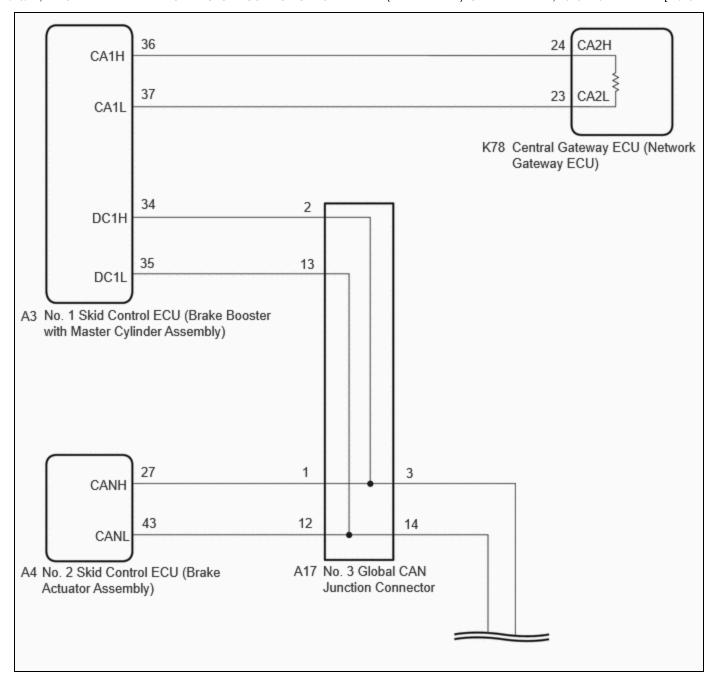
Last Modified: 12-04-2024	6.11:8.1.0	Doc ID: RM100000029BAG	
Model Year Start: 2023	Model: Prius	Prod Date Range: [12/2022 -]	
Title: NETWORKING: CAN COMMUNICATION SYSTEM (for HEV Model): Check Bus 4 Line; 2023 - 2024 MY Prius			
[12/2022 -]			

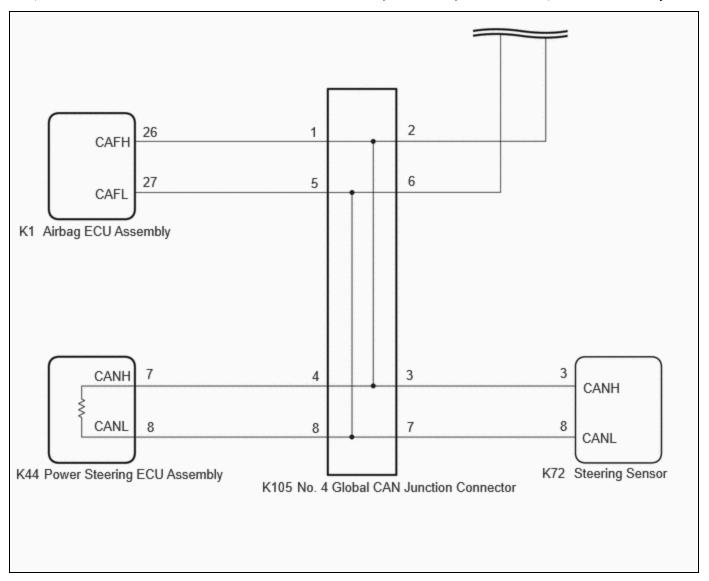
Check Bus 4 Line

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) Airbag ECU assembly No. 1 skid control ECU (brake booster with master cylinder assembly) No. 2 skid control ECU (brake actuator assembly) Steering sensor Power steering ECU assembly No. 3 global CAN junction connector No. 4 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 NFO

- 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

• 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

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

Click here NFO

• 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

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

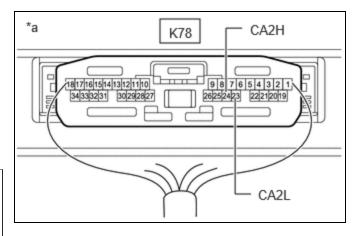
- (a) Disconnect the cable from the negative (-) auxiliary battery terminal.
- (b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



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

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K78-24 (CA2H) - K78-23 (CA2L)	Cable disconnected from negative (-) auxiliary battery terminal	Below 70 Ω



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

NG GO TO STEP 47



2.

