Last Modified: 12-04-2024	6.11:8.1.0	**Doc ID:** RM10000000299KF
Model Year Start: 2023	**Model:** Prius Prime	**Prod Date Range:** [12/2022 -]
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM: B124296; Wireless Door Lock Tuner Component Internal Failure; 2023 - 2024 MY Prius Prius Prime [12/2022 -]		

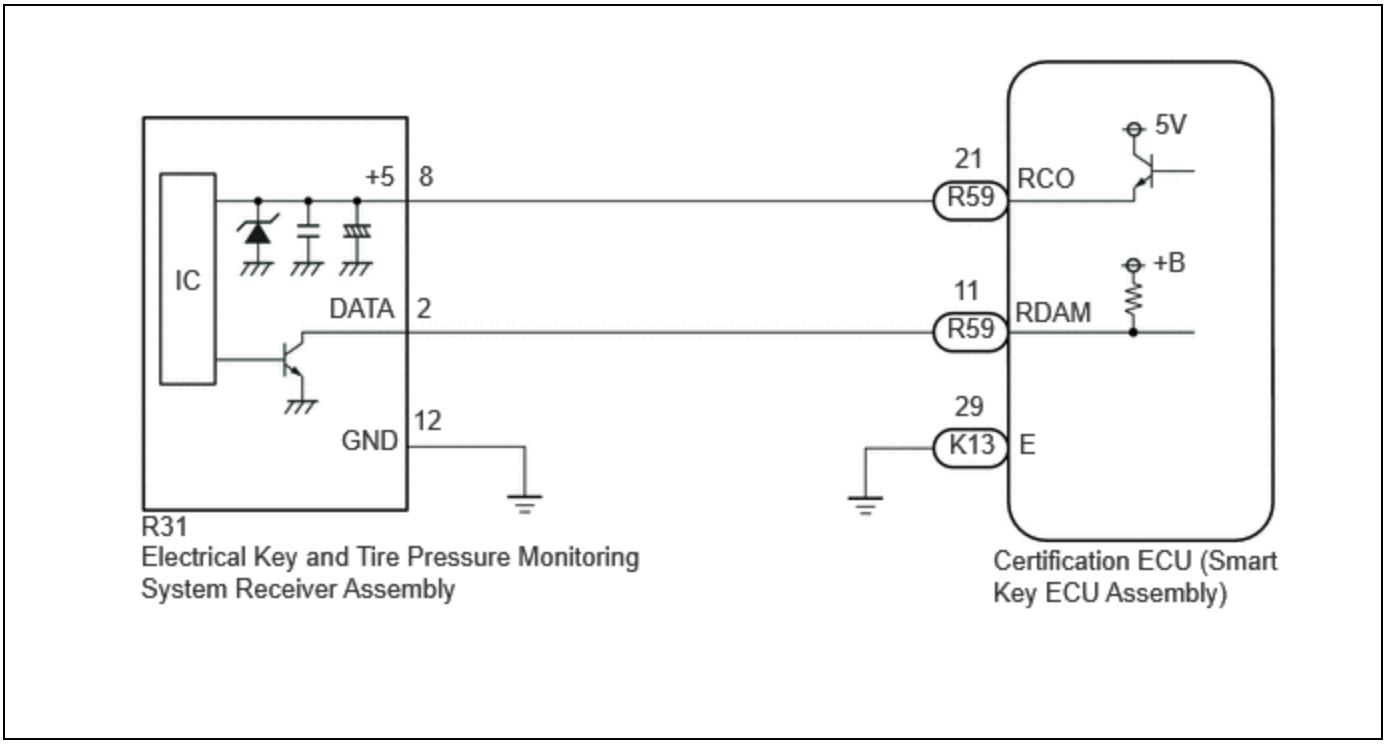
DTC	**B124296**	**Wireless Door Lock Tuner Component Internal Failure**

DESCRIPTION

The electrical key and tire pressure monitoring system receiver assembly is used to receive radio waves related to the entry functions of the electrical key transmitter sub-assembly. The certification ECU (smart key ECU assembly) decodes the requested electrical key transmitter sub-assembly operation by identifying a key code based on the radio waves received via the electrical key and tire pressure monitoring system receiver assembly. The electrical key and tire pressure monitoring system receiver assembly receives a signal from the electrical key transmitter sub-assembly and sends signals to the main body ECU (multiplex network body ECU) through the certification ECU (smart key ECU assembly). (ex. If a door lock operation is requested, the certification ECU (smart key ECU assembly) sends a door lock command to the main body ECU (multiplex network body ECU)).

DTC NO.	DETECTION ITEM	DTC DETECTION CONDITION	TROUBLE AREA	DTC OUTPUT FROM	PRIORITY
B124296	Wireless Door Lock Tuner Component Internal Failure	• Short to ground in RDAM terminal circuit between the certification ECU (smart key ECU assembly) and electrical key and tire pressure monitoring system receiver assembly. • Short to ground in RDAM terminal circuit when voltage (5 V) is not being output from terminal RCO	• Wire harness or connector • Electrical key and tire pressure monitoring system receiver assembly • Certification ECU (smart key ECU assembly)	Smart Key	A

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

  Click here INFO
- When replacing or inspecting the electrical key and tire pressure monitoring system receiver assembly and wire harness, do not change the position or length of the wire harness. If the wire harness is too close to the electrical key and tire pressure monitoring system receiver assembly, the performance of the entry function and wireless function may be affected.
- The detection conditions of this DTC cannot be met within 10 seconds of the ignition switch being turned from off to ON or ON to off.
- Make sure that there are no electrical key transmitter sub-assemblies in the vehicle.
- When replacing the electrical key and tire pressure monitoring system receiver assembly, read the transmitter IDs (tire pressure warning system) stored in the old ECU using the GTS and write them down before removal.

