Last Modified: 12-04-2024	6.11:8.1.0	**Doc ID:** RM100000002BIYS
Model Year Start: 2023	**Model:** Prius Prime	**Prod Date Range:** [03/2023 -]
Title: HYBRID / BATTERY CONTROL: PLUG-IN CHARGE CONTROL SYSTEM (for PHEV Model): U01BB87; Lost Communication with Battery Charger Control Module "B" Missing Message; 2023 - 2024 MY Prius Prime [03/2023 -]		

DTC	**U01BB87**	**Lost Communication with Battery Charger Control Module "B" Missing Message**

DESCRIPTION

The plugin charge control ECU assembly communicates with the electric vehicle charger assembly via CAN communication.

DTC NO.	DETECTION ITEM	DTC DETECTION CONDITION	TROUBLE AREA	MIL	WARNING INDICATE	DTC OUTPUT FROM	PRIORITY	NOTE
U01BB87	Lost Communication with Battery Charger Control Module "B" Missing Message	A CAN communication error between the electric vehicle charger assembly and plugin charge control ECU assembly (CAN communication system malfunction) occurs (1 trip detection logic)	• Plugin charge control ECU assembly • Electric vehicle charger assembly • AMD2 CHG Fuse • Wire harness or connector	Comes on	Master Warning: Comes on	Plug-in Control	B	SAE Code: U01BB

MONITOR DESCRIPTION

If the Plug-in charge control ECU detects a problem with CAN communication with the Electric vehicle charger assembly, it will illuminate the MIL and store a DTC.

MONITOR STRATEGY

Related DTCs	U01BB : Lost Communication with electric vehicle charger assembly
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

Electric vehicle charger assembly (charge control ECU)	DTC U01BB87 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 2 minutes or more. [*1]

   HINT:

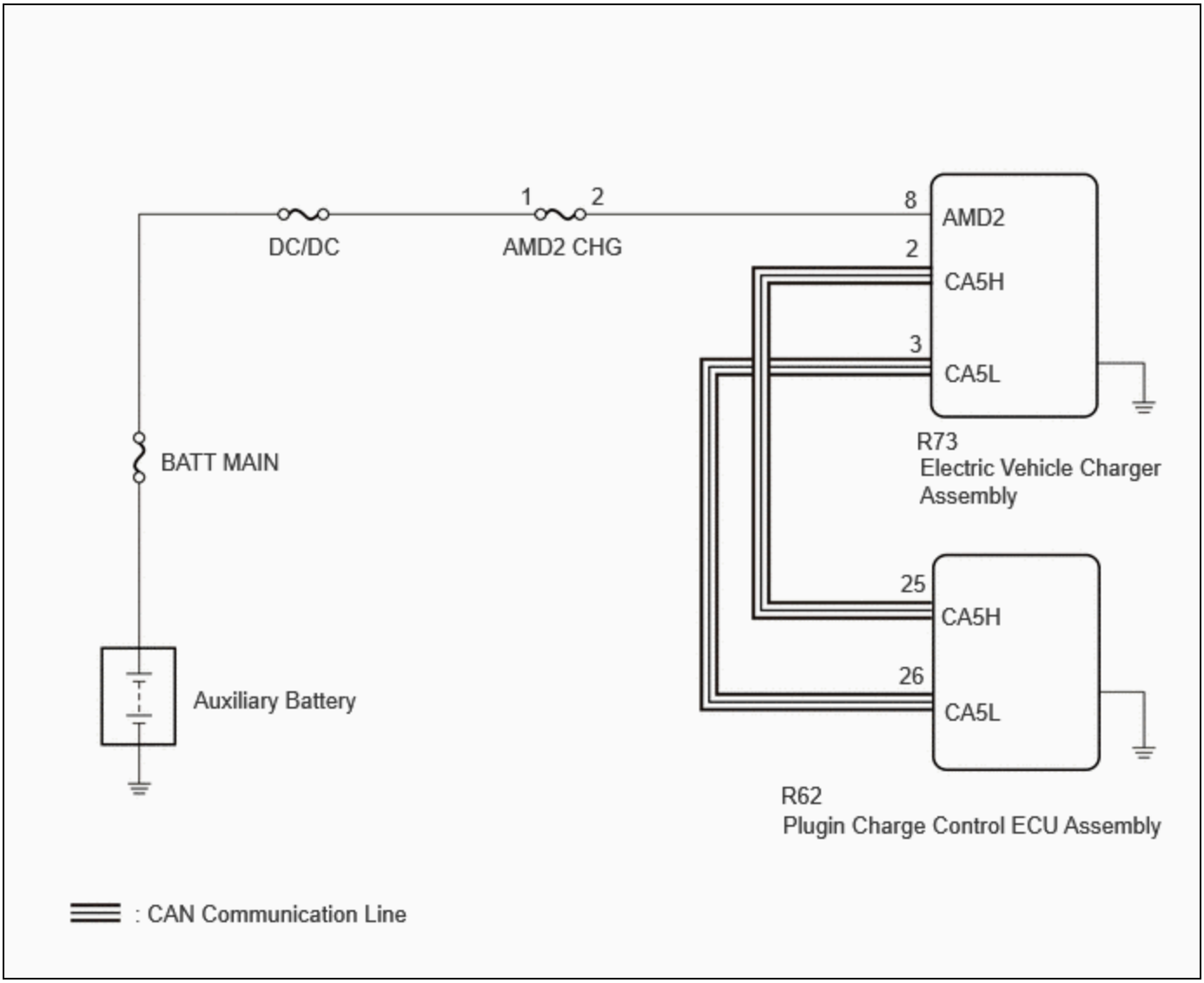
   [*1]: Normal judgment procedure.

