Last Modified: 12-04-2024	6.11:8.1.0	**Doc ID:** RM100000002BJUF
Model Year Start: 2023	**Model:** Prius Prime	**Prod Date Range:** [03/2023 -]
Title: POWER OUTLETS (INT): ACCESSORY POWER OUTLET SYSTEM: Accessory Power Outlet System does not Operate; 2023 - 2024 MY Prius Prius Prime [03/2023 -]		

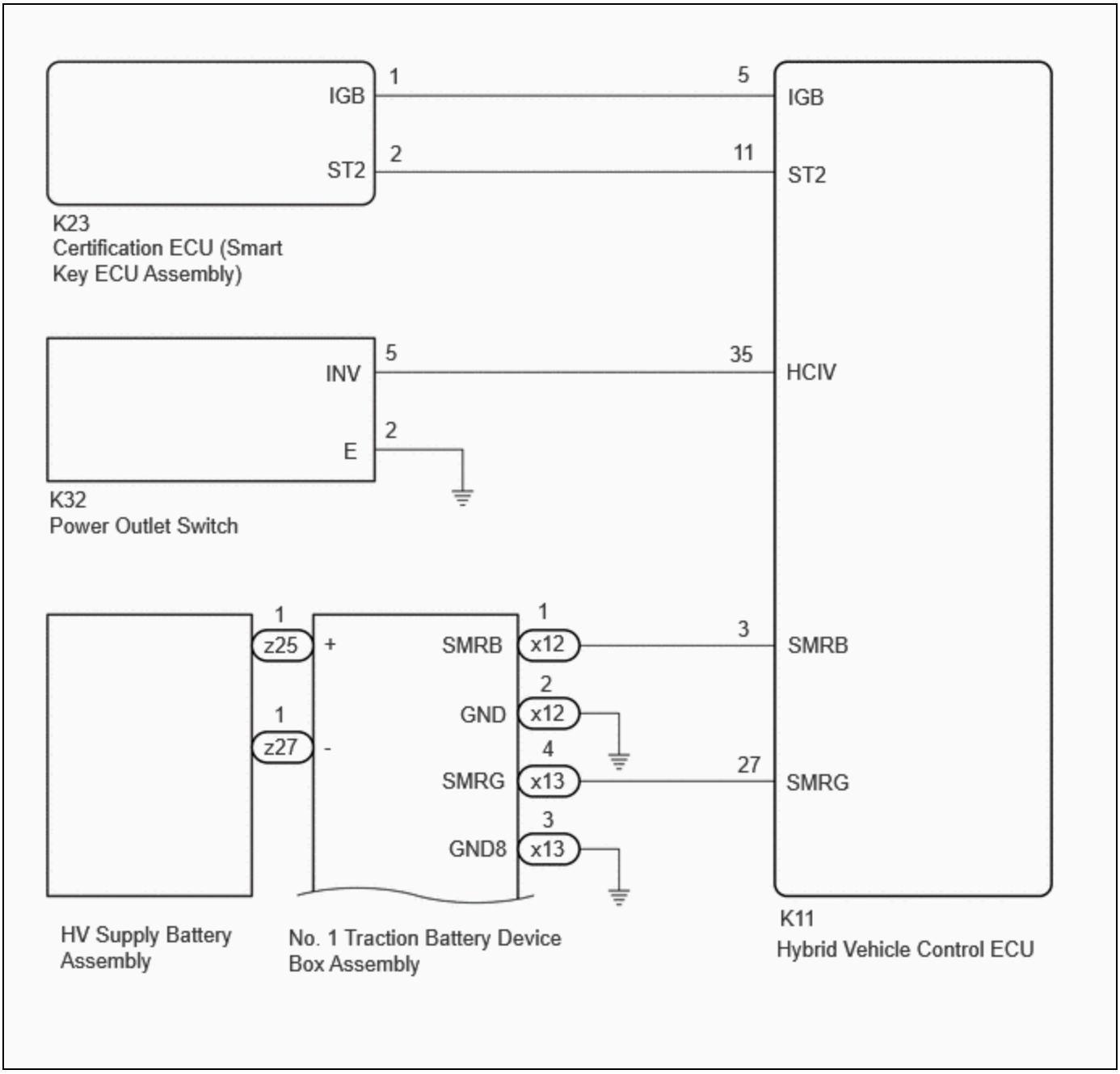
Accessory Power Outlet System does not Operate