CHECK FOR SHORT IN CAN BUS LINES

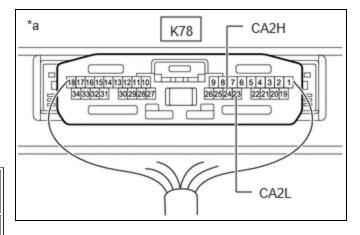
(a) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



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

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K78-24 (CA2H) - K78-23 (CA2L)	Cable disconnected from negative (-) auxiliary battery terminal	54 Ω or higher



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

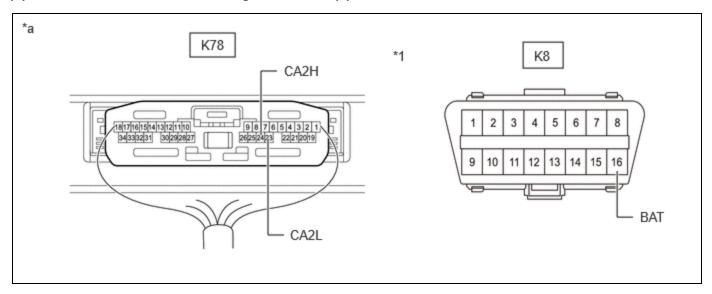
NG GO TO STEP 33



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	ı	-
*a	Component with harness connected	-	-

(Central Gateway ECU (Network	
Gateway ECU))	

Standard Resistance:



Click Location & Routing(K78,K8)

Click Connector(K78)

Click Connector(K8)

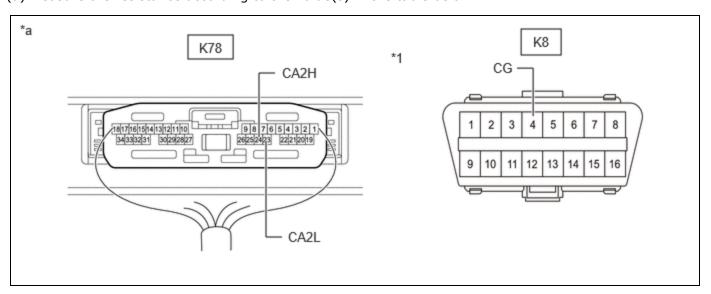
TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K78-24 (CA2H) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery	6 kO or higher
K78-23 (CA2L) - K8-16 (BAT)	terminal	6 kΩ or higher

NG GO TO STEP 19



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
K78-24 (CA2H) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery terminal	200 Ω or higher
K78-23 (CA2L) - K8-4 (CG)	99	

OK REPLACE CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU)



- CHECK FOR SHORT TO GND IN CAN BUS LINE (NO. 1 SKID CONTROL ECU (BRAKE BOOSTER WITH MASTER CYLINDER ASSEMBLY) CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU))
- (a) Disconnect the A3 No. 1 skid control ECU (brake booster with master cylinder assembly) connector.
- (b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



Click Location & Routing(A3,K8)

Click Connector(A3)

Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A3-36 (CA1H) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery terminal	$200~\Omega$ or higher
A3-37 (CA1L) - K8-4 (CG)	***************************************	

NG GO TO STEP 7



- 6. CHECK FOR SHORT TO GND IN CAN BUS LINE (NO. 1 SKID CONTROL ECU (BRAKE BOOSTER WITH MASTER CYLINDER ASSEMBLY) NO. 3 GLOBAL CAN JUNCTION CONNECTOR)
- (a) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



Click Location & Routing(A3,K8)

Click Connector(A3)

Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A3-34 (DC1H) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery	$200~\Omega$ or higher
A3-35 (DC1L) - K8-4 (CG)	55	

OK REPLACE NO. 1 SKID CONTROL ECU (BRAKE BOOSTER WITH MASTER CYLINDER ASSEMBLY)

Click here

NG GO TO STEP 8

- CHECK FOR SHORT TO GND IN CAN BUS LINE (NO. 1 SKID CONTROL ECU (BRAKE BOOSTER WITH MASTER CYLINDER 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:



Click Location & Routing(A3,K8)

Click Connector(A3)

Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A3-36 (CA1H) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery terminal	200 Ω or higher
A3-37 (CA1L) - K8-4 (CG)		

NG REPAIR OR REPLACE CAN MAIN BUS LINE OR
CONNECTOR (NO. 1 SKID CONTROL ECU (BRAKE
BOOSTER WITH MASTER CYLINDER ASSEMBLY) CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU))

- 8. CHECK FOR SHORT TO GND IN CAN BUS LINE (NO. 3 GLOBAL CAN JUNCTION CONNECTOR NO. 1 SKID CONTROL ECU (BRAKE BOOSTER WITH MASTER CYLINDER ASSEMBLY))
- (a) Disconnect the A17 No. 3 global CAN junction connector.
- (b) Measure the resistance according to the value(s) in the table below.

