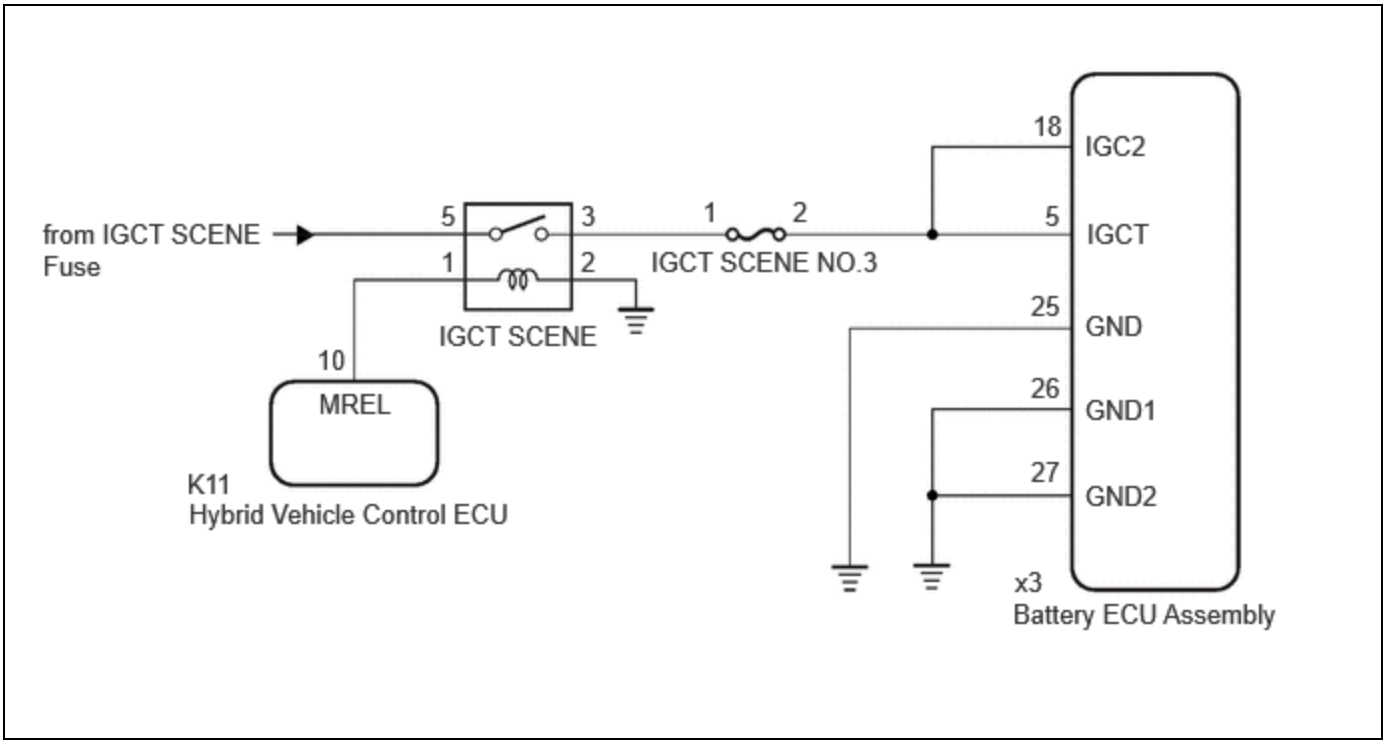
Last Modified: 12-04-2024	6.11:8.1.0	**Doc ID:** RM100000002BHVR
Model Year Start: 2023	**Model:** Prius Prime	**Prod Date Range:** [03/2023 -]
Title: HYBRID / BATTERY CONTROL: HYBRID BATTERY SYSTEM (for PHEV Model): ECU Power Source Circuit; 2023 - 2024 MY Prius Prime [03/2023 -]		

ECU Power Source Circuit

DESCRIPTION

If the ignition switch is ON, the hybrid vehicle control ECU applies current to the MREL terminal to turn the IGCT SCENE relay on. This supplies power to the IGCT terminals.

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 auxiliary negative (-) 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 BATTERY ECU ASSEMBLY (IGCT VOLTAGE)**

CAUTION:

Be sure to wear insulated gloves and protective goggles.

(a) Check that the service plug grip is not installed.

NOTICE:

After removing the service plug grip, do not turn the ignition switch to ON (READY), unless instructed by the repair manual because this may cause a malfunction.

(b) Connect the SST.

