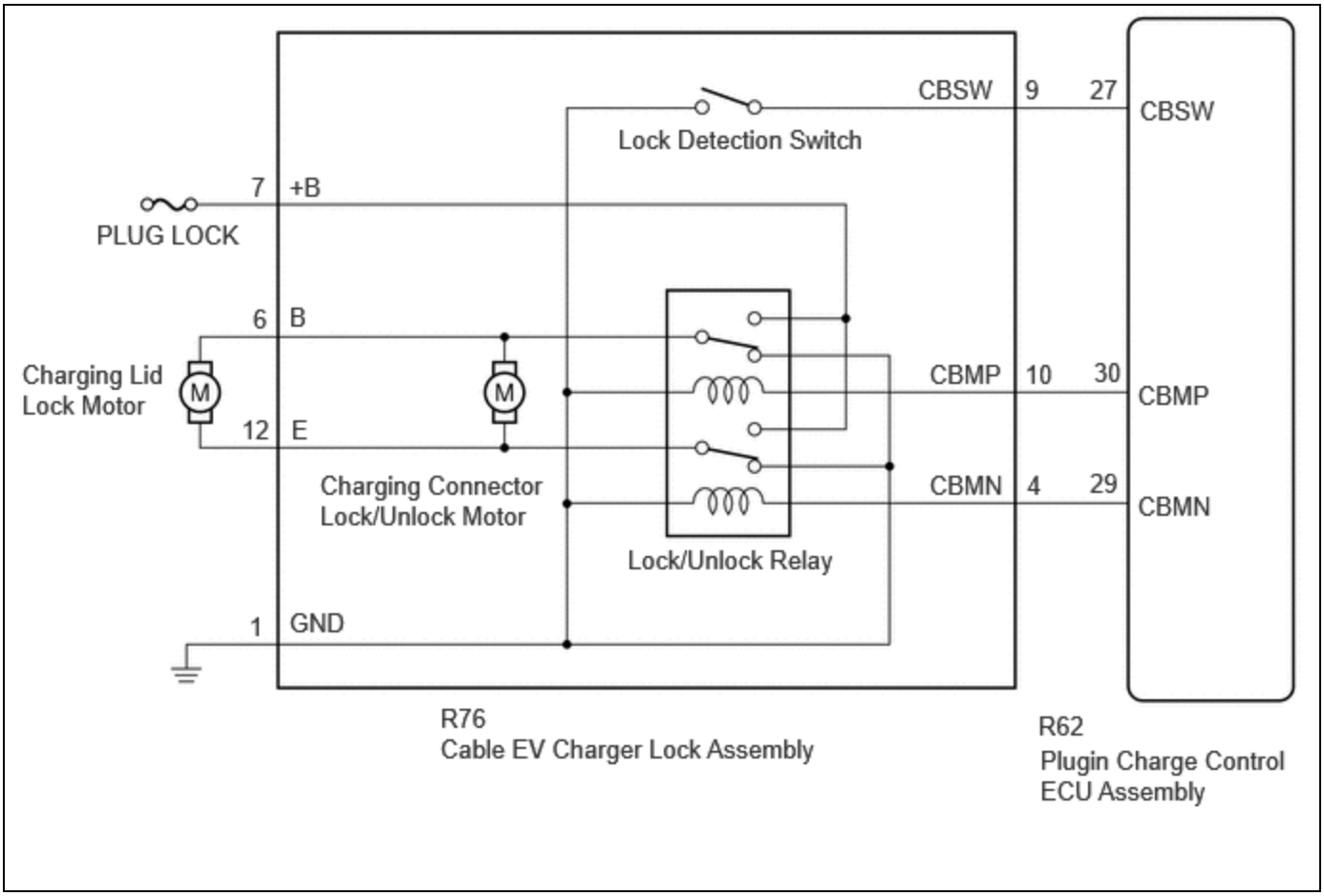
| | | |
|---|---|---|
| **Last Modified:** 12-04-2024 | 6.11:8.1.0 | **Doc ID:** RM100000002BEID |
| **Model Year Start:** 2023 | **Model:** Prius Prime | **Prod Date Range:** [03/2023 - ] |
| **Title:** HYBRID / BATTERY CONTROL: PLUG-IN CHARGE CONTROL SYSTEM (for PHEV Model): Cannot Lock Charging Connector; 2023 - 2024 MY Prius Prime [03/2023 - ] | | |

**Cannot Lock Charging Connector**

## DESCRIPTION

If the lock and unlock functions of the charging connector lock do not operate, the plugin charge control ECU assembly, charging connector lock motor (cable EV charger lock assembly) may be malfunctioning.

