Last Modified: 12-04-2024	6.11:8.1.0	**Doc ID:** RM100000002BIW3
Model Year Start: 2023	**Model:** Prius Prime	**Prod Date Range:** [03/2023 -]
Title: HYBRID / BATTERY CONTROL: PLUG-IN CHARGE CONTROL SYSTEM (for PHEV Model): P0D4C37; Hybrid/EV Battery Charger Hybrid/EV Battery Input Voltage Sensor Signal Frequency Too High; 2023 - 2024 MY Prius Prime [03/2023 -]		

DTC	**P0D4C37**	**Hybrid/EV Battery Charger Hybrid/EV Battery Input Voltage Sensor Signal Frequency Too High**

DESCRIPTION

The charge control ECU built into the electric vehicle charger assembly monitors the direct current voltage by the VCHG sensor. If it detects a VCHG sensor malfunction, it illuminates the MIL and stores a DTC.

DTC NO.	DETECTION ITEM	DTC DETECTION CONDITION	TROUBLE AREA	MIL	WARNING INDICATE	DTC OUTPUT FROM	PRIORITY	NOTE
P0D4C37	Hybrid/EV Battery Charger Hybrid/EV Battery Input Voltage Sensor Signal Frequency Too High	When charging or supplying power, the frequency of the VCHG sensor is less than the threshold (1 trip detection logic)	Electric vehicle charger assembly	Comes on	Master Warning: Comes on	Plug-in Control	B	SAE Code: P0D4F

MONITOR DESCRIPTION

The charge control ECU built into the electric vehicle charger assembly monitors the direct current voltage by the VCHG sensor. If it detects a VCHG sensor malfunction, it illuminates the MIL and stores a DTC.

MONITOR STRATEGY

Related DTCs	P0D4F: Battery Charger Hybrid/EV Battery Output Voltage Sensor "A" Circuit Low/High
Required sensors/components	Electric vehicle charger assembly
Frequency of operation	Continuous
Duration	TMC's intellectual property
MIL operation	1 charging cycle 1 discharging 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 P0D4C37 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 DTC OUTPUT (HV BATTERY, PLUG-IN CONTROL)**

Pre-procedure1

(a) Enter the following menus.

Powertrain > HV Battery > Trouble Codes
Powertrain > Plug-in Control > Trouble Codes

Procedure1

(b) Check for DTCs.

RESULT	PROCEED TO
P0D4C37 only is output, or DTCs except the ones in the table below are also output	A
DTCs of Hybrid Battery System in the tables below are output	B
DTCs of Plug-in Charge Control System in the tables below are output	C

MALFUNCTION CONTENT	SYSTEM	RELEVANT DTC	
Microcomputer malfunction	Hybrid Battery System	P060687	Hybrid/EV Battery Energy Control Module Processor to Monitoring Processor Missing Message
		P060A47	Hybrid/EV Battery Energy Control Module Monitoring Processor Watchdog / Safety MCU Failure
		P060A87	Hybrid/EV Battery Energy Control Module Processor from Monitoring Processor Missing Message
		P060B49	Hybrid/EV Battery Energy Control Module A/D Processing Internal Electronic Failure
Power source circuit malfunction	Hybrid Battery System	P056014	System Voltage (BATT) Circuit Short to Ground or Open
		P1CBB12	Hybrid/EV Battery Current Sensor Power Supply Circuit Short to Auxiliary Battery
		P1CBB14	Hybrid/EV Battery Current Sensor Power Supply Circuit Short to Ground or Open
Communication system malfunction	Hybrid Battery System	U029387	Lost Communication with Hybrid/EV Powertrain Control Module Missing Message
	Plug-in Charge Control System	U117B87	Lost Communication with Hybrid/EV Battery Energy Control Module "A" (ch2) Missing Message
Sensor and actuator circuit malfunction	Hybrid Battery System	P0ABF11	Hybrid/EV Battery Current Sensor "A" Circuit Short to Ground
		P0ABF15	Hybrid/EV Battery Current Sensor "A" Circuit Short to Auxiliary Battery or Open
		P0ABF28	Hybrid/EV Battery Current Sensor "A" Signal Bias Level Out of Range / Zero Adjustment Failure
		P0ABF2A	Hybrid/EV Battery Current Sensor "A" Signal Stuck In Range
		P0B0E11	Hybrid/EV Battery Current Sensor "B" Circuit Short to Ground
		P0B0E15	Hybrid/EV Battery Current Sensor "B" Circuit Short to Auxiliary Battery or Open
		P0B1362	Hybrid/EV Battery Current Sensor "A"/"B" Signal Compare Failure

HINT:

- P0D4C37 may be output as a result of the malfunction indicated by the DTCs above.

  a. The chart above is listed in inspection order of priority.
  b. Check DTCs that are output at the same time by following the listed order. (The main cause of the malfunction can be determined without performing unnecessary inspections.)

Post-procedure1

(c) Turn the ignition switch off.

A ▶ **REPLACE ELECTRIC VEHICLE CHARGER ASSEMBLY**

B ▶ **GO TO DTC CHART (HYBRID BATTERY SYSTEM)**

C ▶ **GO TO DTC CHART (PLUG-IN CHARGE CONTROL SYSTEM)**