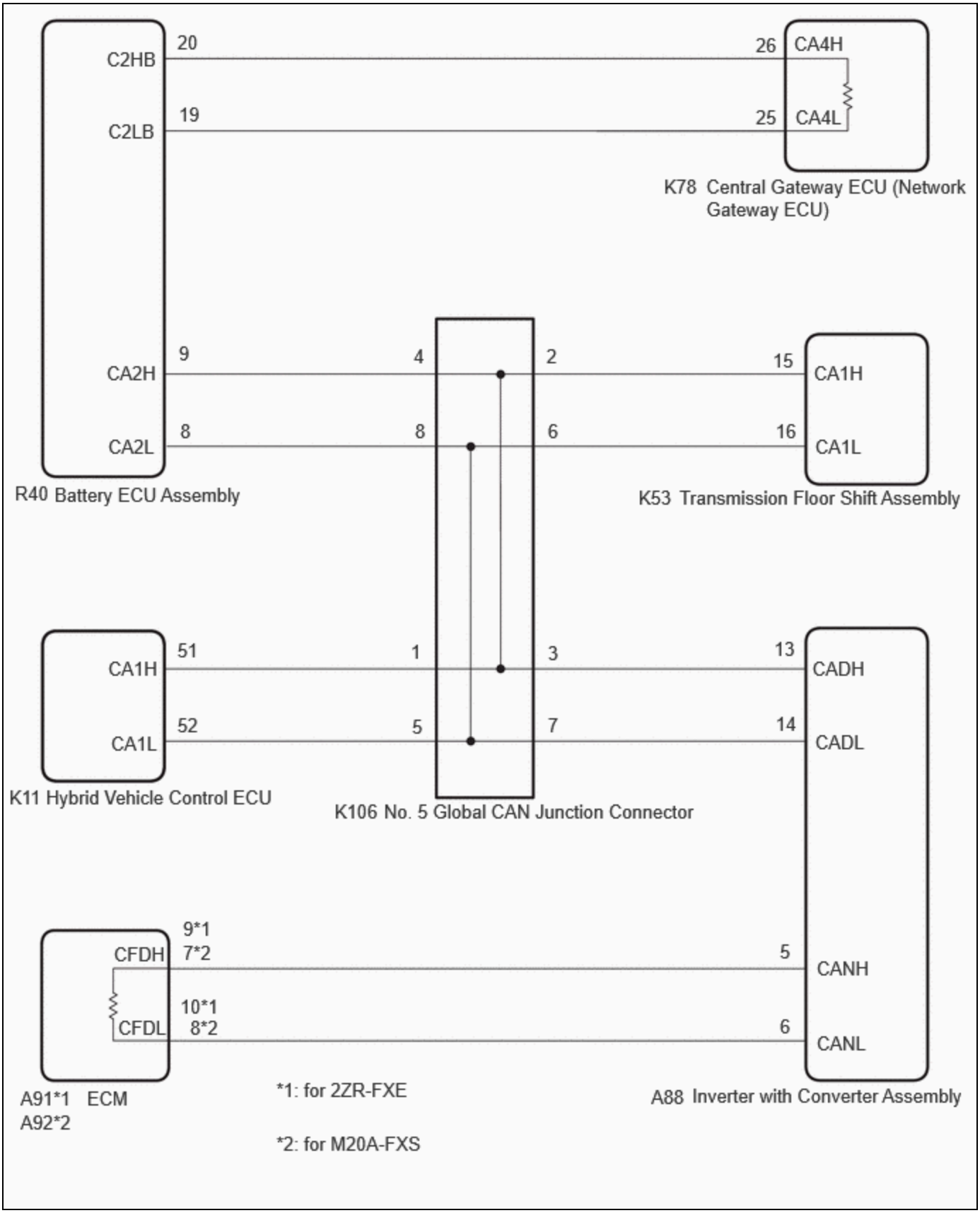
Last Modified: 12-04-2024	6.11:8.1.0	**Doc ID:** RM1000000029BAE
Model Year Start: 2023	**Model:** Prius	**Prod Date Range:** [12/2022 -]
Title: NETWORKING: CAN COMMUNICATION SYSTEM (for HEV Model): Check Bus 2 Line; 2023 - 2024 MY Prius [12/2022 -]		

Check Bus 2 Line

DESCRIPTION

SYMPTOM	TROUBLE AREA
There are ECUs or sensors that display a communication stop on the bus diagnostic screen. Or, there are ECUs or sensors that display communication stop history on the "Detail" screen.	• CAN main bus line, CAN branch line or connector • Central gateway ECU (network gateway ECU) • Battery ECU assembly • Transmission floor shift assembly • Hybrid vehicle control ECU • Inverter with converter assembly • ECM • No. 5 global CAN junction connector

WIRING DIAGRAM



CAUTION / NOTICE / HINT

CAUTION:

When performing the confirmation driving pattern, obey all speed limits and traffic laws.

NOTICE:

- Because the order of diagnosis is important to allow correct diagnosis, make sure to begin troubleshooting using How to Proceed with Troubleshooting when CAN communication system related DTCs are output.

  Click here INFO
- Before measuring the resistance of the CAN bus, turn the ignition switch off and leave the vehicle for 1 minute or more without operating the key or any switches, or opening or closing the doors. After that, disconnect the cable from the negative (-) auxiliary battery terminal and leave the vehicle for 10 minutes or more before measuring the resistance.
- 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
- Some parts must be initialized and set when replacing or removing and installing parts.