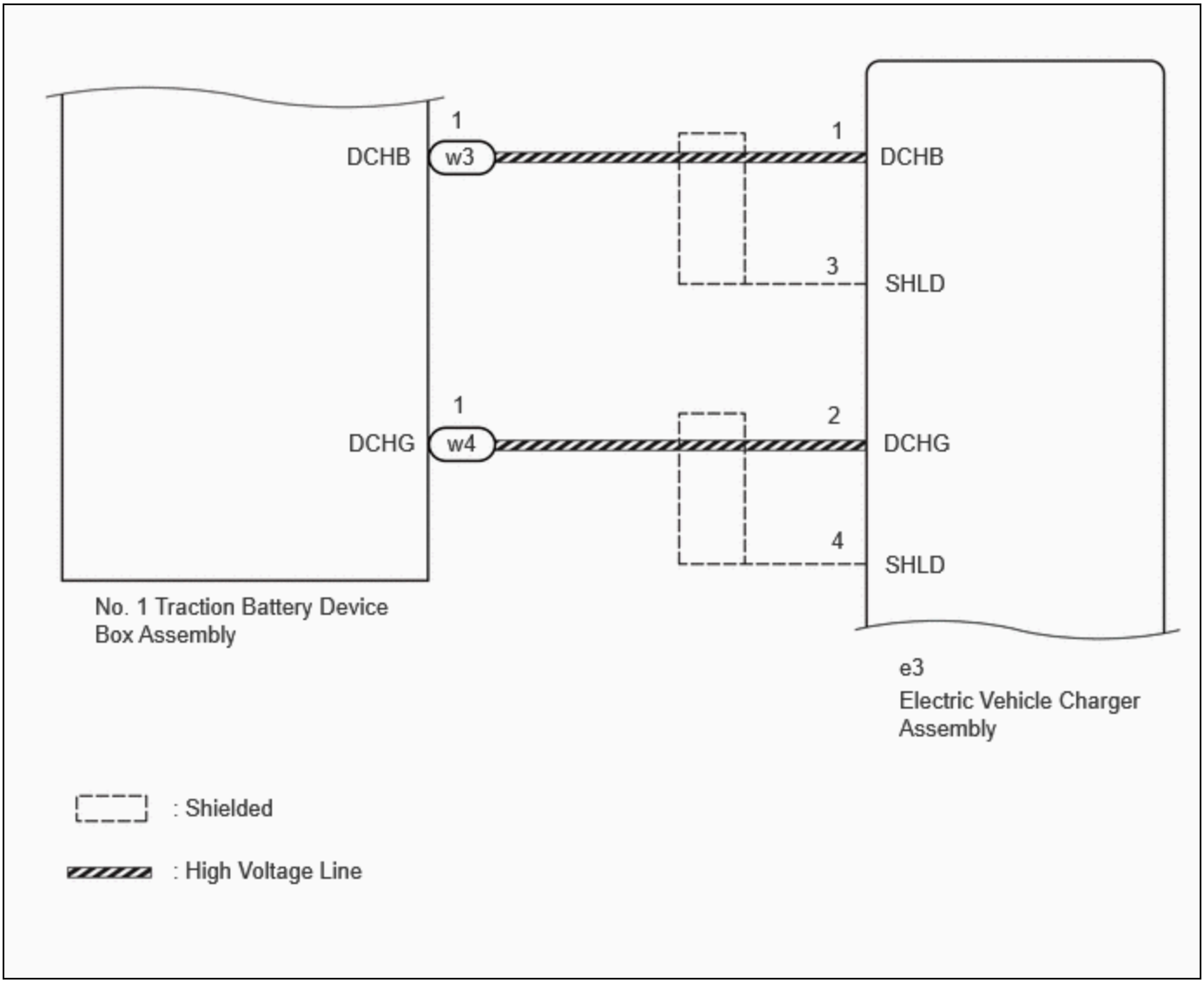
DESCRIPTION

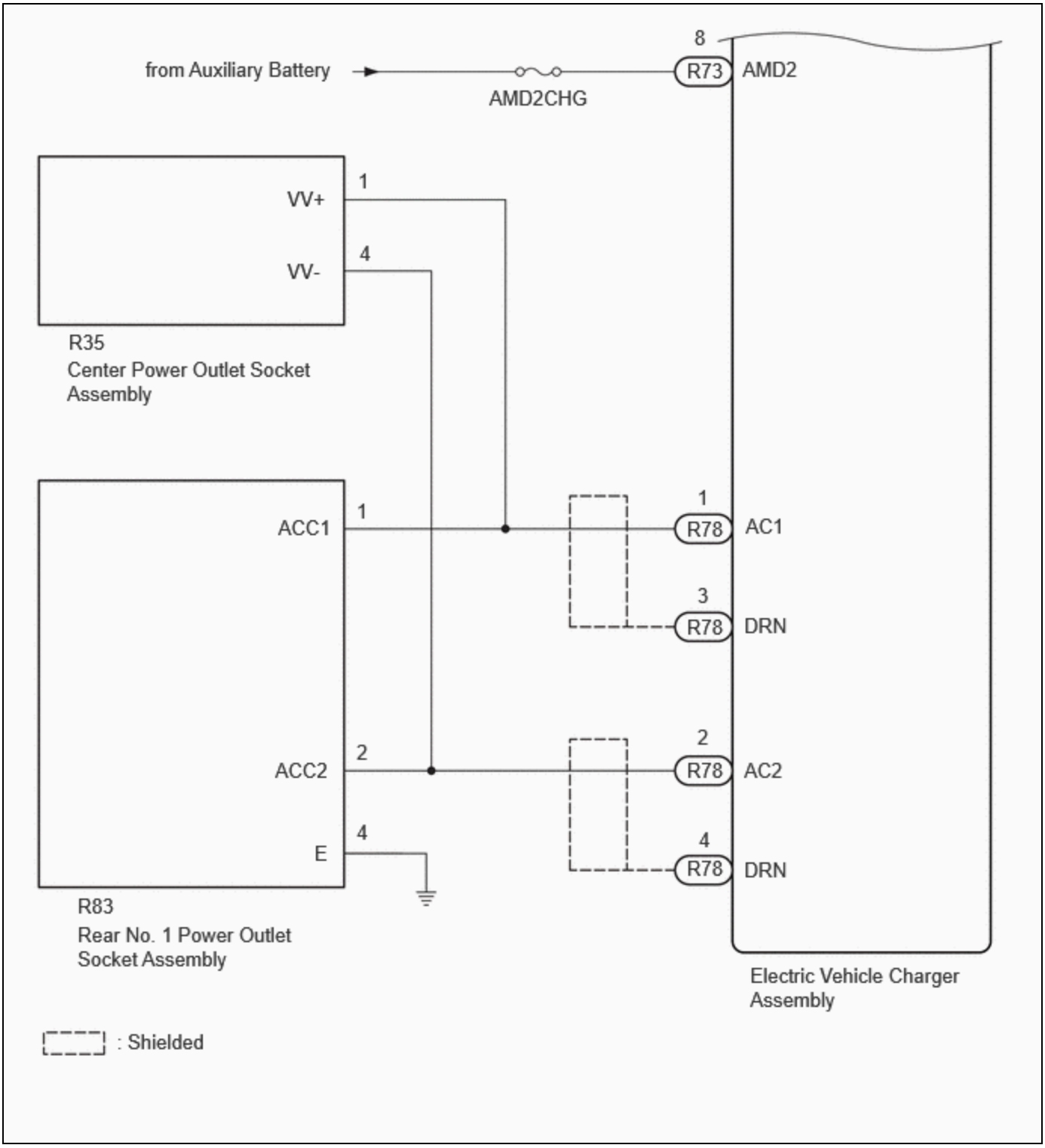
The electric vehicle charger assembly converts DC from the HV battery to AC voltage using the hybrid control system.

