Last Modified: 12-04-2024	6.11:8.1.0	**Doc ID:** RM100000002BHUC
Model Year Start: 2023	**Model:** Prius Prime	**Prod Date Range:** [03/2023 -]
Title: HYBRID / BATTERY CONTROL: HYBRID BATTERY SYSTEM (for PHEV Model): P056014; System Voltage (BATT) Circuit Short to Ground or Open; 2023 - 2024 MY Prius Prime [03/2023 -]		

DTC	**P056014**	**System Voltage (BATT) Circuit Short to Ground or Open**

DESCRIPTION

Auxiliary battery power is supplied to the AM terminal of the battery ECU assembly in order to store DTCs and freeze frame data. Even if the ignition switch is turned off, back-up power is supplied.

DTC NO.	DETECTION ITEM	DTC DETECTION CONDITION	TROUBLE AREA	MIL	WARNING INDICATE	DTC OUTPUT FROM	PRIORITY	NOTE
P056014	System Voltage (BATT) Circuit Short to Ground or Open	Malfunction in the battery ECU assembly back-up power source circuit (1 trip detection logic)	• Wire harness or connector • Battery ECU assembly • Fuse	Comes on	Master Warning: Comes on	HV Battery	A	SAE Code: P0562

MONITOR DESCRIPTION

If a period of time has elapsed with a low voltage at the AM terminal of the battery ECU assembly, the battery ECU assembly will determine that a malfunction has occurred in the back-up power supply system, and it will store a DTC. The MIL will illuminate the next time the engine is started.

MONITOR STRATEGY

Related DTCs	P0562 (INF P056014): System voltage (battery energy control module)
Required sensors/components	Battery ECU assembly
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

Battery ECU assembly	DTC P0562 (INF P056014) 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. Turn the ignition switch to ON and turn the GTS on.
4. Turn the ignition switch to ON and wait for 5 seconds or more.[*1]

HINT:

[*1]: Normal judgment procedure.

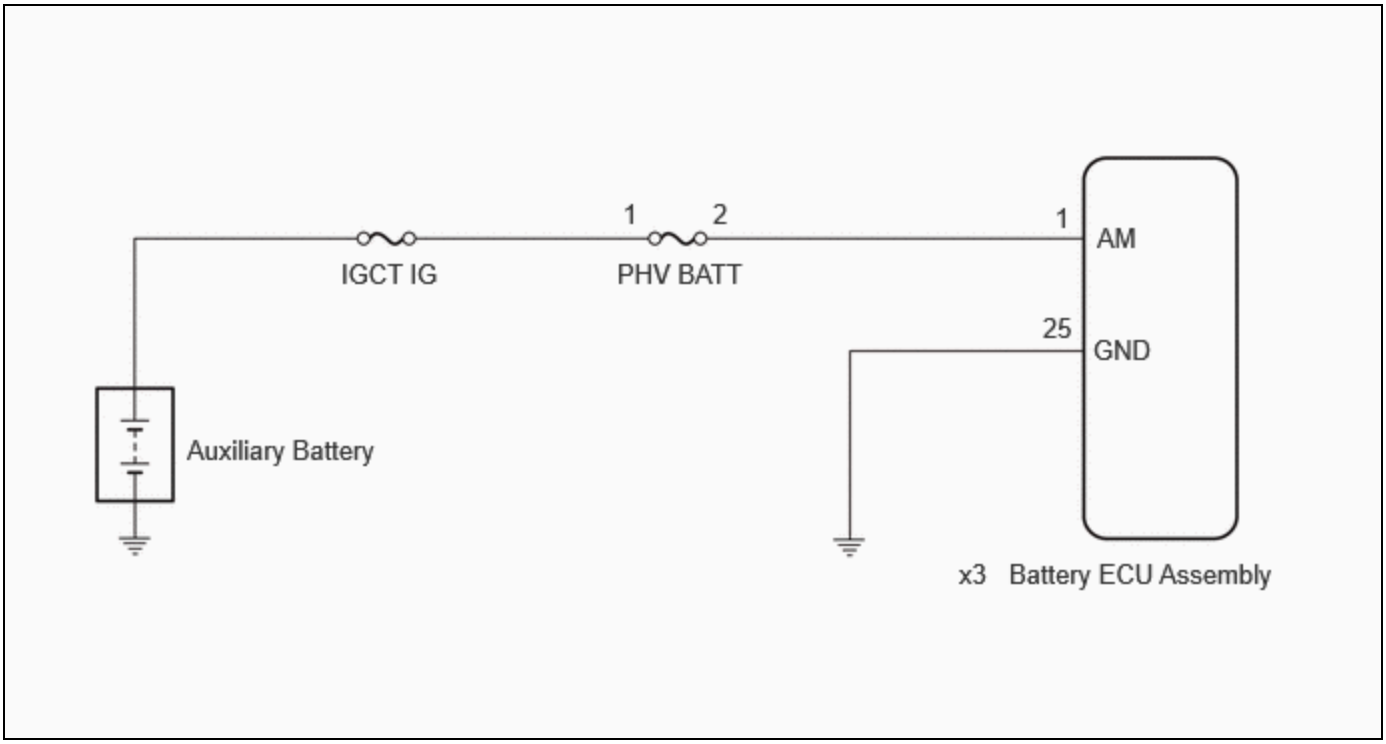
The normal judgment procedure is used to complete DTC judgment and also used when clearing permanent DTCs.