   The normal judgment procedure is used to complete DTC judgment and also used when clearing permanent DTCs.
4. Enter the following menus: Powertrain / Plug-in Control / 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 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.	**CHECK DTC OUTPUT (PLUG-IN CONTROL)**

Pre-procedure1

(a) Enter the following menus.

Powertrain > Plug-in Control > Trouble Codes

Procedure1

(b) Check for DTCs.

RESULT	PROCEED TO
DTCs are not output	A
DTCs are output	B

Post-procedure1

(c) None

B **GO TO DTC CHART (PLUG-IN CHARGE CONTROL SYSTEM)**

A

2.	**CHECK HARNESS AND CONNECTOR (AMD2 TERMINAL VOLTAGE)**

CAUTION:

Be sure to wear insulated gloves.

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 R73 electric vehicle charger assembly connector.

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

Procedure1

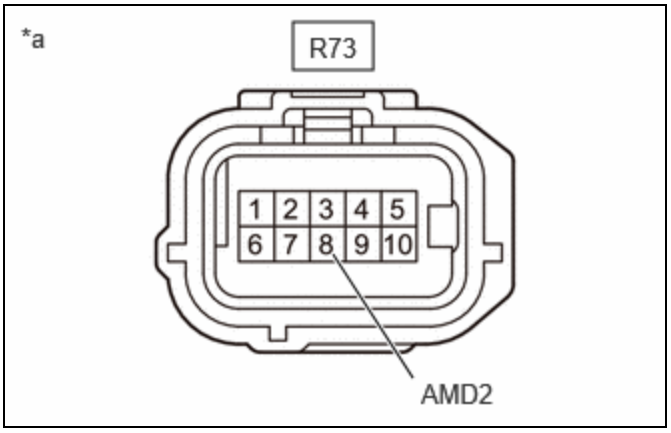
(d) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

EWD INFO

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

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
R73-8 (AMD2) - Body ground	Always	11 to 14 V	V



*a	Front view of wire harness connector (to Electric Vehicle Charger Assembly)

Result:

PROCEED TO
OK
NG

Post-procedure1

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

(f) Reconnect the electric vehicle charger assembly connector.

