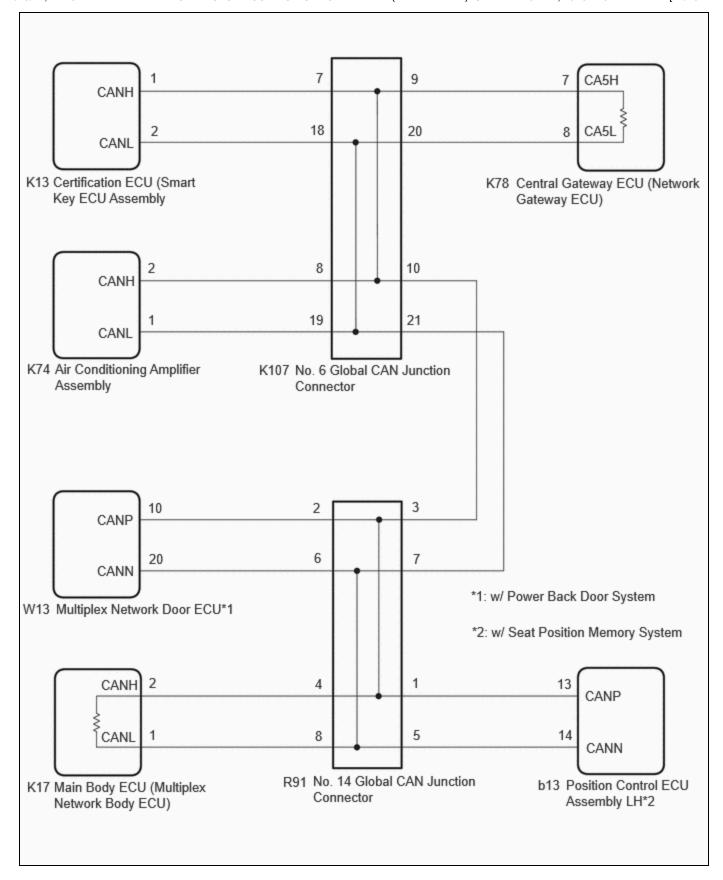
Last Modified: 12-04-2024	6.11:8.1.0	<b>Doc ID:</b> RM100000029BAH
Model Year Start: 2023	del Year Start: 2023 Model: Prius Prod Date Range: [12/2022 - ]	
Title: NETWORKING: CAN COMMUNICATION SYSTEM (for HEV Model): Check Bus 5 Line; 2023 - 2024 MY Prius		
[12/2022 - ]		

**Check Bus 5 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) Air conditioning amplifier assembly Position control ECU assembly LH (w/ Seat Position Memory System) Certification ECU (smart key ECU assembly) Multiplex network door ECU (w/ Power Back Door System) Main body ECU (multiplex network body ECU) No. 6 global CAN junction connector No. 14 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

- 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 NFO

• 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 NFO

• Some parts must be initialized and set when replacing or removing and installing parts.

Click here

• 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 NFO

• Before replacing the main body ECU (multiplex network body ECU) or certification ECU (smart key ECU assembly), refer to Registration.

Click here NFO

#### HINT:

1.

- 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**

### CHECK FOR OPEN IN CAN MAIN BUS LINES

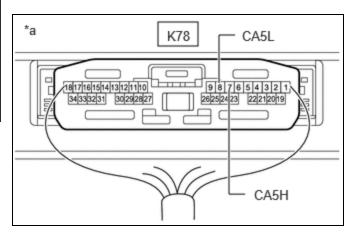
- (a) Disconnect the cable from the negative (-) auxiliary battery terminal.
- (b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



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

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K78-7 (CA5H) - K78-8 (CA5L)	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 53



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

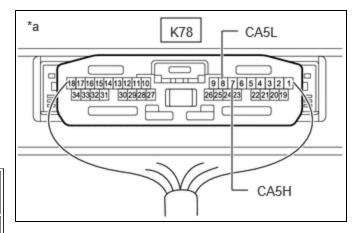
(a) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



### <u>Click Location & Routing(K78)</u> <u>Click Connector(K78)</u>

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K78-7 (CA5H) - K78-8 (CA5L)	Cable disconnected from negative (-) auxiliary battery terminal	54 Ω or higher



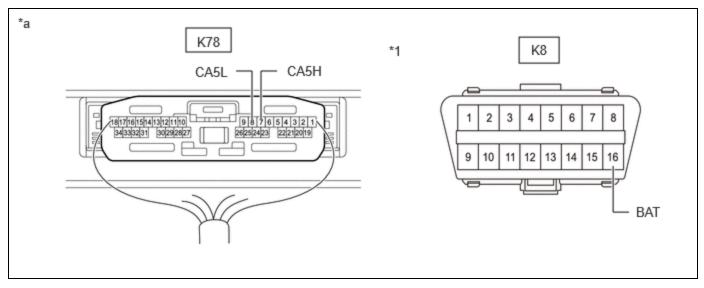
\*a (Central Gateway ECU (Network Gateway ECU))