When the power outlet switch is ON with the ignition switch ON (READY), household electrical devices up to 1500 W can be used.

WIRING DIAGRAM


IGB
1
5
IGB
ST2
2
11
ST2
K23
Certification ECU (Smart Key ECU Assembly)
INV
5
35
HCIV
E
2
K32
Power Outlet Switch
1
z25
+
1
z27
-
SMRB
1
x12
3
SMRB
GND
2
x12
SMRG
4
x13
27
SMRG
GND8
3
x13
HV Supply Battery Assembly
No. 1 Traction Battery Device Box Assembly
K11
Hybrid Vehicle Control ECU


1
DCHB
w3
1
DCHB
3
SHLD
1
DCHG
w4
2
DCHG
4
SHLD
No. 1 Traction Battery Device Box Assembly
e3
Electric Vehicle Charger Assembly
: Shielded
: High Voltage Line



CAUTION / NOTICE / HINT

CAUTION:

Precautions for hybrid control system.

Click here INFO

NOTICE:

- High voltage is supplied to the accessory power outlet system from the HV battery.

Perform the inspections in How to Proceed with Troubleshooting to confirm that there are no malfunctions in the hybrid control system before performing this troubleshooting procedure.

Click here INFO

- Inspect the fuses for circuits related to this system before performing the following procedure.
- Before replacing the hybrid vehicle control ECU, refer to Registration.

Click here INFO

HINT:

Even if the hybrid control system is not malfunctioning, the fail-safe function operates depending on the state of the HV battery and hybrid control system, and the hybrid vehicle control ECU sends an operation prohibition signal to stop power output.

For operation prohibition conditions, refer to 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 FOR VEHICLE CONTROL HISTORY**

(a) Enter the following menus.

Powertrain > Plug-in Control > Utility

TESTER DISPLAY
Vehicle Control History (RoB)

(b) Check for Vehicle Control History (RoB) except AC Charging History (X10F0).

HINT:

- Vehicle Control History (RoB) items AC Charging History (X10F0) is stored each time plug-in charging is performed, and is also stored when plug-in charging completes without error from start to finish. For this

reason, the fact that they are output does not directly indicate any malfunction or problem.

- If AC charging has not started, Vehicle Control History (RoB) will not be stored.(Except if a power outage occurred before AC charging could start.)
- If Vehicle Control History (RoB) has been stored, it can be determined that AC charging has been performed.

RESULT	PROCEED TO
Vehicle Control History (RoB) not stored	A
Vehicle Control History (RoB) stored	B

(c) Turn the ignition switch off.

B ▶ **GO TO VEHICLE CONTROL HISTORY**

A ▼

3.	**READ VALUE USING GTS**

(a) Confirm that the value of the following Data List item changes correctly in accordance with the operation of the power outlet switch.

Powertrain > Hybrid Control > Data List

TESTER DISPLAY	MEASUREMENT ITEM	RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
AC100V Accessory Outlet Switch	Power outlet switch	ON / OFF	ON: Power outlet switch not pushed OFF: Power outlet switch pushed	HCIV terminal

Powertrain > Hybrid Control > Data List

TESTER DISPLAY
AC100V Accessory Outlet Switch

OK:

The Data List item changes correctly in accordance with the operation of the power outlet switch.

NG ▶ **GO TO STEP 14**

OK

4.	**INSPECT CENTER POWER OUTLET SOCKET ASSEMBLY**

Click here INFO

NG ▶ **REPLACE CENTER POWER OUTLET SOCKET ASSEMBLY**

OK

5.	**INSPECT REAR NO. 1 POWER OUTLET SOCKET ASSEMBLY**

Click here INFO

NG ▶ **REPLACE REAR NO. 1 POWER OUTLET SOCKET ASSEMBLY**

OK

6.	**CHECK HARNESS AND CONNECTOR (CENTER POWER OUTLET SOCKET ASSEMBLY - ELECTRIC VEHICLE CHARGER ASSEMBLY)**

(a) Disconnect the R78 electric vehicle charger assembly connector.

(b) Disconnect the R35 center power outlet socket assembly connector.

