| | | |
|---|---|---|
| **Last Modified:** 12-04-2024 | 6.11:8.1.0 | **Doc ID:** RM1000000028ZWK |
| **Model Year Start:** 2023 | **Model:** Prius Prime | **Prod Date Range:** [12/2022 - ] |
| **Title:** HYBRID / BATTERY CONTROL: HYBRID CONTROL SYSTEM (for M20A-FXS): P0A1F94; Hybrid/EV Battery Energy Control Module Unexpected Operation; 2023 - 2024 MY Prius Prius Prime [12/2022 - ] | | |

| | | |
|---|---|---|
| **DTC** | **P0A1F94** | **Hybrid/EV Battery Energy Control Module Unexpected Operation** |

# DTC SUMMARY

### MALFUNCTION DESCRIPTION

The hybrid vehicle control ECU (main CPU) monitors the battery ECU assembly.

The cause of this malfunction may be the following:

**Battery ECU assembly internal malfunction**

- Battery ECU assembly malfunction

# DESCRIPTION

The hybrid vehicle control ECU (main CPU) monitors the battery ECU assembly and stores this DTC when it detects a malfunction.

| DTC NO. | DETECTION ITEM | DTC DETECTION CONDITION | TROUBLE AREA | MIL | WARNING INDICATE | DTC OUTPUT FROM | PRIORITY | NOTE |
|---|---|---|---|---|---|---|---|---|
| P0A1F94 | Hybrid/EV Battery Energy Control Module Unexpected Operation | The battery ECU assembly value received by the hybrid vehicle control ECU (main CPU) exceeds the threshold for a certain period of time.<br><br>(1 trip detection logic) | Battery ECU assembly | Comes on | Master Warning:<br><br>Comes on | Hybrid Control | A | SAE Code:<br><br>P0A1F |

# MONITOR DESCRIPTION

The battery ECU assembly monitors the hybrid vehicle control ECU via CAN communication. If the battery ECU assembly detects a malfunction in the hybrid vehicle control ECU, it will illuminate the MIL and store a DTC.

# MONITOR STRATEGY

| | |
|---|---|
| Related DTCs | P0A1F (INF P0A1F94): Battery Energy Control Module |
| Required sensors/components | Battery ECU assembly |
| 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 | P0A1F (INF P0A1F94) 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.

## PROCEDURE

| | |
|---|---|
| **1.** | **CHECK DTC OUTPUT (HYBRID CONTROL)** |

Pre-procedure1

(a) None.

Procedure1

(b) Check for DTCs.

**Powertrain > Hybrid Control > Trouble Codes**

| RESULT | PROCEED TO |
|---|---|
| Only P0A1F94 is output | A |
| P0A1F94 and other DTCs are output | B |

Post-procedure1

(c) Turn the ignition switch off.

**A** ▶ **REPLACE BATTERY ECU ASSEMBLY**

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