Last Modified: 12-04-2024	6.11:8.1.0	**Doc ID:** RM100000002OWLE
Model Year Start: 2023	**Model:** Prius Prime	**Prod Date Range:** [12/2022 -]
Title: THEFT DETERRENT / KEYLESS ENTRY: SMART KEY SYSTEM (for Entry Function): Entry Lock/Unlock Functions and Wireless Functions do not Operate After New/Additional Key ID Registration; 2023 - 2024 MY Prius Prius Prime [12/2022 -]		

Entry Lock/Unlock Functions and Wireless Functions do not Operate After New/Additional Key ID Registration

DESCRIPTION

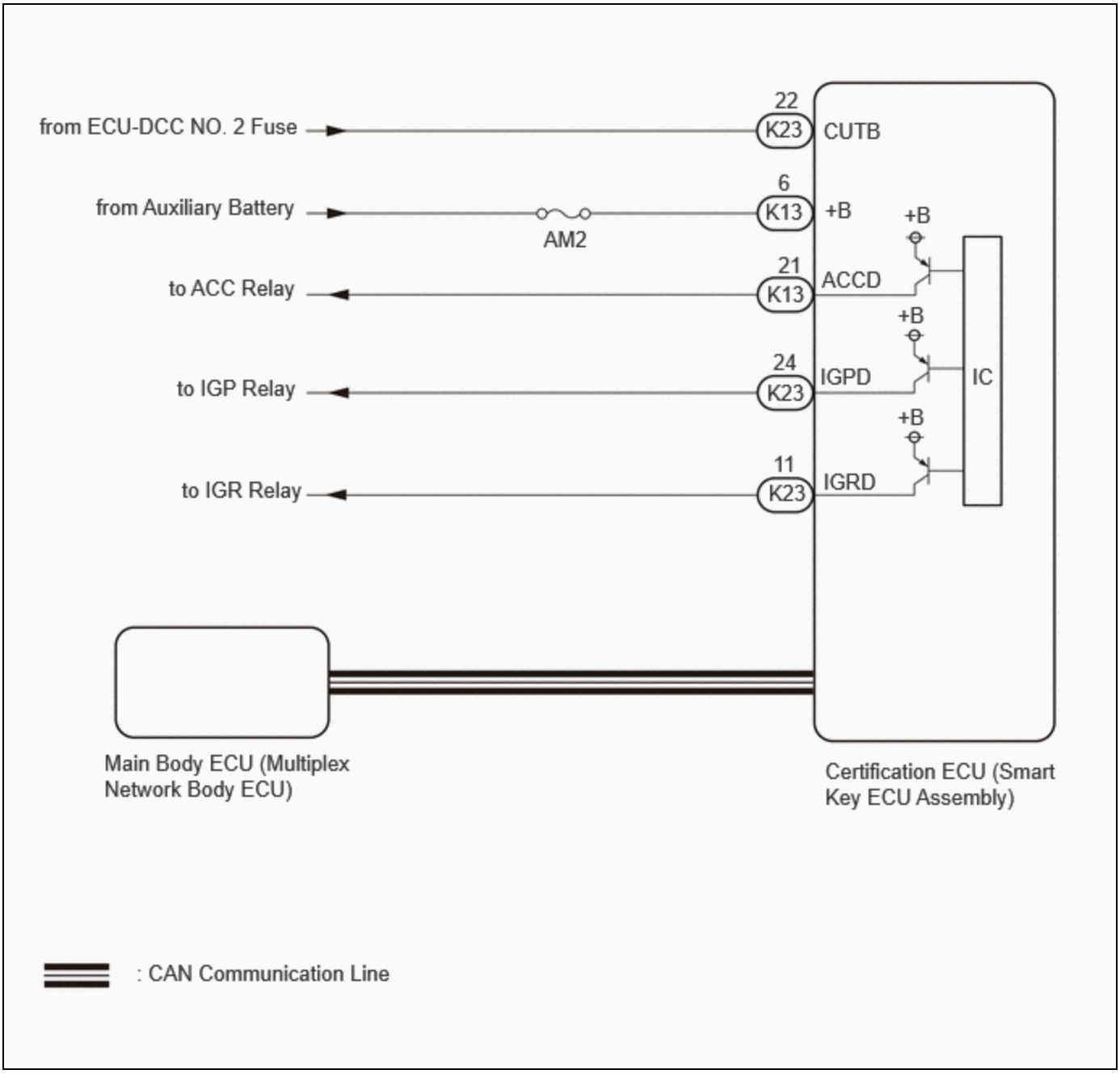
If all of the following conditions are met after an error message is displayed on the screen of the GTS during registration, or after performing new key ID registration or additional key ID registration, it is suspected that there is an ID code registration failure between the certification ECU (smart key ECU assembly) and main body ECU (multiplex network body ECU), or there is a certification ECU (smart key ECU assembly) or main body ECU (multiplex network body ECU) malfunction.