  Click here INFO
- After performing repairs, perform the DTC check procedure and confirm that the DTCs are not output again.

  DTC check procedure: Turn the ignition switch to ON and wait for 1 minute or more. Then operate the suspected malfunctioning system and drive the vehicle at 60 km/h (37 mph) or more for 5 minutes or more.
- After the repair, perform the CAN bus check and check that all the ECUs and sensors connected to the CAN communication system are displayed as normal.

  Click here INFO
- Before replacing the hybrid vehicle control ECU, refer to Registration.

  Click here INFO

HINT:

- Before disconnecting related connectors for inspection, push in on each connector body to check that the connector is not loose or disconnected.
- When a connector is disconnected, check that the terminals and connector body are not cracked, deformed or corroded.

PROCEDURE

1.	**CHECK FOR OPEN IN CAN MAIN BUS LINES**

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

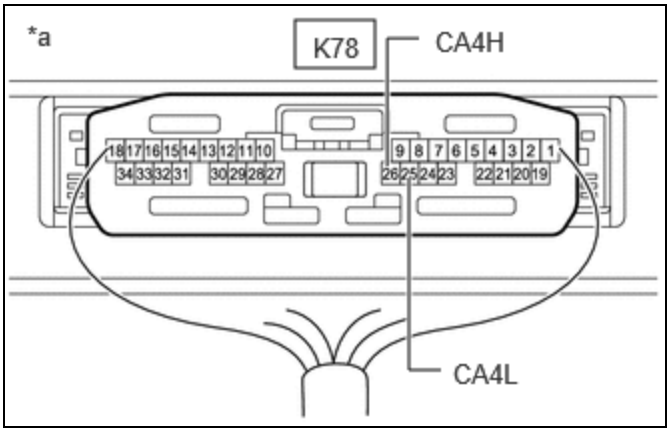
(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

EWD INFO

Click Location & Routing(K78)
Click Connector(K78)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K78-26 (CA4H) - K78-25 (CA4L)	Cable disconnected from negative (-) auxiliary battery terminal	Below 70 Ω



*a	Component with harness connected (Central Gateway ECU (Network Gateway ECU))

NG ▶ **GO TO STEP 41**

OK ▼

2.	**CHECK FOR SHORT IN CAN BUS LINES**

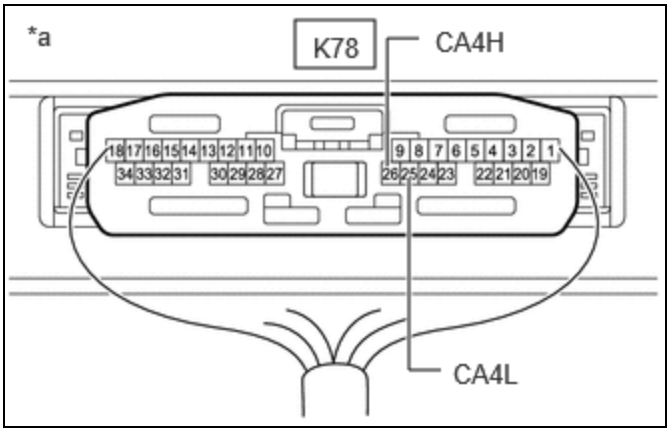
(a) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

EWD INFO

Click Location & Routing(K78)
Click Connector(K78)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K78-26 (CA4H) - K78-25 (CA4L)	Cable disconnected from negative (-) auxiliary battery terminal	54 Ω or higher



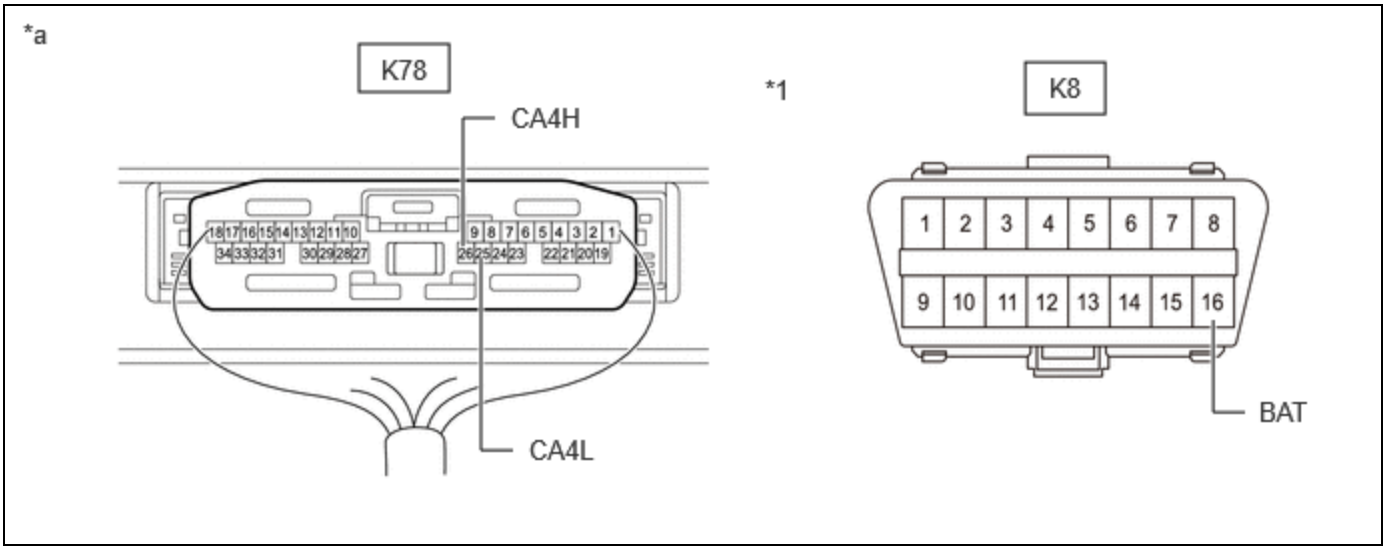
*a	Component with harness connected (Central Gateway ECU (Network Gateway ECU))

