Last Modified: 12-04-2024	6.11:8.1.0	**Doc ID:** RM100000002BEHQ
Model Year Start: 2023	**Model:** Prius Prime	**Prod Date Range:** [03/2023 -]
Title: HYBRID / BATTERY CONTROL: PLUG-IN CHARGE CONTROL SYSTEM (for PHEV Model): P1C2717; Voltage Sensor after Boosting by PFC Boosting Circuit Circuit Voltage Above Threshold; 2023 - 2024 MY Prius Prime [03/2023 -]		

DTC	**P1C2717**	**Voltage Sensor after Boosting by PFC Boosting Circuit Circuit Voltage Above Threshold**

DTC SUMMARY

MALFUNCTION DESCRIPTION

The charge control ECU built into the electric vehicle charger assembly monitors its internal operation. If it detects an overvoltage malfunction in the DC/DC converter of the electric vehicle charger assembly, it stores a DTC. If this DTC is output, check the plug-in charge state using a known good external power source. If a malfunction occurs again, replace the electric vehicle charger assembly.

The cause of this malfunction may be one of the following:

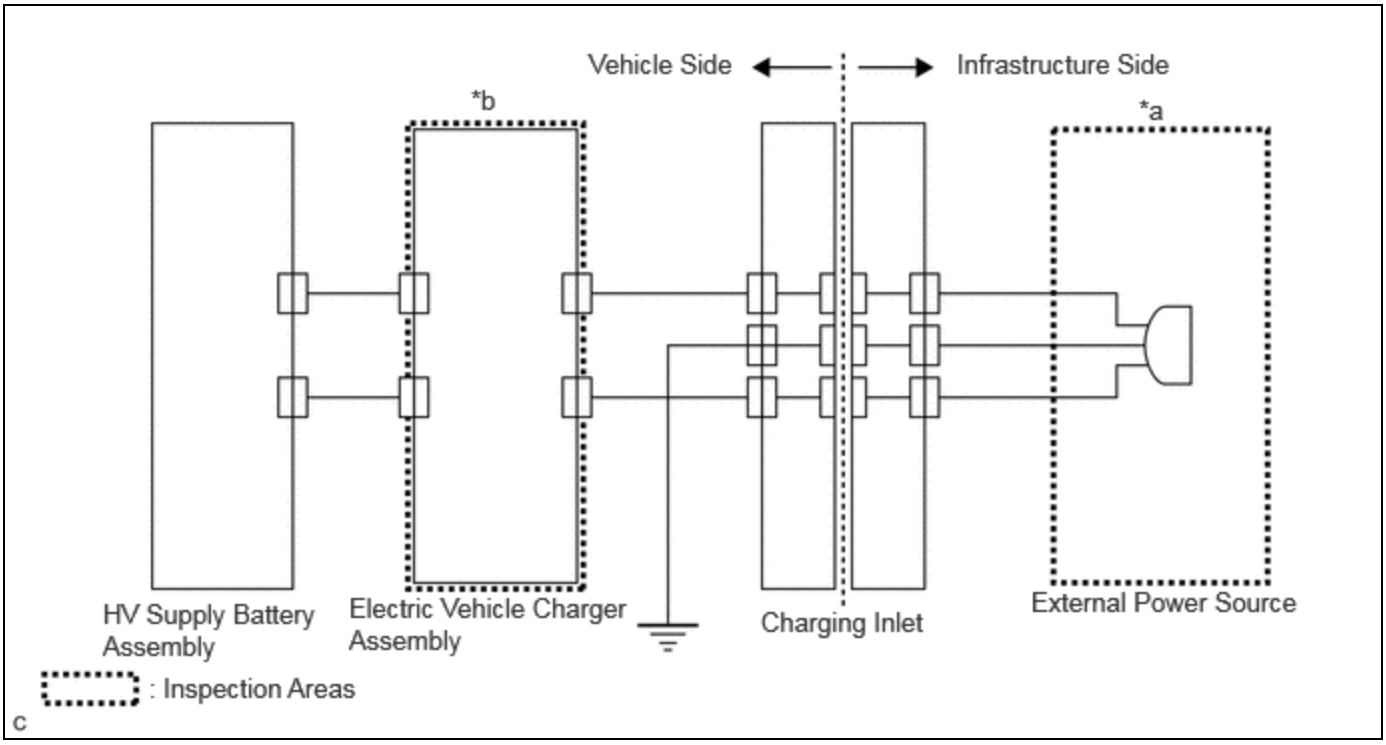
Malfunction in the vehicle side

- Electric vehicle charger assembly malfunction

Malfunction except vehicle side

- External power source malfunction

INSPECTION DESCRIPTION



SYSTEM DIAGRAM RANGE	INSPECTION CONTENT	REASON
*a	Inspect the external power source by checking plug-in charge state using a known good external power source.	External power source malfunction
*b	Replace electric vehicle charger assembly	Electric vehicle charger assembly internal malfunction

DESCRIPTION

The charge control ECU built into the electric vehicle charger assembly monitors its internal operation. If it detects an overvoltage malfunction in the DC/DC converter of the electric vehicle charger assembly, it stores a DTC. If this DTC is output, check the plug-in charge state using a known good external power source. If a malfunction occurs again, replace the electric vehicle charger assembly.

DTC NO.	DETECTION ITEM	DTC DETECTION CONDITION	TROUBLE AREA	MIL	WARNING INDICATE	DTC OUTPUT FROM	PRIORITY	NOTE
P1C2717	Voltage Sensor after Boosting by PFC Boosting Circuit Circuit Voltage Above Threshold	VH overvoltage is detected. (1 trip detection logic)	Electric vehicle charger assembly	Comes on	Master Warning: Comes on	Plug-in Control	A	SAE Code: P1C27

MONITOR DESCRIPTION

The charge control ECU built into the electric vehicle charger assembly monitors its internal operation. If it detects an overvoltage malfunction in the DC/DC converter of the electric vehicle charger assembly, it illuminates the MIL and stores a DTC.

MONITOR STRATEGY

Related DTCs	P1C27: Battery Charger DC/DC Converter Input Voltage Too High
Required sensors/components	Electric vehicle charger assembly
Frequency of operation	Continuous
Duration	TMC's intellectual property
MIL operation	1 charging cycle
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

Electric vehicle charger assembly	DTC P1C2717 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. Enter the following menus: Powertrain / Hybrid Control / Data List.
3. Check that "Hybrid/EV Battery SOC" shows 70% or less.
4. Turn the ignition switch off and wait for 2 minutes or more.
5. Connect the electric vehicle charger cable assembly, and plug-in charge the vehicle for 30 seconds or more. [*1]
6. Disconnect the electric vehicle charger cable assembly and wait for 10 seconds or more. [*2]

HINT:

[*1] to [*2]: Normal judgment procedure.

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

7. Enter the following menus: Powertrain / Plug-in Control / Utility / All Readiness.
8. 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.

PROCEDURE

1.	**CHECK PLUG-IN CHARGE STATE**

Click here INFO

RESULT	PROCEED TO
DTCs are not output and plug-in charge has been completed	A
DTCs are output or plug-in charge cannot be completed	B

A ▶ END (NO MALFUNCTION IN VEHICLE)

B **REPLACE ELECTRIC VEHICLE CHARGER ASSEMBLY**