EWD INFO

Click Location & Routing(A17,K8)

Standard Resistance:

Click Connector(A17)

Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A17-2 (CANH) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery	
A17-13 (CANL) - K8-4 (CG)	terminal	200 Ω or higher

NG REPAIR OR REPLACE CAN MAIN BUS LINE OR CONNECTOR (NO. 3 GLOBAL CAN JUNCTION CONNECTOR - NO. 1 SKID CONTROL ECU (BRAKE BOOSTER WITH MASTER CYLINDER ASSEMBLY))



- 9. CHECK FOR SHORT TO GND IN CAN BUS LINE (NO. 3 GLOBAL CAN JUNCTION CONNECTOR)
- (a) Measure the resistance according to the value(s) in the table below. Standard Resistance:



Click Connector(A17)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A17-3 (CANH) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery	
A17-14 (CANL) - K8-4 (CG)	terminal	$200~\Omega$ or higher

NG GO TO STEP 12



10. CHECK FOR SHORT TO GND IN CAN BUS LINE (NO. 3 GLOBAL CAN JUNCTION CONNECTOR - NO. 2 SKID CONTROL ECU (BRAKE ACTUATOR ASSEMBLY))

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

Standard Resistance:



Click Location & Routing(A17,K8)

Click Connector(A17)

Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A17-1 (CANH) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery	
A17-12 (CANL) - K8-4 (CG)	terminal	200 Ω or higher

OK REPLACE NO. 3 GLOBAL CAN JUNCTION CONNECTOR



- 11. CHECK FOR SHORT TO GND IN CAN BUS LINE (NO. 3 GLOBAL CAN JUNCTION CONNECTOR NO. 2 SKID CONTROL ECU (BRAKE ACTUATOR ASSEMBLY))
- (a) Disconnect the A4 No. 2 skid control ECU (brake actuator assembly) connector.
- (b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



Click Location & Routing(A17,K8)
Click Connector(A17)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A17-1 (CANH) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery	
A17-12 (CANL) - K8-4 (CG)	terminal	200 Ω or higher

OK REPLACE NO. 2 SKID CONTROL ECU (BRAKE ACTUATOR ASSEMBLY)

Click here

NG REPAIR OR REPLACE CAN BRANCH LINE OR CONNECTOR (NO. 3 GLOBAL CAN JUNCTION CONNECTOR - NO. 2 SKID CONTROL ECU (BRAKE ACTUATOR ASSEMBLY))

- 12. CHECK FOR SHORT TO GND IN CAN BUS LINE (NO. 4 GLOBAL CAN JUNCTION CONNECTOR)
- (a) Disconnect the K105 No. 4 global CAN junction connector.
- (b) Measure the resistance according to the value(s) in the table below. Standard Resistance:

EWD INFO

Click Location & Routing(K105,K8)
Click Connector(K105)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K105-2 (CANH) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery	$200~\Omega$ or higher
K105-6 (CANL) - K8-4 (CG)	terminal	

NG REPAIR OR REPLACE CAN MAIN BUS LINE OR CONNECTOR (NO. 4 GLOBAL CAN JUNCTION CONNECTOR - NO. 3 GLOBAL CAN JUNCTION CONNECTOR)



13.

CHECK FOR SHORT TO GND IN CAN BUS LINE (NO. 4 GLOBAL CAN JUNCTION CONNECTOR - POWER STEERING ECU ASSEMBLY)

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

Standard Resistance:



Click Location & Routing(K105,K8)
Click Connector(K105)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K105-4 (CANH) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery terminal	$200~\Omega$ or higher
K105-8 (CANL) - K8-4 (CG)	99	







14.

CHECK FOR SHORT TO GND IN CAN BUS LINE (NO. 4 GLOBAL CAN JUNCTION CONNECTOR - AIRBAG ECU ASSEMBLY)

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

Standard Resistance:



Click Location & Routing (K105,K8)
Click Connector (K105)
Click Connector (K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K105-1 (CANH) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery terminal	$200~\Omega$ or higher
K105-5 (CANL) - K8-4 (CG)		



15. C

CHECK FOR SHORT TO GND IN CAN BUS LINE (NO. 4 GLOBAL CAN JUNCTION CONNECTOR - STEERING SENSOR)

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

Standard Resistance:



Click Location & Routing(K105,K8)
Click Connector(K105)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K105-3 (CANH) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery terminal	200 Ω or higher
K105-7 (CANL) - K8-4 (CG)	991111111911	

OK REPLACE NO. 4 GLOBAL CAN JUNCTION CONNECTOR

NG GO TO STEP 18

16.

CHECK FOR SHORT TO GND IN CAN BUS LINE (NO. 4 GLOBAL CAN JUNCTION CONNECTOR - POWER STEERING ECU ASSEMBLY)

- (a) Disconnect the K44 power steering ECU assembly connector.
- (b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



Click Location & Routing(K105,K8)
Click Connector(K105)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K105-4 (CANH) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery terminal	200 Ω or higher

12/15/24, 11:25 AM

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K105-8 (CANL) - K8-4 (CG)		

OK REPLACE POWER STEERING ECU ASSEMBLY

Click here

NG REPAIR OR REPLACE CAN MAIN BUS LINE OR CONNECTOR (NO. 4 GLOBAL CAN JUNCTION CONNECTOR - POWER STEERING ECU ASSEMBLY)