NG ▶ **GO TO STEP 6**

OK ▼

3.	**CHECK ELECTRIC VEHICLE CHARGER ASSEMBLY (BODY GROUND)**

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
Case of electric vehicle charger assembly - Body ground	Always	Below 1 Ω	Ω

HINT:

As the electric vehicle charger assembly is grounded through its case, make sure that the installation bolts of the electric vehicle charger assembly are tightened to the specified torque.

NG ▶ **TIGHTEN INSTALLATION BOLT**

OK

4.	**CHECK HARNESS AND CONNECTOR (PLUGIN CHARGE CONTROL ECU ASSEMBLY - ELECTRIC VEHICLE CHARGER ASSEMBLY)**

CAUTION:

Be sure to wear insulated gloves.

NOTICE:

- Before disconnecting the connector, check that it is not loose or disconnected.
- Check the terminals of the connector for deformation and corrosion.

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 R73 electric vehicle charger assembly connector.

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

Procedure1

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

Standard Resistance:

EWD INFO

Click Location & Routing(R73,R62)
Click Connector(R73)
Click Connector(R62)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
R73-2 (CA5H) - R62-25 (CA5H)	Ignition switch off	Below 1 Ω	Ω
R73-3 (CA5L) - R62-26 (CA5L)	Ignition switch off	Below 1 Ω	Ω
R73-2 (CA5H) or R62-25 (CA5H) - Body ground and other terminals	Ignition switch off	10 kΩ or higher	kΩ
R73-3 (CA5L) or R62-26 (CA5L) - Body ground and other terminals	Ignition switch off	10 kΩ or higher	kΩ

Post-procedure1

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

(f) Connect the electric vehicle charger assembly connector.

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

OK ▼

5.	**CHECK ELECTRIC VEHICLE CHARGER ASSEMBLY**

Pre-procedure1

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

Procedure1

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

Standard Resistance:

EWD INFO

Click Location & Routing(R62)
Click Connector(R62)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
R62-25 (CA5H) - R62-26 (CA5L)	Ignition switch off	108 to 132 Ω	Ω

Post-procedure1

(c) Connect the plugin charge control ECU assembly connector.

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

NG ▶ **REPLACE ELECTRIC VEHICLE CHARGER ASSEMBLY**

6.	**CHECK FUSE (AMD2 CHG)**

Pre-procedure1

(a) Remove the AMD2 CHG fuse from the No. 1 engine room relay block and No. 1 junction block assembly.

Procedure1

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
AMD2 CHG fuse terminals	Always	Below 1 Ω	Ω

Post-procedure1

(c) Install the AMD2 CHG fuse.

OK ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR (AMD2 CHG FUSE HOLDER - ELECTRIC VEHICLE CHARGER ASSEMBLY)**

NG ▼

7.	**CHECK HARNESS AND CONNECTOR (AMD2 CHG FUSE HOLDER - ELECTRIC VEHICLE CHARGER ASSEMBLY)**

CAUTION:

Be sure to wear insulated gloves.

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 R73 electric vehicle charger assembly connector.

(c) Remove the AMD2 CHG fuse from the No. 1 engine room relay block and No. 1 junction block assembly.

Procedure1

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

Standard Resistance:

EWD INFO

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

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
R73-8 (AMD2) or AMD2 CHG fuse terminal 2 - Body ground and other terminals	Always	10 kΩ or higher	kΩ

Post-procedure1

(e) Install the AMD2 CHG fuse.

(f) Reconnect the electric vehicle charger assembly connector.

OK ▶ **REPLACE FUSE (AMD2 CHG)**

NG

8.	**REPAIR OR REPLACE HARNESS OR CONNECTOR (AMD2 CHG FUSE HOLDER - ELECTRIC VEHICLE CHARGER ASSEMBLY)**

NEXT **REPLACE FUSE (AMD2 CHG)**