Last Modified: 12-04-2024	6.11:8.1.0	**Doc ID:** RM1000000029A43
Model Year Start: 2023	**Model:** Prius Prime	**Prod Date Range:** [12/2022 -]
Title: HYBRID / BATTERY CONTROL: HYBRID BATTERY SYSTEM (for M20A-FXS): P0ABF11,P0ABF15,P0B0E11,P0B0E15,P1CBB12,P1CBB14; Hybrid/EV Battery Current Sensor "A" Circuit Short to Ground; 2023 - 2024 MY Prius Prius Prime [12/2022 -]		

DTC	**P0ABF11**	**Hybrid/EV Battery Current Sensor "A" Circuit Short to Ground**

DTC	**P0ABF15**	**Hybrid/EV Battery Current Sensor "A" Circuit Short to Auxiliary Battery or Open**

DTC	**P0B0E11**	**Hybrid/EV Battery Current Sensor "B" Circuit Short to Ground**

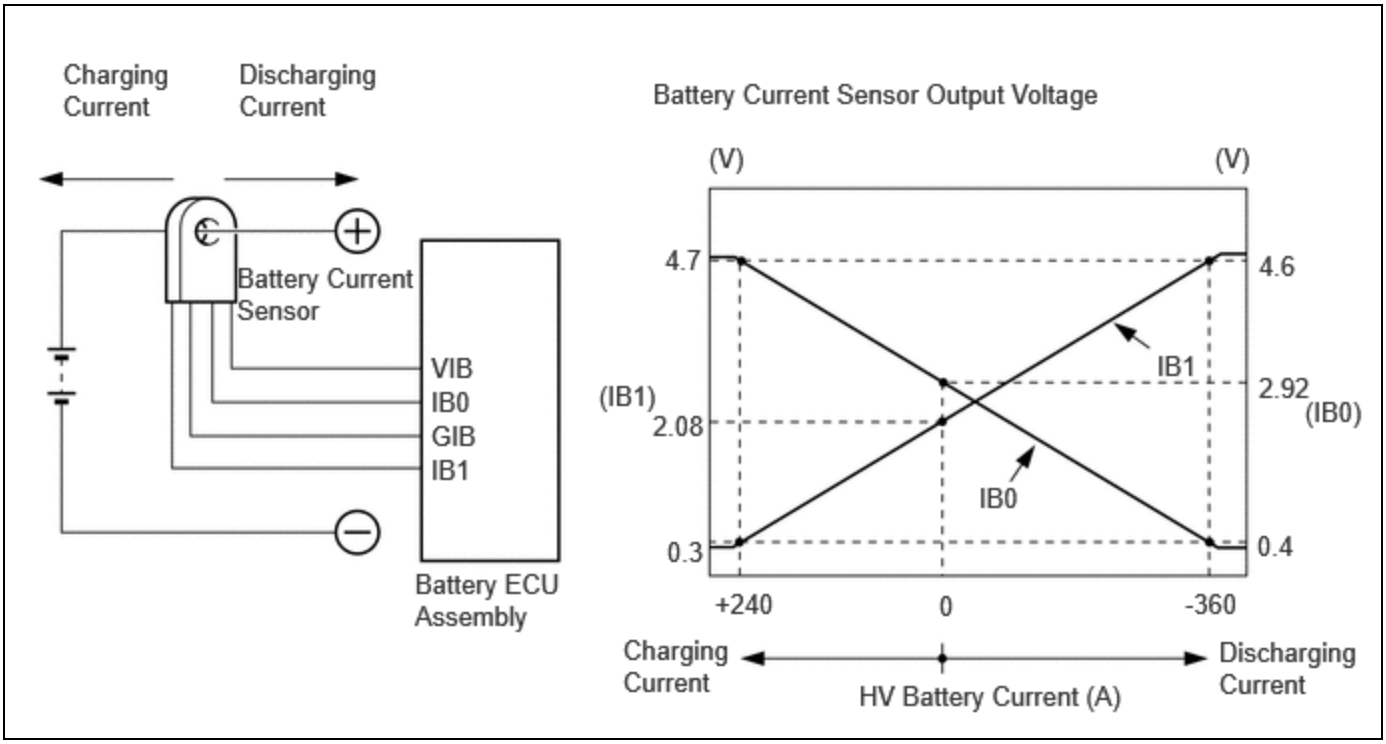
DTC	**P0B0E15**	**Hybrid/EV Battery Current Sensor "B" Circuit Short to Auxiliary Battery or Open**

DTC	**P1CBB12**	**Hybrid/EV Battery Current Sensor Power Supply Circuit Short to Auxiliary Battery**

DTC	**P1CBB14**	**Hybrid/EV Battery Current Sensor Power Supply Circuit Short to Ground or Open**

DESCRIPTION

A battery current sensor, which is mounted on the positive cable side of each No. 1 traction battery device box, detects the current flowing to or from the battery pack. The battery current sensor sends a voltage, which varies between 0 and 5 V in proportion to the amperage, to the IB0 terminal of the battery ECU assembly. Similarly, it sends a voltage, which varies between 0 and 5 V in inverse proportion to the amperage, to the IB1 terminal of the battery ECU assembly. When the voltage at the IB0 terminal is below 2.92 V and the voltage at the IB1 terminal is above 2.08 V, this indicates that the HV battery is being discharged. Additionally, Meanwhile, when the voltage at of the IB0 terminal is above 2.92 V and the voltage at of the IB1 terminal is below 2.08 V, this indicates that the HV battery is being charged. The battery ECU assembly determines the charging and discharging amount of the HV battery based on the voltages input to the IB0 terminal and IB1 terminal and calculates the SOC of the HV battery through the accumulated amperage.