## WIRING DIAGRAM




- Refer to the wiring diagram for PISW circuit.

  Click here INFO
- Refer to the wiring diagram for Control Pilot Signal Circuit.

  Click here INFO

## 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
- To protect the charging port lid lock motor and charging connector lock motor, if the charging port lid lock or charging connector lock is operated repeatedly, operation of the lock will be prohibited. Wait for 3 minutes or more to allow the motor to cool and then resume the inspection.
- To protect the charging port lid lock motor and charging connector lock motor, if the charging port lid lock and charging connector lock are operated repeatedly in quick succession, operation of the lock will be prohibited for a certain amount of time. Wait for 3 seconds or more after operation was prohibited and then resume the inspection.
- If the charging connector lock is dirty or frozen, or if foreign matter is caught between the charging connector and charging connector lock, the charging connector may not be able to be locked/unlocked. Clean the charging connector lock before performing the inspection.
- If a charging cable other than the charging cable provided with the vehicle is used, the charging connector lock may not operate correctly. Check that the lock and unlock functions of the charging connector lock operate properly using the charging cable provided with the vehicle before proceeding with the inspection.
- While charging connector is connected, cannot change the charging connector setting.
- The charging connector lock may not operate if the charging connector lock emergency release lever has been operated. In this case, disconnect the charging connector and connect the charging connector.
- Set the charging connector lock setting to "Auto Lock".

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## PROCEDURE

| | |
|---|---|
| **1.** | **CHECK DTC OUTPUT (HEALTH CHECK)** |

(a) Enter the following menus: Health Check.

(b) Check DTCs.

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

(c) Turn the ignition switch off.

**B** ▶ **GO TO DTC CHART**

**A**

| | |
|---|---|
| 2. | **CHECK PLUGIN CHARGE CONTROL ECU ASSEMBLY (WITH CHARGING PORT LID OPEN AND CHARGING CONNECTOR LOCKED)** |

**CAUTION:**

Be sure to wear insulated gloves.

**HINT:**

- WITH CHARGING PORT LID OPEN AND CHARGING CONNECTOR LOCKED: Status when the charging port lid is opened and the charging cable (electric vehicle charger cable assembly) is connected.
- w/ Charging Connector Lock customize:

  Check that the "Connector Lock" setting is set to "Auto Lock".

  Click here INFO

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

(c) Unlock of the doors.

(d) Open the charging port lid.

(e) Check that the charging connector lock is unlocked (lock pin is not extended).

**HINT:**

- If the charging connector lock is locked (the lock pin is extended), unlock it using the charging connector lock emergency release lever.

(f) Connect the charging cable (electric vehicle charger cable assembly).

**NOTICE:**

Make sure to connect the GTS before connecting the charging connector.

**HINT:**

Fully insert and securely connect the charging connector. (If the connector is not fully connected, the charging connector lock function may not operate correctly)

(g) Enter the following menus:

**Powertrain > Plug-in Control > Data List**

| TESTER DISPLAY |
|---|
| Charging Connector Connect Status Voltage |
| Charging Connector Lock Pin Status |

| TESTER DISPLAY |
| --- |
| Charging Connector Lock Motor Unlock Direction Revolution Request Current |
| Charging Connector Lock Motor Lock Direction Revolution Request Current |

(h) Read the value displayed on the GTS.