NG ▶ **GO TO STEP 29**

OK

3.	**CHECK FOR SHORT TO +B IN CAN BUS LINE**

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



*1	DLC3	-	-
*a	Component with harness connected (Central Gateway ECU (Network Gateway ECU))	-	-

Standard Resistance:

EWD INFO

Click Location & Routing(K78,K8)
Click Connector(K78)
Click Connector(K8)

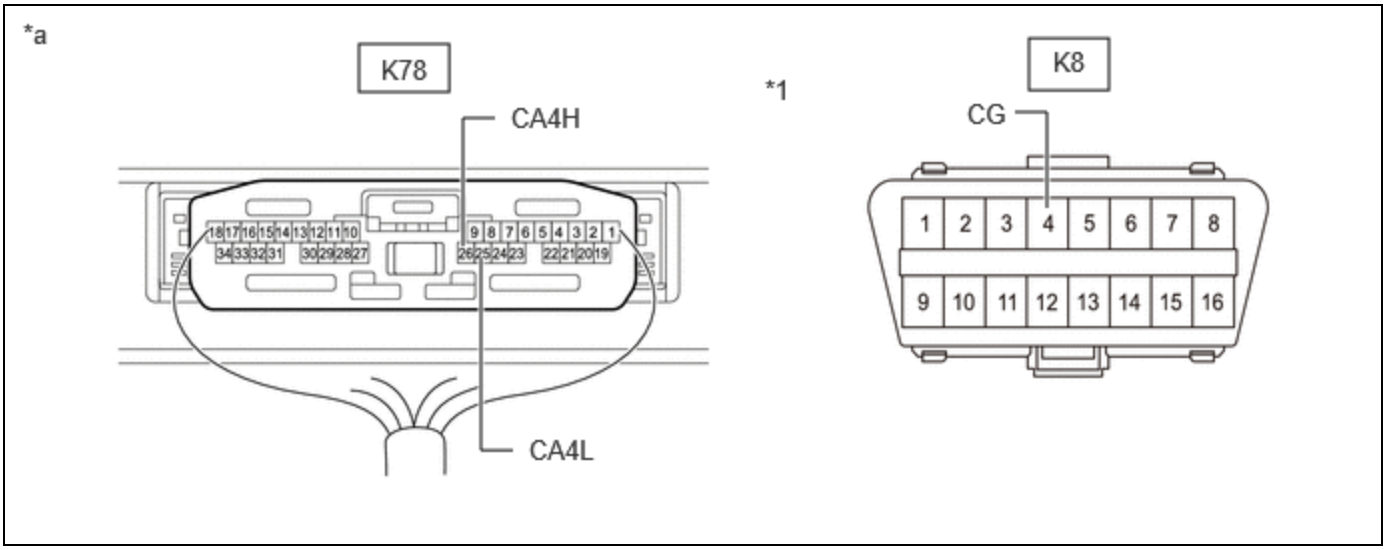
TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K78-26 (CA4H) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery terminal	6 kΩ or higher
K78-25 (CA4L) - K8-16 (BAT)		

NG ▶ **GO TO STEP 17**

OK

4.	**CHECK FOR SHORT TO GND IN CAN BUS LINE**

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



*1	DLC3	-	-
*a	Component with harness connected (Central Gateway ECU (Network Gateway ECU))	-	-

Standard Resistance:

EWD INFO

Click Location & Routing(K78,K8)
Click Connector(K78)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K78-26 (CA4H) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery terminal	200 Ω or higher
K78-25 (CA4L) - K8-4 (CG)		

OK ▶ **REPLACE CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU)**

NG ▼

5.	**CHECK FOR SHORT TO GND IN CAN BUS LINE (BATTERY ECU ASSEMBLY - CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU))**

(a) Disconnect the R40 battery ECU assembly connector.

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

Standard Resistance:

EWD INFO

Click Location & Routing(R40,K8)
Click Connector(R40)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R40-20 (C2HB) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery terminal	200 Ω or higher
R40-19 (C2LB) - K8-4 (CG)		

NG ▶ **GO TO STEP 7**

OK ▼

6.	**CHECK FOR SHORT TO GND IN CAN BUS LINE (BATTERY ECU ASSEMBLY - NO. 5 GLOBAL CAN JUNCTION CONNECTOR)**

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

Standard Resistance:

EWD INFO

Click Location & Routing(R40,K8)
Click Connector(R40)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R40-9 (CA2H) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery terminal	200 Ω or higher
R40-8 (CA2L) - K8-4 (CG)		

OK ▶ **REPLACE BATTERY ECU ASSEMBLY**

NG ▶ **GO TO STEP 8**

7.	**CHECK FOR SHORT TO GND IN CAN BUS LINE (BATTERY ECU ASSEMBLY - CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU))**

(a) Disconnect the K78 central gateway ECU (network gateway ECU) connector.

