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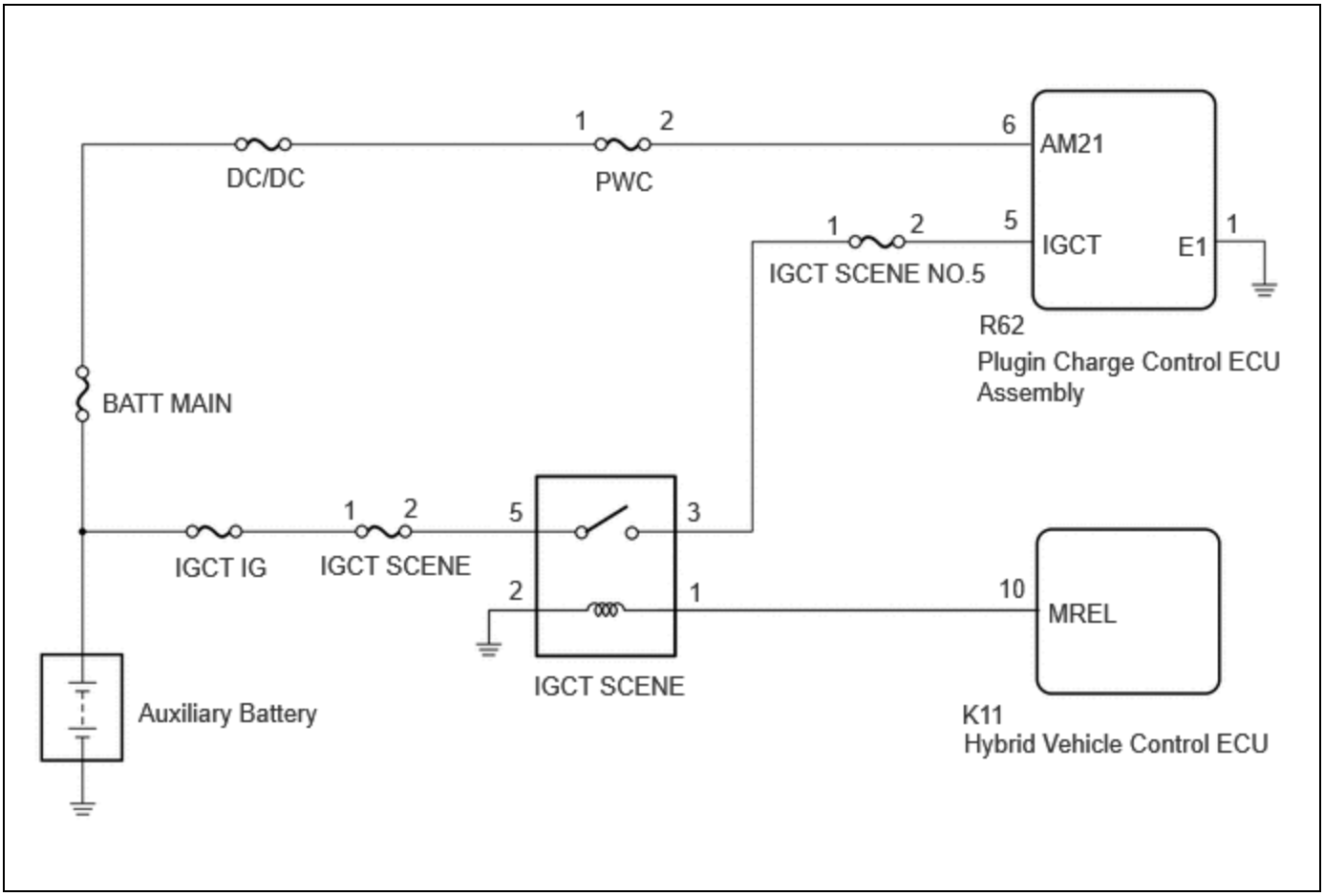
|---|---|---|
| **Last Modified:** 12-04-2024 | 6.11:8.1.0 | **Doc ID:** RM100000002BEIH |
| **Model Year Start:** 2023 | **Model:** Prius Prime | **Prod Date Range:** [03/2023 - ] |
| **Title:** HYBRID / BATTERY CONTROL: PLUG-IN CHARGE CONTROL SYSTEM (for PHEV Model): ECU Power Source Circuit; 2023 - 2024 MY Prius Prime [03/2023 - ] | | |

**ECU Power Source Circuit**

# DESCRIPTION

When the ignition switch is turned to ON or when AC charging is being performed, power is supplied to the IGCT terminal via the IGCT SCENE relay which is operated by the plugin charge control ECU assembly.