**Powertrain > Plug-in Control > Data List**

| TESTER DISPLAY | MEASUREMENT ITEM | NORMAL CONDITION |
| --- | --- | --- |
| Charging Connector Connect Status Voltage | PISW terminal voltage used for checking electric vehicle charger cable assembly connection condition<br><br>(PISW) | Charging cable (Electric vehicle charger cable assembly) connected: 0.35 to 2.02 V<br><br>Charging cable (Electric vehicle charger cable assembly) inserted and the latch release button (PI switch) engaged: 2.02 to 3.57 V |
| Charging Connector Lock Pin Status | Charging connector lock pin status<br><br>(CBSW) | Charging connector lock pin extended: Lock |
| Charging Connector Lock Motor Unlock Direction Revolution Request Current | Output of current to operate charging connector lock motor in reverse<br><br>(CBMN) | Charging connector lock motor not operated: OFF |
| Charging Connector Lock Motor Lock Direction Revolution Request Current | Output of current to operate charging connector lock motor forward<br><br>(CBMP) | Charging connector lock motor not operated: OFF<br><br>**HINT:**<br>After the charging connector is connected, it turns on for approximately 600 ms |

(i) Turn the ignition switch off.

(j) Unlock of the doors and charging connector lock.

(k) Disconnect the charging cable (electric vehicle charger cable assembly).

(l) Close the charging port lid.

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

| RESULT | PROCEED TO |
| --- | --- |
| OK | A |
| NG<br>(PISW) | B |

| RESULT | PROCEED TO |
|---|---|
| NG<br>(CBSW) | C |
| NG<br>(CBMP, CBMN) | D |

**B** ▶ **GO TO STEP 4**

**C** ▶ **GO TO STEP 9**

**D** ▶ **GO TO STEP 12**

**A** ▼

| | |
|---|---|
| **3.** | **INSPECT CABLE EV CHARGER LOCK ASSEMBLY** |

**HINT:**

Click here INFO

**OK** ▶

(a) Perform cause analysis in the order of "User" and "Environment" categories as specified in the following tables.

**User Related Cause**

| POSSIBLE CAUSE | ACTION TO BE TAKEN |
|---|---|
| Charging connector lock/unlock was operated repeatedly | Explain to the customer that to protect the charging connector lock motor, if the charging connector lock/unlock was operated repeatedly, operation may be temporarily prohibited. |
| Charging connector lock was unlocked using charging connector lock emergency release lever | Explain to the customer that the charging connector lock may not operate if the charging connector lock emergency release lever has been operated.<br>Disconnect and then connect the charging connector. |
| Charging connector lock/unlock operation was attempted after | Explain to the customer that charging connector lock/unlock operation may be prohibited after the auxiliary battery has been |

| POSSIBLE CAUSE | ACTION TO BE TAKEN |
|---|---|
| auxiliary battery was replaced or cable disconnected and connected | replaced or the cable has been disconnected and reconnected to the negative (-) auxiliary battery terminal.<br><br>Operate the charging connector lock/unlock again. |
| Charging connector lock settings is OFF (w/ Charging Connector Lock customize) | Explain to the customer that the charging connector lock will not operate if the "Connector Lock" setting in customize parameters is set to OFF.<br><br>If using the charging connector lock function, change the "Connector Lock" setting in customize parameters to "Auto Lock" or "Auto Lock & Unlock".<br>CAUSE ANALYSIS (USER / ENVIRONMENT RELATED CAUSE) |

**Environment Related Cause**

| POSSIBLE CAUSE | ACTION TO BE TAKEN |
|---|---|
| Charging connector lock motor temperature high | Explain to the customer that, due to the temperature of the charging connector lock motor becoming high, to protect the charging connector lock motor, charging connector lock operation was prohibited.<br><br>Wait 3 minutes or more after lock/unlock operation is prohibited, then resume inspection. |
| Charging connector lock cannot operate due to foreign matter, ice, etc. | Explain to the customer that the charging connector cannot be locked or unlocked if foreign matter, ice, etc. are stuck on the lock pin or charging connector. |

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

**NG** ▶ **REPLACE CABLE EV CHARGER LOCK ASSEMBLY**

| 4. | CHECK PLUGIN CHARGE CONTROL ECU ASSEMBLY (PISW TERMINAL VOLTAGE) |
|---|---|

**CAUTION:**

Be sure to wear insulated gloves.

(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 Rs1 AC charger inlet cable connector.

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

(d) Turn the ignition switch to ON.

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

Standard Voltage:

EWD INFO

Click Location & Routing(Rs1)
Click Connector(Rs1)

| TESTER CONNECTION | CONDITION | SPECIFIED CONDITION |
|---|---|---|
| Rs1-1 (PISW) - Body ground | Ignition switch ON | 3.57 to 4.73 V |

(f) Turn the ignition switch off.