DTC NO.	DETECTION ITEM	DTC DETECTION CONDITION	TROUBLE AREA	MIL	WARNING INDICATE	DTC OUTPUT FROM	PRIORITY	NOTE
P0ABF11	Hybrid/EV Battery Current Sensor "A" Circuit Short to Ground	The battery current sensor output voltage (IB0) is excessively low. (1 trip detection logic)	• No. 1 traction battery device box • Battery ECU assembly • Wire harness or connector	Comes on	Master warning: Comes on	HV Battery	A	SAE Code: P0AC1
P0ABF15	Hybrid/EV Battery Current Sensor "A" Circuit Short to Auxiliary Battery or Open	The battery current sensor output voltage (IB0) is excessively high. (1 trip detection logic)	• No. 1 traction battery device box • Battery ECU assembly • Wire harness or connector	Comes on	Master warning: Comes on	HV Battery	A	SAE Code: P0AC2

DTC NO.	DETECTION ITEM	DTC DETECTION CONDITION	TROUBLE AREA	MIL	WARNING INDICATE	DTC OUTPUT FROM	PRIORITY	NOTE
P0B0E11	Hybrid/EV Battery Current Sensor "B" Circuit Short to Ground	The battery current sensor output voltage (IB1) is excessively low. (1 trip detection logic)	• No. 1 traction battery device box • Battery ECU assembly • Wire harness or connector	Comes on	Master warning: Comes on	HV Battery	A	SAE Code: P0B10
P0B0E15	Hybrid/EV Battery Current Sensor "B" Circuit Short to Auxiliary Battery or Open	The battery current sensor output voltage (IB1) is excessively high. (1 trip detection logic)	• No. 1 traction battery device box • Battery ECU assembly • Wire harness or connector	Comes on	Master warning: Comes on	HV Battery	A	SAE Code: P0B11
P1CBB12	Hybrid/EV Battery Current Sensor Power Supply Circuit Short to Auxiliary Battery	Power source voltage (VIB) of the battery current sensor is excessively high. (1 trip detection logic)	• No. 1 traction battery device box • Battery ECU assembly • Wire harness or connector	Comes on	Master warning: Comes on	HV Battery	A	SAE Code: P1CBD
P1CBB14	Hybrid/EV Battery Current Sensor Power Supply Circuit Short to Ground or Open	Power source voltage (VIB) of the battery current sensor is excessively low. (1 trip detection logic)	• No. 1 traction battery device box • Battery ECU assembly • Wire harness or connector	Comes on	Master warning: Comes on	HV Battery	A	SAE Code: P1CBC

MONITOR DESCRIPTION

If the battery ECU assembly detects a malfunction in the battery current sensor, the battery ECU assembly illuminates the MIL and set a DTC.

MONITOR STRATEGY

Related DTCs	P0AC1 (INF P0ABF11): Hybrid Battery Pack Current Sensor "A" Circuit Low P0AC2 (INF P0ABF15): Hybrid Battery Pack Current Sensor "A" Circuit High P0B10 (INF P0B0E11): Hybrid Battery Pack Current Sensor "B" Circuit Low P0B11 (INF P0B0E15): Hybrid Battery Pack Current Sensor "B" Circuit High P1CBD (INF P1CBB12): Hybrid/EV Battery Pack Current Sensor "A" Power Supply Circuit High P1CBC (INF P1CBB14): Hybrid/EV Battery Pack Current Sensor "A" Power Supply Circuit Low
Required sensors/components	Battery current sensor
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

Battery ECU assembly	DTC P0AC1 (INF P0ABF11) is not detected DTC P0AC2 (INF P0ABF15) is not detected DTC P0B10 (INF P0B0E11) is not detected DTC P0B11 (INF P0B0E15) is not detected DTC P1CBD (INF P1CBB12) is not detected DTC P1CBC (INF P1CBB14) 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. With ignition switch ON and wait for 5 seconds or more.[*1]

HINT:

[*1]: Normal judgment procedure.

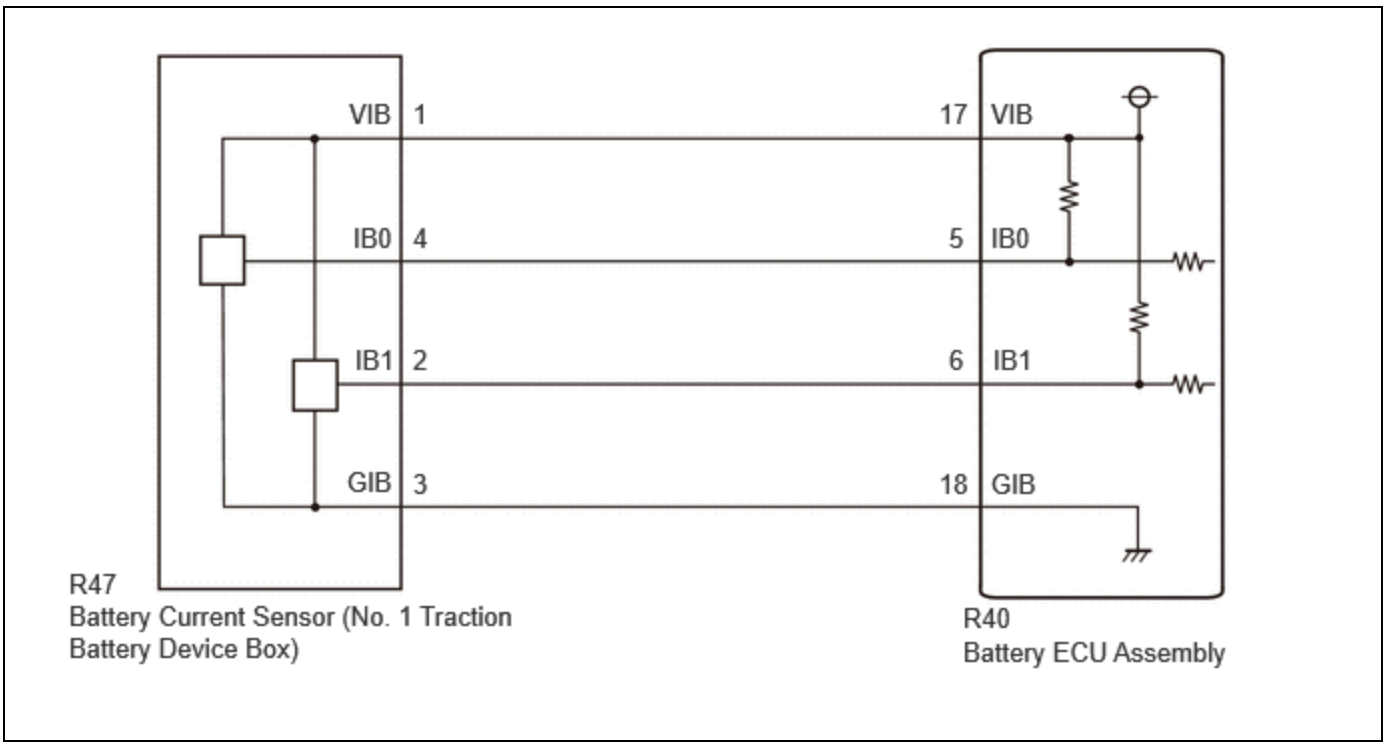
The normal judgment procedure is used to complete DTC judgment and also used when clearing permanent DTCs.