17. CHECK FOR SHORT TO GND IN CAN BUS LINE (NO. 4 GLOBAL CAN JUNCTION CONNECTOR - AIRBAG ECU ASSEMBLY)

- (a) Disconnect the K1 airbag ECU assembly connector.
- (b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



Click Connector(K105)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K105-1 (CANH) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery terminal	200 Ω or higher
K105-5 (CANL) - K8-4 (CG)	991111111911	

OK REPLACE AIRBAG ECU ASSEMBLY

Click here NFO

NG REPAIR OR REPLACE CAN BRANCH LINE OR CONNECTOR (NO. 4 GLOBAL CAN JUNCTION CONNECTOR - AIRBAG ECU ASSEMBLY)

18. CHECK FOR SHORT TO GND IN CAN BUS LINE (NO. 4 GLOBAL CAN JUNCTION CONNECTOR - STEERING SENSOR)

- (a) Disconnect the K72 steering sensor connector.
- (b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



Click Location & Routing (K105,K8)
Click Connector (K105)
Click Connector (K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K105-3 (CANH) - K8-4 (CG)	Cable disconnected from negative (-) auxiliary battery terminal	200 Ω or higher
K105-7 (CANL) - K8-4 (CG)	***************************************	

OK > REPLACE STEERING SENSOR

Click here

NG REPAIR OR REPLACE CAN BRANCH LINE OR CONNECTOR (NO. 4 GLOBAL CAN JUNCTION CONNECTOR - STEERING SENSOR)

CHECK FOR SHORT TO +B IN CAN BUS LINE (NO. 1 SKID CONTROL ECU (BRAKE 19. BOOSTER WITH MASTER CYLINDER ASSEMBLY) - CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU))

- (a) Disconnect the A3 No. 1 skid control ECU (brake booster with master cylinder assembly) connector.
- (b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

EWD INFO

Click Location & Routing(A3,K8)

Click Connector(A3)

Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A3-36 (CA1H) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery	6 k Ω or higher
A3-37 (CA1L) - K8-16 (BAT)	terminal	o ksz or nigner

NG GO TO STEP 21



20.

CHECK FOR SHORT TO +B IN CAN BUS LINE (NO. 1 SKID CONTROL ECU (BRAKE BOOSTER WITH MASTER CYLINDER ASSEMBLY) - NO. 3 GLOBAL CAN JUNCTION CONNECTOR)

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

Standard Resistance:



Click Location & Routing(A3,K8)

Click Connector(A3)

Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A3-34 (DC1H) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery	6 kΩ or higher
A3-35 (DC1L) - K8-16 (BAT)	terminal	o ksz or nigner

OK REPLACE NO. 1 SKID CONTROL ECU (BRAKE BOOSTER WITH MASTER CYLINDER ASSEMBLY)

Click here NFO

NG GO TO STEP 22

CHECK FOR SHORT TO +B IN CAN BUS LINE (NO. 1 SKID CONTROL ECU (BRAKE BOOSTER WITH MASTER CYLINDER 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:



Click Location & Routing(A3,K8)

Click Connector(A3)

Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A3-36 (CA1H) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery terminal	6 kΩ or higher

12/15/24, 11:25 AM

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A3-37 (CA1L) - K8-16 (BAT)		

- OK REPLACE CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU)
- NG REPAIR OR REPLACE CAN MAIN BUS LINE OR
 CONNECTOR (NO. 1 SKID CONTROL ECU (BRAKE
 BOOSTER WITH MASTER CYLINDER ASSEMBLY) CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU))
- 22. CHECK FOR SHORT TO +B IN CAN BUS LINE (NO. 3 GLOBAL CAN JUNCTION CONNECTOR NO. 1 SKID CONTROL ECU (BRAKE BOOSTER WITH MASTER CYLINDER ASSEMBLY))
- (a) Disconnect the A17 No. 3 global CAN junction connector.
- (b) Measure the resistance according to the value(s) in the table below. Standard Resistance:



Click Location & Routing(A17,K8)
Click Connector(A17)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A17-2 (CANH) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery	
A17-13 (CANL) - K8-16 (BAT)	terminal	6 kΩ or higher

NG REPAIR OR REPLACE CAN MAIN BUS LINE OR CONNECTOR (NO. 3 GLOBAL CAN JUNCTION CONNECTOR - NO. 1 SKID CONTROL ECU (BRAKE BOOSTER WITH MASTER CYLINDER ASSEMBLY))



23.

CHECK FOR SHORT TO +B IN CAN BUS LINE (NO. 3 GLOBAL CAN JUNCTION CONNECTOR - NO. 4 GLOBAL CAN JUNCTION CONNECTOR)

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

Standard Resistance:



<u>Click Location & Routing(A17,K8)</u> <u>Click Connector(A17)</u>

Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A17-3 (CANH) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery	
A17-14 (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. 3 GLOBAL CAN JUNCTION CONNECTOR - NO. 2 SKID CONTROL ECU (BRAKE ACTUATOR ASSEMBLY))

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

Standard Resistance:



Click Location & Routing(A17,K8)

Click Connector(A17)

Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A17-1 (CANH) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery	
A17-12 (CANL) - K8-16 (BAT)	terminal	6 kΩ or higher

OK REPLACE NO. 3 GLOBAL CAN JUNCTION CONNECTOR



25.