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

(h) Reconnect the AC charger inlet cable connector.

**NG** ▶ **GO TO STEP 6**

**OK** ▼

| 5. | INSPECT CHARGING CABLE (ELECTRIC VEHICLE CHARGER CABLE ASSEMBLY) (PISW) |
|---|---|

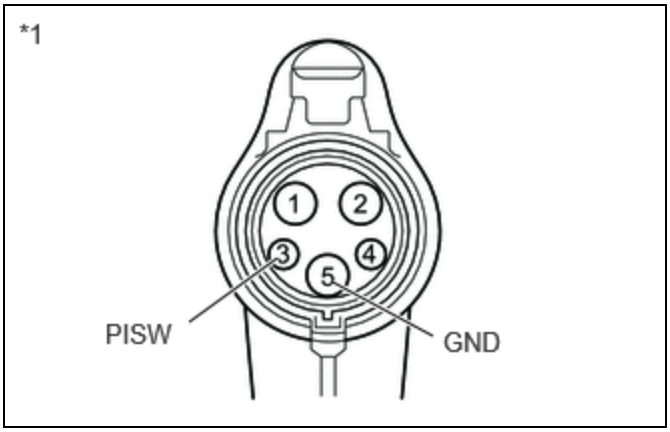
**HINT:**

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 |
|---|---|---|
| 3 (PISW) - 5 (GND) | Latch release button (PI switch) pressed | 430 to 530 Ω |
| 3 (PISW) - 5 (GND) | Latch release button (PI switch) not pressed | 135 to 165 Ω |




| | |
|---|---|
| *1 | Electric Vehicle Charger Cable Assembly |

(b) Connect the electric vehicle charger cable assembly to the plug.

**HINT:**

Make sure not to connect it to the vehicle side charging inlet.

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

Standard Voltage:

| TESTER CONNECTION | CONDITION | SPECIFIED CONDITION |
|---|---|---|
| 3 (PISW) - 5 (GND) | Latch release button (PI switch) pressed | Below 1 V |
| 3 (PISW) - 5 (GND) | Latch release button (PI switch) not pressed | Below 1 V |

(d) Disconnect the electric vehicle charger cable assembly from the plug.

**OK**

(a) Perform cause analysis in the order of "User" and "Environment" categories as specified in the following tables.

**User Related Cause**

| POSSIBLE CAUSE | ACTION TO BE TAKEN |
|---|---|
| Charging connector lock/unlock was operated repeatedly | Explain to the customer that to protect the charging connector lock motor, if the charging connector lock/unlock was operated repeatedly, operation may be temporarily prohibited. |
| Charging connector lock was unlocked using charging connector lock emergency release lever | Explain to the customer that the charging connector lock may not operate if the charging connector lock emergency release lever has been operated.<br>Disconnect and then connect the charging connector. |

| POSSIBLE CAUSE | ACTION TO BE TAKEN |
|---|---|
| Charging connector lock/unlock operation was attempted after auxiliary battery was replaced or cable disconnected and connected | Explain to the customer that charging connector lock/unlock operation may be prohibited after the auxiliary battery has been replaced or the cable has been disconnected and reconnected to the negative (-) auxiliary battery terminal.<br>Operate the charging connector lock/unlock again. |
| Charging connector lock settings is OFF | Explain to the customer that the charging connector lock will not operate if the "Connector Lock" setting in customize parameters is set to OFF.<br>If using the charging connector lock function, change the "Connector Lock" setting in customize parameters to "Auto Lock" or "Auto Lock & Unlock".<br>CAUSE ANALYSIS (USER / ENVIRONMENT RELATED CAUSE) |

**Environment Related Cause**

| POSSIBLE CAUSE | ACTION TO BE TAKEN |
|---|---|
| Charging connector lock motor temperature high | Explain to the customer that, due to the temperature of the charging connector lock motor becoming high, to protect the charging connector lock motor, charging connector lock operation was prohibited.<br>Wait 3 minutes or more after lock/unlock operation is prohibited, then resume inspection. |
| Charging connector lock cannot operate due to foreign matter, ice, etc. | Explain to the customer that the charging connector cannot be locked or unlocked if foreign matter, ice, etc. are stuck on the lock pin or charging connector. |

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

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

| | |
|---|---|
| **6.** | **CHECK HARNESS AND CONNECTOR (PLUGIN CHARGE CONTROL ECU ASSEMBLY - CHARGING INLET)** |

**CAUTION:**

Be sure to wear insulated gloves.