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

Standard Resistance:

EWD INFO

Click Location & Routing(R40,K8)
Click Connector(R40)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R40-20 (C2HB) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery terminal	200 Ω or higher
R40-19 (C2LB) - K8-4 (CG)		

OK ▶ **REPLACE CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU)**

NG ▶ **REPAIR OR REPLACE CAN MAIN BUS LINE OR CONNECTOR (BATTERY ECU ASSEMBLY - CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU))**

8.	**CHECK FOR SHORT TO GND IN CAN BUS LINE (NO. 5 GLOBAL CAN JUNCTION CONNECTOR - BATTERY ECU ASSEMBLY)**

(a) Disconnect the K106 No. 5 global CAN junction connector.

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

Standard Resistance:

EWD INFO

Click Location & Routing(K106,K8)
Click Connector(K106)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K106-4 (CANH) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery terminal	200 Ω or higher
K106-8 (CANL) - K8-4 (CG)		

NG ▶ **REPAIR OR REPLACE CAN MAIN BUS LINE OR CONNECTOR (NO. 5 GLOBAL CAN JUNCTION CONNECTOR - BATTERY ECU ASSEMBLY)**

OK ▼

9.	**CHECK FOR SHORT TO GND IN CAN BUS LINE (NO. 5 GLOBAL CAN JUNCTION CONNECTOR - INVERTER WITH CONVERTER ASSEMBLY)**

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

Standard Resistance:

EWD INFO

Click Location & Routing(K106,K8)
Click Connector(K106)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K106-3 (CANH) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery terminal	200 Ω or higher
K106-7 (CANL) - K8-4 (CG)		

NG ▶ **GO TO STEP 14**

OK ▼

10.	**CHECK FOR SHORT TO GND IN CAN BUS LINE (NO. 5 GLOBAL CAN JUNCTION CONNECTOR - HYBRID VEHICLE CONTROL ECU)**

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

Standard Resistance:

EWD INFO

Click Location & Routing(K106,K8)
Click Connector(K106)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K106-1 (CANH) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery terminal	200 Ω or higher
K106-5 (CANL) - K8-4 (CG)		

NG ▶ **GO TO STEP 12**

OK ▼

11.	**CHECK FOR SHORT TO GND IN CAN BUS LINE (NO. 5 GLOBAL CAN JUNCTION CONNECTOR - TRANSMISSION FLOOR SHIFT ASSEMBLY)**

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

Standard Resistance:

EWD INFO

Click Location & Routing(K106,K8)
Click Connector(K106)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K106-2 (CANH) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery terminal	200 Ω or higher
K106-6 (CANL) - K8-4 (CG)		

OK ▶ **REPLACE NO. 5 GLOBAL CAN JUNCTION CONNECTOR**

NG ▶ **GO TO STEP 13**

12.	**CHECK FOR SHORT TO GND IN CAN BUS LINE (NO. 5 GLOBAL CAN JUNCTION CONNECTOR - HYBRID VEHICLE CONTROL ECU)**

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

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

Standard Resistance:

EWD INFO

Click Location & Routing(K106,K8)

Click Connector(K106)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K106-1 (CANH) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery terminal	200 Ω or higher
K106-5 (CANL) - K8-4 (CG)		

OK ▶ **REPLACE HYBRID VEHICLE CONTROL ECU**

Click here INFO

NG ▶ **REPAIR OR REPLACE CAN BRANCH LINE OR CONNECTOR (NO. 5 GLOBAL CAN JUNCTION CONNECTOR - HYBRID VEHICLE CONTROL ECU)**

13.	**CHECK FOR SHORT TO GND IN CAN BUS LINE (NO. 5 GLOBAL CAN JUNCTION CONNECTOR - TRANSMISSION FLOOR SHIFT ASSEMBLY)**

(a) Disconnect the K53 transmission floor shift assembly connector.

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

Standard Resistance:

EWD INFO

Click Location & Routing(K106,K8)
Click Connector(K106)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K106-2 (CANH) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery terminal	200 Ω or higher
K106-6 (CANL) - K8-4 (CG)		

OK ▶ **REPLACE TRANSMISSION FLOOR SHIFT ASSEMBLY**

NG ▶ **REPAIR OR REPLACE CAN BRANCH LINE OR CONNECTOR (NO. 5 GLOBAL CAN JUNCTION CONNECTOR - TRANSMISSION FLOOR SHIFT ASSEMBLY)**

14.	**CHECK FOR SHORT TO GND IN CAN BUS LINE (INVERTER WITH CONVERTER ASSEMBLY - NO. 5 GLOBAL CAN JUNCTION CONNECTOR)**

(a) Disconnect the A88 inverter with converter assembly connector.

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

Standard Resistance:

EWD INFO

Click Location & Routing(A88,K8)
Click Connector(A88)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A88-13 (CADH) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery terminal	200 Ω or higher
A88-14 (CADL) - K8-4 (CG)		

NG ▶ **REPAIR OR REPLACE CAN MAIN BUS LINE OR CONNECTOR (INVERTER WITH CONVERTER ASSEMBLY - NO. 5 GLOBAL CAN JUNCTION CONNECTOR)**

OK
▼

15.	**CHECK FOR SHORT TO GND IN CAN BUS LINE (INVERTER WITH CONVERTER ASSEMBLY - ECM)**

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

Standard Resistance:

EWD INFO

Click Location & Routing(A88,K8)
Click Connector(A88)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A88-5 (CANH) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery terminal	200 Ω or higher
A88-6 (CANL) - K8-4 (CG)		

OK ▶ **REPLACE INVERTER WITH CONVERTER ASSEMBLY**

NG

16.	**CHECK FOR SHORT TO GND IN CAN BUS LINE (INVERTER WITH CONVERTER ASSEMBLY - ECM)**

(a) Disconnect the A91 or A92 ECM connector.