# WIRING DIAGRAM




# 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 (HEALTH CHECK)** |

(a) Enter the following menus: Health Check.

(b) Check DTCs.

| RESULT | PROCEED TO |
|---|---|
| No DTCs are output | A |
| DTCs are output | B |

(c) Turn the ignition switch off.

**B** ▶ **GO TO DTC CHART**

**A** ▼

| | |
|---|---|
| **2.** | **CHECK HARNESS AND CONNECTOR (AM21 TERMINAL VOLTAGE)** |

(a) Disconnect the R62 plugin charge control ECU assembly connector.

(b) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

EWD INFO

**Click Location & Routing(R62)**
**Click Connector(R62)**

| TESTER CONNECTION | CONDITION | SPECIFIED CONDITION |
|---|---|---|
| R62-6 (AM21) - Body ground | Ignition switch off | 11 to 14 V |

(c) Reconnect the plugin charge control ECU assembly connector.

**NG** ▶ **GO TO STEP 5**

**OK** ▼

| | |
|---|---|
| **3.** | **CHECK HARNESS AND CONNECTOR (IGCT TERMINAL VOLTAGE)** |

(a) Disconnect the R62 plugin charge control ECU assembly connector.

(b) Turn the ignition switch to ON.

(c) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

EWD INFO

**Click Location & Routing(R62)**
**Click Connector(R62)**

| TESTER CONNECTION | CONDITION | SPECIFIED CONDITION |
|---|---|---|
| R62-5 (IGCT) - Body ground | Ignition switch ON | 11 to 14 V |

(d) Turn the ignition switch off.

(e) Reconnect the plugin charge control ECU assembly connector.

(f) Disconnect the cable from the negative (-) auxiliary battery terminal.

**NG** ▶ **GO TO STEP 6**

**OK** ▼

| | |
|---|---|
| **4.** | **CHECK HARNESS AND CONNECTOR (PLUGIN CHARGE CONTROL ECU ASSEMBLY - BODY GROUND)** |

(a) Disconnect the R62 plugin charge control ECU assembly connector.

(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

EWD INFO

**Click Location & Routing(R62)**
**Click Connector(R62)**

| TESTER CONNECTION | CONDITION | SPECIFIED CONDITION |
|---|---|---|
| R62-1 (E1) - Body ground | Always | Below 1 Ω |

(c) Reconnect the plugin charge control ECU assembly connector.

**OK** ▶ **GO TO PROBLEM SYMPTOMS TABLE (PLUG-IN CHARGE CONTROL SYSTEM)**

**NG** ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR (PLUGIN CHARGE CONTROL ECU ASSEMBLY - BODY GROUND)**

| | |
|---|---|
| **5.** | **CHECK FUSE (PWC)** |

(a) Remove the PWC fuse from the No. 1 engine room relay block and No. 1 junction block assembly.

(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

| TESTER CONNECTION | CONDITION | SPECIFIED CONDITION |
|---|---|---|
| PWC fuse terminals | Always | Below 1 Ω |

(c) Install the PWC fuse.

**OK** ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR (PWC FUSE HOLDER - PLUGIN CHARGE CONTROL ECU ASSEMBLY)**

**NG** ▶ **GO TO STEP 9**

| | |
|---|---|
| **6.** | **CHECK FUSE (IGCT SCENE NO. 5)** |

(a) Remove the IGCT SCENE NO. 5 fuse from the fuse block assembly.

(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

| TESTER CONNECTION | CONDITION | SPECIFIED CONDITION |
|---|---|---|
| IGCT SCENE NO. 5 fuse terminals | Always | Below 1 Ω |

(c) Install the IGCT SCENE NO. 5 fuse.

**NG** ▶ **GO TO STEP 10**

**OK**

| | |
|---|---|
| **7.** | **CHECK HARNESS AND CONNECTOR (FUSE BLOCK ASSEMBLY - PLUGIN CHARGE CONTROL ECU ASSEMBLY)** |

(a) Disconnect the R62 plugin charge control ECU assembly connector.

(b) Remove the IGCT SCENE NO. 5 fuse from the fuse block assembly.

(c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

EWD INFO

**Click Location & Routing(R62)**
**Click Connector(R62)**

| TESTER CONNECTION | CONDITION | SPECIFIED CONDITION |
|---|---|---|
| R62-5 (IGCT) - IGCT SCENE NO. 5 fuse terminal 2 | Always | Below 1 Ω |

(d) Install the IGCT SCENE NO. 5 fuse.

(e) Reconnect the plugin charge control ECU assembly connector.