CHECK FOR SHORT TO +B IN CAN BUS LINE (NO. 3 GLOBAL CAN JUNCTION CONNECTOR - NO. 2 SKID CONTROL ECU (BRAKE ACTUATOR ASSEMBLY))

- (a) Disconnect the A4 No. 2 skid control ECU (brake actuator assembly) connector.
- (b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



Click Location & Routing(A17,K8)

Click Connector(A17)

Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A17-1 (CANH) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery	
A17-12 (CANL) - K8-16 (BAT)	terminal	6 kΩ or higher

OK REPLACE NO. 2 SKID CONTROL ECU (BRAKE ACTUATOR ASSEMBLY)

Click here NFO

NG REPAIR OR REPLACE CAN BRANCH LINE OR CONNECTOR (NO. 3 GLOBAL CAN JUNCTION CONNECTOR - NO. 2 SKID CONTROL ECU (BRAKE ACTUATOR ASSEMBLY))

26.

CHECK FOR SHORT TO +B IN CAN BUS LINE (NO. 4 GLOBAL CAN JUNCTION CONNECTOR - NO. 3 GLOBAL CAN JUNCTION CONNECTOR)

- (a) Disconnect the K105 No. 4 global CAN junction connector.
- (b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



Click Location & Routing(K105,K8)

Click Connector(K105)

Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K105-2 (CANH) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery terminal	6 kΩ or higher

12/15/24, 11:25 AM

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K105-6 (CANL) - K8-16 (BAT)		

NG REPAIR OR REPLACE CAN MAIN BUS LINE OR CONNECTOR (NO. 4 GLOBAL CAN JUNCTION CONNECTOR - NO. 3 GLOBAL CAN JUNCTION CONNECTOR)



27. CHECK FOR SHORT TO +B IN CAN BUS LINE (NO. 4 GLOBAL CAN JUNCTION CONNECTOR - POWER STEERING ECU ASSEMBLY)

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

Standard Resistance:



<u>Click Location & Routing(K105,K8)</u>

Click Connector(K105)

Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K105-4 (CANH) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery	6 kO or higher
K105-8 (CANL) - K8-16 (BAT)	terminal	6 kΩ or higher

NG GO TO STEP 30



28.

CHECK FOR SHORT TO +B IN CAN BUS LINE (NO. 4 GLOBAL CAN JUNCTION CONNECTOR - AIRBAG ECU ASSEMBLY)

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

Standard Resistance:





Click Location & Routing(K105,K8)
Click Connector(K105)
Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K105-1 (CANH) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery	6 k Ω or higher
K105-5 (CANL) - K8-16 (BAT)	terminal	6 KSZ OF HIGHER

NG GO TO STEP 31



29. CHECK FOR SHORT TO +B IN CAN BUS LINE (NO. 4 GLOBAL CAN JUNCTION CONNECTOR - STEERING SENSOR)

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

Standard Resistance:



Click Location & Routing(K105,K8)

Click Connector(K105)

Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K105-3 (CANH) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery	6 kΩ or higher
K105-7 (CANL) - K8-16 (BAT)	terminal	6 KSZ OF HIIGHEF

OK REPLACE NO. 4 GLOBAL CAN JUNCTION CONNECTOR

NG GO TO STEP 32

30. CHECK FOR SHORT TO +B IN CAN BUS LINE (NO. 4 GLOBAL CAN JUNCTION CONNECTOR - POWER STEERING ECU ASSEMBLY)

- (a) Disconnect the K44 power steering ECU assembly connector.
- (b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



Click Location & Routing(K105,K8)
Click Connector(K105)

Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K105-4 (CANH) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery	6 k Ω or higher
K105-8 (CANL) - K8-16 (BAT)	terminal	6 KSZ OF HIGHER

OK REPLACE POWER STEERING ECU ASSEMBLY

Click here NFO

NG REPAIR OR REPLACE CAN MAIN BUS LINE OR CONNECTOR (NO. 4 GLOBAL CAN JUNCTION CONNECTOR - POWER STEERING ECU ASSEMBLY)

31. CHECK FOR SHORT TO +B IN CAN BUS LINE (NO. 4 GLOBAL CAN JUNCTION CONNECTOR - AIRBAG ECU ASSEMBLY)

- (a) Disconnect the K1 airbag ECU assembly connector.
- (b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



Click Location & Routing(K105,K8)

Click Connector(K105)

Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K105-1 (CANH) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery	6 k Ω or higher
K105-5 (CANL) - K8-16 (BAT)	terminal	O K32 OF HIGHE