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

Standard Resistance:

EWD INFO

Click Location & Routing(A88,K8)
Click Connector(A88)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A88-5 (CANH) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery terminal	200 Ω or higher
A88-6 (CANL) - K8-4 (CG)		

OK ▶ **REPLACE ECM**

- for M20A-FXS:

  Click here INFO
- for 2ZR-FXE:

  Click here INFO

NG ▶ **REPAIR OR REPLACE CAN MAIN BUS LINE OR CONNECTOR (INVERTER WITH CONVERTER ASSEMBLY - ECM)**

17.	**CHECK FOR SHORT TO +B IN CAN BUS LINE (BATTERY ECU ASSEMBLY - CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU))**

(a) Disconnect the R40 battery ECU assembly connector.

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

Standard Resistance:

EWD INFO

Click Location & Routing(R40,K8)
Click Connector(R40)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R40-20 (C2HB) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery terminal	6 kΩ or higher
R40-19 (C2LB) - K8-16 (BAT)		

NG ▶ **GO TO STEP 19**

OK ▼

18.	**CHECK FOR SHORT TO +B IN CAN BUS LINE (BATTERY ECU ASSEMBLY - NO. 5 GLOBAL CAN JUNCTION CONNECTOR)**

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

Standard Resistance:

EWD INFO

Click Location & Routing(R40,K8)
Click Connector(R40)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R40-9 (CA2H) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery terminal	6 kΩ or higher
R40-8 (CA2L) - K8-16 (BAT)		

OK ▶ **REPLACE BATTERY ECU ASSEMBLY**

NG ▶ **GO TO STEP 20**

19.	**CHECK FOR SHORT TO +B IN CAN BUS LINE (BATTERY ECU ASSEMBLY - CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU))**

(a) Disconnect the K78 central gateway ECU (network gateway ECU) connector.

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

Standard Resistance:

EWD INFO

Click Location & Routing(R40,K8)
Click Connector(R40)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R40-20 (C2HB) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery terminal	6 kΩ or higher
R40-19 (C2LB) - K8-16 (BAT)		

OK ▶ **REPLACE CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU)**

NG ▶ **REPAIR OR REPLACE CAN MAIN BUS LINE OR CONNECTOR (BATTERY ECU ASSEMBLY - CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU))**

20.	**CHECK FOR SHORT TO +B IN CAN BUS LINE (NO. 5 GLOBAL CAN JUNCTION CONNECTOR - BATTERY ECU ASSEMBLY)**

(a) Disconnect the K106 No. 5 global CAN junction connector.

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

Standard Resistance:

EWD INFO

Click Location & Routing(K106,K8)
Click Connector(K106)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K106-4 (CANH) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery terminal	6 kΩ or higher
K106-8 (CANL) - K8-16 (BAT)		

NG ▶ **REPAIR OR REPLACE CAN MAIN BUS LINE OR CONNECTOR (NO. 5 GLOBAL CAN JUNCTION CONNECTOR - BATTERY ECU ASSEMBLY)**

OK

21.	**CHECK FOR SHORT TO +B IN CAN BUS LINE (NO. 5 GLOBAL CAN JUNCTION CONNECTOR - INVERTER WITH CONVERTER ASSEMBLY)**

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

Standard Resistance:

EWD INFO

Click Location & Routing(K106,K8)
Click Connector(K106)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K106-3 (CANH) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery terminal	6 kΩ or higher
K106-7 (CANL) - K8-16 (BAT)		

NG **GO TO STEP 26**

OK

22.	**CHECK FOR SHORT TO +B IN CAN BUS LINE (NO. 5 GLOBAL CAN JUNCTION CONNECTOR - HYBRID VEHICLE CONTROL ECU)**

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

Standard Resistance:

EWD INFO

Click Location & Routing(K106,K8)
Click Connector(K106)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K106-1 (CANH) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery terminal	6 kΩ or higher

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K106-5 (CANL) - K8-16 (BAT)		

NG ▶ **GO TO STEP 24**

OK ▼

23.	**CHECK FOR SHORT TO +B IN CAN BUS LINE (NO. 5 GLOBAL CAN JUNCTION CONNECTOR - TRANSMISSION FLOOR SHIFT ASSEMBLY)**

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

Standard Resistance:

EWD INFO

Click Location & Routing(K106,K8)
Click Connector(K106)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K106-2 (CANH) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery terminal	6 kΩ or higher
K106-6 (CANL) - K8-16 (BAT)		

OK ▶ **REPLACE NO. 5 GLOBAL CAN JUNCTION CONNECTOR**

NG ▶ **GO TO STEP 25**

24.	**CHECK FOR SHORT TO +B IN CAN BUS LINE (NO. 5 GLOBAL CAN JUNCTION CONNECTOR - HYBRID VEHICLE CONTROL ECU)**

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

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

Standard Resistance:

EWD INFO

Click Location & Routing(K106,K8)

Click Connector(K106)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K106-1 (CANH) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery terminal	6 kΩ or higher
K106-5 (CANL) - K8-16 (BAT)		

OK ▶ **REPLACE HYBRID VEHICLE CONTROL ECU**

Click here INFO

NG ▶ **REPAIR OR REPLACE CAN BRANCH LINE OR CONNECTOR (NO. 5 GLOBAL CAN JUNCTION CONNECTOR - HYBRID VEHICLE CONTROL ECU)**

25.	**CHECK FOR SHORT TO +B IN CAN BUS LINE (NO. 5 GLOBAL CAN JUNCTION CONNECTOR - TRANSMISSION FLOOR SHIFT ASSEMBLY)**

(a) Disconnect the K53 transmission floor shift assembly connector.

