Last Modified: 12-04-2024	6.11:8.1.0	**Doc ID:** RM100000002BEGB
Model Year Start: 2023	**Model:** Prius Prime	**Prod Date Range:** [03/2023 -]
Title: HYBRID / BATTERY CONTROL: PLUG-IN CHARGE CONTROL SYSTEM (for PHEV Model): P0D5611; Charging Connector Proximity Detection Circuit Short to Ground; 2023 - 2024 MY Prius Prime [03/2023 -]		

DTC	**P0D5611**	**Charging Connector Proximity Detection Circuit Short to Ground**

DESCRIPTION

The charging cable (electric vehicle charger cable assembly) has a built-in micro switch that is operated by the latch release button, and the ON/OFF state of the switch is output to the plugin charge control ECU assembly as the PISW signal. Based on the PISW signal, the plugin charge control ECU assembly detects the connection state of the charging cable. The plugin charge control ECU assembly monitors the PISW signal and detects malfunctions.

DTC NO.	DETECTION ITEM	DTC DETECTION CONDITION	TROUBLE AREA	MIL	WARNING INDICATE	DTC OUTPUT FROM	PRIORITY	NOTE
P0D5611	Charging Connector Proximity Detection Circuit Short to Ground	PISW terminal voltage remains less than 0.35 V for a certain period of time. (1 trip detection logic)	• AC charger inlet cable • Charging cable (Electric vehicle charger cable assembly) • Plugin charge control ECU assembly • Wire harness or connector	Comes on	Master Warning: Comes on	Plug-in Control	A	SAE Code: P0D58

MONITOR DESCRIPTION

The plug-in charge control ECU monitors the PISW signal. If it detects a malfunction, it illuminates the MIL and stores a DTC.

MONITOR STRATEGY

Related DTCs	P0D58: Proximity Detection Circuit
Required sensors/components	Plug-in charge control ECU
Frequency of operation	Continuous
Duration	TMC's intellectual property
MIL operation	Immediately
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

Plug-in charge control ECU	DTC P0D5611 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. Connect the electric vehicle charger cable assembly, and plug-in charge the vehicle for 30 seconds or more. [*1]
4. Disconnect the electric vehicle charger cable assembly and wait for 10 seconds or more. [*2]

HINT:

[*1] to [*2] : Normal judgment procedure.

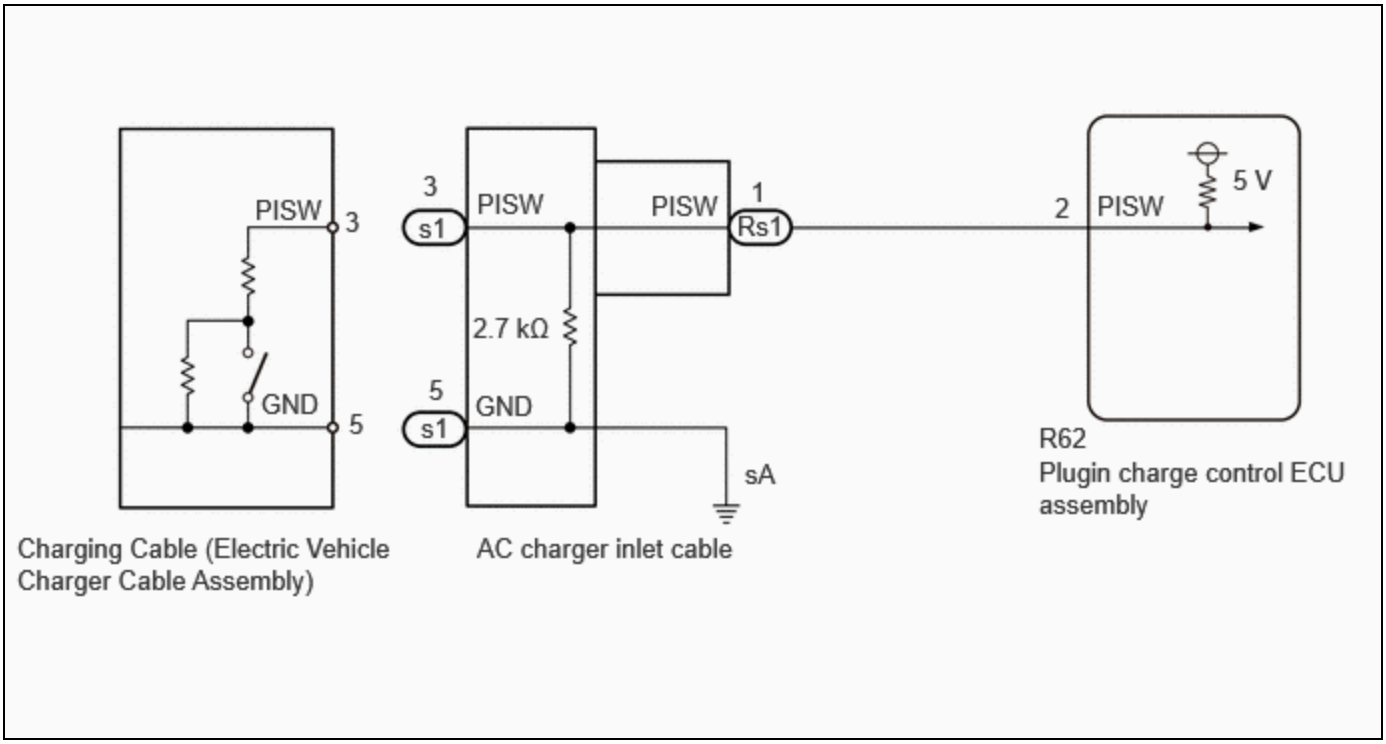
The normal judgment procedure is used to complete DTC judgment and also used when clearing permanent DTCs.