- It is possible to start the hybrid control system
- Wireless door lock/unlock operation is not possible
- Entry lock/unlock operation is not possible

Also, if the hybrid control system does not start, refer to the following and perform troubleshooting as the suspected cause is a malfunction of the electrical key transmitter sub-assembly, smart key system (for start function), etc.

Click here INFO

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) or main body ECU (multiplex network body ECU), refer to Precaution.

Click here INFO

- If the electrical key and tire pressure monitoring system receiver assembly is replaced, it is necessary to register the electrical key transmitter sub-assemblies to the new electrical key and tire pressure monitoring system receiver assembly and perform registration and initialization.

  For registration: Click here INFO

  For initialization: Click here INFO
- Check that there are no electrical key transmitter sub-assemblies in the vehicle.
- After repair, confirm that no DTCs are output.
- Inspect the fuses for circuits related to this system before performing the following procedure.

PROCEDURE

1.	**CHECK WHETHER HYBRID CONTROL SYSTEM STARTS**

(a) Using the electrical key transmitter sub-assembly that was used for key ID registration, check if the hybrid control system starts.

OK:

Hybrid control system starts normally.

NG ▶ **GO TO NEXT PROCEDURE OF HOW TO PROCEED WITH TROUBLESHOOTING**

OK ▼

2.	**PERFORM REGISTRATION**

(a) Perform registration of the ECU code.

HINT:

Refer to registration (ECU CODE REGISTRATION).

Click here INFO

NEXT ▼

3.	**CHECK ENTRY OPERATION**

(a) After completing ECU code registration, check that the entry lock and unlock functions can be operated 2 times consecutively.

Click here INFO

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

B ▶ **END (B CODE REGISTRATION FAILED)**

A ▼

4.	**READ VALUE USING GTS (B CODE REGISTERED)**

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

Body Electrical > Smart Key > Data List

TESTER DISPLAY	MEASUREMENT ITEM	RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
B Code Registered	ECU code registration status	No or Yes	No: ECU code is not registered properly Yes: ECU code is registered properly	-

Body Electrical > Smart Key > Data List

TESTER DISPLAY
B Code Registered

NOTICE:

If "No" is displayed on the GTS screen, perform the following procedure again. (maximum of 3 times)

- PERFORM REGISTRATION
- CHECK ENTRY OPERATION
- READ VALUE USING GTS (B CODE REGISTERED)

However, if the problem symptoms do not disappear, proceed to the procedure according to Range.