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

Standard Resistance:

EWD INFO

Click Location & Routing(K106,K8)
Click Connector(K106)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K106-2 (CANH) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery terminal	6 kΩ or higher
K106-6 (CANL) - K8-16 (BAT)		

OK ▶ **REPLACE TRANSMISSION FLOOR SHIFT ASSEMBLY**

NG ▶ **REPAIR OR REPLACE CAN BRANCH LINE OR CONNECTOR (NO. 5 GLOBAL CAN JUNCTION CONNECTOR - TRANSMISSION FLOOR SHIFT ASSEMBLY)**

26.	**CHECK FOR SHORT TO +B IN CAN BUS LINE (INVERTER WITH CONVERTER ASSEMBLY - NO. 5 GLOBAL CAN JUNCTION CONNECTOR)**

(a) Disconnect the A88 inverter with converter assembly connector.

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

Standard Resistance:

EWD INFO

Click Location & Routing(A88,K8)
Click Connector(A88)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A88-13 (CADH) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery terminal	6 kΩ or higher
A88-14 (CADL) - K8-16 (BAT)		

NG ▶ **REPAIR OR REPLACE CAN MAIN BUS LINE OR CONNECTOR (INVERTER WITH CONVERTER ASSEMBLY - NO. 5 GLOBAL CAN JUNCTION CONNECTOR)**

OK ▼

27.	**CHECK FOR SHORT TO +B IN CAN BUS LINE (INVERTER WITH CONVERTER ASSEMBLY - ECM)**

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

Standard Resistance:

EWD INFO

Click Location & Routing(A88,K8)
Click Connector(A88)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A88-5 (CANH) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery terminal	6 kΩ or higher

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A88-6 (CANL) - K8-16 (BAT)		

OK ▶ **REPLACE INVERTER WITH CONVERTER ASSEMBLY**

NG ▼

28.	**CHECK FOR SHORT TO +B IN CAN BUS LINE (INVERTER WITH CONVERTER ASSEMBLY - ECM)**

(a) Disconnect the A91 or A92 ECM connector.

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

Standard Resistance:

EWD INFO

Click Location & Routing(A88,K8)
Click Connector(A88)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A88-5 (CANH) - K8-6 (BAT)	Cable disconnected from negative (-) auxiliary battery terminal	6 kΩ or higher
A88-6 (CANL) - K8-6 (BAT)		

OK ▶ **REPLACE ECM**

- for M20A-FXS:

  Click here INFO
- for 2ZR-FXE:

  Click here INFO

NG ▶ **REPAIR OR REPLACE CAN MAIN BUS LINE OR CONNECTOR (INVERTER WITH CONVERTER ASSEMBLY - ECM)**

29.	**CHECK FOR SHORT IN CAN BUS LINES (BATTERY ECU ASSEMBLY - CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU))**

(a) Disconnect the R40 battery ECU assembly connector.

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

Standard Resistance:

EWD INFO

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

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R40-20 (C2HB) - R40-19 (C2LB)	Cable disconnected from negative (-) auxiliary battery terminal	108 to 132 Ω

NG ▶ **GO TO STEP 31**

OK ▼

30.	**CHECK FOR SHORT IN CAN BUS LINES (BATTERY ECU ASSEMBLY - NO. 5 GLOBAL CAN JUNCTION CONNECTOR)**

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

Standard Resistance:

EWD INFO

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

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R40-9 (CA2H) - R40-8 (CA2L)	Cable disconnected from negative (-) auxiliary battery terminal	108 to 132 Ω

OK ▶ **REPLACE BATTERY ECU ASSEMBLY**

NG ▶ **GO TO STEP 32**

31.	**CHECK FOR SHORT IN CAN BUS LINES (BATTERY ECU ASSEMBLY - CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU))**

(a) Disconnect the K78 central gateway ECU (network gateway ECU) connector.

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

Standard Resistance:

EWD INFO

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

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R40-20 (C2HB) - R40-19 (C2LB)	Cable disconnected from negative (-) auxiliary battery terminal	1 MΩ or higher

OK ▶ **REPLACE CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU)**

NG ▶ **REPAIR OR REPLACE CAN MAIN BUS LINES OR CONNECTOR (BATTERY ECU ASSEMBLY - CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU))**

32.	**CHECK FOR SHORT IN CAN BUS LINES (NO. 5 GLOBAL CAN JUNCTION CONNECTOR - BATTERY ECU ASSEMBLY)**

(a) Reconnect the R40 battery ECU assembly connector.

(b) Disconnect the K106 No. 5 global CAN junction connector.