4. Enter the following menus: Powertrain / HV Battery / Utility / All Readiness.
5. 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, perform the normal judgment procedure again.

WIRING DIAGRAM



Refer to the wiring diagram for ECU Power Source 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

PROCEDURE

1.	**CHECK DTC OUTPUT (HV BATTERY, HYBRID CONTROL)**

Pre-procedure1

(a) None

Procedure1

(b) Check for DTCs.

Powertrain > HV Battery > Trouble Codes
Powertrain > Hybrid Control > Trouble Codes

RESULT	PROCEED TO
"P0ABF11, P0ABF15, P0B0E11, P0B0E15, P1CBB12 or P1CBB14" only is output, or DTCs except the ones in the table below are also output.	A
DTCs of hybrid battery system in the table below are output.	B
DTCs of hybrid control system in the table below are output.	C

SYSTEM	RELEVANT DTC	
Hybrid battery system	P060A47	Hybrid/EV Battery Energy Control Module Monitoring Processor Watchdog / Safety MCU Failure
	P060B49	Hybrid/EV Battery Energy Control Module A/D Processing Internal Electronic Failure
	P060687	Hybrid/EV Battery Energy Control Module Processor to Monitoring Processor Missing Message
Hybrid control system	P0A1F94	Hybrid/EV Battery Energy Control Module Unexpected Operation

Post-procedure1

(c) Turn the ignition switch off.

B ▶ GO TO DTC CHART (HYBRID BATTERY SYSTEM)

C ▶ GO TO DTC CHART (HYBRID CONTROL SYSTEM)

A

2.	CHECK BATTERY ECU ASSEMBLY (IGCT VOLTAGE)

CAUTION:

Be sure to wear insulated gloves and protective goggles.

Pre-procedure1

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

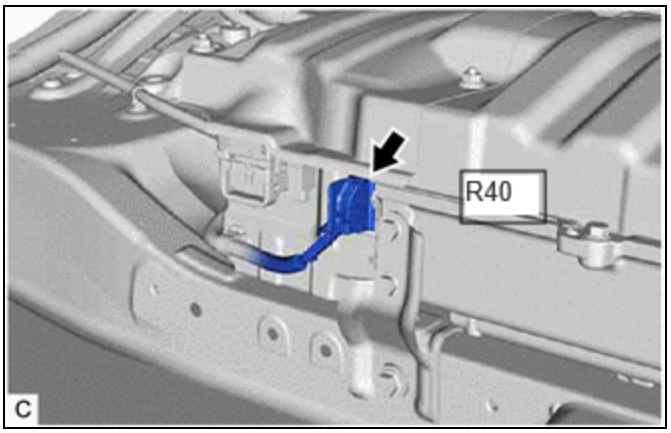
NOTICE:

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 battery ECU assembly connector.

NOTICE:

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



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

(d) Turn the ignition switch to ON.

Procedure1

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

Standard Voltage:

EWD INFO

Click Location & Routing(R40)
Click Connector(R40)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R40-12 (IGCT) - R40-10 (GND)	Ignition switch ON	11 to 14 V

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.

HINT:

As there might be an intermittent malfunction, inspect the following items even if the measured voltage is as specified.

- Installation condition of fuse(s) (before removing fuse(s)) (IG circuit)
- Fuse condition (before and after removing fuse(s)) (IG circuit)
- Connection condition of connectors (IG circuit)
- Wire harness condition (IG circuit)
- Wire harness condition (GND circuit)

Post-procedure1

(f) Turn the ignition switch off.

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

(h) Reconnect the battery ECU assembly connector.

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR (BATTERY ECU ASSEMBLY POWER SOURCE CIRCUIT)**

OK ▼

3.	**CHECK HARNESS AND CONNECTOR (BATTERY ECU ASSEMBLY - NO. 1 TRACTION BATTERY DEVICE BOX)**

CAUTION:

Be sure to wear insulated gloves and protective goggles.