OK REPLACE AIRBAG ECU ASSEMBLY

NG REPAIR OR REPLACE CAN BRANCH LINE OR CONNECTOR (NO. 4 GLOBAL CAN JUNCTION CONNECTOR - AIRBAG ECU ASSEMBLY)

32. CHECK FOR SHORT TO +B IN CAN BUS LINE (NO. 4 GLOBAL CAN JUNCTION CONNECTOR - STEERING SENSOR)

- (a) Disconnect the K72 steering sensor connector.
- (b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



<u>Click Location & Routing(K105,K8)</u>

Click Connector(K105)

Click Connector(K8)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K105-3 (CANH) - K8-16 (BAT)	Cable disconnected from negative (-) auxiliary battery	C I/O on high on
K105-7 (CANL) - K8-16 (BAT)	terminal	6 kΩ or higher

OK > REPLACE STEERING SENSOR

Click here NFO

NG REPAIR OR REPLACE CAN BRANCH LINE OR CONNECTOR (NO. 4 GLOBAL CAN JUNCTION CONNECTOR - STEERING SENSOR)

CHECK FOR SHORT IN CAN BUS LINES (NO. 1 SKID CONTROL ECU (BRAKE BOOSTER

WITH MASTER CYLINDER ASSEMBLY) - CENTRAL GATEWAY ECU (NETWORK GATEWAY

ECU))

- (a) Disconnect the A3 No. 1 skid control ECU (brake booster with master cylinder assembly) connector.
- (b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

EWD INFO

Click Location & Routing(A3)
Click Connector(A3)

12/15/24, 11:25 AM

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A3-36 (CA1H) - A3-37 (CA1L)	Cable disconnected from negative (-) auxiliary battery terminal	108 to 132 Ω

NG GO TO STEP 35



34. CHECK FOR SHORT IN CAN BUS LINES (NO. 1 SKID CONTROL ECU (BRAKE BOOSTER WITH MASTER CYLINDER ASSEMBLY) - NO. 3 GLOBAL CAN JUNCTION CONNECTOR)

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

Standard Resistance:



Click Location & Routing(A3)
Click Connector(A3)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A3-34 (DC1H) - A3-35 (DC1L)	Cable disconnected from negative (-) auxiliary battery terminal	108 to 132 Ω

OK REPLACE NO. 1 SKID CONTROL ECU (BRAKE BOOSTER WITH MASTER CYLINDER ASSEMBLY)

Click here NFO

NG GO TO STEP 36

CHECK FOR SHORT IN CAN BUS LINES (NO. 1 SKID CONTROL ECU (BRAKE BOOSTER WITH MASTER CYLINDER 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:



Click Location & Routing(A3)

Click Connector(A3)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A3-36 (CA1H) - A3-37 (CA1L)	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. 1 SKID CONTROL ECU (BRAKE
 BOOSTER WITH MASTER CYLINDER ASSEMBLY) CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU))
- CHECK FOR SHORT IN CAN BUS LINES (NO. 3 GLOBAL CAN JUNCTION CONNECTOR NO. 1 SKID CONTROL ECU (BRAKE BOOSTER WITH MASTER CYLINDER ASSEMBLY))
- (a) Reconnect the A3 No. 1 skid control ECU (brake booster with master cylinder assembly) connector.
- (b) Disconnect the A17 No. 3 global CAN junction connector.
- (c) Measure the resistance according to the value(s) in the table below.

 Standard Resistance:



Click Location & Routing(A17) Click Connector(A17)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A17-2 (CANH) - A17-13 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	108 to 132 Ω

NG REPAIR OR REPLACE CAN MAIN BUS LINES OR CONNECTOR (NO. 3 GLOBAL CAN JUNCTION CONNECTOR - NO. 1 SKID CONTROL ECU (BRAKE BOOSTER WITH MASTER CYLINDER ASSEMBLY))



37.

CHECK FOR SHORT IN CAN BUS LINES (NO. 3 GLOBAL CAN JUNCTION CONNECTOR - NO. 4 GLOBAL CAN JUNCTION CONNECTOR)

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

Standard Resistance:



<u>Click Location & Routing(A17)</u> <u>Click Connector(A17)</u>

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A17-3 (CANH) - A17-14 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	108 to 132 Ω

NG GO TO STEP 40



38. CHECK FOR SHORT IN CAN BUS LINES (NO. 3 GLOBAL CAN JUNCTION CONNECTOR - NO. 2 SKID CONTROL ECU (BRAKE ACTUATOR ASSEMBLY))

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

Standard Resistance:



Click Location & Routing(A17) Click Connector(A17)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A17-1 (CANH) - A17-12 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	200 Ω or higher

OK > REPLACE NO. 3 GLOBAL CAN JUNCTION CONNECTOR



39.