NG GO TO STEP 37



### 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:



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

**Click Connector(K8)** 

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K78-7 (CA5H) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery	6 kO or higher
K78-8 (CA5L) - K8-16 (BAT)	terminal	$6~k\Omega$ or higher

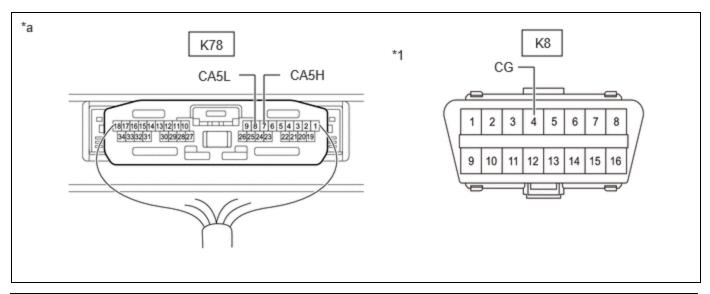
NG GO TO STEP 21



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:



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

**Click Connector(K8)** 

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K78-7 (CA5H) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery terminal	200 Ω or higher
K78-8 (CA5L) - K8-4 (CG)		

OK REPLACE CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU)



5. CHECK FOR SHORT TO GND IN CAN BUS LINE (NO. 6 GLOBAL CAN JUNCTION CONNECTOR - CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU))

- (a) Disconnect the K107 No. 6 global CAN junction connector.
- (b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



Click Location & Routing(K107,K8)
Click Connector(K107)

**Click Connector(K8)** 

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K107-9 (CANH) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery	
K107-20 (CANL) - K8-4 (CG)	terminal	$200~\Omega$ or higher

NG GO TO STEP 9



6.

- CHECK FOR SHORT TO GND IN CAN BUS LINE (NO. 6 GLOBAL CAN JUNCTION CONNECTOR NO. 14 GLOBAL CAN JUNCTION CONNECTOR)
- (a) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



Click Location & Routing(K107,K8)

**Click Connector(K107)** 

**Click Connector(K8)** 

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K107-10 (CANH) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery	200 O or higher
K107-21 (CANL) - K8-4 (CG)	terminal	200 Ω or higher

NG GO TO STEP 12



7. CHECK FOR SHORT TO GND IN CAN BUS LINE (NO. 6 GLOBAL CAN JUNCTION CONNECTOR - AIR CONDITIONING AMPLIFIER ASSEMBLY)

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

Standard Resistance:



Click Connector(K107)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K107-8 (CANH) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery	
K107-19 (CANL) - K8-4 (CG)	terminal	200 $\Omega$ or higher

NG GO TO STEP 10



8.

- CHECK FOR SHORT TO GND IN CAN BUS LINE (NO. 6 GLOBAL CAN JUNCTION CONNECTOR CERTIFICATION ECU (SMART KEY ECU ASSEMBLY))
- (a) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



Click Location & Routing(K107,K8)
Click Connector(K107)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K107-7 (CANH) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery	
K107-18 (CANL) - K8-4 (CG)	terminal	200 $\Omega$ or higher

### NG GO TO STEP 11

- 9. CHECK FOR SHORT TO GND IN CAN BUS LINE (NO. 6 GLOBAL CAN JUNCTION CONNECTOR 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(K107,K8)
Click Connector(K107)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K107-9 (CANH) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery	
K107-20 (CANL) - K8-4 (CG)	terminal	200 $\Omega$ or higher

- OK REPLACE CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU)
- NG REPAIR OR REPLACE CAN MAIN BUS LINE OR CONNECTOR (NO. 6 GLOBAL CAN JUNCTION CONNECTOR CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU))
- 10. CHECK FOR SHORT TO GND IN CAN BUS LINE (NO. 6 GLOBAL CAN JUNCTION CONNECTOR AIR CONDITIONING AMPLIFIER ASSEMBLY)
- (a) Disconnect the K74 air conditioning amplifier assembly connector.
- (b) Measure the resistance according to the value(s) in the table below. Standard Resistance:
- **EWD INFO**

Click Location & Routing(K107,K8)
Click Connector(K107)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K107-8 (CANH) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery	
K107-19 (CANL) - K8-4 (CG)	terminal	200 $\Omega$ or higher

- **OK** REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY
- NG REPAIR OR REPLACE CAN BRANCH LINE OR CONNECTOR (NO. 6 GLOBAL CAN JUNCTION CONNECTOR AIR CONDITIONING AMPLIFIER ASSEMBLY)
- 11. CHECK FOR SHORT TO GND IN CAN BUS LINE (NO. 6 GLOBAL CAN JUNCTION CONNECTOR CERTIFICATION ECU (SMART KEY ECU ASSEMBLY))
- (a) Disconnect the K13 certification ECU (smart key ECU assembly) connector.
- (b) Measure the resistance according to the value(s) in the table below.