RESULT	PROCEED TO
"Yes" is displayed on the GTS	A
"No" is displayed on the GTS	B

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

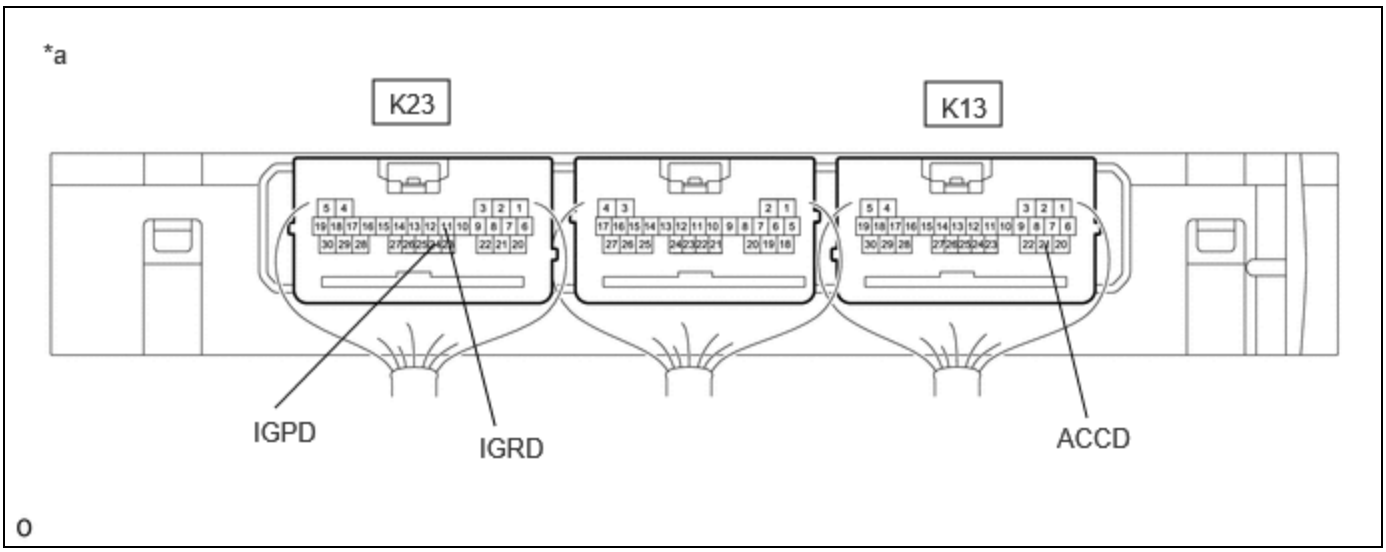
Click here INFO

A

5.	**CHECK CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)**

(a) Measure the voltage while checking the Data List on the GTS.

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



*a	Component with harness connected (Certification ECU (Smart Key ECU Assembly))	-	-

Body Electrical > Power Source Control > Data List

TESTER DISPLAY	MEASUREMENT ITEM	RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Power Supply Condition	Power supply state	OFF, ACC ON, IGR ON, IGP ON or Starter ON	OFF: Ignition switch off ACC ON: Ignition switch ACC IGR ON: Ignition switch ON IGP ON: Ignition switch ON Starter ON: Sending hybrid control system start request signal	-

Body Electrical > Power Source Control > Data List

TESTER DISPLAY
Power Supply Condition

Standard Voltage:

EWD INFO

Click Location & Routing(K23,K13)
Click Connector(K23)
Click Connector(K13)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K23-11 (IGRD) - Body ground	Ignition switch off	Below 1 V
	Ignition switch ACC	Below 1 V
	Ignition switch ON	9 V or higher
K23-24 (IGPD) - Body ground	Ignition switch off	Below 1 V
	Ignition switch ACC	Below 1 V
	Ignition switch ON	9 V or higher
K13-21 (ACCD) - Body ground	Ignition switch off	Below 1 V
	Ignition switch ACC	8.5 V or higher
	Ignition switch ON	8.5 V or higher

NG ▶ **REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)**

Click here INFO

OK ▼

6.	**READ VALUE USING GTS (IGR POWER)**

(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
IGR Power	Ignition switch status	OFF or ON	OFF: Ignition switch off ON: Ignition switch ON	-

Body Electrical > Main Body > Data List

TESTER DISPLAY
IGR Power

HINT:

If the certification ECU (smart key ECU assembly) misjudges for any reason that the ignition switch is ON even though the ignition switch is off, the entry lock and unlock functions will be disabled.

RESULT	PROCEED TO
The main body ECU (multiplex network body ECU) judges properly that the power source is off when the ignition switch is off	A
The main body ECU (multiplex network body ECU) does not judge properly that the power source is off when the ignition switch is off	B

B ▶ **TROUBLESHOOT MAIN BODY ECU (MULTIPLEX NETWORK BODY ECU)**

A

7.	CHECK ENTRY OPERATION

(a) Disconnect and reconnect the certification ECU (smart key ECU assembly) connectors.

(b) Check that the function operates normally.

Click here INFO

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

B ▶ **END (CONNECTOR WAS NOT CONNECTED SECURELY)**

A

8.	REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

(a) Replace the certification ECU (smart key ECU assembly) with a new one and perform registration again.

HINT:

Refer to registration.

Click here INFO

NEXT

9.	**CHECK WIRELESS DOOR LOCK CONTROL SYSTEM**

(a) Check that the function operates normally.

Click here INFO

RESULT	PROCEED TO
Wireless door lock function operates normally	A
Wireless door lock function does not operate normally	B

A **END (CERTIFICATION ECU (SMART KEY ECU ASSEMBLY) WAS DEFECTIVE)**

B **REPLACE MAIN BODY ECU (MULTIPLEX NETWORK BODY ECU)**

Click here INFO