5. Enter the following menus: Powertrain / Plug-in Control / Utility / All Readiness.
6. 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.

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.	**CUSTOMER ANALYSIS**

(a) In accordance with the result of the customer problem analysis shown in the following table, confirm which electric vehicle charger cable assembly was used when the malfunction occurred.

RESULT	PROCEED TO
Charging station or charging cable provided with the other vehicle was used when malfunction occurred	A

RESULT	PROCEED TO
Electric vehicle charger cable assembly provided with the vehicle was used when malfunction occurred	B

B ▶ **GO TO STEP 3**

A

2.	**CHECK PLUG-IN CHARGE STATE (USING THE ELECTRIC VEHICLE CHARGER CABLE ASSEMBLY PROVIDED WITH THE VEHICLE)**

NOTICE:

- Make sure to use a known good AC power source.
- Plug-in charge the vehicle using the electric vehicle charger cable assembly provided with the vehicle.
- Use the same voltage power that the customer used to plug-in charge the vehicle.

Pre-procedure1

(a) Enter the following menus: Health Check.

(b) Clear DTCs.

(c) Turn the Charge Now on.

HINT:

- If no charge schedule has been registered, the above step is not necessary.
- Refer to the customization function for how to set "Setting Charge Now to ON".

Click here INFO

(d) Plug-in charge the vehicle using the electric vehicle charger cable assembly that was provided with the vehicle.

(e) Enter the following menus: Health Check.

Procedure1

(f) Check DTCs.

RESULT	PROCEED TO
DTCs not stored and plug-in charging started	A
DTCs output	B

Post-procedure1

(g) Turn the power switch off.

(h) Disconnect the electric vehicle charger cable assembly.

A **CAUSE ANALYSIS (ENVIRONMENT RELATED CAUSE)**

(a) Analyze the cause according to the following table.

User Related Cause

POSSIBLE CAUSE	ACTION TO BE TAKEN
Improper use of charging equipment	Check how to use the charging equipment in the instruction manual, etc.

Environment Related Cause

POSSIBLE CAUSE	ACTION TO BE TAKEN
Short to ground in PISW circuit of charging station	1) Check charging station 2) Charge with the electric vehicle charger cable assembly provided with the vehicle
Short to ground in PISW circuit of electric vehicle charger cable assembly other than one provided with vehicle	1) Inspect the charging cable that the customer used 2) Charge with the charging cable provided with the vehicle

(b) Take appropriate action in accordance with the result of the cause analysis.

B **GO TO STEP 3**

3.	**CHECK CHARGING CABLE (ELECTRIC VEHICLE CHARGER CABLE ASSEMBLY)**

HINT:

Perform the inspection with the electric vehicle charger cable assembly disconnected from the vehicle and external outlet.

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

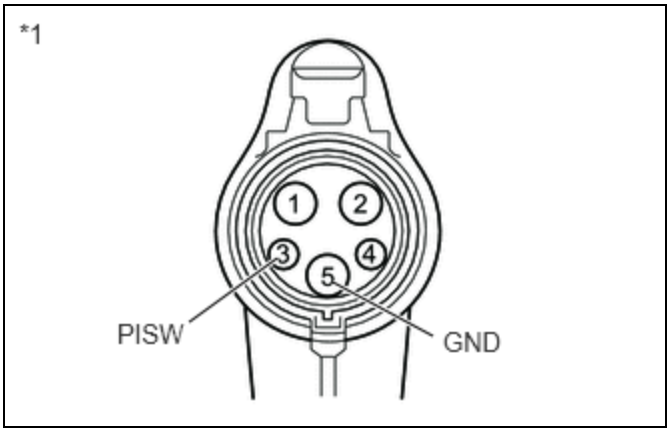
Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
3 (PISW) - 5 (GND)	Latch release button (PISW) is pressed	430 to 530 Ω	Ω