  Standard Resistance:



Click Location & Routing(K107,K8)
Click Connector(K107)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K107-7 (CANH) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery	
K107-18 (CANL) - K8-4 (CG)	terminal	$200~\Omega$ or higher

OK REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

Click here NFO

NG REPAIR OR REPLACE CAN BRANCH LINE OR CONNECTOR (NO. 6 GLOBAL CAN JUNCTION CONNECTOR - CERTIFICATION ECU (SMART KEY ECU ASSEMBLY))

12. CHECK FOR SHORT TO GND IN CAN BUS LINE (NO. 14 GLOBAL CAN JUNCTION CONNECTOR - NO. 6 GLOBAL CAN JUNCTION CONNECTOR)

- (a) Disconnect the R91 No. 14 global CAN junction connector.
- (b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



Click Location & Routing(R91,K8)

Click Connector(R91)

**Click Connector(K8)** 

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R91-3 (CANH) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery terminal	200 Ω or higher
R91-7 (CANL) - K8-4 (CG)	9911111191	

NG REPAIR OR REPLACE CAN MAIN BUS LINE OR CONNECTOR (NO. 14 GLOBAL CAN JUNCTION CONNECTOR - NO. 6 GLOBAL CAN JUNCTION CONNECTOR)



13. CHECK FOR SHORT TO GND IN CAN BUS LINE (NO. 14 GLOBAL CAN JUNCTION CONNECTOR - MAIN BODY ECU (MULTIPLEX NETWORK BODY ECU))

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

Standard Resistance:



Click Location & Routing(R91,K8)

Click Connector(R91)

**Click Connector(K8)** 

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R91-4 (CANH) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery terminal	200 $\Omega$ or higher
R91-8 (CANL) - K8-4 (CG)		

NG GO TO STEP 18



( VEHICLE TYPE
----------------

(a) Check vehicle type.

RESULT	PROCEED TO
w/ Seat Position Memory System	А
w/o Seat Position Memory System	В

B GO TO STEP 16



**15**.

CHECK FOR SHORT TO GND IN CAN BUS LINE (NO. 14 GLOBAL CAN JUNCTION CONNECTOR - POSITION CONTROL ECU ASSEMBLY LH)

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

Standard Resistance:



Click Location & Routing(R91,K8)
Click Connector(R91)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R91-1 (CANH) - K8-4 (CG) R91-5 (CANL) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery terminal	200 Ω or higher

NG GO TO STEP 19



## 16. CHECK VEHICLE TYPE

(a) Check vehicle type.

RESULT	PROCEED TO
w/ Power Back Door System	А
w/o Power Back Door System	В

B > REPLACE NO. 14 GLOBAL CAN JUNCTION CONNECTOR



- 17. CHECK FOR SHORT TO GND IN CAN BUS LINE (NO. 14 GLOBAL CAN JUNCTION CONNECTOR MULTIPLEX NETWORK DOOR ECU)
- (a) Measure the resistance according to the value(s) in the table below. Standard Resistance:



Click Location & Routing(R91,K8)
Click Connector(R91)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R91-2 (CANH) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery terminal	200 $\Omega$ or higher
R91-6 (CANL) - K8-4 (CG)		

OK > REPLACE NO. 14 GLOBAL CAN JUNCTION CONNECTOR

NG GO TO STEP 20

18. CHECK FOR SHORT TO GND IN CAN BUS LINE (NO. 14 GLOBAL CAN JUNCTION CONNECTOR - MAIN BODY ECU (MULTIPLEX NETWORK BODY ECU))

(a) Disconnect the K17 main body ECU (multiplex network body ECU) connector.