(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.

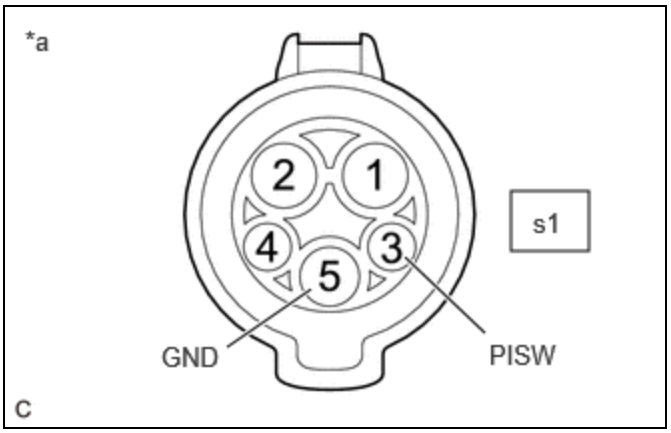
(c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

EWD INFO

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

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




| | |
|---|---|
| *a | AC Charger Inlet Cable (Charging Inlet) |

(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(s1)**
**Click Connector(s1)**

| TESTER CONNECTION | CONDITION | SPECIFIED CONDITION |
|---|---|---|
| s1-3 (PISW) - s1-5 (GND) | Ignition switch ON | Below 1 V |
| s1-3 (PISW) - Body ground | Ignition switch ON | Below 1 V |

(g) Turn the ignition switch off.

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

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

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

**NG**

| | |
|---|---|
| **7.** | **CHECK AC CHARGER INLET CABLE (BODY GROUND TERMINAL CONNECTION CONDITION)** |

(a) Check the installation condition of the AC charger inlet cable ground wire sA.

OK:
The ground wire is securely installed.

**NG** ▶ **CONNECT SECURELY**

**OK**

| | |
|---|---|
| **8.** | **CHECK AC CHARGER INLET CABLE** |

**CAUTION:**
Be sure to wear insulated gloves.

(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 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.

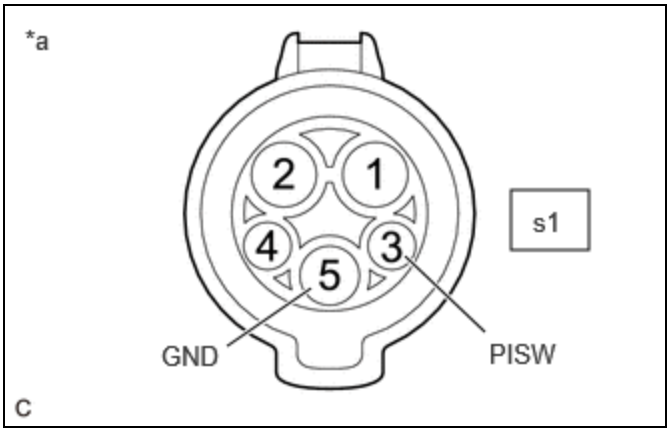
(c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

EWD INFO

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

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




| | |
|---|---|
| *a | AC Charger Inlet Cable (Charging Inlet) |

(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(s1)**
**Click Connector(s1)**

| TESTER CONNECTION | CONDITION | SPECIFIED CONDITION |
|---|---|---|
| s1-3 (PISW) - s1-5 (GND) | Ignition switch ON | Below 1 V |
| s1-3 (PISW) - Body ground | Ignition switch ON | Below 1 V |

**NOTICE:**

Turning the ignition switch to ON with the AC charger inlet cable connector disconnected causes DTCs to be stored. Clear the DTCs after performing this inspection.

(g) Turn the ignition switch off.

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

(i) Reconnect the AC charger inlet cable connector.

**OK** ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR (INLET AC CHARGER CABLE - PLUGIN CHARGE CONTROL ECU ASSEMBLY)**

**NG** ▶ **REPLACE AC CHARGER INLET CABLE**

| | |
|---|---|
| **9.** | **CHECK PLUGIN CHARGE CONTROL ECU ASSEMBLY (CBSW TERMINAL VOLTAGE)** |

**CAUTION:**

Be sure to wear insulated gloves.

