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| Model Year Start: 2023 | Model: Prius Prime | Prod Date Range: [03/2023 -] |
| Title: HYBRID / BATTERY CONTROL: PLUG-IN CHARGE CONTROL SYSTEM (for PHEV Model): P0D2A19; Hybrid/EV Battery Charger Input Current Sensor Circuit Circuit Current Above Threshold; 2023 - 2024 MY Prius Prime [03/2023 -] | | |

| | | |
|------------|----------------|-----------------------------------------------------------------------------------------------|
| DTC | P0D2A19 | Hybrid/EV Battery Charger Input Current Sensor Circuit Circuit Current Above Threshold |
|------------|----------------|-----------------------------------------------------------------------------------------------|

DTC SUMMARY

MALFUNCTION DESCRIPTION

The charge control ECU built into the electric vehicle charger assembly monitors the input alternating current using the IAC sensor. If it detects an overcurrent malfunction, it stores a DTC. If this DTC is output, check the plug-in charge state using a known good external power source. If a malfunction occurs again, replace the electric vehicle charger assembly.

The cause of this malfunction may be one of the following:

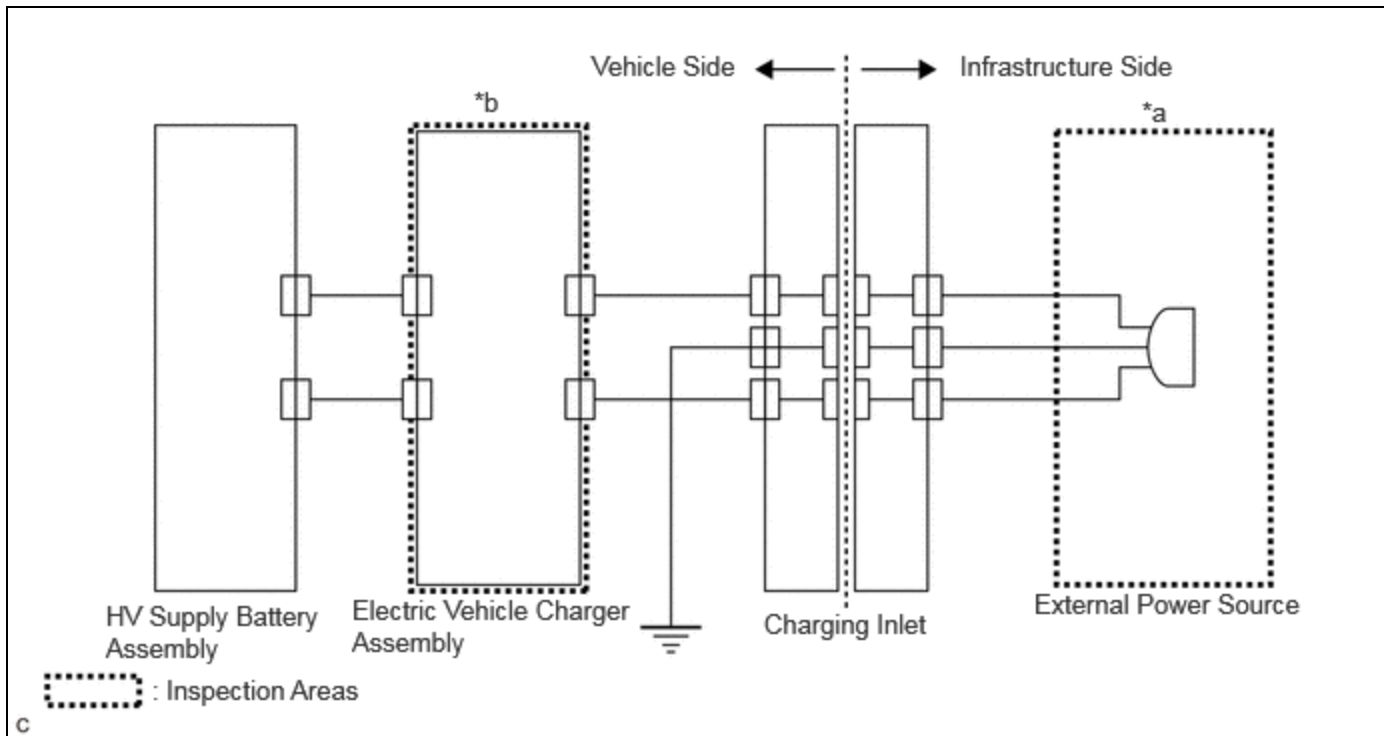
Vehicle malfunction

- Electric vehicle charger assembly malfunction

External malfunction

- External power source malfunction

INSPECTION DESCRIPTION



| SYSTEM DIAGRAM RANGE | INSPECTION CONTENT | REASON |
|----------------------|--------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| *a | Inspect the external power source by checking plug-in charge state using a known good external power source. | External power source malfunction |
| *b | Replace electric vehicle charger assembly | Electric vehicle charger assembly internal malfunction |

DESCRIPTION

| DTC NO. | DETECTION ITEM | DTC DETECTION CONDITION | TROUBLE AREA | MIL | WARNING INDICATE | DTC OUTPUT FROM | PRIORITY | NOTE |
|---------|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-----------------------------------|----------|---------------------------------|-----------------|----------|------------------------|
| P0D2A19 | Hybrid/EV Battery Charger Input Current Sensor Circuit Current Above Threshold | IAC overcurrent is detected repeatedly a specific number of times. (1 trip detection logic) | Electric vehicle charger assembly | Comes on | Master Warning: Comes on | Plug-in Control | A | SAE Code: P0D2A |

MONITOR DESCRIPTION

The charge control ECU built into the electric vehicle charger assembly monitors the input alternating current by the IAC sensor. If it detects an overcurrent malfunction, it illuminates the MIL and stores a DTC.