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

Standard Resistance:



Click Location & Routing(R91,K8)
Click Connector(R91)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R91-4 (CANH) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery terminal	200 Ω or higher
R91-8 (CANL) - K8-4 (CG)	99.1	

OK REPLACE MAIN BODY ECU (MULTIPLEX NETWORK BODY ECU)

Click here

NG REPAIR OR REPLACE CAN MAIN BUS LINE OR CONNECTOR (NO. 14 GLOBAL CAN JUNCTION CONNECTOR - MAIN BODY ECU (MULTIPLEX NETWORK BODY ECU))

19. CHECK FOR SHORT TO GND IN CAN BUS LINE (NO. 14 GLOBAL CAN JUNCTION CONNECTOR - POSITION CONTROL ECU ASSEMBLY LH)

- (a) Disconnect the b13 position control ECU assembly LH connector.
- (b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



Click Location & Routing(R91,K8)
Click Connector(R91)

**Click Connector(K8)** 

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R91-1 (CANH) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery terminal	200 $\Omega$ or higher
R91-5 (CANL) - K8-4 (CG)		

OK > REPLACE POSITION CONTROL ECU ASSEMBLY LH

Click here

20.

CHECK FOR SHORT TO GND IN CAN BUS LINE (NO. 14 GLOBAL CAN JUNCTION CONNECTOR - MULTIPLEX NETWORK DOOR ECU)

- (a) Disconnect the W13 multiplex network door ECU connector.
- (b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



Click Location & Routing(R91,K8)
Click Connector(R91)

**Click Connector(K8)** 

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R91-2 (CANH) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery terminal	200 Ω or higher
R91-6 (CANL) - K8-4 (CG)	99.1	



NG REPAIR OR REPLACE CAN BRANCH LINE OR CONNECTOR (NO. 14 GLOBAL CAN JUNCTION CONNECTOR - MULTIPLEX NETWORK DOOR ECU)

21.

CHECK FOR SHORT TO +B IN CAN BUS LINE (NO. 6 GLOBAL CAN JUNCTION CONNECTOR - CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU))

- (a) Disconnect the K107 No. 6 global CAN junction connector.
- (b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



Click Location & Routing(K107,K8)
Click Connector(K107)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K107-9 (CANH) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery	C I/O on highor
K107-20 (CANL) - K8-16 (BAT)	terminal	6 kΩ or higher

NG GO TO STEP 25



22. CHECK FOR SHORT TO +B IN CAN BUS LINE (NO. 6 GLOBAL CAN JUNCTION CONNECTOR)

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

Standard Resistance:



Click Location & Routing(K107,K8)

Click Connector(K107)

**Click Connector(K8)** 

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K107-10 (CANH) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery	6 kO or higher
K107-21 (CANL) - K8-16 (BAT)	terminal	6 kΩ or higher

NG GO TO STEP 28



23.

CHECK FOR SHORT TO +B IN CAN BUS LINE (NO. 6 GLOBAL CAN JUNCTION CONNECTOR - AIR CONDITIONING AMPLIFIER ASSEMBLY)

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

Standard Resistance:





Click Location & Routing(K107,K8)
Click Connector(K107)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K107-8 (CANH) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery	6 kO or higher
K107-19 (CANL) - K8-16 (BAT)	terminal	6 kΩ or higher

NG GO TO STEP 26



24. CHECK FOR SHORT TO +B IN CAN BUS LINE (NO. 6 GLOBAL CAN JUNCTION CONNECTOR - CERTIFICATION ECU (SMART KEY ECU ASSEMBLY))

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

Standard Resistance:



Click Location & Routing(K107,K8)

**Click Connector(K107)** 

**Click Connector(K8)** 

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K107-7 (CANH) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery	6 kΩ or higher
K107-18 (CANL) - K8-16 (BAT)	terminal	o ksz or migner

**OK** REPLACE NO. 6 GLOBAL CAN JUNCTION CONNECTOR

NG GO TO STEP 27

25. CHECK FOR SHORT TO +B IN CAN BUS LINE (NO. 6 GLOBAL CAN JUNCTION CONNECTOR - 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.

**EWD INFO** 

Click Location & Routing(K107,K8)
Click Connector(K107)

Standard Resistance:

**Click Connector(K8)** 

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K107-9 (CANH) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery	$6$ k $\Omega$ or higher
K107-20 (CANL) - K8-16 (BAT)	terminal	o ksz or migner

OK REPLACE CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU)

NG REPAIR OR REPLACE CAN MAIN BUS LINE OR CONNECTOR (NO. 6 GLOBAL CAN JUNCTION CONNECTOR - CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU))

26. CHECK FOR SHORT TO +B IN CAN BUS LINE (NO. 6 GLOBAL CAN JUNCTION CONNECTOR - AIR CONDITIONING AMPLIFIER ASSEMBLY)

- (a) Disconnect the K74 air conditioning amplifier assembly connector.
- (b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

**EWD INFO** 

Click Location & Routing(K107,K8)
Click Connector(K107)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K107-8 (CANH) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery	6 kΩ or higher
K107-19 (CANL) - K8-16 (BAT)	terminal	O K32 Of Hilgher

OK REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY

- 27. CHECK FOR SHORT TO +B IN CAN BUS LINE (NO. 6 GLOBAL CAN JUNCTION CONNECTOR CERTIFICATION ECU (SMART KEY ECU ASSEMBLY))
- (a) Disconnect the K13 certification ECU (smart key ECU assembly) connector.
- (b) Measure the resistance according to the value(s) in the table below.

