Last Modified: 12-04-2024	6.11:8.1.0	**Doc ID:** RM1000000029A3Z
Model Year Start: 2023	**Model:** Prius Prime	**Prod Date Range:** [12/2022 -]
Title: HYBRID / BATTERY CONTROL: HYBRID BATTERY SYSTEM (for M20A-FXS): P0A1D94; Hybrid/EV Powertrain Control Module Unexpected Operation; 2023 - 2024 MY Prius Prius Prime [12/2022 -]		

DTC	**P0A1D94**	**Hybrid/EV Powertrain Control Module Unexpected Operation**

DESCRIPTION

The battery ECU assembly monitors the hybrid vehicle control ECU via CAN communication. If the battery ECU assembly detects that the hybrid vehicle control ECU is malfunctioning, it will illuminate the MIL and store a DTC.

DTC NO.	DETECTION ITEM	DTC DETECTION CONDITION	TROUBLE AREA	MIL	WARNING INDICATE	DTC OUTPUT FROM	PRIORITY	NOTE
P0A1D94	Hybrid/EV Powertrain Control Module Unexpected Operation	Hybrid vehicle control ECU internal malfunction: An abnormal signal from the hybrid vehicle control ECU is detected by the battery ECU assembly. (1 trip detection logic)	Hybrid vehicle control ECU	Comes on	Master Warning: Comes on	HV Battery	A	SAE Code: P0A1D

MONITOR DESCRIPTION

The battery ECU assembly monitors the hybrid vehicle control ECU via CAN communication. If the battery ECU assembly detects a malfunction in the hybrid vehicle control ECU, it will illuminate the MIL and store a DTC.

MONITOR STRATEGY

Related DTCs	P0A1D (INF P0A1D94): Hybrid powertrain control module
Required sensors/components	Hybrid vehicle control ECU
Frequency of operation	Continuous
Duration	TMC's intellectual property
MIL operation	Immediately
Sequence of operation	None

TYPICAL ENABLING CONDITIONS

The monitor will run whenever the following DTCs are not stored	TMC's intellectual property
Other conditions belong to TMC's intellectual property	-

TYPICAL MALFUNCTION THRESHOLDS

TMC's intellectual property	-

COMPONENT OPERATING RANGE

Hybrid vehicle control ECU	DTC P0A1D (INF P0A1D94) is not detected

CONFIRMATION DRIVING PATTERN

HINT:

- After repair has been completed, clear the DTC and then check that the vehicle has returned to normal by performing the following All Readiness check procedure.

  Click here INFO
- When clearing the permanent DTCs, refer to the "CLEAR PERMANENT DTC" procedure.

  Click here INFO

1. Clear the DTCs (even if no DTCs are stored, perform the clear DTC procedure).
2. Turn the ignition switch off and wait for 2 minutes or more.
3. With ignition switch ON and wait for 2 minutes or more.[*1]

HINT:

[*1]: Normal judgment procedure.

The normal judgment procedure is used to complete DTC judgment and also used when clearing permanent DTCs.

4. Enter the following menus: Powertrain / HV Battery / Utility / All Readiness.
5. Check the DTC judgment result.

HINT:

- If the judgment result shows NORMAL, the system is normal.
- If the judgment result shows ABNORMAL, the system has a malfunction.
- If the judgment result shows INCOMPLETE, perform the normal judgment procedure again.

CAUTION / NOTICE / HINT

CAUTION:

Refer to the precautions before inspecting high voltage circuit.

Click here INFO

NOTICE:

- After the ignition switch is turned off, there may be a waiting time before disconnecting the negative (-) auxiliary battery terminal.

  Click here INFO
- When disconnecting and reconnecting the auxiliary battery

HINT:

When disconnecting and reconnecting the auxiliary battery, there is an automatic learning function that completes learning when the respective system is used.

Click here INFO

PROCEDURE

1.	CHECK CONNECTOR CONNECTION CONDITION (HYBRID VEHICLE CONTROL ECU)

Pre-procedure1

(a) None

Procedure1

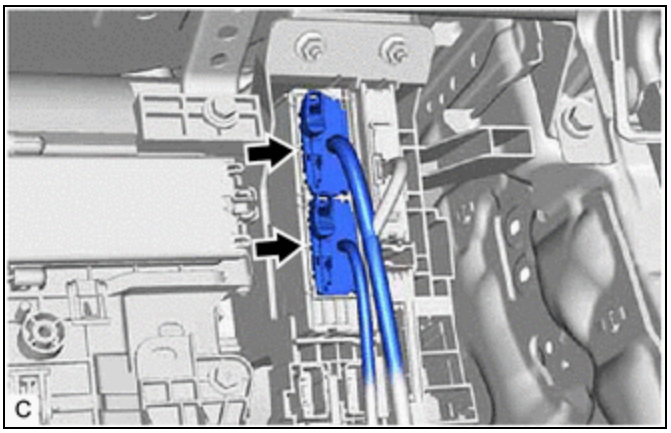
(b) Check the connections of the hybrid vehicle control ECU connector.

HINT:

Click here INFO

OK:

The connectors are connected securely and there are no contact problems.



Post-procedure1

(c) Turn the ignition switch off.

NG ▶ **CONNECT SECURELY**

OK ▼

2.	CHECK CONNECTOR CONNECTION CONDITION (BATTERY ECU ASSEMBLY)

CAUTION:

Be sure to wear insulated gloves and protective goggles.

Pre-procedure1

(a) Check that the service plug grip is not installed.

NOTICE:

After removing the service plug grip, do not turn the ignition switch to ON (READY), unless instructed by the repair manual because this may cause a malfunction.

Procedure1

(b) Check the connector connections and contact pressure of the relevant terminals for the battery

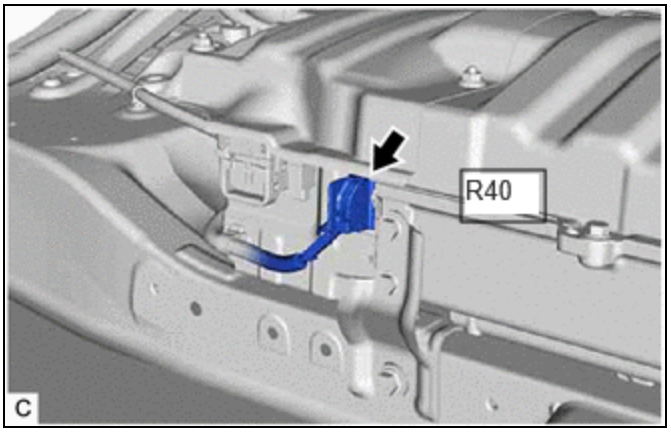
ECU assembly.

HINT:

Click here INFO

OK:

The connector is connected securely and there are no contact problems.



Post-procedure1

(c) None

OK ▶ **REPLACE HYBRID VEHICLE CONTROL ECU**

Click here INFO

NG ▶ **CONNECT SECURELY**