(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 R76 cable EV charger lock assembly connector.

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

(d) Turn the ignition switch to ON.

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

Standard Voltage:

EWD INFO

**Click Location & Routing(R76)**
**Click Connector(R76)**

| TESTER CONNECTION | CONDITION | SPECIFIED CONDITION |
|---|---|---|
| R76-9 (CBSW) - Body ground | Ignition switch ON | 4.5 to 5.5 V |

(f) Turn the ignition switch off.

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

(h) Reconnect the cable EV charger lock assembly connector.

**NG** ▶ **GO TO STEP 11**

**OK** ▼

| | |
|---|---|
| **10.** | **INSPECT CABLE EV CHARGER LOCK ASSEMBLY (CHARGING CONNECTOR LOCK DETECTION SWITCH)** |

**HINT:**

Click here INFO

**OK** ▶

(a) Perform cause analysis in the order of "User" and "Environment" categories as specified in the following tables.

**User Related Cause**

| POSSIBLE CAUSE | ACTION TO BE TAKEN |
|---|---|
| Charging connector lock/unlock was operated repeatedly | Explain to the customer that to protect the charging connector lock motor, if the charging connector lock/unlock was operated repeatedly, operation may be temporarily prohibited. |
| Charging connector lock was unlocked using charging connector lock emergency release lever | Explain to the customer that the charging connector lock may not operate if the charging connector lock emergency release lever has been operated.<br>Disconnect and then connect the charging connector. |
| Charging connector lock/unlock operation was attempted after auxiliary battery was replaced or cable disconnected and connected | Explain to the customer that charging connector lock/unlock operation may be prohibited after the auxiliary battery has been replaced or the cable has been disconnected and reconnected to the negative (-) auxiliary battery terminal.<br>Operate the charging connector lock/unlock again. |
| Charging connector lock settings is OFF (w/ Charging Connector Lock customize) | Explain to the customer that the charging connector lock will not operate if the "Connector Lock" setting in customize parameters is set to OFF.<br>If using the charging connector lock function, change the "Connector Lock" setting in customize parameters to "Auto Lock" or "Auto Lock & Unlock".<br>CAUSE ANALYSIS (USER / ENVIRONMENT RELATED CAUSE) |

**Environment Related Cause**

| POSSIBLE CAUSE | ACTION TO BE TAKEN |
|---|---|
| Charging connector lock motor temperature high | Explain to the customer that, due to the temperature of the charging connector lock motor becoming high, to protect the charging connector |

| POSSIBLE CAUSE | ACTION TO BE TAKEN |
|---|---|
| | lock motor, charging connector lock operation was prohibited.<br><br>Wait 3 minutes or more after lock/unlock operation is prohibited, then resume inspection. |
| Charging connector lock cannot operate due to foreign matter, ice, etc. | Explain to the customer that the charging connector cannot be locked or unlocked if foreign matter, ice, etc. are stuck on the lock pin or charging connector. |

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

**NG** ▶ **REPLACE CABLE EV CHARGER LOCK ASSEMBLY**

| | |
|---|---|
| **11.** | **CHECK HARNESS AND CONNECTOR (PLUGIN CHARGE CONTROL ECU ASSEMBLY - CABLE EV CHARGER LOCK ASSEMBLY (CBSW))** |

**CAUTION:**

Be sure to wear insulated gloves.

(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 R76 cable EV charger lock assembly connector.

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

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

Standard Resistance:

EWD INFO

**Click Location & Routing(R62,R76)**
**Click Connector(R62)**
**Click Connector(R76)**

| TESTER CONNECTION | CONDITION | SPECIFIED CONDITION |
|---|---|---|
| R62-27 (CBSW) - R76-9 (CBSW) | Ignition switch off | Below 1 Ω |
| R62-27 (CBSW) or R76-9 (CBSW) - Body ground and other terminals | Ignition switch off | 10 kΩ or higher |

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

(f) Reconnect the cable EV charger lock assembly connector.

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

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

| | |
|---|---|
| **12.** | **CHECK PLUGIN CHARGE CONTROL ECU ASSEMBLY (CBMP, CBMN TERMINAL VOLTAGE)** |

**CAUTION:**

Be sure to wear insulated gloves.