  Click here INFO
- If the electrical key and tire pressure monitoring system receiver assembly has been replaced, it is necessary to perform initialization (Click here INFO) after registration (Click here INFO) of the transmitter IDs to the electrical key and tire pressure monitoring system receiver assembly.

PROCEDURE

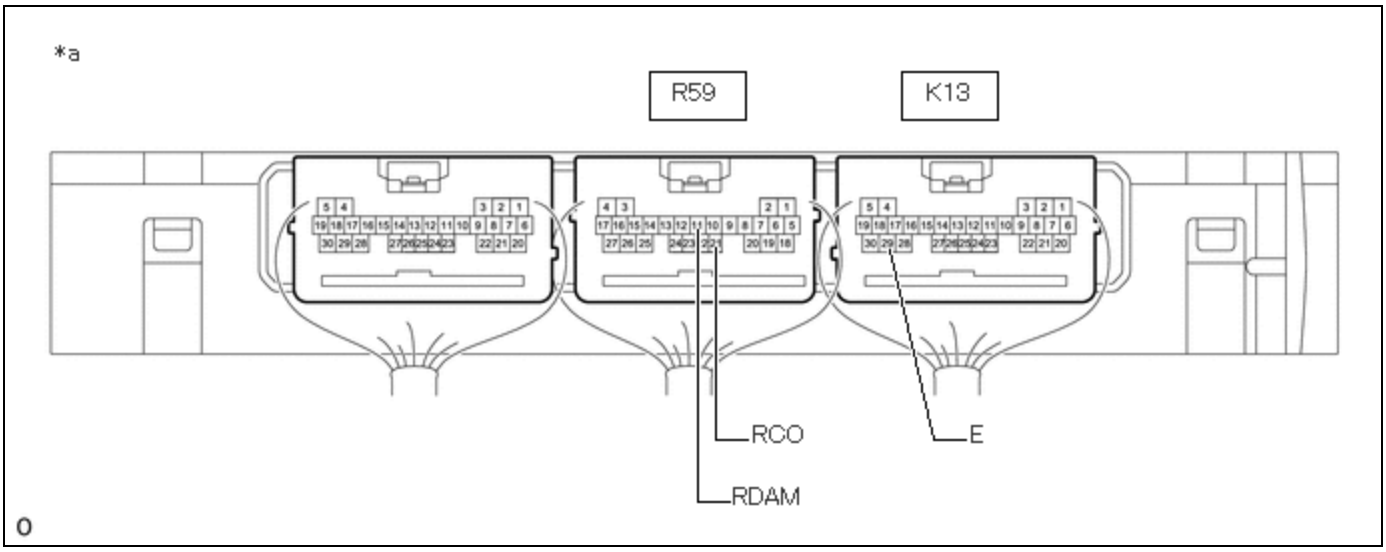
1.	**CHECK CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)**

Pre-procedure1

(a) Disconnect the R31 electrical key and tire pressure monitoring system receiver assembly connector.

Procedure1

(b) Measure the voltage and resistance and check for pulses according to the value(s) in the table below.



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

Standard Resistance:

EWD INFO

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

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K13-29 (E) - Body ground	Always	Below 1 Ω

Standard Voltage:

EWD INFO

Click Location & Routing(R59,K13)
Click Connector(R59)
Click Connector(K13)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R59-11 (RDAM) - K13-29 (E)	Always	11 to 14 V
R59-21 (RCO) - K13-29 (E)	Always	Below 1 V → 4.5 to 5.5 V pulse generation at regular intervals

Post-procedure1

(c) None

OK ▶ REPLACE ELECTRICAL KEY AND TIRE PRESURE MONITORING SYSTEM RECEIVER ASSEMBLY INFO

NG

2.	**CHECK HARNESS AND CONNECTOR (ELECTRICAL KEY AND TIRE PRESURE MONITORING SYSTEM RECEIVER ASSEMBLY - CERTIFICATION ECU (SMART KEY ECU ASSEMBLY) AND BODY GROUND)**

Pre-procedure1

(a) Disconnect the R59 certification ECU (smart key ECU assembly) connector.

Procedure1

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

Standard Resistance:

EWD INFO

Click Location & Routing(R31,R59)
Click Connector(R31)
Click Connector(R59)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R31-2 (DATA) - R59-11 (RDAM)	Always	Below 1 Ω
R31-8 (+5) - R59-21 (RCO)	Always	Below 1 Ω
R31-12 (GND) - Body ground	Always	Below 1 Ω
R31-2 (DATA) or R59-11 (RDAM) - Other terminals and body ground	Always	10 kΩ or higher
R31-8 (+5) or R59-21 (RCO) - Other terminals and body ground	Always	10 kΩ or higher

Post-procedure1

(c) None

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

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