  Standard Resistance:



<u>Click Location & Routing(K107,K8)</u> <u>Click Connector(K107)</u>

**Click Connector(K8)** 

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K107-7 (CANH) - K8-16 (BAT) K107-18 (CANL) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery terminal	6 kΩ or higher

OK REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

Click here NFO

NG REPAIR OR REPLACE CAN BRANCH LINE OR CONNECTOR (NO. 6 GLOBAL CAN JUNCTION CONNECTOR - CERTIFICATION ECU (SMART KEY ECU ASSEMBLY))

28. CHECK FOR SHORT TO +B IN CAN BUS LINE (NO. 14 GLOBAL CAN JUNCTION CONNECTOR)

- (a) Disconnect the R91 No. 14 global CAN junction connector.
- (b) Measure the resistance according to the value(s) in the table below. Standard Resistance:



Click Location & Routing(R91,K8)

Click Connector(R91)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R91-3 (CANH) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery	6 kO or higher
R91-7 (CANL) - K8-16 (BAT)	terminal	6 kΩ or higher

NG REPAIR OR REPLACE CAN MAIN BUS LINE OR CONNECTOR (NO. 14 GLOBAL CAN JUNCTION CONNECTOR - NO. 6 GLOBAL CAN JUNCTION CONNECTOR)



29. CHECK FOR SHORT TO +B IN CAN BUS LINE (NO. 14 GLOBAL CAN JUNCTION CONNECTOR - MAIN BODY ECU (MULTIPLEX NETWORK BODY ECU))

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

Standard Resistance:



Click Location & Routing(R91,K8)

Click Connector(R91)

**Click Connector(K8)** 

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R91-4 (CANH) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery	6 kΩ or higher
R91-8 (CANL) - K8-16 (BAT)	terminal	6 KSZ OF HIGHEF

NG GO TO STEP 34



### 30. CHECK VEHICLE TYPE

(a) Check vehicle type.

RESULT	PROCEED TO
w/ Seat Position Memory System	А
w/o Seat Position Memory System	В

B GO TO STEP 32



31. CHECK FOR SHORT TO +B IN CAN BUS LINE (NO. 14 GLOBAL CAN JUNCTION CONNECTOR - POSITION CONTROL ECU ASSEMBLY LH)

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

Standard Resistance:



Click Location & Routing(R91,K8)

**Click Connector(R91)** 

**Click Connector(K8)** 

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R91-1 (CANH) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery	6 kO or higher
R91-5 (CANL) - K8-16 (BAT)	terminal	6 kΩ or higher

NG GO TO STEP 35



32. CHECK VEHICLE TYPE

(a) Check vehicle type.

RESULT	PROCEED TO
w/ Power Back Door System	А
w/o Power Back Door System	В

B > REPLACE NO. 14 GLOBAL CAN JUNCTION CONNECTOR



- CHECK FOR SHORT TO +B IN CAN BUS LINE (NO. 14 GLOBAL CAN JUNCTION CONNECTOR MULTIPLEX NETWORK DOOR ECU)
- (a) Measure the resistance according to the value(s) in the table below.

  Standard Resistance:



Click Location & Routing(R91,K8)
Click Connector(R91)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R91-2 (CANH) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery	6 kO or higher
R91-6 (CANL) - K8-16 (BAT)	terminal	6 kΩ or higher

OK REPLACE NO. 14 GLOBAL CAN JUNCTION CONNECTOR

NG GO TO STEP 36

- CHECK FOR SHORT TO +B IN CAN BUS LINE (NO. 14 GLOBAL CAN JUNCTION CONNECTOR MAIN BODY ECU (MULTIPLEX NETWORK BODY ECU))
- (a) Disconnect the K17 main body ECU (multiplex network body ECU) connector.
- (b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



Click Location & Routing(R91,K8)
Click Connector(R91)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R91-4 (CANH) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery	6 kO or higher
R91-8 (CANL) - K8-16 (BAT)	terminal	6 kΩ or higher

OK REPLACE MAIN BODY ECU (MULTIPLEX NETWORK BODY ECU)

Click here

NG REPAIR OR REPLACE CAN MAIN BUS LINE OR CONNECTOR (NO. 14 GLOBAL CAN JUNCTION CONNECTOR - MAIN BODY ECU (MULTIPLEX NETWORK BODY ECU))