**NG** ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR (FUSE BLOCK ASSEMBLY - PLUGIN CHARGE CONTROL ECU ASSEMBLY)**

**OK**

| | |
|---|---|
| **8.** | **INSPECT RELAY (IGCT SCENE)** |

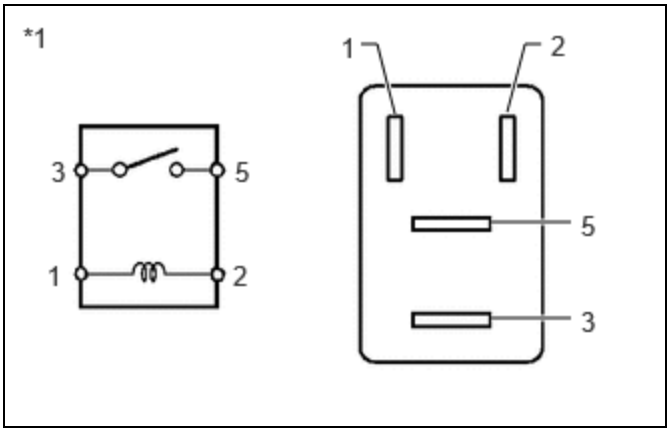
(a) Remove the IGCT SCENE relay from the No. 3 relay block.

(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

| TESTER CONNECTION | CONDITION | SPECIFIED CONDITION |
|---|---|---|
| 3 - 5 | Auxiliary battery voltage not applied between terminals 1 and 2 | 10 kΩ or higher |

| TESTER CONNECTION | CONDITION | SPECIFIED CONDITION |
|---|---|---|
| 3 - 5 | Auxiliary battery voltage applied between terminals 1 and 2 | Below 1 Ω |




| | |
|---|---|
| *1 | IGCT SCENE Relay |

Result:

| PROCEED TO |
|---|
| OK |
| NG |

(c) Install the IGCT SCENE relay.

**OK** ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR (RELAY BLOCK NO. 3 - FUSE BLOCK ASSEMBLY)**

**NG** ▶ **REPLACE RELAY (IGCT SCENE)**

| | |
|---|---|
| **9.** | **CHECK HARNESS AND CONNECTOR (PWC FUSE HOLDER - PLUGIN CHARGE CONTROL ECU ASSEMBLY)** |

(a) Disconnect the R62 plugin charge control ECU assembly connector.

(b) Remove the PWC fuse from the No. 1 engine room relay block and No. 1 junction block assembly.

(c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

EWD INFO

**Click Location & Routing(R62)**
**Click Connector(R62)**

| TESTER CONNECTION | CONDITION | SPECIFIED CONDITION |
|---|---|---|
| R62-6 (AM21) or PWC fuse terminal 2 - Body ground and other terminals | Always | 10 kΩ or higher |

(d) Install the PWC fuse.

(e) Reconnect the plugin charge control ECU assembly connector.

**OK** ▶ **REPLACE FUSE (PWC)**

**NG** ▶ **GO TO STEP 11**

| | |
|---|---|
| **10.** | **CHECK HARNESS AND CONNECTOR (FUSE BLOCK ASSEMBLY - PLUGIN CHARGE CONTROL ECU ASSEMBLY)** |

(a) Disconnect the R62 plugin charge control ECU assembly connector.

(b) Remove the IGCT SCENE NO. 5 fuse from the fuse block assembly.

(c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

EWD INFO

Click Location & Routing(R62)
Click Connector(R62)

| TESTER CONNECTION | CONDITION | SPECIFIED CONDITION |
|---|---|---|
| R62-5 (IGCT) or IGCT SCENE NO. 5 fuse terminal 2 - Body ground and other terminals | Always | 10 kΩ or higher |

(d) Install the IGCT SCENE NO. 5 fuse.

(e) Reconnect the plugin charge control ECU assembly connector.

**OK** ▶ **REPLACE FUSE (IGCT SCENE NO. 5)**

**NG** ▶ **GO TO STEP 12**

| | |
|---|---|
| **11.** | **REPAIR OR REPLACE HARNESS OR CONNECTOR (PWC FUSE HOLDER - PLUGIN CHARGE CONTROL ECU ASSEMBLY)** |

**NEXT** ▶ **REPLACE FUSE (PWC)**

| | |
|---|---|
| **12.** | **REPAIR OR REPLACE HARNESS OR CONNECTOR (FUSE BLOCK ASSEMBLY - PLUGIN CHARGE CONTROL ECU ASSEMBLY)** |

**NEXT** ▶ **REPLACE FUSE (IGCT SCENE NO. 5)**