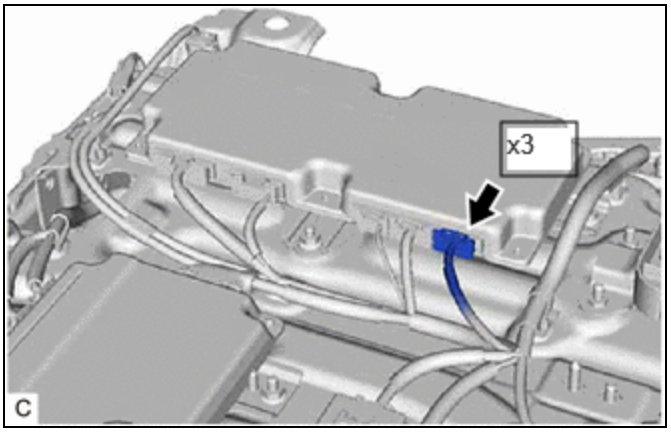
HINT:

Click here INFO

(c) Disconnect the battery ECU assembly connector.

NOTICE:

Before disconnecting the connector, check that it is not loose or disconnected.



(d) Connect the cable to the negative (-) auxiliary battery terminal.

(e) Turn the ignition switch to ON.

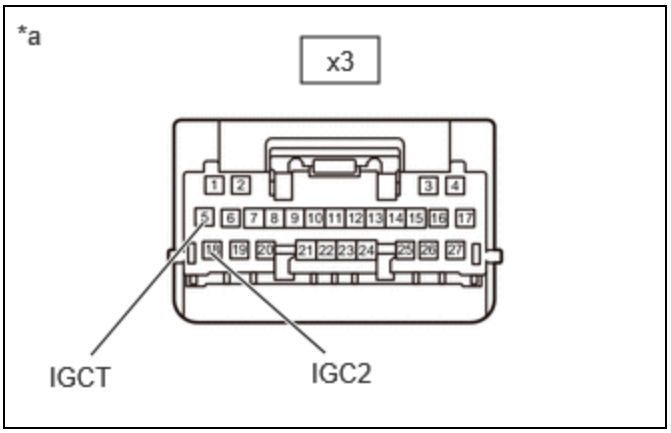
(f) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

EWD INFO

Click Location & Routing(x3)
Click Connector(x3)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
x3-5 (IGCT) - Body ground	Ignition switch ON	11 to 14 V



*a	Front view of wire harness connector

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
x3-18 (IGC2) - Body ground	Ignition switch ON	11 to 14 V

	(to Battery ECU Assembly)

NOTICE:

- Turning the ignition switch to ON with the service plug grip removed causes other DTCs to be stored. Clear the DTCs after performing this inspection.
- If the ignition switch is turned to ON with the connectors disconnected, other DTCs will be stored. Be sure to clear the DTCs after the inspection.

(g) Turn the ignition switch off.

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

(i) Reconnect the battery ECU assembly connector.

(j) Disconnect the SST.

NG ▶ **GO TO STEP 3**

OK ▼

2.	CHECK HARNESS AND CONNECTOR (BATTERY ECU ASSEMBLY - BODY GROUND)

CAUTION:

Be sure to wear insulated gloves and protective goggles.

(a) Check that the service plug grip is not installed.

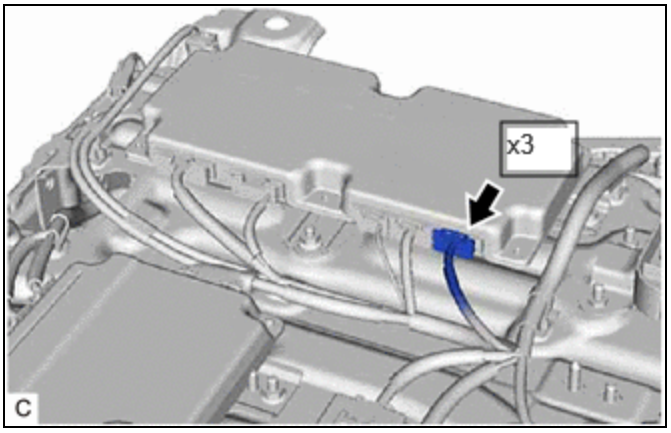
NOTICE:

After removing the service plug grip, do not turn the ignition switch to ON (READY), unless instructed by the repair manual because this may cause a malfunction.

(b) Disconnect the battery ECU assembly connector.

NOTICE:

Before disconnecting the connector, check that it is not loose or disconnected.



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

Standard Resistance:

EWD INFO

Click Location & Routing(x3)
Click Connector(x3)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
x3-25 (GND) - Body ground	Always	Below 1 Ω
x3-26 (GND1) - Body ground	Always	Below 1 Ω
x3-27 (GND2) - Body ground	Always	Below 1 Ω

(d) Reconnect the battery ECU assembly connector.

OK ▶ **GO TO PROBLEM SYMPTOMS TABLE**

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

3.	**CHECK FUSE (IGCT SCENE NO. 3)**

(a) Remove the IGCT SCENE NO. 3 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. 3 fuse	Always	Below 1 Ω

(c) Install the IGCT SCENE NO. 3 fuse to the fuse block assembly.

NG ▶ **GO TO STEP 6**

OK ▼

4.	**CHECK HARNESS AND CONNECTOR (BATTERY ECU ASSEMBLY - FUSE BLOCK ASSEMBLY)**

CAUTION:

Be sure to wear insulated gloves and protective goggles.