(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 R76 cable EV charger lock assembly connector.

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

(d) Turn the ignition switch to ON.

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

Standard Voltage:

EWD INFO

**Click Location & Routing(R76)**
**Click Connector(R76)**

| TESTER CONNECTION | CONDITION | SPECIFIED CONDITION |
|---|---|---|
| R76-10 (CBMP) - Body ground | Ignition switch ON | 0 to 1.5 V |
| R76-4 (CBMN) - Body ground | Ignition switch ON | 0 to 1.5 V |

(f) Turn the ignition switch off.

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

(h) Reconnect the cable EV charger lock assembly connector.

**NG** ▶ **GO TO STEP 14**

**OK** ▼

| | |
|---|---|
| **13.** | **INSPECT CABLE EV CHARGER LOCK ASSEMBLY (CHARGING CONNECTOR LOCK RELAY)** |

**HINT:**

Click here INFO

**OK**

(a) Perform cause analysis in the order of "User" and "Environment" categories as specified in the following tables.

**User Related Cause**

| POSSIBLE CAUSE | ACTION TO BE TAKEN |
|---|---|
| Charging connector lock/unlock was operated repeatedly | Explain to the customer that to protect the charging connector lock motor, if the charging connector lock/unlock was operated repeatedly, operation may be temporarily prohibited. |
| Charging connector lock was unlocked using charging connector lock emergency release lever | Explain to the customer that the charging connector lock may not operate if the charging connector lock emergency release lever has been operated.<br>Disconnect and then connect the charging connector. |
| Charging connector lock/unlock operation was attempted after auxiliary battery was replaced or cable disconnected and connected | Explain to the customer that charging connector lock/unlock operation may be prohibited after the auxiliary battery has been replaced or the cable has been disconnected and reconnected to the negative (-) auxiliary battery terminal.<br>Operate the charging connector lock/unlock again. |
| Charging connector lock settings is OFF (w/ Charging Connector Lock customize) | Explain to the customer that the charging connector lock will not operate if the "Connector Lock" setting in customize parameters is set to OFF.<br>If using the charging connector lock function, change the "Connector Lock" setting in customize parameters to "Auto Lock" or "Auto Lock & Unlock".<br>CAUSE ANALYSIS (USER / ENVIRONMENT RELATED CAUSE) |

**Environment Related Cause**

| POSSIBLE CAUSE | ACTION TO BE TAKEN |
|---|---|
| Charging connector lock motor temperature high | Explain to the customer that, due to the temperature of the charging connector lock motor becoming high, to protect the charging connector lock motor, charging connector lock operation was prohibited.<br>Wait 3 minutes or more after lock/unlock operation is prohibited, then resume inspection. |
| Charging connector lock cannot operate due to foreign matter, ice, etc. | Explain to the customer that the charging connector cannot be locked or unlocked if foreign matter, ice, etc. are stuck on the lock pin or charging connector. |

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

**NG** ▶ **REPLACE CABLE EV CHARGER LOCK ASSEMBLY**

| | |
|---|---|
| **14.** | **CHECK HARNESS AND CONNECTOR (PLUGIN CHARGE CONTROL ECU ASSEMBLY - CABLE EV CHARGER LOCK ASSEMBLY (CBMP, CBMN))** |

**CAUTION:**

Be sure to wear insulated gloves.

(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 R76 cable EV charger lock assembly connector.

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

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

Standard Resistance:

EWD INFO

**Click Location & Routing(R62,R76)**
**Click Connector(R62)**
**Click Connector(R76)**

| TESTER CONNECTION | CONDITION | SPECIFIED CONDITION |
|---|---|---|
| R62-30 (CBMP) - R76-10 (CBMP) | Ignition switch off | Below 1 Ω |
| R62-29 (CBMN) - R76-4 (CBMN) | Ignition switch off | Below 1 Ω |
| R62-30 (CBMP) or R76-10 (CBMP) - Body ground and other terminals | Ignition switch off | 10 kΩ or higher |
| R62-29 (CBMN) or R76-4 (CBMN) - Body ground and other terminals | Ignition switch off | 10 kΩ or higher |

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

(f) Reconnect the cable EV charger lock assembly connector.

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

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