Pre-procedure1

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

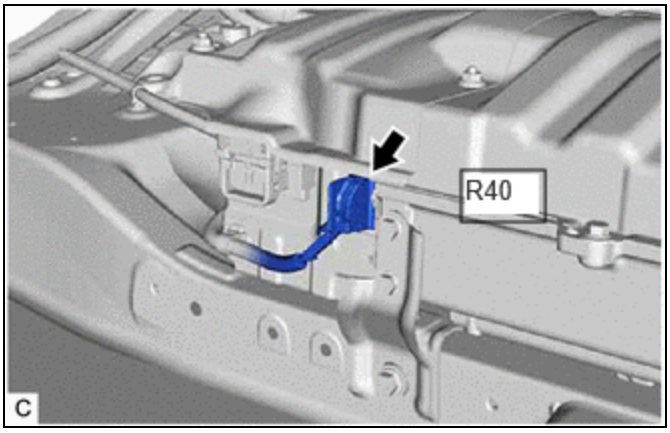
NOTICE:

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 battery ECU assembly connector.

NOTICE:

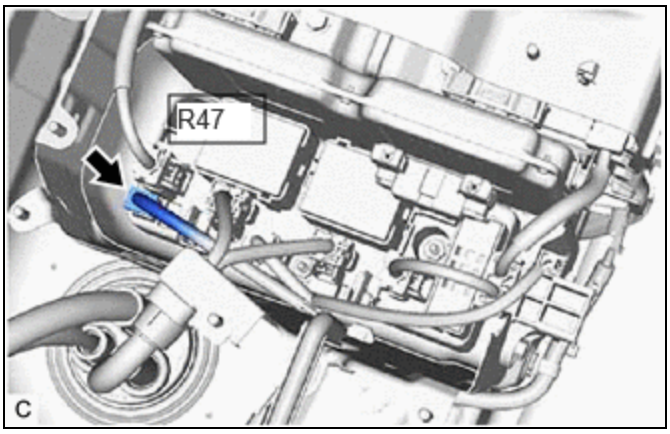
Before disconnecting the connector, check that it is not loose or disconnected.



(c) Disconnect the No. 1 traction battery device box connector.

NOTICE:

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



Procedure1

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

Standard Resistance (Check for Open):

EWD INFO

Click Location & Routing(R40,R47)
Click Connector(R40)
Click Connector(R47)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R40-6 (IB1) - R47-2 (IB1)	Ignition switch off	Below 1 Ω
R40-18 (GIB) - R47-3 (GIB)	Ignition switch off	Below 1 Ω
R40-5 (IB0) - R47-4 (IB0)	Ignition switch off	Below 1 Ω
R40-17 (VIB) - R47-1 (VIB)	Ignition switch off	Below 1 Ω

Standard Resistance (Check for Short):

EWD INFO

Click Location & Routing(R40,R47)
Click Connector(R40)
Click Connector(R47)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R40-6 (IB1) or R47-2 (IB1) - Body ground and other terminals	Ignition switch off	10 kΩ or higher
R40-18 (GIB) or R47-3 (GIB) - Body ground and other terminals	Ignition switch off	10 kΩ or higher
R40-5 (IB0) or R47-4 (IB0) - Body ground and other terminals	Ignition switch off	10 kΩ or higher
R40-17 (VIB) or R47-1 (VIB) - Body ground and other terminals	Ignition switch off	10 kΩ or higher

Post-procedure1

(e) Reconnect the No. 1 traction battery device box connector.

(f) Reconnect the battery ECU assembly connector.

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR (BATTERY ECU ASSEMBLY POWER SOURCE CIRCUIT)**

OK ▼

4.	**CHECK BATTERY ECU ASSEMBLY (VIB VOLTAGE)**

CAUTION:

Be sure to wear insulated gloves and protective goggles.

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

(c) Turn the ignition switch to ON.

Procedure1

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

Standard Voltage:

EWD INFO

Click Location & Routing(R47)
Click Connector(R47)

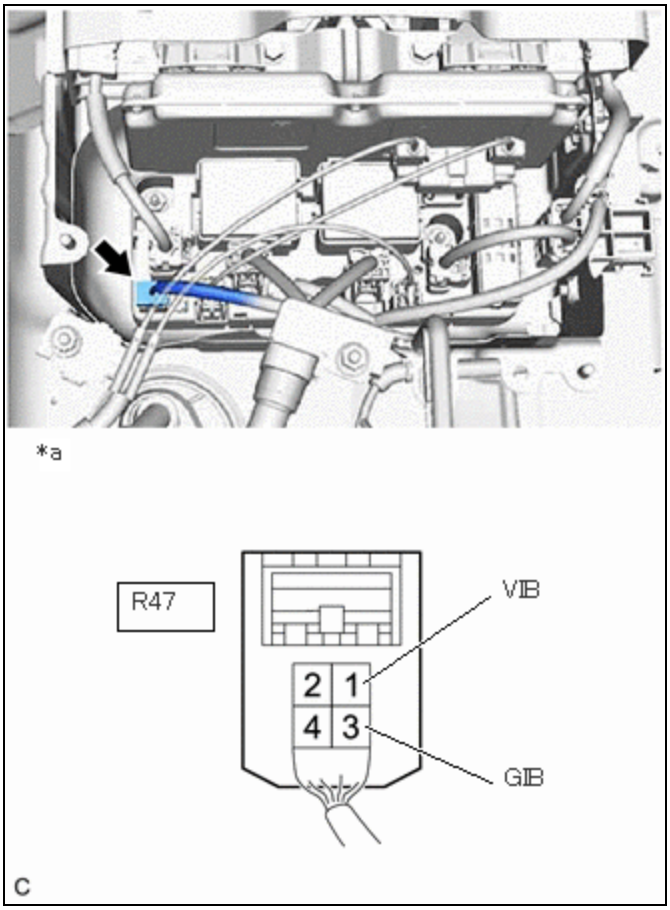
TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R47-1 (VIB) - R47-3 (GIB)	Ignition switch ON	4.5 to 5.5 V

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.

Result:

PROCEED TO
OK
NG



*a	Component with harness connected (No. 1 Traction Battery Device Box (Battery Current Sensor))

Post-procedure1

(e) Turn the ignition switch off.

