Last Modified: 12-04-2024	6.11:8.1.0	**Doc ID:** RM10000000291XP
Model Year Start: 2023	**Model:** Prius Prime	**Prod Date Range:** [12/2022 -]
Title: HYBRID / BATTERY CONTROL: HYBRID CONTROL SYSTEM (for M20A-FXS): U029187; Lost Communication with Gear Shift Control Module "B" Missing Message; 2023 - 2024 MY Prius Prius Phv [12/2022 -]		

DTC	**U029187**	**Lost Communication with Gear Shift Control Module "B" Missing Message**

DESCRIPTION

The hybrid vehicle control ECU transmits and receives signals via CAN communication to and from the shift control actuator ECU.

DTC NO.	DETECTION ITEM	DTC DETECTION CONDITION	TROUBLE AREA	MIL	WARNING INDICATE	DTC OUTPUT FROM	PRIORITY	NOTE
U029187	Lost Communication with Gear Shift Control Module "B" Missing Message	A CAN communication error between the hybrid vehicle control ECU and shift control actuator ECU (CAN communication system malfunction) occurs The hybrid vehicle control ECU cannot receive signals from the shift control actuator ECU (1 trip detection logic)	• Shift control actuator assembly (shift control actuator ECU) • Wire harness or connector	Does not come on	Master Warning: Does not come on	Hybrid Control	B	SAE Code: U0291

CONFIRMATION DRIVING PATTERN

HINT:

After repair has been completed, clear the DTCs and then check that the vehicle has returned to normal by performing the following All Readiness check procedure.

