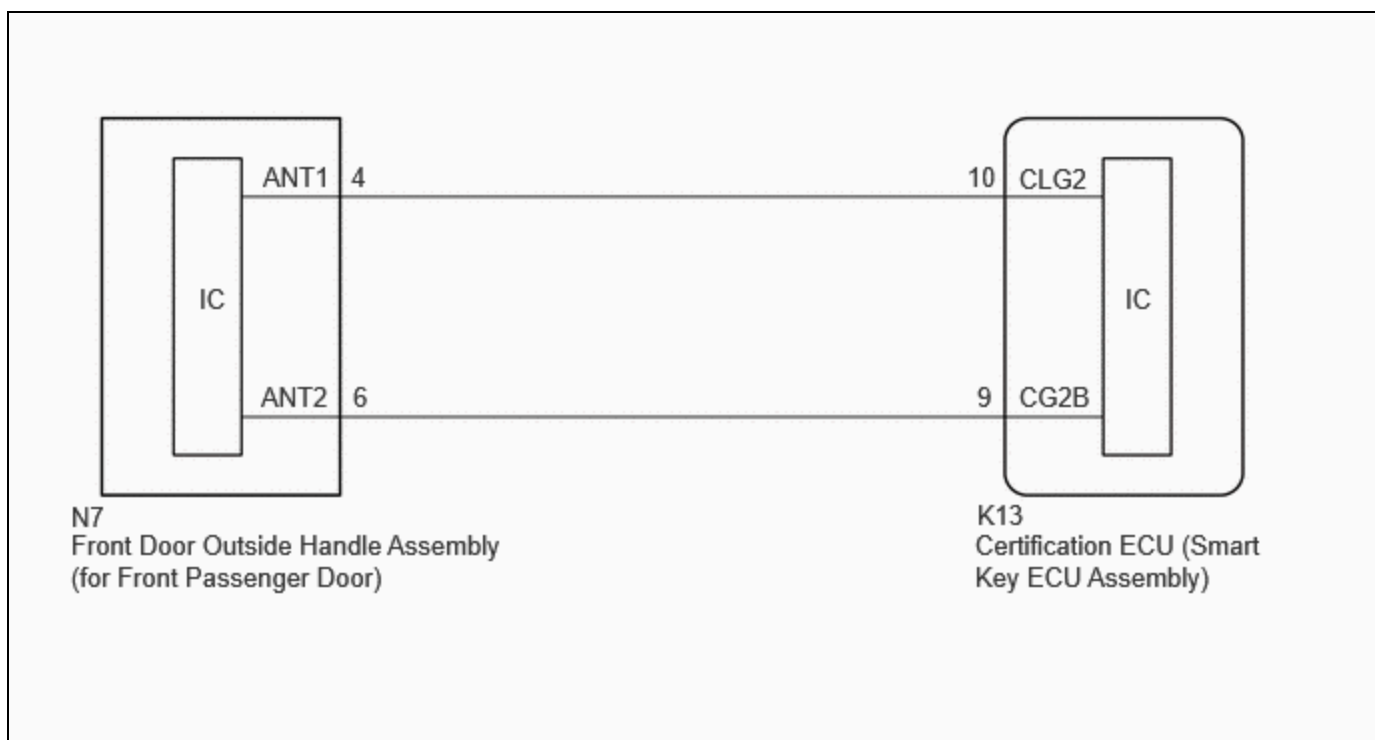
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<b>Model Year Start:</b> 2023	<b>Model:</b> Prius Prime	<b>Prod Date Range:</b> [12/2022 - ]
<b>Title:</b> THEFT DETERRENT / KEYLESS ENTRY: SMART KEY SYSTEM (for Entry Function): Front Passenger Side Door Entry Unlock Function does not Operate; 2023 - 2024 MY Prius Prius Prime [12/2022 - ]		

## Front Passenger Side Door Entry Unlock Function does not Operate

## DESCRIPTION

If the entry unlock function does not operate for the front passenger door only, but the entry lock function operates, the request code is being transmitted properly from the front passenger door. In this case, there may be a problem related to the unlock sensor (connection between the certification ECU (smart key ECU assembly) and front door outside handle assembly (for front passenger door)).