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

Standard Resistance:

EWD INFO

Click Location & Routing(K106)
Click Connector(K106)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K106-4 (CANH) - K106-8 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	108 to 132 Ω

NG ▶ **REPAIR OR REPLACE CAN MAIN BUS LINES OR CONNECTOR (NO. 5 GLOBAL CAN JUNCTION CONNECTOR - BATTERY ECU ASSEMBLY)**

OK ▼

33.	**CHECK FOR SHORT IN CAN BUS LINES (NO. 5 GLOBAL CAN JUNCTION CONNECTOR - INVERTER WITH CONVERTER ASSEMBLY)**

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

Standard Resistance:

EWD INFO

Click Location & Routing(K106)
Click Connector(K106)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K106-3 (CANH) - K106-7 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	108 to 132 Ω

NG ▶ **GO TO STEP 38**

OK ▼

34.	**CHECK FOR SHORT IN CAN BUS LINES (NO. 5 GLOBAL CAN JUNCTION CONNECTOR - HYBRID VEHICLE CONTROL ECU)**

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

Standard Resistance:

EWD INFO

Click Location & Routing(K106)
Click Connector(K106)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K106-1 (CANH) - K106-5 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	200 Ω or higher

NG ▶ **GO TO STEP 36**

OK ▼

35.	**CHECK FOR SHORT IN CAN BUS LINES (NO. 5 GLOBAL CAN JUNCTION CONNECTOR - TRANSMISSION FLOOR SHIFT ASSEMBLY)**

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

Standard Resistance:

EWD INFO

Click Location & Routing(K106)
Click Connector(K106)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K106-2 (CANH) - K106-6 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	200 Ω or higher

OK ▶ **REPLACE NO. 5 GLOBAL CAN JUNCTION CONNECTOR**

NG ▶ **GO TO STEP 37**

36.	**CHECK FOR SHORT IN CAN BUS LINES (NO. 5 GLOBAL CAN JUNCTION CONNECTOR - HYBRID VEHICLE CONTROL ECU)**

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

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

Standard Resistance:

EWD INFO

Click Location & Routing(K106)
Click Connector(K106)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K106-1 (CANH) - K106-5 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	1 MΩ or higher

OK ▶ **REPLACE HYBRID VEHICLE CONTROL ECU**

Click here INFO

NG ▶ **REPAIR OR REPLACE CAN BRANCH LINE OR CONNECTOR (NO. 5 GLOBAL CAN JUNCTION CONNECTOR - HYBRID VEHICLE CONTROL ECU)**

37.	**CHECK FOR SHORT IN CAN BUS LINES (NO. 5 GLOBAL CAN JUNCTION CONNECTOR - TRANSMISSION FLOOR SHIFT ASSEMBLY)**

(a) Disconnect the K53 transmission floor shift assembly connector.

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

Standard Resistance:

EWD INFO

Click Location & Routing(K106)
Click Connector(K106)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K106-2 (CANH) - K106-6 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	1 MΩ or higher

OK ▶ **REPLACE TRANSMISSION FLOOR SHIFT ASSEMBLY**

NG ▶ **REPAIR OR REPLACE CAN BRANCH LINES OR CONNECTOR (NO. 5 GLOBAL CAN JUNCTION CONNECTOR - TRANSMISSION FLOOR SHIFT ASSEMBLY)**

38.	**CHECK FOR SHORT IN CAN BUS LINES (INVERTER WITH CONVERTER ASSEMBLY - NO. 5 GLOBAL CAN JUNCTION CONNECTOR)**

(a) Reconnect the K106 No. 5 global CAN junction connector.

(b) Disconnect the A88 inverter with converter assembly connector.

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

Standard Resistance:

EWD INFO

Click Location & Routing(A88)
Click Connector(A88)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A88-13 (CADH) - A88-14 (CADL)	Cable disconnected from negative (-) auxiliary battery terminal	108 to 132 Ω

NG ▶ **REPAIR OR REPLACE CAN MAIN BUS LINES OR CONNECTOR (INVERTER WITH CONVERTER**

ASSEMBLY - NO. 5 GLOBAL CAN JUNCTION CONNECTOR)

OK

39.	**CHECK FOR SHORT IN CAN BUS LINES (INVERTER WITH CONVERTER ASSEMBLY - ECM)**

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

Standard Resistance:

EWD INFO

Click Location & Routing(A88)
Click Connector(A88)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A88-5 (CANH) - A88-6 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	108 to 132 Ω

OK ▶ **REPLACE INVERTER WITH CONVERTER ASSEMBLY**

NG

40.	**CHECK FOR SHORT IN CAN BUS LINES (INVERTER WITH CONVERTER ASSEMBLY - ECM)**

(a) Disconnect the A91 or A92 ECM connector.

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

Standard Resistance:

EWD INFO

Click Location & Routing(A88)
Click Connector(A88)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A88-5 (CANH) - A88-6 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	1 MΩ or higher

OK ▶ **REPLACE ECM**

- for M20A-FXS:

  Click here INFO
- for 2ZR-FXE:

  Click here INFO

NG ▶ **REPAIR OR REPLACE CAN MAIN BUS LINES OR CONNECTOR (INVERTER WITH CONVERTER ASSEMBLY - ECM)**

41.	**CHECK FOR OPEN IN CAN MAIN BUS LINES (CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU))**

(a) Disconnect the K78 central gateway ECU (network gateway ECU) connector.