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

NG ▶ **GO TO STEP 13**

OK ▼

5.	**CHECK BATTERY ECU ASSEMBLY (GIB - GND)**

Pre-procedure1

(a) Remove the battery ECU assembly.

HINT:

Click here INFO

Procedure1

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

Standard Resistance:

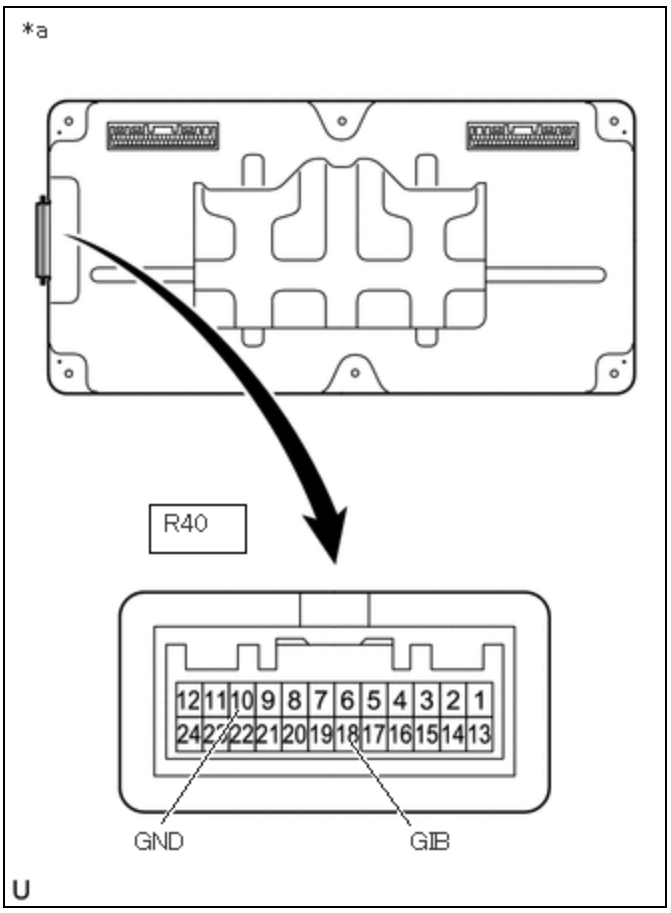
EWD INFO

Click Location & Routing(R40)
Click Connector(R40)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R40-10 (GND) - R40-18 (GIB)	Ignition switch off	Below 1 Ω

Result:

PROCEED TO
OK
NG



*a	Component without harness connected (Battery ECU Assembly)

Post-procedure1

(c) Install the battery ECU assembly.

NG ▶ **REPLACE BATTERY ECU ASSEMBLY**

OK ▼

6.	**CHECK BATTERY ECU ASSEMBLY (BATTERY CURRENT SENSOR OUTPUT VOLTAGE (IB1))**

CAUTION:

Be sure to wear insulated gloves and protective goggles.

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

(c) Turn the ignition switch to ON.

Procedure1

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

Standard Voltage:

EWD INFO

Click Location & Routing(R47)
Click Connector(R47)

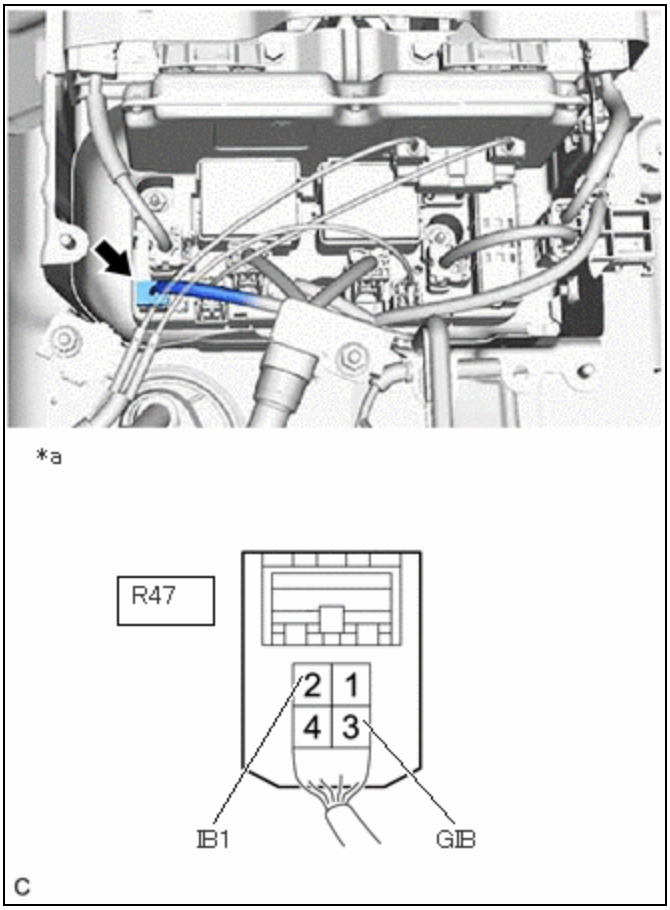
TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R47-2 (IB1) - R47-3 (GIB)	Ignition switch ON	2.02 to 2.14 V

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.

Result:

PROCEED TO
OK
NG



*a	Component with harness connected (No. 1 Traction Battery Device Box (Battery Current Sensor))

Post-procedure1

(e) Turn the ignition switch off.

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

NG ▶ **GO TO STEP 11**

OK

7.	CHECK BATTERY ECU ASSEMBLY (BATTERY CURRENT SENSOR OUTPUT VOLTAGE (IB0))

CAUTION:

Be sure to wear insulated gloves and protective goggles.

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

(c) Turn the ignition switch to ON.