## WIRING DIAGRAM



## CAUTION / NOTICE / HINT

### NOTICE:

- When using the GTS with the ignition switch off, perform lock and unlock operations using the door control switch of the multiplex network master switch assembly at intervals of 1.5 seconds or less until communication between the GTS and the vehicle begins, and then select the vehicle model manually.

Then select Model Code "KEY REGIST" under manual mode and enter the following menus: Body Electrical / Smart Key(CAN). While using the GTS, periodically perform lock and unlock operations using the door control switch of the multiplex network master switch assembly at intervals of 1.5 seconds or less to maintain communication between the GTS and the vehicle.

- The smart key system (for Entry Function) uses the CAN communication system. Inspect the communication function by following How to Proceed with Troubleshooting. Troubleshoot the smart key system (for Entry Function) after confirming that the communication systems are functioning properly.

[Click here](#) **INFO**

- Before replacing the certification ECU (smart key ECU assembly), refer to Precaution.

[Click here](#) **INFO**

- Check that there are no electrical key transmitter sub-assemblies in the vehicle.
- After repair, confirm that no DTCs are output.

## **PROCEDURE**

### **1. CHECK POWER DOOR LOCK SYSTEM**

(a) When the door control switch on the multiplex network master switch assembly is operated, check that the doors unlock and lock according to the switch operation.

[Click here](#) **INFO**

OK:

Door locks operate normally.

**NG**  **GO TO POWER DOOR LOCK SYSTEM**

[Click here](#) **INFO**

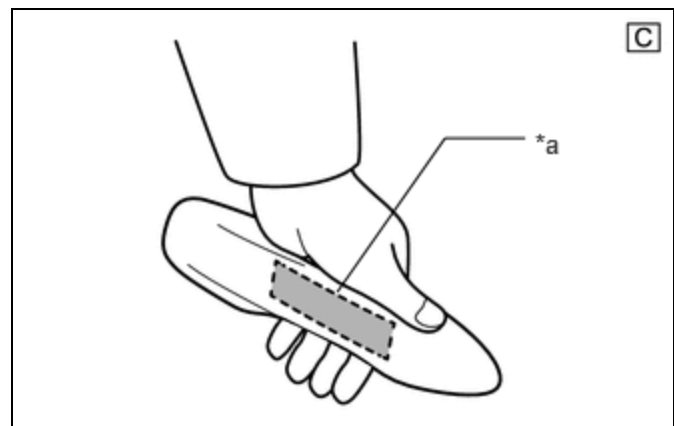
**OK**



### **2. CHECK ENTRY OPERATION**

(a) Check the entry unlock function.

(1) Turn the ignition switch off.



\*a | Unlock Sensor (Backside)

(2) Open and close the front passenger door.

- (3) With the electrical key transmitter sub-assembly outside of the vehicle, press the lock switch of the electrical key transmitter sub-assembly to lock all of the doors.
- (4) Hold the electrical key transmitter sub-assembly at the same height as the door outside handle assembly and approximately 0.3 m (0.984 ft.) from the front passenger door.
- (5) Check that the LED of the electrical key transmitter sub-assembly blinks.
- (6) Touch the unlock sensor on the backside of the front door outside handle assembly (for front passenger door) for 2 seconds or more.\*

\*: Perform this step 3 seconds or more after performing step (3).

**HINT:**

When checking the operation of the unlock sensor again, make sure to perform the procedure from step (1).

