Last Modified: 12-04-2024	6.11:8.1.0	**Doc ID:** RM100000002909Z
Model Year Start: 2023	**Model:** Prius Prime	**Prod Date Range:** [12/2022 -]
Title: THEFT DETERRENT / KEYLESS ENTRY: SMART KEY SYSTEM (for Start Function): B279A12; Engine Immobiliser System Circuit Short to Battery; 2023 - 2024 MY Prius Prius Prime [12/2022 -]		

DTC	**B279A12**	**Engine Immobiliser System Circuit Short to Battery**

DESCRIPTION

If the communication line (IMI - EFIO) between the hybrid vehicle control ECU and ID code box (immobiliser code ECU) is stuck high, the hybrid vehicle control ECU will store this DTC.

DTC NO.	DETECTION ITEM	DTC DETECTION CONDITION	TROUBLE AREA	DTC OUTPUT FROM	PRIORITY	NOTE
B279A12	Engine Immobiliser System Circuit Short to Battery	The communication line (IMI - EFIO) between the hybrid vehicle control ECU and ID code box (immobiliser code ECU) is stuck high. (1 trip detection logic*)	• ID code box (immobiliser code ECU) • Hybrid vehicle control ECU • Wire harness or connector	Hybrid Control	A	DTC output confirmation operation: Turn the ignition switch to ON and wait 6 seconds.

*: Only output while a malfunction is present.

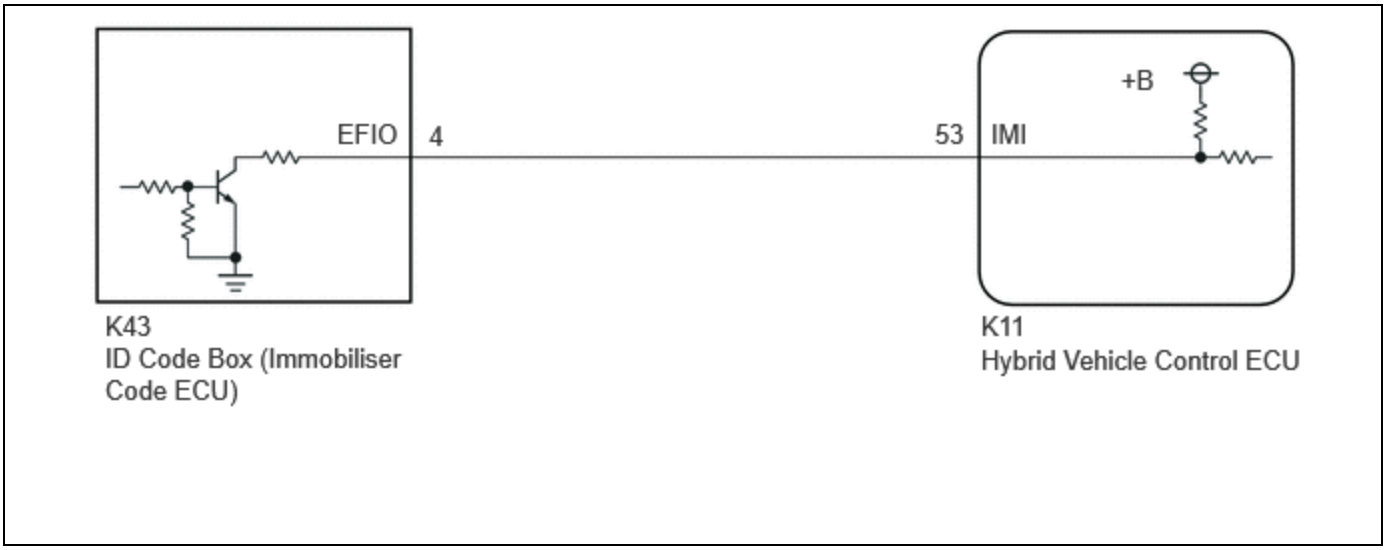
Vehicle Condition and Fail-safe Operation when Malfunction Detected

VEHICLE CONDITION WHEN MALFUNCTION DETECTED	FAIL-SAFE OPERATION WHEN MALFUNCTION DETECTED
Hybrid control system cannot be started	Hybrid control system cannot be started

Related Data List and Active Test

DTC NO.	DATA LIST AND ACTIVE TEST
B279A12	-

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

  Click here INFO
- Before replacing the hybrid vehicle control ECU or ID code box (immobiliser code ECU), refer to Registration.

  Click here INFO
- After performing repairs, confirm that no DTCs are output by performing "DTC Output Confirmation Operation".
- When the hybrid vehicle control ECU is replaced, update the ECU security key.

  Click here INFO

HINT:

When DTC B279A12 and the certification ECU (smart key ECU assembly) DTC are output simultaneously, first perform troubleshooting for the certification ECU (smart key ECU assembly) DTC.

PROCEDURE

1.	**CHECK CONNECTION OF CONNECTOR**

Pre-procedure1

(a) Turn the ignition switch off.

Procedure1

(b) Check that the connectors are properly connected to the hybrid vehicle control ECU and ID code box (immobiliser code ECU).

OK:

Connectors are properly connected.