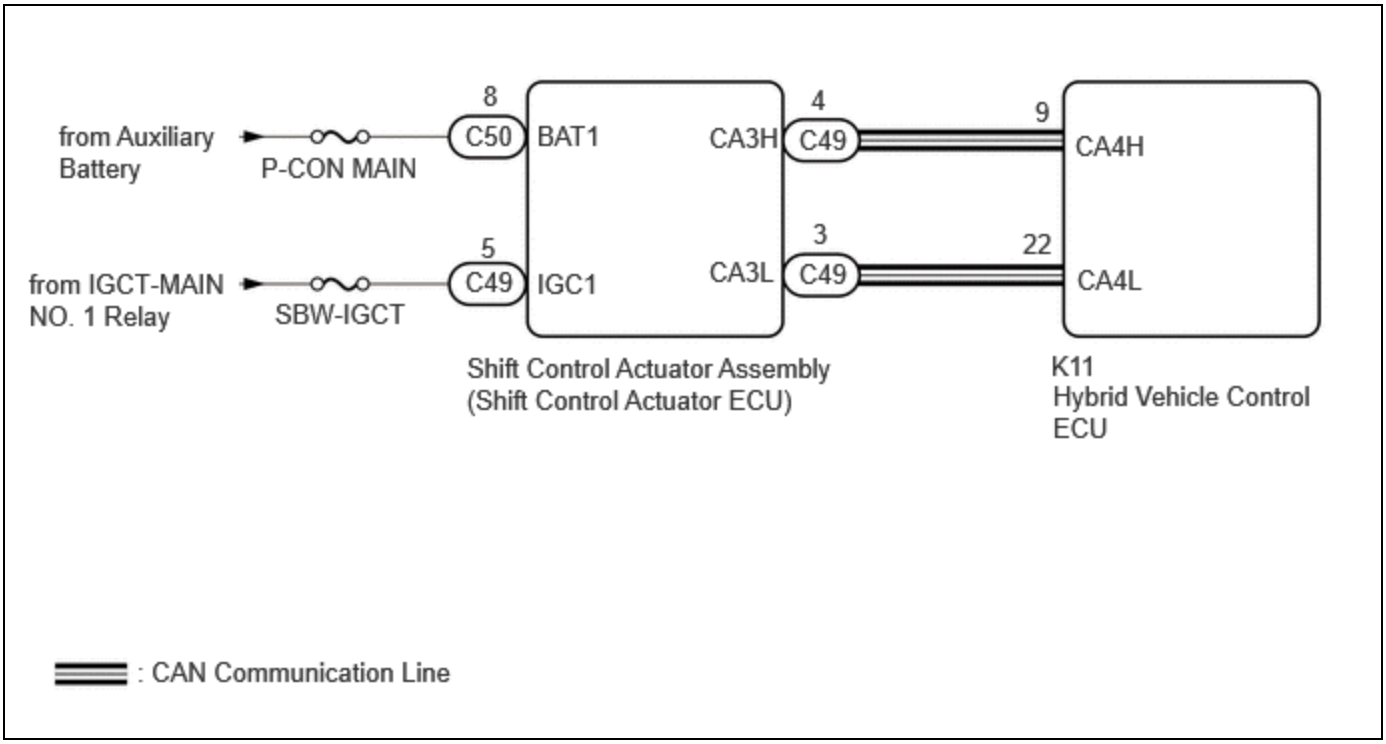
Click here INFO

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.
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



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
- Ensure there is no power being supplied to the vehicle when disconnecting or reconnecting the connector of the shift control ECU or shift control actuator ECU, and when removing or installing the shift control ECU or shift control actuator ECU.

PROCEDURE

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

Pre-procedure1

(a) According to the display on the GTS, select "Health Check".

Procedure1

(b) Check for DTCs.

RESULT	PROCEED TO
No DTCs are output.	A
DTCs are output.	B

Post-procedure1

(c) Turn the ignition switch off.

B ▶ **GO TO DTC CHART**

A ▼

2.	**CHECK DTC OUTPUT (HYBRID CONTROL)**

Pre-procedure1

(a) None.

Procedure1

(b) Check for DTCs.

Powertrain > Hybrid Control > Trouble Codes

RESULT	PROCEED TO
Only U029187 is output	A
U029187 and U117687 are output	B

Post-procedure1

(c) Turn the ignition switch off.

B ▶ **SHIFT CONTROL ACTUATOR ASSEMBLY (SHIFT CONTROL ACTUATOR ECU) POWER SOURCE CIRCUIT FAILURE** INFO

A

3.	**CHECK SHIFT CONTROL ACTUATOR ASSEMBLY (SHIFT CONTROL ACTUATOR ECU) (BAT1 TERMINAL VOLTAGE)**

Pre-procedure1

(a) Disconnect the shift control actuator assembly (shift control actuator ECU) connector.

Procedure1

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

Standard Voltage:

EWD INFO

Click Location & Routing(C50)
Click Connector(C50)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
C50-8 (BAT1) - Body ground	Ignition switch off	11 to 14 V	V

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)) (BAT1 circuit)
- Fuse condition (before and after removing fuse(s)) (BAT1 circuit)
- Connection condition of connectors (BAT1 circuit)
- Wire harness condition (BAT1 circuit)
- Wire harness condition (GND circuit)

Post-procedure1

(c) Reconnect the shift control actuator assembly (shift control actuator ECU) connector.

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR (SHIFT CONTROL ACTUATOR ASSEMBLY (SHIFT CONTROL ACTUATOR ECU) POWER SOURCE CIRCUIT)**

OK

4.	**CHECK SHIFT CONTROL ACTUATOR ASSEMBLY (SHIFT CONTROL ACTUATOR ECU) (IGC1 TERMINAL VOLTAGE)**

Pre-procedure1

(a) Disconnect the shift control actuator assembly (shift control actuator ECU) connector.

Procedure1

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

Standard Voltage:

EWD INFO

Click Location & Routing(C49)
Click Connector(C49)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
C49-5 (IGC1) - Body ground	Ignition switch off	11 to 14 V	V

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)) (IGC1 circuit)
- Fuse condition (before and after removing fuse(s)) (IGC1 circuit)
- Connection condition of connectors (IGC1 circuit)
- Wire harness condition (IGC1 circuit)
- Wire harness condition (GND circuit)

Post-procedure1

(c) Turn the ignition switch off.

(d) Reconnect the shift control actuator assembly (shift control actuator ECU) connector.

OK ▶ **GO TO CAN COMMUNICATION SYSTEM**

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR (SHIFT CONTROL ACTUATOR ASSEMBLY (SHIFT CONTROL ACTUATOR ECU) POWER SOURCE CIRCUIT)**