RESULT	PROCEED TO
Entry function does not operate normally	A
Entry function operates normally	B

**B** ▶ **GO TO CHECK FOR INTERMITTENT PROBLEMS (VEHICLE CONTROL HISTORY (ROB))**

**A**  
▼

<b>3.</b>	<b>READ VALUE USING GTS (FR DOOR LOCK POSITION SWITCH STATUS)</b>
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(a) Read the Data List according to the display on the GTS.

**Body Electrical > Main Body > Data List**

TESTER DISPLAY	MEASUREMENT ITEM	RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
FR Door Lock Position Switch Status	Front door RH unlock detection switch signal	Lock or Unlock	Lock: Front door RH locked Unlock: Front door RH unlocked	-

**Body Electrical > Main Body > Data List**

TESTER DISPLAY
FR Door Lock Position Switch Status

OK:

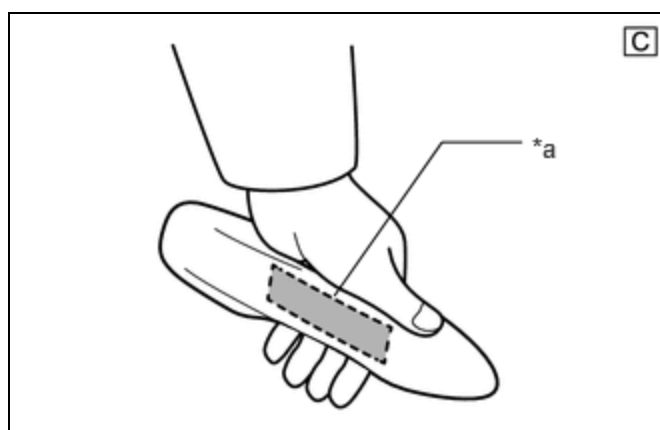
The GTS display changes correctly in response to the lock/unlock operation of the front passenger door.

**NG** ► **GO TO LIGHTING SYSTEM (Proceed to Door Unlock Detection Switch Circuit)**

OK



#### 4. READ VALUE USING GTS (PASSENGER SIDE UNLOCK SENSOR)



*a	Unlock Sensor (Backside)
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(a) Open and close the front passenger door.

- (b) With the electrical key transmitter sub-assembly outside of the vehicle, press the lock switch of the electrical key transmitter sub-assembly to lock all of the doors.
- (c) Hold the electrical key transmitter sub-assembly at the same height as the door outside handle assembly and approximately 0.3 m (0.984 ft.) from the front passenger door.
- (d) Check that the LED of the electrical key transmitter sub-assembly blinks.
- (e) Read the Data List according to the display on the GTS.
- (f) Touch the unlock sensor on the backside of the front door outside handle assembly (for front passenger door) for 2 seconds or more.\*

\*: Perform this step 3 seconds or more after performing step (b).

#### HINT:

When checking the operation of the unlock sensor again, make sure to perform the procedure from step (a).

**Body Electrical > Smart Key > Data List**

TESTER DISPLAY	MEASUREMENT ITEM	RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Passenger Side Unlock Sensor	Front passenger door touch sensor (unlock sensor)	OFF or ON	<p>OFF: Front passenger door touch sensor (unlock sensor) not touched</p> <p>ON: Front passenger door touch sensor (unlock sensor) touched</p>	<ul style="list-style-type: none"> <li>Displays whether the unlock sensor is on or off (even if the sensor is touched and contact is maintained, "ON" is displayed only momentarily).</li> <li>Use this Data List item to help determine if there is an unlock sensor malfunction when the entry unlock function does not operate.</li> </ul>

**Body Electrical > Smart Key > Data List**

TESTER DISPLAY
Passenger Side Unlock Sensor

OK:

The GTS display changes correctly in response to the operation of the front door outside handle assembly (for front passenger door).

