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Model Year Start: 2023	**Model:** Prius Prime	**Prod Date Range:** [12/2022 -]
Title: HYBRID / BATTERY CONTROL: MOTOR GENERATOR CONTROL SYSTEM (for M20A-FXS): P1CB59E; DC/DC Converter Voltage Sensor "A"(VL) Stuck On; 2023 - 2024 MY Prius Prius Prime [12/2022 -]		

DTC	**P1CB59E**	**DC/DC Converter Voltage Sensor "A"(VL) Stuck On**

DTC SUMMARY

MALFUNCTION DESCRIPTION

If an overvoltage malfunction occurs in the boost converter, the motor generator control ECU (MG ECU) detects the malfunction and stores this DTC. The cause of this malfunction may be one of the following:

Internal inverter malfunction

- Inverter with converter assembly internal circuit malfunction
- Malfunction in ECU that controls the inverter

DESCRIPTION

For a description of the boost converter.

Click here INFO

DTC NO.	DETECTION ITEM	DTC DETECTION CONDITION	TROUBLE AREA	MIL	WARNING INDICATE	DTC OUTPUT FROM	PRIORITY	NOTE
P1CB59E	DC/DC Converter Voltage Sensor "A" (VL) Stuck On	Boost converter overvoltage signal detected (circuit malfunction): A circuit malfunction is detected before boosting. (1 trip detection logic)	• Wire harness or connector • Inverter with converter assembly	Comes on	Master Warning: Comes on	Motor Generator	A	SAE Code: P0A94

MONITOR DESCRIPTION

If the boost converter detects a circuit malfunction, it will transmit a boost converter overvoltage signal to the motor generator control ECU. Upon receiving this signal, the motor generator control ECU will illuminate the MIL and store a DTC.

MONITOR STRATEGY

Related DTCs	P0A94 (INF P1CB59E): OVL detection (Circuit malfunction)

Required sensors/components	Boost converter
Frequency of operation	Continuous
Duration	TMC's intellectual property
MIL operation	1 driving 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

Motor generator control ECU	DTC P0A94 (INF P1CB59E) 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]
4. Turn the ignition switch to ON (READY) and wait for 5 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.

5. Enter the following menus: Powertrain / Motor Generator / 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, 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 DTC OUTPUT (HYBRID CONTROL)**

Pre-procedure1

(a) None

Procedure1

(b) Check for DTCs.

Powertrain > Hybrid Control > Trouble Codes

RESULT	PROCEED TO
P06881F is not output	A
P06881F is output	B

Post-procedure1

(c) Turn the ignition switch off.

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

A ▼

2.	**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

A ▶ **REPLACE INVERTER WITH CONVERTER ASSEMBLY**

B ▶ **CONNECT SECURELY**

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