35. CHECK FOR SHORT TO +B IN CAN BUS LINE (NO. 14 GLOBAL CAN JUNCTION CONNECTOR - POSITION CONTROL ECU ASSEMBLY LH)

- (a) Disconnect the b13 position control ECU assembly LH connector.
- (b) Measure the resistance according to the value(s) in the table below. Standard Resistance:

### **EWD INFO**

Click Location & Routing(R91,K8)
Click Connector(R91)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R91-1 (CANH) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery	6 kO or higher
R91-5 (CANL) - K8-16 (BAT)	terminal	$6$ k $\Omega$ or higher

OK REPLACE POSITION CONTROL ECU ASSEMBLY LH

Click here

36.

CHECK FOR SHORT TO +B IN CAN BUS LINE (NO. 14 GLOBAL CAN JUNCTION CONNECTOR - MULTIPLEX NETWORK DOOR ECU)

- (a) Disconnect the W13 multiplex network door ECU connector.
- (b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



Click Location & Routing(R91,K8)

**Click Connector(R91)** 

**Click Connector(K8)** 

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R91-2 (CANH) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery	6 kO or higher
R91-6 (CANL) - K8-16 (BAT)	terminal	6 kΩ or higher

**OK** REPLACE MULTIPLEX NETWORK DOOR ECU

NG REPAIR OR REPLACE CAN BRANCH LINE OR CONNECTOR (NO. 14 GLOBAL CAN JUNCTION CONNECTOR - MULTIPLEX NETWORK DOOR ECU)

37.

CHECK FOR SHORT IN CAN BUS LINES (NO. 6 GLOBAL CAN JUNCTION CONNECTOR - CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU))

- (a) Disconnect the K107 No. 6 global CAN junction connector.
- (b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



Click Location & Routing(K107)
Click Connector(K107)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K107-9 (CANH) - K107-20 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	108 to 132 Ω

NG GO TO STEP 41



38. CHECK FOR SHORT IN CAN BUS LINES (NO. 6 GLOBAL CAN JUNCTION CONNECTOR - NO. 14 GLOBAL CAN JUNCTION CONNECTOR)

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

Standard Resistance:



Click Location & Routing(K107)
Click Connector(K107)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K107-10 (CANH) - K107-21 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	108 to 132 Ω

NG GO TO STEP 44



39. CHECK FOR SHORT IN CAN BUS LINES (NO. 6 GLOBAL CAN JUNCTION CONNECTOR - AIR CONDITIONING AMPLIFIER ASSEMBLY)

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

Standard Resistance:



<u>Click Location & Routing(K107)</u> <u>Click Connector(K107)</u>

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K107-8 (CANH) - K107-19 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	200 Ω or higher

NG GO TO STEP 42



40. CHECK FOR SHORT IN CAN BUS LINES (NO. 6 GLOBAL CAN JUNCTION CONNECTOR - CERTIFICATION ECU (SMART KEY ECU ASSEMBLY))

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

Standard Resistance:



Click Location & Routing(K107)
Click Connector(K107)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K107-7 (CANH) - K107-18 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	200 Ω or higher

**OK** REPLACE NO. 6 GLOBAL CAN JUNCTION CONNECTOR

NG GO TO STEP 43

- CHECK FOR SHORT IN CAN BUS LINES (NO. 6 GLOBAL CAN JUNCTION CONNECTOR 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:



<u>Click Location & Routing(K107)</u> <u>Click Connector(K107)</u>

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K107-9 (CANH) - K107-20 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	$1~\text{M}\Omega$ or higher

- OK REPLACE CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU)
- NG REPAIR OR REPLACE CAN MAIN BUS LINES OR CONNECTOR (NO. 6 GLOBAL CAN JUNCTION CONNECTOR CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU))
- 42. CHECK FOR SHORT IN CAN BUS LINES (NO. 6 GLOBAL CAN JUNCTION CONNECTOR AIR CONDITIONING AMPLIFIER ASSEMBLY)
- (a) Disconnect the K74 air conditioning amplifier assembly connector.
- (b) Measure the resistance according to the value(s) in the table below.

  Standard Resistance:



Click Location & Routing(K107)
Click Connector(K107)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K107-8 (CANH) - K107-19 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	$1~ ext{M}\Omega$ or higher

**OK** REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY

NG REPAIR OR REPLACE CAN BRANCH LINES OR CONNECTOR (NO. 6 GLOBAL CAN JUNCTION CONNECTOR - AIR CONDITIONING AMPLIFIER ASSEMBLY)

- 43. CHECK FOR SHORT IN CAN BUS LINES (NO. 6 GLOBAL CAN JUNCTION CONNECTOR CERTIFICATION ECU (SMART KEY ECU ASSEMBLY))
- (a) Disconnect the K13 certification ECU (smart key ECU assembly) connector.
- (b) Measure the resistance according to the value(s) in the table below.