CHECK FOR SHORT IN CAN BUS LINES (NO. 3 GLOBAL CAN JUNCTION CONNECTOR - NO. 2 SKID CONTROL ECU (BRAKE ACTUATOR ASSEMBLY))

(a) Disconnect the A4 No. 2 skid control ECU (brake actuator assembly) connector.

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

Standard Resistance:



<u>Click Location & Routing(A17)</u> <u>Click Connector(A17)</u>

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A17-1 (CANH) - A17-12 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	1 M Ω or higher

OK REPLACE NO. 2 SKID CONTROL ECU (BRAKE ACTUATOR ASSEMBLY)

Click here

NG REPAIR OR REPLACE CAN BRANCH LINES OR CONNECTOR (NO. 3 GLOBAL CAN JUNCTION CONNECTOR - NO. 2 SKID CONTROL ECU (BRAKE ACTUATOR ASSEMBLY))

40. CHECK FOR SHORT IN CAN BUS LINES (NO. 4 GLOBAL CAN JUNCTION CONNECTOR - NO. 3 GLOBAL CAN JUNCTION CONNECTOR)

- (a) Reconnect the A17 No. 3 global CAN junction connector.
- (b) Disconnect the K105 No. 4 global CAN junction connector.
- (c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



Click Location & Routing(K105) Click Connector(K105)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K105-2 (CANH) - K105-6 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	108 to 132 Ω

NG REPAIR OR REPLACE CAN MAIN BUS LINES OR CONNECTOR (NO. 4 GLOBAL CAN JUNCTION CONNECTOR - NO. 3 GLOBAL CAN JUNCTION CONNECTOR)



41. CHECK FOR SHORT IN CAN BUS LINES (NO. 4 GLOBAL CAN JUNCTION CONNECTOR - POWER STEERING ECU ASSEMBLY)

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

Standard Resistance:



Click Location & Routing(K105)
Click Connector(K105)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K105-4 (CANH) - K105-8 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	108 to 132 Ω

NG GO TO STEP 44



42. CHECK FOR SHORT IN CAN BUS LINES (NO. 4 GLOBAL CAN JUNCTION CONNECTOR - AIRBAG ECU ASSEMBLY)

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

Standard Resistance:



Click Location & Routing(K105)
Click Connector(K105)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K105-1 (CANH) - K105-5 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	200 Ω or higher

NG GO TO STEP 45



43.

CHECK FOR SHORT IN CAN BUS LINES (NO. 4 GLOBAL CAN JUNCTION CONNECTOR -STEERING SENSOR)

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

Standard Resistance:



Click Location & Routing(K105) Click Connector(K105)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K105-3 (CANH) - K105-7 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	200 Ω or higher



NG GO TO STEP 46

44.

CHECK FOR SHORT IN CAN BUS LINES (NO. 4 GLOBAL CAN JUNCTION CONNECTOR -POWER STEERING ECU ASSEMBLY)

- (a) Disconnect the K44 power steering ECU assembly connector.
- (b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



Click Location & Routing(K105)

Click Connector(K105)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K105-4 (CANH) - K105-8 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	$1~\text{M}\Omega$ or higher



Click here

NG REPAIR OR REPLACE CAN MAIN BUS LINES OR CONNECTOR (NO. 4 GLOBAL CAN JUNCTION CONNECTOR - POWER STEERING ECU ASSEMBLY)

- 45. CHECK FOR SHORT IN CAN BUS LINES (NO. 4 GLOBAL CAN JUNCTION CONNECTOR AIRBAG ECU ASSEMBLY)
- (a) Disconnect the K1 airbag ECU assembly connector.
- (b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



Click Location & Routing(K105) Click Connector(K105)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K105-1 (CANH) - K105-5 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	1 M Ω or higher

OK > REPLACE AIRBAG ECU ASSEMBLY

Click here NFO

NG REPAIR OR REPLACE CAN BRANCH LINES OR CONNECTOR (NO. 4 GLOBAL CAN JUNCTION CONNECTOR - AIRBAG ECU ASSEMBLY)

46. CHECK FOR SHORT IN CAN BUS LINES (NO. 4 GLOBAL CAN JUNCTION CONNECTOR - STEERING SENSOR)

- (a) Disconnect the K72 steering sensor connector.
- (b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



Click Location & Routing(K105) Click Connector(K105)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K105-3 (CANH) - K105-7 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	$1~\text{M}\Omega$ or higher

Click here NFO

NG REPAIR OR REPLACE CAN BRANCH LINES OR CONNECTOR (NO. 4 GLOBAL CAN JUNCTION CONNECTOR - STEERING SENSOR)

47. 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

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

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K78-24 (CA2H) - K78-23 (CA2L)	Cable disconnected from negative (-) auxiliary battery terminal	108 to 132 Ω

OK REPLACE CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU)



48.

