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Model Year Start: 2023	**Model:** Prius Prime	**Prod Date Range:** [03/2023 -]
Title: HYBRID / BATTERY CONTROL: HYBRID CONTROL SYSTEM (for PHEV Model): P060A94; Hybrid/EV Powertrain Control Module Monitoring Processor Unexpected Operation; 2023 - 2024 MY Prius Prime [03/2023 -]		

DTC	**P060A94**	**Hybrid/EV Powertrain Control Module Monitoring Processor Unexpected Operation**

DTC SUMMARY

MALFUNCTION DESCRIPTION

The main CPU and sub CPU of the hybrid vehicle control ECU monitor their internal operation and each other for malfunctions.

The cause of this malfunction may be the following:

Hybrid vehicle control ECU internal malfunction

- Hybrid vehicle control ECU malfunction

Vehicle speed sensor malfunction

- Discrepancy between motor resolver signal and actual vehicle speed

DESCRIPTION

The hybrid vehicle control ECU monitors its internal operation and will store these DTCs when it detects an internal malfunction.

DTC NO.	DETECTION ITEM	DTC DETECTION CONDITION	TROUBLE AREA	MIL	WARNING INDICATE	DTC OUTPUT FROM	PRIORITY	NOTE
P060A94	Hybrid/EV Powertrain Control Module Monitoring Processor Unexpected Operation	• The sub CPU value received by the main CPU of the hybrid vehicle control ECU exceeds the threshold for a certain period of time. • The hybrid vehicle control ECU detects an internal malfunction due to an abnormal calculation or sensor malfunction. (1 trip detection logic)	Hybrid vehicle control ECU	Comes on	Master Warning: Comes on	Hybrid Control	A	SAE Code: P060A

MONITOR DESCRIPTION

The hybrid vehicle control ECU monitors its internal operation. If the internal operation is malfunctioning, the hybrid vehicle control ECU illuminates the MIL and stores a DTC.

MONITOR STRATEGY

Related DTCs	P060A (INF P060A94): Internal control module monitoring processor performance
Required sensors/components	Hybrid vehicle control ECU
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

Hybrid vehicle control ECU	DTC P060A (INF P060A94) 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 (READY) and wait for 10 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.

4. Enter the following menus: Powertrain / Hybrid Control / Utility / All Readiness.
5. 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

HINT:

- P060A94 may be output as a result of the malfunction indicated by the DTCs in table below.

  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.)

MALFUNCTION CONTENT	SYSTEM	RELEVANT DTC	
Sensor and actuator circuit malfunction	Motor generator control system	P0A3F16	Drive Motor "A" Position Sensor Circuit Voltage Below Threshold
		P0A3F21	Drive Motor "A" Position Sensor Signal Amplitude < Minimum
		P0A3F22	Drive Motor "A" Position Sensor Signal Amplitude > Maximum

PROCEDURE

1.	**CHECK DTC OUTPUT (BRAKE BOOSTER)**

Pre-procedure1

(a) None.

Procedure1

(b) Check for DTCs.

Chassis > Brake Booster > Trouble Codes

RESULT	PROCEED TO
DTCs are not output	A
DTCs are output	B

Post-procedure1

(c) Turn the ignition switch off.

B ▶ **GO TO DTC CHART (ELECTRONICALLY CONTROLLED BRAKE SYSTEM)**

Click here INFO

A

2.	CHECK DTC OUTPUT (HYBRID CONTROL)

Pre-procedure1

(a) None.

Procedure1

(b) Check for DTCs.

Powertrain > Hybrid Control > Trouble Codes

RESULT	PROCEED TO
Only P060A94 is output	A
P060A94 and other DTCs are output	B

Post-procedure1

(c) Turn the ignition switch off.

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

A

3.	CHECK FREEZE FRAME DATA (HYBRID CONTROL)

Pre-procedure1

(a) None.

Procedure1

(b) Read the Freeze Frame Data of DTC P060A94.

Powertrain > Hybrid Control > DTC(P060A94) > Freeze Frame Data

TESTER DISPLAY
Vehicle Speed
FR Wheel Speed

TESTER DISPLAY
FL Wheel Speed

RESULT	PROCEED TO
Vehicle was stopped ("FR Wheel Speed" and "FL Wheel Speed" are between 0 and 1.4 km/h (0 and 1 mph)) but "Vehicle Speed" was 3 km/h (2 mph) or more	A
Vehicle was stopped ("FR Wheel Speed" and "FL Wheel Speed" are between 0 and 1.4 km/h (0 and 1 mph)) and "Vehicle Speed" was less than 3 km/h (2 mph)	B

Post-procedure1

(c) Turn the ignition switch off.

A For the inspection method of the motor resolver circuit, refer to DTC P0A3F16.

Click here GO TO MOTOR RESOLVER CIRCUIT

B **REPLACE HYBRID VEHICLE CONTROL ECU**