MONITOR STRATEGY

| | |
|-----------------------------|-----------------------------------------------|
| Related DTCs | P0D2A: Battery Charger Input Current Too High |
| Required sensors/components | Electric vehicle charger assembly |
| Frequency of operation | Continuous |
| Duration | TMC's intellectual property |
| MIL operation | 1 charging 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 P0D2A19 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](#)

- Clear the DTCs (even if no DTCs are stored, perform the clear DTC procedure).
- Enter the following menus: Powertrain / Hybrid Control / Data List.
- Check that "Hybrid/EV Battery SOC" shows 70% or less.
- Turn the ignition switch off and wait for 2 minutes or more.
- Connect the electric vehicle charger cable assembly, and plug-in charge the vehicle for 30 seconds or more. [*1]
- 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.

- Enter the following menus: Powertrain / Plug-in Control / Utility / All Readiness.
- 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 PLUG-IN CHARGE STATE

HINT:

- Ask the customer if the electricity used for plug-in charging was supplied by a power company.
- If the electric vehicle charger cable assembly that was used to perform plug-in charging is available, perform a reproduction test using it and a known good AC power source. This allows the electric vehicle charger cable assembly to be determined as ok or not when the vehicle is not malfunctioning.
- This DTC may be output due to rapid fluctuation of the AC input voltage.
- If the voltage fluctuates quickly, it is difficult to check the plug-in charge state by reading the freeze frame data or Data List item "AC Input Voltage for Monitoring" and "AC Input Voltage for Control".

(a) Perform plug-in charging using a known good AC power source.

(1) Clear the DTCs.

Powertrain > Plug-in Control > Clear DTCs

(2) Check that "Hybrid/EV Battery SOC" shows 70% or less.

Powertrain > Hybrid Control > Data List

| |
|-----------------------|
| TESTER DISPLAY |
| Hybrid/EV Battery SOC |

(3) Turn the ignition switch off.

(4) Connect the charging cable (electric vehicle charger cable assembly) and fully charge the HV battery, then check if plug-in charge control system DTCs are output.

NOTICE:

Perform plug-in charging using a known good AC power source.

| RESULT | PROCEED TO |
|-----------------------------------------------------------|------------|
| DTCs are not output and plug-in charge has been completed | A |
| DTCs are output or plug-in charge cannot be completed | B |

A ► END (NO MALFUNCTION IN VEHICLE)

B ► REPLACE ELECTRIC VEHICLE CHARGER ASSEMBLY