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
3 (PISW) - 5 (GND)	Latch release button (PISW) is not pressed	135 to 165 Ω	Ω

Result:

PROCEED TO
OK
NG



*1	Electric Vehicle Charger Cable Assembly

NG ▶ **REPLACE CHARGING CABLE (ELECTRIC VEHICLE CHARGER CABLE ASSEMBLY)**

OK ▼

4.	**CHECK HARNESS AND CONNECTOR (PLUGIN CHARGE CONTROL ECU ASSEMBLY - CHARGING INLET)**

CAUTION:

Be sure to wear insulated gloves.

HINT:

Perform the inspection with the electric vehicle charger cable assembly disconnected from the charging inlet.

Pre-procedure1

(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 R62 plugin charge control ECU assembly connector.

Procedure1

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

Standard Resistance:

EWD INFO

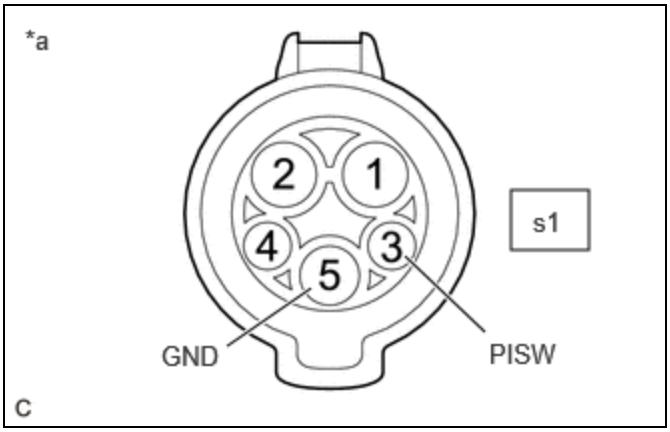
Click Location & Routing(s1)

Click Connector(s1)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
s1-3 (PISW) - s1-5 (GND)	Ignition switch off	2.3 to 3.0 kΩ	kΩ
s1-3 (PISW) - Body ground	Ignition switch off	2.3 to 3.0 kΩ	kΩ

Result:

PROCEED TO
OK
NG



*a	AC Charger Inlet Cable (Charging Inlet)

Post-procedure1

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

OK ▶ **REPLACE PLUGIN CHARGE CONTROL ECU ASSEMBLY**

NG
▼

5.	**CHECK AC CHARGER INLET CABLE**

Pre-procedure1

(a) Disconnect the Rs1 AC charger inlet cable connector.

NOTICE:

If the Rs1 connector is disconnected with the auxiliary battery connected, P0D5615 may be detected. Check that the cable is disconnected from the negative (-) auxiliary battery terminal before proceeding work.

Procedure1

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

Standard Resistance:

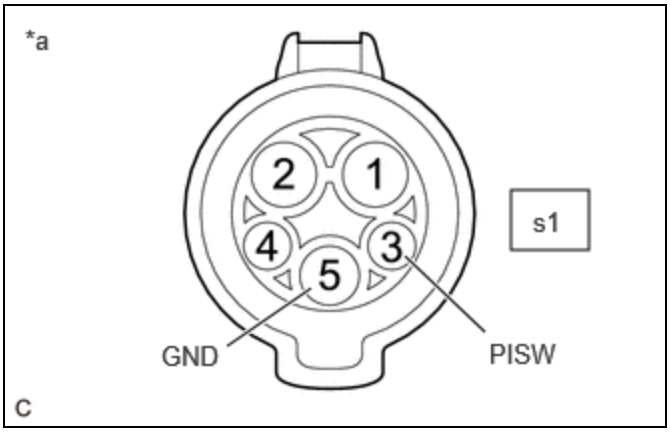
EWD INFO

Click Location & Routing(s1)
Click Connector(s1)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
s1-3 (PISW) - s1-5 (GND)	Ignition switch off	2.3 to 3.0 kΩ	kΩ
s1-3 (PISW) - Body ground	Ignition switch off	2.3 to 3.0 kΩ	kΩ

Result:

PROCEED TO
OK
NG



*a	AC Charger Inlet Cable (Charging Inlet)

Post-procedure1

(c) Reconnect the AC charger inlet cable connector.

OK ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

NG ▶ **REPLACE AC CHARGER INLET CABLE**