Procedure1

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

Standard Voltage:

EWD INFO

Click Location & Routing(R47)
Click Connector(R47)

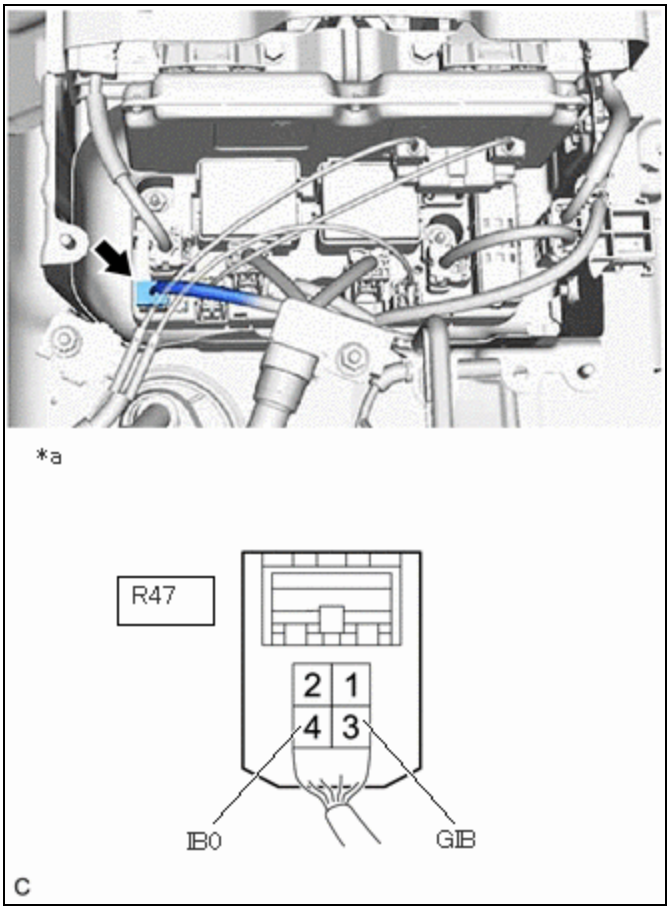
TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R47-4 (IB0) - R47-3 (GIB)	Ignition switch ON	2.86 to 2.98 V

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.

Result:

PROCEED TO
OK
NG



*a	Component with harness connected (No. 1 Traction Battery Device Box (Battery Current Sensor))

Post-procedure1

(e) Turn the ignition switch off.

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

OK ▶ **REPLACE BATTERY ECU ASSEMBLY**

NG ▼

8.	**CHECK BATTERY ECU ASSEMBLY (BATTERY CURRENT SENSOR OUTPUT VOLTAGE (IB0))**

CAUTION:

Be sure to wear insulated gloves and protective goggles.

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

(c) Turn the ignition switch to ON.

Procedure1

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

EWD INFO

Click Location & Routing(R47)
Click Connector(R47)

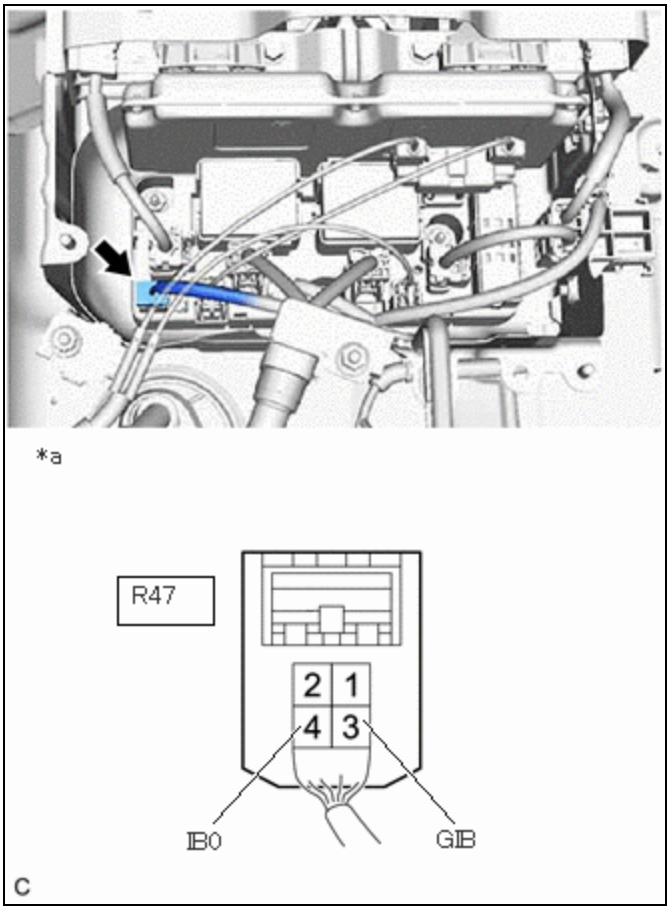
TESTER CONNECTION	CONDITION
R47-4 (IB0) - R47-3 (GIB)	Ignition switch ON

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.

Result:

RESULT	PROCEED TO
0.3 to 4.7 V	A
Below 0.3 V	B
More than 4.7 V	C



*a	Component with harness connected (No. 1 Traction Battery Device Box (Battery Current Sensor))

Post-procedure1

(e) Turn the ignition switch off.

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

A ▶ **REPLACE NO.1 TRACTION BATTERY DEVICE BOX**

C ▶ **GO TO STEP 10**

B

9.	CHECK BATTERY ECU ASSEMBLY (BATTERY CURRENT SENSOR OUTPUT VOLTAGE (IB0))

CAUTION:

Be sure to wear insulated gloves and protective goggles.