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

Standard Resistance:

EWD INFO

Click Location & Routing(R35,R78)
Click Connector(R35)
Click Connector(R78)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R35-1 (VV+) - R78-1 (AC1)	Always	Below 1 Ω
R35-4 (VV-) - R78-2 (AC2)	Always	Below 1 Ω

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R35-1 (VV+) or R78-1 (AC1) - Body ground	Always	10 kΩ or higher
R35-4 (VV-) or R78-2 (AC2) - Body ground	Always	10 kΩ or higher

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

OK ▼

7.	**CHECK HARNESS AND CONNECTOR (REAR NO. 1 POWER OUTLET SOCKET ASSEMBLY - ELECTRIC VEHICLE CHARGER ASSEMBLY)**

(a) Disconnect the R78 electric vehicle charger assembly connector.

(b) Disconnect the R83 rear No. 1 power outlet socket assembly connector.

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

Standard Resistance:

EWD INFO

Click Location & Routing(R83,R78)
Click Connector(R83)
Click Connector(R78)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R83-1 (ACC1) - R78-1 (AC1)	Always	Below 1 Ω
R83-2 (ACC2) - R78-2 (AC2)	Always	Below 1 Ω
R83-1 (ACC1) or R78-1 (AC1) - Body ground	Always	10 kΩ or higher
R83-2 (ACC2) or R78-2 (AC2) - Body ground	Always	10 kΩ or higher

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

OK ▼

8.	**CHECK HARNESS AND CONNECTOR (POWER SOURCE - ELECTRIC VEHICLE CHARGER ASSEMBLY)**

(a) Disconnect the R73 electric vehicle charger assembly connector.

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

Standard Voltage:

EWD INFO

Click Location & Routing(R73)
Click Connector(R73)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R73-8 (AMD2) - Body ground	Ignition switch off	Below 1 V
	Ignition switch ON	11 to 14 V

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

OK ▼

9.	**CHECK HYBRID VEHICLE CONTROL ECU (Operation signal)**

(a) Connect the K11 hybrid vehicle control ECU connector.

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

Standard Voltage:

EWD INFO

Click Location & Routing(K11)
Click Connector(K11)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K11-35 (HCIV) - Body ground	• Ignition switch ON • Power outlet switch OFF	11 V to 14 V
	• Ignition switch ON • Power outlet switch OFF	Below 1 V

HINT:

- Even if the hybrid control system is not malfunctioning, the fail-safe function operates depending on the state of the HV battery and hybrid control system, and the hybrid vehicle control ECU sends an operation prohibition signal to stop power output.

  (For operation prohibition conditions, refer to INFO)
- If the voltage at terminal K11-35 (HCIV) does not change when the power outlet switch is operated, turn the ignition switch to ON (READY) with the shift lever in P and the accelerator pedal released, and wait for the HV battery SOC to recover. With all recovery conditions met, push the power outlet switch and perform the inspection again.

  (For operation prohibition conditions, refer to INFO)

- If the voltage at terminal K11-35 (HCIV) does not change when the power outlet switch assembly is operated again, proceed to "NG".

NG ▶ **REPLACE HYBRID VEHICLE CONTROL ECU**

OK ▼

10.	**CHECK HARNESS AND CONNECTOR (NO. 1 TRACTION BATTERY DEVICE BOX ASSEMBLY - ELECTRIC VEHICLE CHARGER ASSEMBLY)**

(a) Disconnect the w3 and w4 No. 1 traction battery device box assembly connector.

(b) Disconnect the e3 electric vehicle charger assembly connector.

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

Standard Resistance:

EWD INFO

Click Location & Routing(w3,e3,w4)
Click Connector(w3)
Click Connector(e3)
Click Connector(w4)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
w3-1 (DCHB) - e3-1 (DCHB)	Always	Below 1 Ω
w4-1 (DCHG) - e3-2 (DCHG)	Always	Below 1 Ω
w3-1 (DCHB) or e3-1 (DCHB) - Body ground	Always	10 kΩ or higher
w4-1 (DCHG) - e3-2 (DCHG) - Body ground	Always	10 kΩ or higher

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

OK ▼

11.	**CHECK HARNESS AND CONNECTOR (NO. 1 TRACTION BATTERY DEVICE BOX ASSEMBLY - HYBRID VEHICLE CONTROL ECU)**

(a) Disconnect the x12 and x13 No. 1 traction battery device box assembly connector.