CHECK FOR OPEN IN CAN MAIN BUS LINES (NO. 1 SKID CONTROL ECU (BRAKE BOOSTER WITH MASTER CYLINDER ASSEMBLY) - CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU))

- (a) Reconnect the K78 central gateway ECU (network gateway ECU) connector.
- (b) Disconnect the A3 No. 1 skid control ECU (brake booster with master cylinder assembly) connector.
- (c) Measure the resistance according to the value(s) in the table below.

 Standard Resistance:



<u>Click Location & Routing(A3)</u> <u>Click Connector(A3)</u>

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A3-36 (CA1H) - A3-37 (CA1L)	Cable disconnected from negative (-) auxiliary battery terminal	108 to 132 Ω

NG REPAIR OR REPLACE CAN MAIN BUS LINES OR CONNECTOR (NO. 1 SKID CONTROL ECU (BRAKE BOOSTER WITH MASTER CYLINDER ASSEMBLY) - CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU))



- 49. CHECK FOR OPEN IN CAN MAIN BUS LINES (NO. 1 SKID CONTROL ECU (BRAKE BOOSTER WITH MASTER CYLINDER ASSEMBLY) NO. 3 GLOBAL CAN JUNCTION CONNECTOR)
- (a) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



<u>Click Location & Routing(A3)</u> <u>Click Connector(A3)</u>

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A3-34 (DC1H) - A3-35 (DC1L)	Cable disconnected from negative (-) auxiliary battery terminal	108 to 132 Ω

OK REPLACE NO. 1 SKID CONTROL ECU (BRAKE BOOSTER WITH MASTER CYLINDER ASSEMBLY)

Click here NFO



50.

- CHECK FOR OPEN IN CAN MAIN BUS LINES (NO. 3 GLOBAL CAN JUNCTION CONNECTOR NO. 1 SKID CONTROL ECU (BRAKE BOOSTER WITH MASTER CYLINDER ASSEMBLY))
- (a) Reconnect the A3 No. 1 skid control ECU (brake booster with master cylinder assembly) connector.
- (b) Disconnect the A17 No. 3 global CAN junction connector.

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

Standard Resistance:



<u>Click Location & Routing(A17)</u> <u>Click Connector(A17)</u>

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A17-2 (CANH) - A17-13 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	108 to 132 Ω

NG REPAIR OR REPLACE CAN MAIN BUS LINES OR CONNECTOR (NO. 3 GLOBAL CAN JUNCTION CONNECTOR - NO. 1 SKID CONTROL ECU (BRAKE BOOSTER WITH MASTER CYLINDER ASSEMBLY))



- 51. CHECK FOR OPEN IN CAN MAIN BUS LINES (NO. 3 GLOBAL CAN JUNCTION CONNECTOR NO. 4 GLOBAL CAN JUNCTION CONNECTOR)
- (a) Measure the resistance according to the value(s) in the table below. Standard Resistance:



<u>Click Location & Routing(A17)</u> <u>Click Connector(A17)</u>

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A17-3 (CANH) - A17-14 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	108 to 132 Ω

OK REPLACE NO. 3 GLOBAL CAN JUNCTION CONNECTOR



52. CHECK FOR OPEN IN CAN MAIN BUS LINES (NO. 4 GLOBAL CAN JUNCTION CONNECTOR - NO. 3 GLOBAL CAN JUNCTION CONNECTOR)

- (a) Reconnect the A17 No. 3 global CAN junction connector.
- (b) Disconnect the K105 No. 4 global CAN junction connector.
- (c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



<u>Click Location & Routing(K105)</u> <u>Click Connector(K105)</u>

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K105-2 (CANH) - K105-6 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	108 to 132 Ω

NG REPAIR OR REPLACE CAN MAIN BUS LINES OR CONNECTOR (NO. 4 GLOBAL CAN JUNCTION CONNECTOR - NO. 3 GLOBAL CAN JUNCTION CONNECTOR)



- 53. CHECK FOR OPEN IN CAN MAIN BUS LINES (NO. 4 GLOBAL CAN JUNCTION CONNECTOR POWER STEERING ECU ASSEMBLY)
- (a) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



Click Location & Routing(K105)
Click Connector(K105)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K105-4 (CANH) - K105-8 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	108 to 132 Ω

OK > REPLACE NO. 4 GLOBAL CAN JUNCTION CONNECTOR



54. CHECK FOR OPEN IN CAN MAIN BUS LINES (POWER STEERING ECU ASSEMBLY)

- (a) Reconnect the K105 No. 4 global CAN junction connector.
- (b) Disconnect the K44 power steering ECU assembly connector.
- (c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



Click Location & Routing(K44)
Click Connector(K44)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K44-7 (CANH) - K44-8 (CANL)	Cable disconnected from negative (-) auxiliary battery terminal	108 to 132 Ω

OK > REPLACE POWER STEERING ECU ASSEMBLY

Click here

NG REPAIR OR REPLACE CAN MAIN BUS LINES OR CONNECTOR (POWER STEERING ECU ASSEMBLY - NO. 4 GLOBAL CAN JUNCTION CONNECTOR)