Pre-procedure1

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

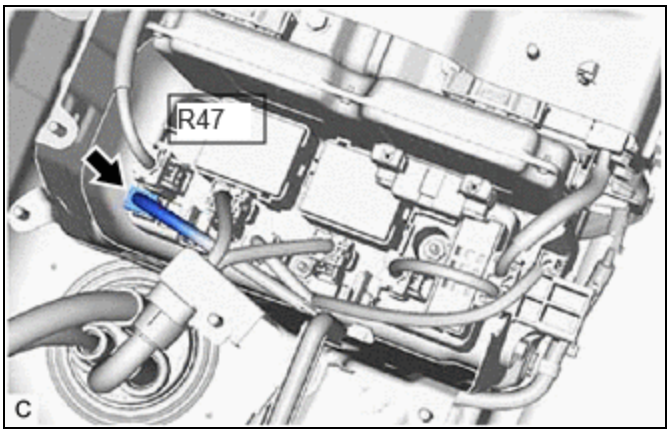
NOTICE:

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 battery current sensor connector from the No. 1 traction battery device box.

NOTICE:

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



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

(d) Turn the ignition switch to ON.

Procedure1

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

Standard Voltage:

EWD INFO

Click Location & Routing(R47)
Click Connector(R47)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R47-4 (IB0) - R47-3 (GIB)	Ignition switch ON	4.5 to 5.5 V

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.

Post-procedure1

(f) Turn the ignition switch off.

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

(h) Reconnect the battery current sensor connector to the No. 1 traction battery device box.

OK ▶ **REPLACE NO.1 TRACTION BATTERY DEVICE BOX**

NG ▶ **REPLACE BATTERY ECU ASSEMBLY**

10.	**CHECK BATTERY ECU ASSEMBLY (VIB - IB0)**

CAUTION:

Be sure to wear insulated gloves and protective goggles.

Pre-procedure1

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

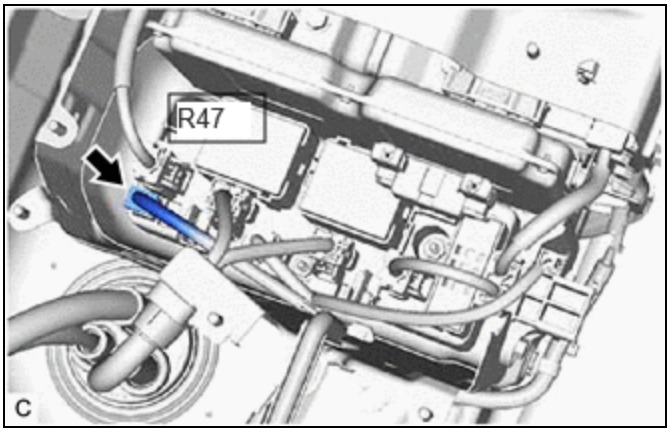
NOTICE:

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 battery current sensor connector from the No. 1 traction battery device box.

NOTICE:

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



Procedure1

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

Standard Resistance:

EWD INFO

Click Location & Routing(R47)
Click Connector(R47)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R47-1 (VIB) - R47-4 (IB0)	Ignition switch off	10 kΩ or higher

NOTICE:

When taking a measurement with a tester, do not apply excessive force to the tester probe to avoid damaging the holder.

Post-procedure1

(d) Reconnect the battery current sensor connector to the No. 1 traction battery device box.

OK ▶ **REPLACE NO.1 TRACTION BATTERY DEVICE BOX**

NG ▶ **REPLACE BATTERY ECU ASSEMBLY**

11.	**CHECK BATTERY ECU ASSEMBLY (BATTERY CURRENT SENSOR OUTPUT VOLTAGE (IB1))**

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 cable to the negative (-) auxiliary battery terminal.

(c) Turn the ignition switch to ON.

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

Standard Voltage:

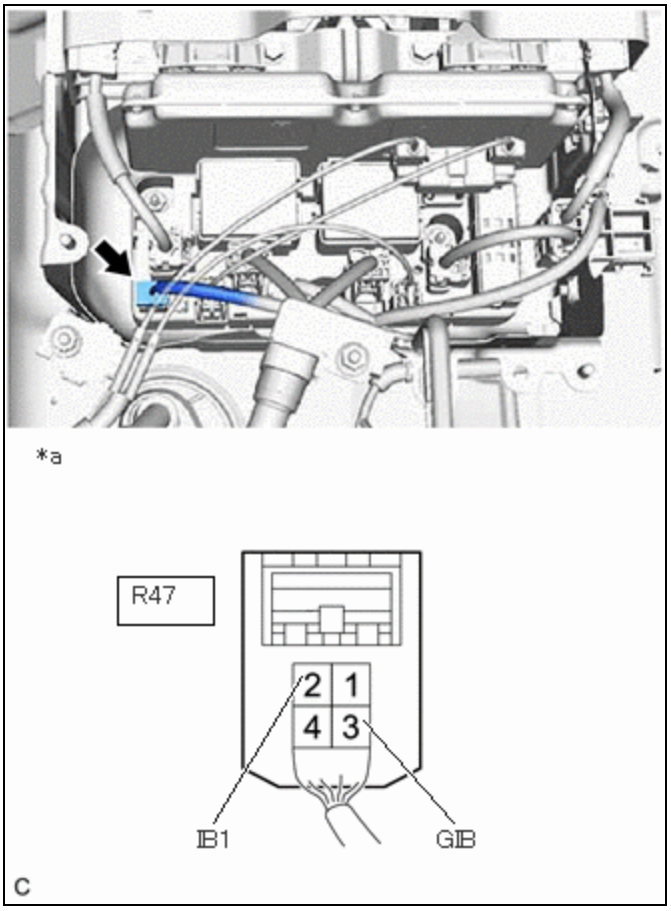
EWD INFO

Click Location & Routing(R47)
Click Connector(R47)

TESTER CONNECTION	CONDITION
R47-2 (IB1) - R47-3 (GIB)	Ignition switch ON

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.



*a	Component with harness connected (No. 1 Traction Battery Device Box (Battery Current Sensor))

(e) Turn the ignition switch off.