**OK**  **REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)**

Click here 

**NG**



<b>5.</b>	<b>CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU (SMART KEY ECU ASSEMBLY) - FRONT DOOR OUTSIDE HANDLE ASSEMBLY (FOR FRONT PASSENGER DOOR))</b>
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- (a) Disconnect the K13 certification ECU (smart key ECU assembly) connector.
- (b) Disconnect the N7 front door outside handle assembly (for front passenger door) connector.
- (c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



[Click Location & Routing\(K13\)](#)

[Click Connector\(K13\)](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K13-10 (CLG2) - N7-4 (ANT1)	Always	Below 1 $\Omega$
K13-9 (CG2B) - N7-6 (ANT2)	Always	Below 1 $\Omega$
K13-10 (CLG2) or N7-4 (ANT1) - Other terminals and body ground	Always	10 k $\Omega$ or higher
K13-9 (CG2B) or N7-6 (ANT2) - Other terminals and body ground	Always	10 k $\Omega$ or higher

(d) Connect the N7 front door outside handle assembly (for front passenger door) connector.

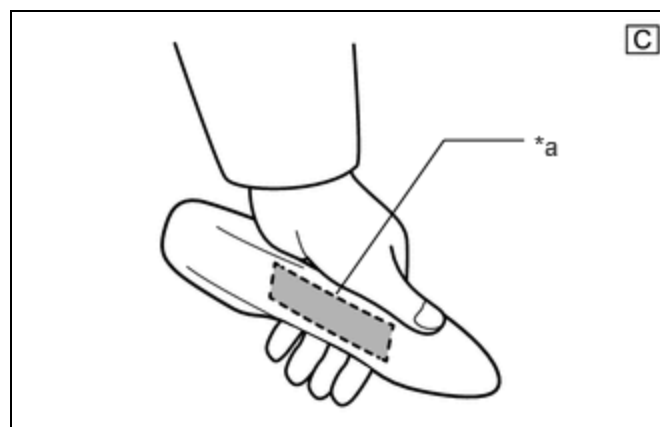
(e) Connect the K13 certification ECU (smart key ECU assembly) connector.

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

**OK**



**6. READ VALUE USING GTS (PASSENGER SIDE UNLOCK SENSOR)**



\*a Unlock Sensor (Backside)

(a) Open and close the front passenger door.

(b) With the electrical key transmitter sub-assembly outside of the vehicle, press the lock switch of the electrical key transmitter sub-assembly to lock all of the doors.

(c) Hold the electrical key transmitter sub-assembly at the same height as the door outside handle assembly and approximately 0.3 m (0.984 ft.) from the front passenger door.

(d) Check that the LED of the electrical key transmitter sub-assembly blinks.

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

(f) Touch the unlock sensor on the backside of the front door outside handle assembly (for front passenger door) for 2 seconds or more.\*

\*: Perform this step 3 seconds or more after performing step (b).

**HINT:**

When checking the operation of the unlock sensor again, make sure to perform the procedure from step (a).

**Body Electrical > Smart Key > Data List**

TESTER DISPLAY	MEASUREMENT ITEM	RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Passenger Side Unlock Sensor	Front passenger door touch sensor (unlock sensor)	OFF or ON	OFF: Front passenger door touch sensor (unlock sensor) not touched  ON: Front passenger door touch sensor (unlock sensor) touched	<ul style="list-style-type: none"> <li>Displays whether the unlock sensor is on or off (even if the sensor is touched and contact is maintained, "ON" is displayed only momentarily).</li> <li>Use this Data List item to help determine if there is an unlock sensor malfunction when the entry unlock function does not operate.</li> </ul>

**Body Electrical > Smart Key > Data List**

TESTER DISPLAY
Passenger Side Unlock Sensor

OK:

The GTS display changes correctly in response to the operation of the front door outside handle assembly (for front passenger door).

**OK** ► END (CONNECTOR WAS NOT CONNECTED SECURELY)

**NG** ► REPLACE FRONT DOOR OUTSIDE HANDLE ASSEMBLY (FOR FRONT PASSENGER DOOR)

Click here [INFO](#)