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

Standard Resistance:

EWD INFO

Click Location & Routing(K78)
Click Connector(K78)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K78-26 (CA4H) - K78-25 (CA4L)	Cable disconnected from negative (-) auxiliary battery terminal	108 to 132 Ω

OK ▶ **REPLACE CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU)**

NG ▼

42.	**CHECK FOR OPEN IN CAN MAIN BUS LINES (BATTERY ECU ASSEMBLY - CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU))**

(a) Reconnect the K78 central gateway ECU (network gateway ECU) connector.

(b) Disconnect the R40 battery ECU assembly connector.

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

Standard Resistance:

EWD INFO

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

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R40-20 (C2HB) - R40-19 (C2LB)	Cable disconnected from negative (-) auxiliary battery terminal	108 to 132 Ω

NG ▶ **REPAIR OR REPLACE CAN MAIN BUS LINES OR CONNECTOR (BATTERY ECU ASSEMBLY - CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU))**

OK ▼

43.	**CHECK FOR OPEN IN CAN MAIN BUS LINES (BATTERY ECU ASSEMBLY - NO. 5 GLOBAL CAN JUNCTION CONNECTOR)**

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

Standard Resistance:

EWD INFO

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

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R40-9 (CA2H) - R40-8 (CA2L)	Cable disconnected from negative (-) auxiliary battery terminal	108 to 132 Ω

OK ▶ **REPLACE BATTERY ECU ASSEMBLY**

NG ▼

44.	**CHECK FOR OPEN IN CAN MAIN BUS LINES (NO. 5 GLOBAL CAN JUNCTION CONNECTOR - BATTERY ECU ASSEMBLY)**

(a) Reconnect the R40 battery ECU assembly connector.

(b) Disconnect the K106 No. 5 global CAN junction connector.

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

Standard Resistance:

EWD INFO

Click Location & Routing(K106)
Click Connector(K106)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K106-4 (CANH) - K106-8 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	108 to 132 Ω

NG ▶ **REPAIR OR REPLACE CAN MAIN BUS LINES OR CONNECTOR (NO. 5 GLOBAL CAN JUNCTION CONNECTOR - BATTERY ECU ASSEMBLY)**

OK ▼

45.	**CHECK FOR OPEN IN CAN MAIN BUS LINES (NO. 5 GLOBAL CAN JUNCTION CONNECTOR - INVERTER WITH CONVERTER ASSEMBLY)**

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

Standard Resistance:

EWD INFO

Click Location & Routing(K106)
Click Connector(K106)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K106-3 (CANH) - K106-7 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	108 to 132 Ω

OK ▶ **REPLACE NO. 5 GLOBAL CAN JUNCTION CONNECTOR**

NG ▼

46.	**CHECK FOR OPEN IN CAN MAIN BUS LINES (INVERTER WITH CONVERTER ASSEMBLY - NO. 5 GLOBAL CAN JUNCTION CONNECTOR)**

(a) Reconnect the K106 No. 5 global CAN junction connector.

(b) Disconnect the A88 inverter with converter assembly connector.

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

Standard Resistance:

EWD INFO

Click Location & Routing(A88)
Click Connector(A88)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A88-13 (CADH) - A88-14 (CADL)	Cable disconnected from negative (-) auxiliary battery terminal	108 to 132 Ω

NG ▶ **REPAIR OR REPLACE CAN MAIN BUS LINES OR CONNECTOR (INVERTER WITH CONVERTER ASSEMBLY - NO. 5 GLOBAL CAN JUNCTION CONNECTOR)**

OK ▼

47.	**CHECK FOR OPEN IN CAN MAIN BUS LINES (INVERTER WITH CONVERTER ASSEMBLY - ECM)**

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

Standard Resistance:

EWD INFO

Click Location & Routing(A88)
Click Connector(A88)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A88-5 (CANH) - A88-6 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	108 to 132 Ω

OK ▶ **REPLACE INVERTER WITH CONVERTER ASSEMBLY**

NG

48.	**CHECK VEHICLE TYPE**

(a) Check vehicle type.

RESULT	PROCEED TO
for M20A-FXS	A
for 2ZR-FXE	B

B **GO TO STEP 50**

A

49.	**CHECK FOR OPEN IN CAN MAIN BUS LINES (ECM)**

(a) Reconnect the A88 inverter with converter assembly connector.

(b) Disconnect the A92 ECM connector.

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

Standard Resistance:

EWD INFO

Click Location & Routing(A92)
Click Connector(A92)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A92-7 (CFDH) - A92-8 (CFDL)	Cable disconnected from negative (-) auxiliary battery terminal	108 to 132 Ω

OK **REPLACE ECM**

Click here INFO

NG **REPAIR OR REPLACE CAN MAIN BUS LINES OR CONNECTOR (ECM - HYBRID MOTOR CONTROL INVERTER ASSEMBLY)**

50.	**CHECK FOR OPEN IN CAN MAIN BUS LINES (ECM)**

(a) Reconnect the A88 inverter with converter assembly connector.

(b) Disconnect the A91 ECM connector.

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

Standard Resistance:

Click Location & Routing(A91)
Click Connector(A91)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A91-9 (CFDH) - A91-10 (CFDL)	Cable disconnected from negative (-) auxiliary battery terminal	108 to 132 Ω

OK ▶ **REPLACE ECM**

NG ▶ **REPAIR OR REPLACE CAN MAIN BUS LINES OR CONNECTOR (ECM - HYBRID MOTOR CONTROL INVERTER ASSEMBLY)**