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

RESULT	PROCEED TO
0.3 to 4.7 V	A
Below 0.3 V	B
More than 4.7 V	C

A ▶ **REPLACE NO.1 TRACTION BATTERY DEVICE BOX**

C ▶ **GO TO STEP 14**

B ▼

12.	**CHECK BATTERY ECU ASSEMBLY (BATTERY CURRENT SENSOR OUTPUT VOLTAGE (IB1))**

CAUTION:

Be sure to wear insulated gloves and protective goggles.

Pre-procedure1

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

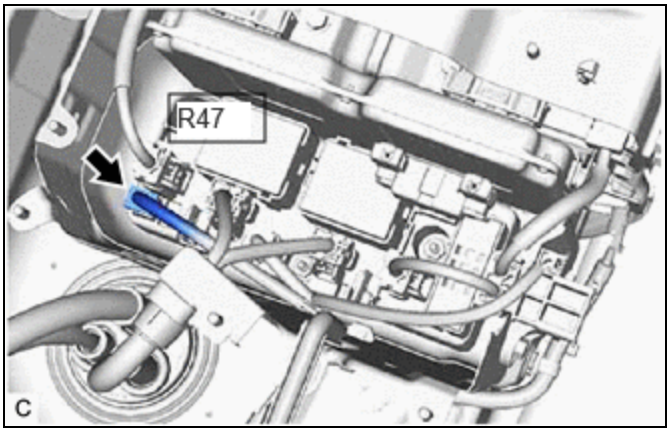
NOTICE:

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 battery current sensor connector from the No. 1 traction battery device box.

NOTICE:

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



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

(d) Turn the ignition switch to ON.

Procedure1

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

Standard Voltage:

EWD INFO

Click Location & Routing(R47)
Click Connector(R47)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R47-2 (IB1) - R47-3 (GIB)	Ignition switch ON	4.6 to 5.4 V

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.

Post-procedure1

(f) Turn the ignition switch off.

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

(h) Reconnect the battery current sensor connector to the No. 1 traction battery device box.

OK ▶ **REPLACE NO.1 TRACTION BATTERY DEVICE BOX**

NG ▶ **REPLACE BATTERY ECU ASSEMBLY**

13.	**CHECK BATTERY ECU ASSEMBLY (VIB VOLTAGE)**

CAUTION:

Be sure to wear insulated gloves and protective goggles.

Pre-procedure1

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

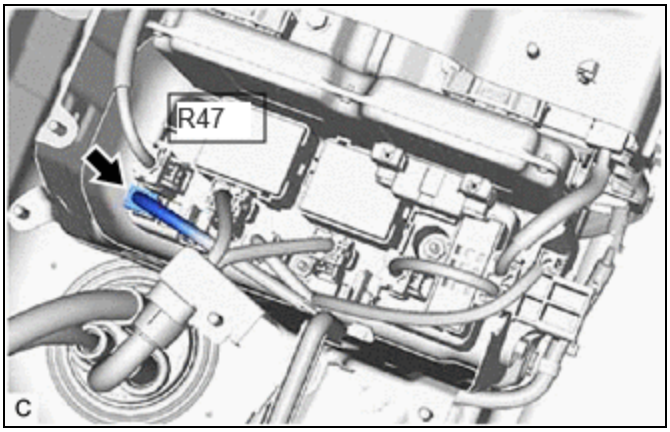
NOTICE:

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 battery current sensor connector from the No. 1 traction battery device box.

NOTICE:

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



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

(d) Turn the ignition switch to ON.

Procedure1

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

Standard Voltage:

EWD INFO

Click Location & Routing(R47)
Click Connector(R47)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R47-1 (VIB) - R47-3 (GIB)	Ignition switch ON	4.6 to 5.4 V

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.

Post-procedure1

(f) Turn the ignition switch off.

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

(h) Reconnect the battery current sensor connector to the No. 1 traction battery device box.

OK ▶ **REPLACE NO.1 TRACTION BATTERY DEVICE BOX**

NG ▶ **REPLACE BATTERY ECU ASSEMBLY**

14.	**CHECK BATTERY ECU ASSEMBLY (VIB - IB1)**

CAUTION:

Be sure to wear insulated gloves and protective goggles.

Pre-procedure1

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

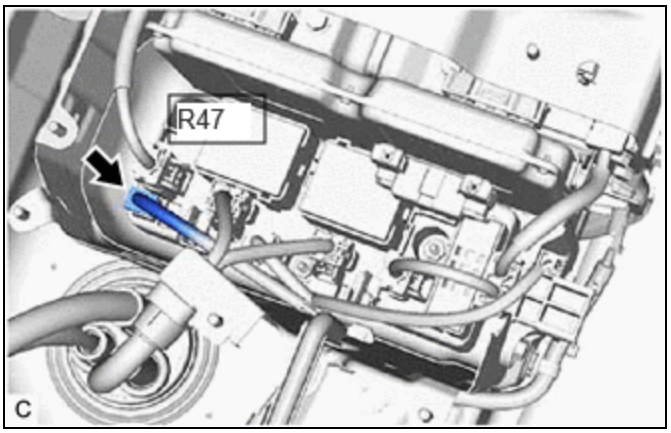
NOTICE:

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 battery current sensor connector from the No. 1 traction battery device box.

NOTICE:

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



Procedure1

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

Standard Resistance:

EWD INFO

Click Location & Routing(R47)
Click Connector(R47)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R47-1 (VIB) - R47-2 (IB1)	Ignition switch off	10 kΩ or higher

NOTICE:

When taking a measurement with a tester, do not apply excessive force to the tester probe to avoid damaging the holder.

Post-procedure1

(d) Reconnect the battery current sensor connector from the No. 1 traction battery device box.

OK ▶ **REPLACE NO.1 TRACTION BATTERY DEVICE BOX**

NG ▶ **REPLACE BATTERY ECU ASSEMBLY**