(a) Check that the service plug grip is not installed.

NOTICE:

After removing the service plug grip, do not turn the ignition switch to ON (READY), unless instructed by the repair manual because this may cause a malfunction.

(b) Remove the IGCT SCENE NO. 3 fuse from the fuse block assembly.

(c) Connect the SST.

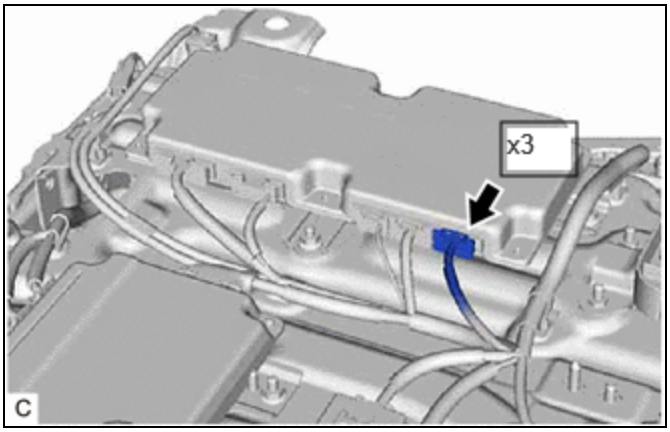
HINT:

Click here INFO

(d) Disconnect the battery ECU assembly connector.

NOTICE:

Before disconnecting the connector, check that it is not loose or disconnected.



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

Standard Resistance:

EWD INFO

Click Location & Routing(x3)
Click Connector(x3)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
x3-5 (IGCT) - 2 (IGCT SCENE NO. 3 fuse holder)	Always	Below 1 Ω

(f) Reconnect the battery ECU assembly connector.

(g) Disconnect the SST.

(h) Install the IGCT SCENE NO. 3 fuse to the fuse block assembly.

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

5.	**CHECK HARNESS AND CONNECTOR (FUSE BLOCK ASSEMBLY - NO. 3 RELAY BLOCK)**

(a) Remove the IGCT SCENE NO. 3 fuse from the fuse block assembly.

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

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
3 (IGCT SCENE relay holder) - 1 (IGCT SCENE NO. 3 fuse holder)	Always	Below 1 Ω

(d) Install the IGCT SCENE relay to the No. 3 relay block.

(e) Install the IGCT SCENE NO. 3 fuse to the fuse block assembly.

OK ▶ **CHECK ECU POWER SOURCE CIRCUIT (HYBRID CONTROL SYSTEM)**

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

6.	CHECK HARNESS AND CONNECTOR (BATTERY ECU ASSEMBLY - FUSE BLOCK ASSEMBLY)

CAUTION:

Be sure to wear insulated gloves and protective goggles.

(a) Check that the service plug grip is not installed.

NOTICE:

After removing the service plug grip, do not turn the ignition switch to ON (READY), unless instructed by the repair manual because this may cause a malfunction.

(b) Remove the IGCT SCENE NO. 3 fuse from the fuse block assembly.

(c) Connect the SST.

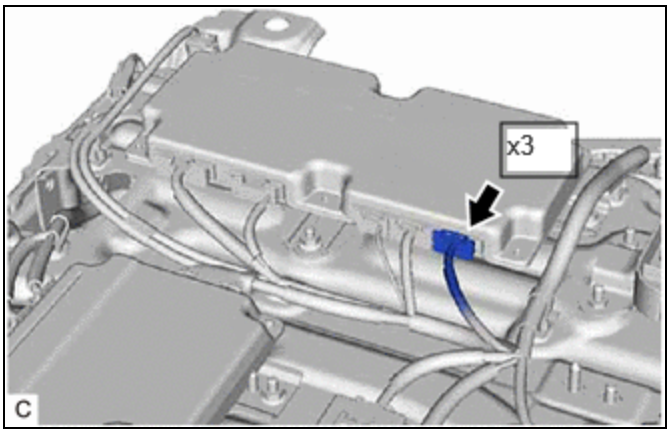
HINT:

Click here INFO

(d) Disconnect the battery ECU assembly connector.

NOTICE:

Before disconnecting the connector, check that it is not loose or disconnected.



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

Standard Resistance:

EWD INFO

Click Location & Routing(x3)
Click Connector(x3)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
x3-5 (IGCT) or 2 (IGCT SCENE NO. 3 fuse holder) - Body ground and other terminals	Always	Below 1 Ω

(f) Reconnect the battery ECU assembly connector.

(g) Disconnect the SST.

(h) Install the IGCT SCENE NO. 3 fuse to the fuse block assembly.

OK ▶ **REPLACE FUSE (IGCT SCENE NO. 3)**

NG ▼

7.	**REPAIR OR REPLACE HARNESS OR CONNECTOR**

NEXT ▶ **REPLACE FUSE (IGCT SCENE NO. 3)**