Post-procedure1

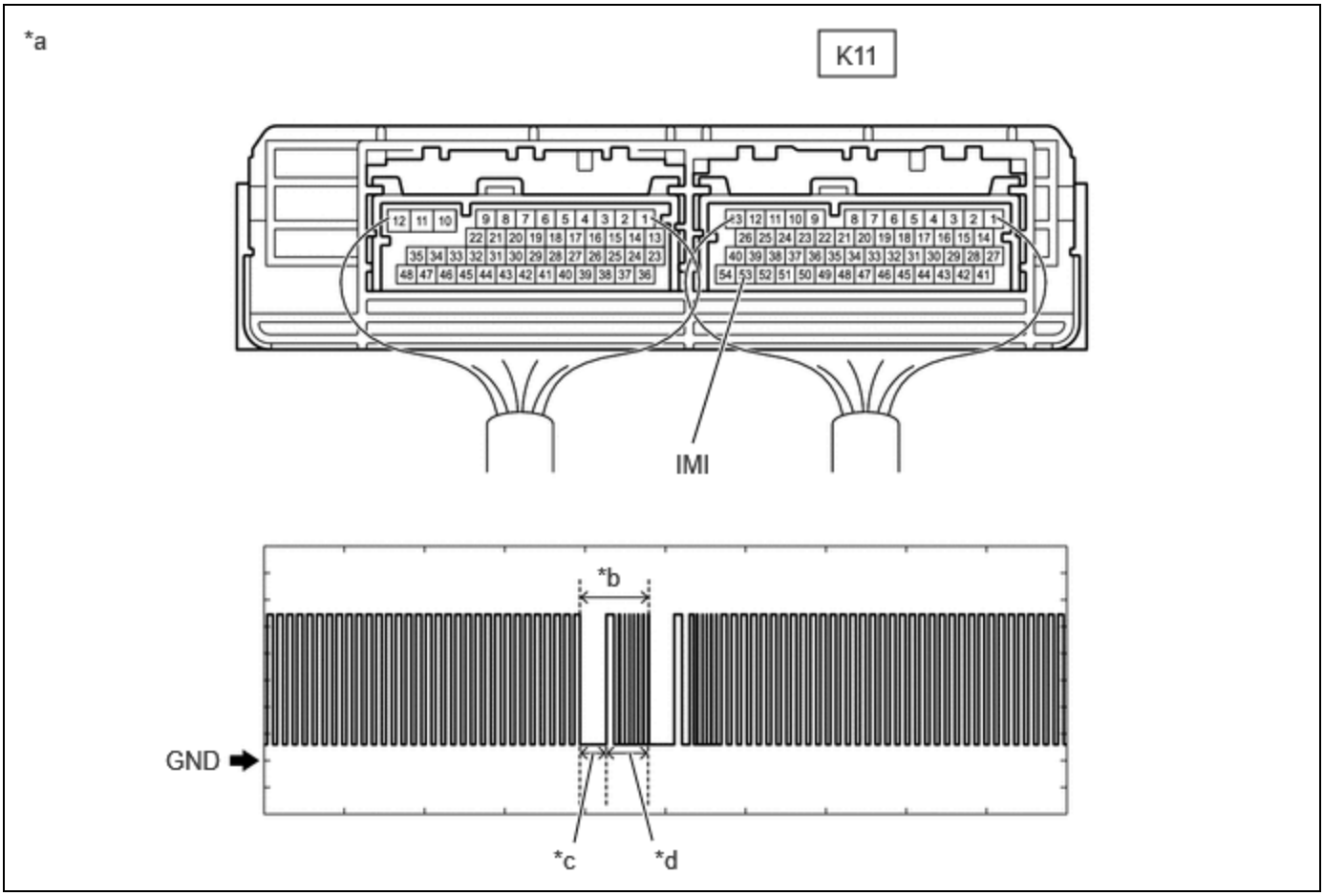
(c) None

NG ▶ **CONNECT CONNECTORS PROPERLY**

OK ▼

2.	**CHECK HYBRID VEHICLE CONTROL ECU (TERMINAL IMI)**

(a) Using an oscilloscope, check the waveform.



*a	Component with harness connected (Hybrid Vehicle Control ECU)	*b	Waveform
*c	Approximately 160 ms.	*d	Approximately 270 ms.

OK:

EWD INFO

Click Location & Routing(K11)
Click Connector(K11)

TESTER CONNECTION	CONDITION	TOOL SETTING	SPECIFIED CONDITION
K11-53 (IMI) - Body ground	Within 3 seconds of hybrid control system start or within 3 seconds of ignition switch turned to ON after cable disconnected and reconnected to auxiliary battery	2 V/DIV., 500 ms./DIV.	Pulse generation (See waveform)

RESULT	PROCEED TO
11 to 14 V	A
Below 1 V	B
Normal waveform	B

B ▶ **REPLACE HYBRID VEHICLE CONTROL ECU** INFO

A ▼

3.	**CHECK HARNESS AND CONNECTOR (ID CODE BOX (IMMOBILISER CODE ECU) - HYBRID VEHICLE CONTROL ECU)**

Pre-procedure1

(a) Disconnect the K11 hybrid vehicle control ECU connector.

(b) Disconnect the K43 ID code box (immobiliser code ECU) connector.

Procedure1

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

Standard Resistance:

EWD INFO

Click Location & Routing(K43,K11)
Click Connector(K43)
Click Connector(K11)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
K43-4 (EFIO) - K11-53 (IMI)	Always	Below 1 Ω	Ω

Post-procedure1

(d) None

OK ▶ **REPLACE ID CODE BOX (IMMOBILISER CODE ECU)**

INFO

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