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Model Year Start: 2023	**Model:** Prius Prime	**Prod Date Range:** [03/2023 -]
Title: HYBRID / BATTERY CONTROL: MOTOR GENERATOR CONTROL SYSTEM (for PHEV Model): P06D61C; Generator Control Module Offset Power Circuit Voltage Out of Range; 2023 - 2024 MY Prius Prime [03/2023 -]		

DTC	**P06D61C**	**Generator Control Module Offset Power Circuit Voltage Out of Range**

DESCRIPTION

The motor generator control ECU (MG ECU), which is built into the inverter with converter assembly, monitors its internal operation and detects malfunctions.

DTC NO.	DETECTION ITEM	DTC DETECTION CONDITION	TROUBLE AREA	MIL	WARNING INDICATE	DTC OUTPUT FROM	PRIORITY	NOTE
P06D61C	Generator Control Module Offset Power Circuit Voltage Out of Range	Motor generator control ECU internal malfunction (1 trip detection logic)	• Inverter with converter assembly • Hybrid vehicle transaxle assembly • Wire harness or connector	Comes on	Master Warning: Comes on	Motor Generator	A	SAE Code: P06D6

MONITOR DESCRIPTION

The motor generator control ECU monitors its internal operation and will illuminate the MIL and store a DTC if it detects a malfunction.

MONITOR STRATEGY

Related DTCs	P06D6 (INF P06D61C): Sensor Reference Voltage "F" Circuit (2.5V for Drive Motor "A"/Generator)
Required sensors/components	Motor generator 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

Motor generator control ECU	DTC P06D6 (INF P06D61C) 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 wait for 5 seconds or more.* [*1]

   *: Lightly wiggle the connectors and wire harnesses up and down and right and left.
4. Turn the ignition switch to ON (READY) and wait for 5 seconds or more. [*2]
5. Depress the accelerator pedal of the vehicle with the engine stopped and shift lever in P to start the engine. [*3]
6. Keep the engine running for 5 seconds or more. [*4]
7. Drive the vehicle forward with the shift lever in D for 5 m (16 ft.) or more. [*5]
8. Drive the vehicle backward with the shift lever in R for 5 m (16 ft.) or more. [*6]

   HINT:

   [*1] to [*6]: Normal judgment procedure.

   The normal judgment procedure is used to complete DTC judgment and also used when clearing permanent DTCs.
9. Enter the following menus: Powertrain / Motor Generator / Utility / All Readiness.
10. 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.

WIRING DIAGRAM

Refer to the wiring diagram for the Motor Resolver Circuit.

Click here INFO

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 (INVERTER WITH CONVERTER ASSEMBLY CONNECTOR)**

Click here INFO

RESULT	PROCEED TO
OK	A
NG (The connector is not connected securely.)	B
NG (The terminals are not making secure contact or are deformed, or water or foreign matter exists in the connector.)	C

B ▶ **CONNECT SECURELY**

C ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

A ▼

2.	**CHECK MOTOR RESOLVER CIRCUIT**

Click here INFO

NEXT ▶ **REPLACE INVERTER WITH CONVERTER ASSEMBLY**