  Standard Resistance:



### Click Location & Routing(K107) Click Connector(K107)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K107-7 (CANH) - K107-18 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	1 M $\Omega$ or higher

OK REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

Click here NFO

NG REPAIR OR REPLACE CAN BRANCH LINES OR CONNECTOR (NO. 6 GLOBAL CAN JUNCTION CONNECTOR - CERTIFICATION ECU (SMART KEY ECU ASSEMBLY))

44. CHECK FOR SHORT IN CAN BUS LINES (NO. 14 GLOBAL CAN JUNCTION CONNECTOR - NO. 6 GLOBAL CAN JUNCTION CONNECTOR)

- (a) Reconnect the K107 No. 6 global CAN junction connector.
- (b) Disconnect the R91 No. 14 global CAN junction connector.
- (c) Measure the resistance according to the value(s) in the table below.

  Standard Resistance:



### <u>Click Location & Routing(R91)</u> <u>Click Connector(R91)</u>

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R91-3 (CANH) - R91-7 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	108 to 132 Ω

NG REPAIR OR REPLACE CAN MAIN BUS LINES OR CONNECTOR (NO. 14 GLOBAL CAN JUNCTION CONNECTOR - NO. 6 GLOBAL CAN JUNCTION CONNECTOR)



45.

## CHECK FOR SHORT IN CAN BUS LINES (NO. 14 GLOBAL CAN JUNCTION CONNECTOR - MAIN BODY ECU (MULTIPLEX NETWORK BODY ECU))

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

Standard Resistance:



<u>Click Location & Routing(R91)</u> <u>Click Connector(R91)</u>

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R91-4 (CANH) - R91-8 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	108 to 132 Ω

NG GO TO STEP 50



46. CHECK VEHICLE TYPE

(a) Check vehicle type.

RESULT	PROCEED TO
w/ Seat Position Memory System	A
w/o Seat Position Memory System	В

B GO TO STEP 48



47.

CHECK FOR SHORT IN CAN BUS LINES (NO. 14 GLOBAL CAN JUNCTION CONNECTOR - POSITION CONTROL ECU ASSEMBLY LH)

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

Standard Resistance:



#### <u>Click Location & Routing(R91)</u> <u>Click Connector(R91)</u>

R91-1 (CANH) - R91-5	Cable disconnected from negative (-) auxiliary battery	CONDITION
(CANL)	terminal	200 Ω or higher

NG GO TO STEP 51



48.	CHECK VEHICLE TYPE	
-----	--------------------	--

(a) Check vehicle type.

RESULT	PROCEED TO
w/ Power Back Door System	А
w/o Power Back Door System	В

**B** REPLACE NO. 14 GLOBAL CAN JUNCTION CONNECTOR



49.

CHECK FOR SHORT IN CAN BUS LINES (NO. 14 GLOBAL CAN JUNCTION CONNECTOR - MULTIPLEX NETWORK DOOR ECU)

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

Standard Resistance:



Click Location & Routing(R91)
Click Connector(R91)

12/15/24, 11:25 AM

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R91-2 (CANH) - R91-6 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	200 Ω or higher

**OK** REPLACE NO. 14 GLOBAL CAN JUNCTION CONNECTOR

NG GO TO STEP 52

- 50. CHECK FOR SHORT IN CAN BUS LINES (NO. 14 GLOBAL CAN JUNCTION CONNECTOR MAIN BODY ECU (MULTIPLEX NETWORK BODY ECU))
- (a) Disconnect the K17 main body ECU (multiplex network body ECU) connector.
- (b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



<u>Click Location & Routing(R91)</u> <u>Click Connector(R91)</u>

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R91-4 (CANH) - R91-8 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	$1~\text{M}\Omega$ or higher

OK REPLACE MAIN BODY ECU (MULTIPLEX NETWORK BODY ECU)

Click here NFO

NG REPAIR OR REPLACE CAN MAIN BUS LINES OR CONNECTOR (NO. 14 GLOBAL CAN JUNCTION CONNECTOR - MAIN BODY ECU (MULTIPLEX NETWORK BODY ECU))

- 51. CHECK FOR SHORT IN CAN BUS LINES (NO. 14 GLOBAL CAN JUNCTION CONNECTOR POSITION CONTROL ECU ASSEMBLY LH)
- (a) Disconnect the b13 position control ECU assembly LH connector.
- (b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:





#### <u>Click Location & Routing(R91)</u> <u>Click Connector(R91)</u>

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R91-1 (CANH) - R91-5 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	$1~\text{M}\Omega$ or higher

OK > REPLACE POSITION CONTROL ECU ASSEMBLY LH

Click here

NG REPAIR OR REPLACE CAN BRANCH LINES OR CONNECTOR (NO. 14 GLOBAL CAN JUNCTION CONNECTOR - POSITION CONTROL ECU ASSEMBLY LH)

- 52. CHECK FOR SHORT IN CAN BUS LINES (NO. 14 GLOBAL CAN JUNCTION CONNECTOR MULTIPLEX NETWORK DOOR ECU)
- (a) Disconnect the W13 multiplex network door ECU connector.
- (b) Measure the resistance according to the value(s) in the table below. Standard Resistance:

EWD INFO

# Click Location & Routing(R91) Click Connector(R91)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R91-2 (CANH) - R91-6 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	$1~{ m M}\Omega$ or higher

OK REPLACE MULTIPLEX NETWORK DOOR ECU

NG REPAIR OR REPLACE CAN BRANCH LINES OR CONNECTOR (NO. 14 GLOBAL CAN JUNCTION CONNECTOR - MULTIPLEX NETWORK DOOR ECU)

53. 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:



#### <u>Click Location & Routing(K78)</u> <u>Click Connector(K78)</u>

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K78-7 (CA5H) - K78-8 (CA5L)	Cable disconnected from negative (-) auxiliary battery terminal	108 to 132 Ω

OK REPLACE CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU)



- CHECK FOR OPEN IN CAN MAIN BUS LINES (NO. 6 GLOBAL CAN JUNCTION CONNECTOR CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU))
- (a) Reconnect the K78 central gateway ECU (network gateway ECU) connector.
- (b) Disconnect the K107 No. 6 global CAN junction connector.
- (c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



## Click Location & Routing(K107) Click Connector(K107)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K107-9 (CANH) - K107-20 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	108 to 132 Ω

NG REPAIR OR REPLACE CAN MAIN BUS LINES OR CONNECTOR (NO. 6 GLOBAL CAN JUNCTION CONNECTOR - CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU))



55. CHECK FOR OPEN IN CAN MAIN BUS LINES (NO. 6 GLOBAL CAN JUNCTION CONNECTOR - NO. 14 GLOBAL CAN JUNCTION CONNECTOR)

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

Standard Resistance:



Click Location & Routing(K107)
Click Connector(K107)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K107-10 (CANH) - K107-21 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	108 to 132 Ω

**OK** REPLACE NO. 6 GLOBAL CAN JUNCTION CONNECTOR



- 56. CHECK FOR OPEN IN CAN MAIN BUS LINES (NO. 14 GLOBAL CAN JUNCTION CONNECTOR)
- (a) Reconnect the K107 No. 6 global CAN junction connector.
- (b) Disconnect the R91 No. 14 global CAN junction connector.
- (c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



<u>Click Location & Routing(R91)</u> <u>Click Connector(R91)</u>

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R91-3 (CANH) - R91-7 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	108 to 132 Ω

NG REPAIR OR REPLACE CAN MAIN BUS LINES OR CONNECTOR (NO. 14 GLOBAL CAN JUNCTION

## **CONNECTOR - NO. 6 GLOBAL CAN JUNCTION CONNECTOR)**



**57.** 

CHECK FOR OPEN IN CAN MAIN BUS LINES (NO. 14 GLOBAL CAN JUNCTION CONNECTOR - MAIN BODY ECU (MULTIPLEX NETWORK BODY ECU))

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

Standard Resistance:



<u>Click Location & Routing(R91)</u> <u>Click Connector(R91)</u>

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R91-4 (CANH) - R91-8 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	108 to 132 Ω

**OK** REPLACE NO. 14 GLOBAL CAN JUNCTION CONNECTOR





**58.** 

CHECK FOR OPEN IN CAN MAIN BUS LINES (MAIN BODY ECU (MULTIPLEX NETWORK BODY ECU))

- (a) Reconnect the R91 No. 14 global CAN junction connector.
- (b) Disconnect the K17 main body ECU (multiplex network body ECU) connector.
- (c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



<u>Click Location & Routing(K17)</u> <u>Click Connector(K17)</u>

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K17-2 (CANH) - K17-1 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	108 to 132 Ω

OK REPLACE MAIN BODY ECU (MULTIPLEX NETWORK BODY ECU)

Click here

NG REPAIR OR REPLACE CAN MAIN BUS LINES OR CONNECTOR (MAIN BODY ECU (MULTIPLEX NETWORK BODY ECU) - NO. 14 GLOBAL CAN JUNCTION CONNECTOR)



