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|---|---|---|
| **Last Modified:** 12-04-2024 | 6.11:8.1.0 | **Doc ID:** RM100000002BMED |
| **Model Year Start:** 2023 | **Model:** Prius Prime | **Prod Date Range:** [03/2023 - ] |
| **Title:** M20A-FXS (BATTERY / CHARGING): SOLAR CHARGING SYSTEM: P19A962; Solar Charger DC/DC Converter Output Voltage / Auxiliary Battery DC/DC Converter Input Voltage Signal Compare Failure; 2023 - 2024 MY Prius Prius Prime [03/2023 - ] | | |

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|---|---|---|
| **DTC** | **P19A962** | **Solar Charger DC/DC Converter Output Voltage / Auxiliary Battery DC/DC Converter Input Voltage Signal Compare Failure** |

# DESCRIPTION

There is a voltage sensor (middle voltage sensor) located between the solar DC/DC converter, boost DC/DC converter and auxiliary DC/DC converter inside the solar energy control ECU assembly, determining the middle voltage in order to efficiently charge the traction battery. Also, the high-capacity capacitor voltage sensor (VBS voltage sensor) outputs the voltage of the high-capacity capacitor that is provided to stabilize the middle voltage.

Also, the high-capacity capacitor voltage sensor (VBS voltage sensor) outputs the voltage of the high-capacity capacitor that is provided to stabilize the middle voltage.

| DTC NO. | DETECTION ITEM | DTC DETECTION CONDITION | TROUBLE AREA | WARNING INDICATE | DTC OUTPUT FROM | PRIORITY |
|---|---|---|---|---|---|---|
| P19A962 | Solar Charger DC/DC Converter Output Voltage / Auxiliary Battery DC/DC Converter Input Voltage Signal Compare Failure | Difference in charge between VBS voltage sensor and middle voltage sensor in solar energy control ECU assembly is more than the threshold value for 3 seconds or more<br><br>(1 trip detection logic) | Solar energy control ECU assembly | Solar Charging Warning Light: Comes on | Solar Charging Control | A |

# CONFIRMATION DRIVING PATTERN

**HINT:**

After completing repairs, clear the DTCs and then check that the vehicle has returned to normal by performing the following All Readiness check procedure.

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1. Park the vehicle in an area where the solar radiation will be steady.

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| Weather | Clear or mostly clear and sunny |
| Time | Between 11:00 and 14:00 |
| Place | An area where sunlight strikes the solar roof directly |

**HINT:**

- Make sure no part of the solar roof is shaded.
- If the solar roof is dirty, clean it.

2. Turn the ignition switch off and then disconnect the cable from the negative (-) auxiliary battery terminal.

3. Wait for 5 seconds or more, then disconnect the power source connector and then all other low voltage connectors the solar energy control ECU assembly.
4. Wait for 30 seconds or more, then connect the low voltage connectors of the solar energy control ECU assembly except the power source connector and then connect the power source connector.
5. Connect the cable to the negative (-) auxiliary battery terminal.
6. Turn the ignition switch to ON, wait for 5 to 10 seconds, and then turn the ignition switch off.

**HINT:**

Make sure to turn the ignition switch off within 10 seconds.

7. Wait for 20 minutes and then check for DTCs to check that no DTCs have been stored.

**HINT:**

- While waiting, the HV battery will be charged by the solar charging system. However, depending on certain conditions, charging may not be performed.
- When the HV battery is fully charged, high voltage charging to the HV battery is not performed.
- If any of the following conditions is met, the HV battery will not be charged by the solar charging system:
  - The HV battery is charged via an external power source.
  - The ignition switch is turned to ACC.
  - The ignition switch is turned to ON.
  - The ignition switch is turned to ON (READY).
  - The HV battery heating system is operating.
  - The remote air conditioning system is operating.

8. Check that solar charging is being performed.

**HINT:**

Be sure to check that high voltage battery charging is being performed by the solar roof.

## CAUTION / NOTICE / HINT

**CAUTION:**

Refer to the precautions before inspecting high voltage circuit.

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**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. | **REPLACE SOLAR ENERGY CONTROL ECU ASSEMBLY** |

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NEXT END