(b) Disconnect the K11 hybrid vehicle control ECU connector.

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

Standard Resistance:

EWD INFO

Click Location & Routing(x12,K11,x13)
Click Connector(x12)
Click Connector(K11)
Click Connector(x13)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
x12-1 (SMRB) - K11-3 (SMRB)	Always	Below 1 Ω
x12-1 (SMRB) or K11-3 (SMRB) - Body ground	Always	10 kΩ or higher
x13-4 (SMRG) - K11-27 (SMRG)	Always	Below 1 Ω
x13-4 (SMRG) or K11-27 (SMRG) - Body ground	Always	10 kΩ or higher

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

OK ▼

12.	**CHECK HARNESS AND CONNECTOR (NO. 1 TRACTION BATTERY DEVICE BOX ASSEMBLY - BODY GROUND)**

(a) Disconnect the x12 and x13 No. 1 traction battery device box assembly connector.

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

Standard Resistance:

EWD INFO

Click Location & Routing(x12,x13)
Click Connector(x12)
Click Connector(x13)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
x12-2 (GND) - Body ground	Always	Below 1 Ω
x13-3 (GND8) - Body ground	Always	Below 1 Ω

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

OK ▼

13.	**INSPECT NO. 1 TRACTION BATTERY DEVICE BOX ASSEMBLY**

Click here INFO

OK ▶ **REPLACE HYBRID VEHICLE CONTROL ECU**

NG ▶ **REPLACE NO. 1 TRACTION BATTERY DEVICE BOX ASSEMBLY**

14.	**INSPECT POWER OUTLET SWITCH**

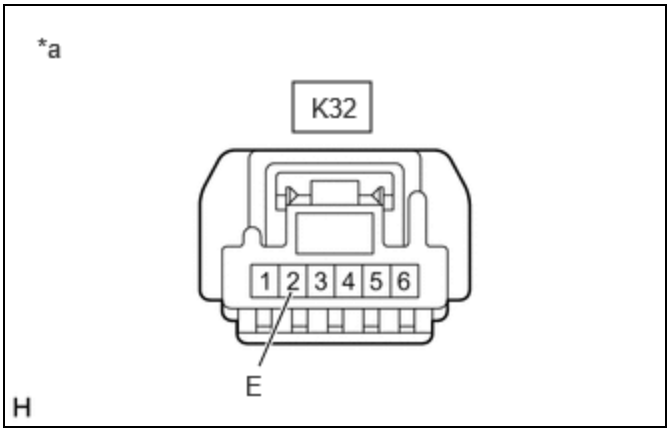
Click here INFO

NG ▶ **REPLACE POWER OUTLET SWITCH**

OK ▼

15.	**CHECK HARNESS AND CONNECTOR (POWER OUTLET SWITCH - BODY GROUND)**

(a) Disconnect the K32 power outlet switch connector.



*a	Front view of wire harness connector (to Power Outlet Switch)

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

Standard Resistance:

EWD INFO

Click Location & Routing(K32)
Click Connector(K32)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K32-2 (E) - Body ground	Always	Below 1 Ω

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

OK ▼

16.	**CHECK HARNESS AND CONNECTOR (POWER OUTLET SWITCH - HYBRID VEHICLE CONTROL ECU)**

(a) Disconnect the K32 power outlet switch connector.

(b) Disconnect the K11 hybrid vehicle control ECU connector.

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

Standard Resistance:

EWD INFO

Click Location & Routing(K32,K11)
Click Connector(K32)
Click Connector(K11)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K32-5 (INV) - K11-35 (HCIV)	Always	Below 1 Ω
K32-5 (INV) or K11-35 (HCIV) - Body ground	Always	10 kΩ or higher

OK ▶ **REPLACE HYBRID VEHICLE CONTROL ECU**

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