5. Enter the following menus: Powertrain / HV Battery / Utility / All Readiness.
6. 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 or N/A, perform the normal judgment procedure again.

WIRING DIAGRAM



CAUTION / NOTICE / HINT

CAUTION:

Refer to the precautions before inspecting high voltage circuit.

Click here INFO

NOTICE:

- Be sure to check that the applicable DTC is output from the hybrid battery system.
- After the ignition switch is turned off, there may be a waiting time before disconnecting the auxiliary negative (-) 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 FUSE (PHV BATT)**

Pre-procedure1

(a) Remove the PHV BATT fuse from the fuse block assembly.

Procedure1

(b) Check if there is an open circuit in the PHV BATT fuse in the fuse block assembly.

OK:

There is no open circuit in the PHV BATT fuse.

Post-procedure1

(c) Install the PHV BATT fuse.

NG ▶ **REPLACE FUSE (PHV BATT)**

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 connections of the battery ECU assembly connector.

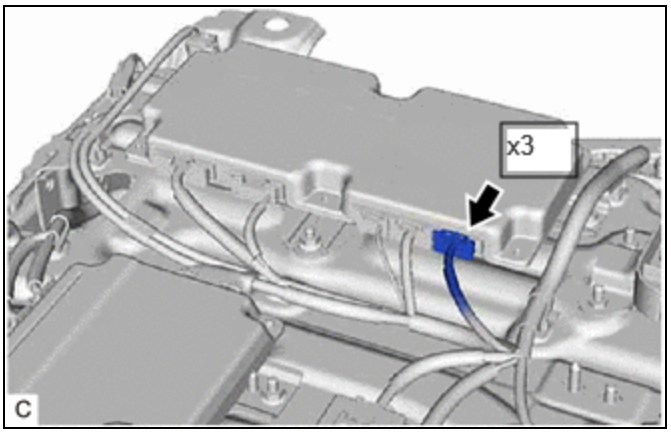
HINT:

Click here INFO

OK:

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

Result:



PROCEED TO
OK
NG

Post-procedure1

(c) None

NG ▶ **CONNECT SECURELY**

OK

3.	CHECK HARNESS AND CONNECTOR (AM VOLTAGE)

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.

(b) Connect the SST.

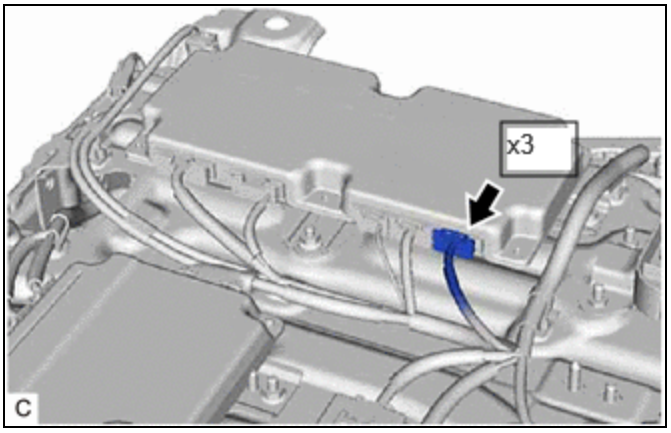
HINT:

Click here INFO

(c) Disconnect the battery ECU assembly connector.

NOTICE:

Before disconnecting the connector, check that it is not loose or disconnected.



(d) Connect the cable to the negative (-) auxiliary battery terminal.

Procedure1

(e) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

EWD INFO

Click Location & Routing(x3)
Click Connector(x3)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
x3-1 (AM) - x3-25 (GND)	Ignition switch off	11 to 14 V	V

Post-procedure1

(f) Disconnect the cable from the negative (-) auxiliary battery terminal.

(g) Reconnect the battery ECU assembly connector.

(h) Disconnect the SST.

OK ▶ **REPLACE BATTERY ECU ASSEMBLY**

NG ▼

4.	**CHECK HARNESS AND CONNECTOR (PHV BATT FUSE - BATTERY TERMINAL)**

Pre-procedure1

(a) Remove the PHV BATT fuse from the fuse block assembly.

(b) Disconnect the cable from the negative (-) auxiliary battery terminal.

(c) Disconnect the cable from the positive (+) auxiliary battery terminal.

Procedure1

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
PHV BATT fuse terminal 1 - Auxiliary battery positive (+) cable	Ignition switch off	Below 1 Ω	Ω
PHV BATT fuse terminal 1 - Body ground	Ignition switch off	10 kΩ or higher	kΩ

Post-procedure1

(e) Connect the cable to the positive (+) auxiliary battery terminal.

(f) Connect the cable to the negative (-) auxiliary battery terminal.

(g) Install the PHV BATT fuse.

OK ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR (PHV BATT FUSE - BATTERY ECU ASSEMBLY)**

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR (PHV BATT FUSE - BATTERY TERMINAL)**