

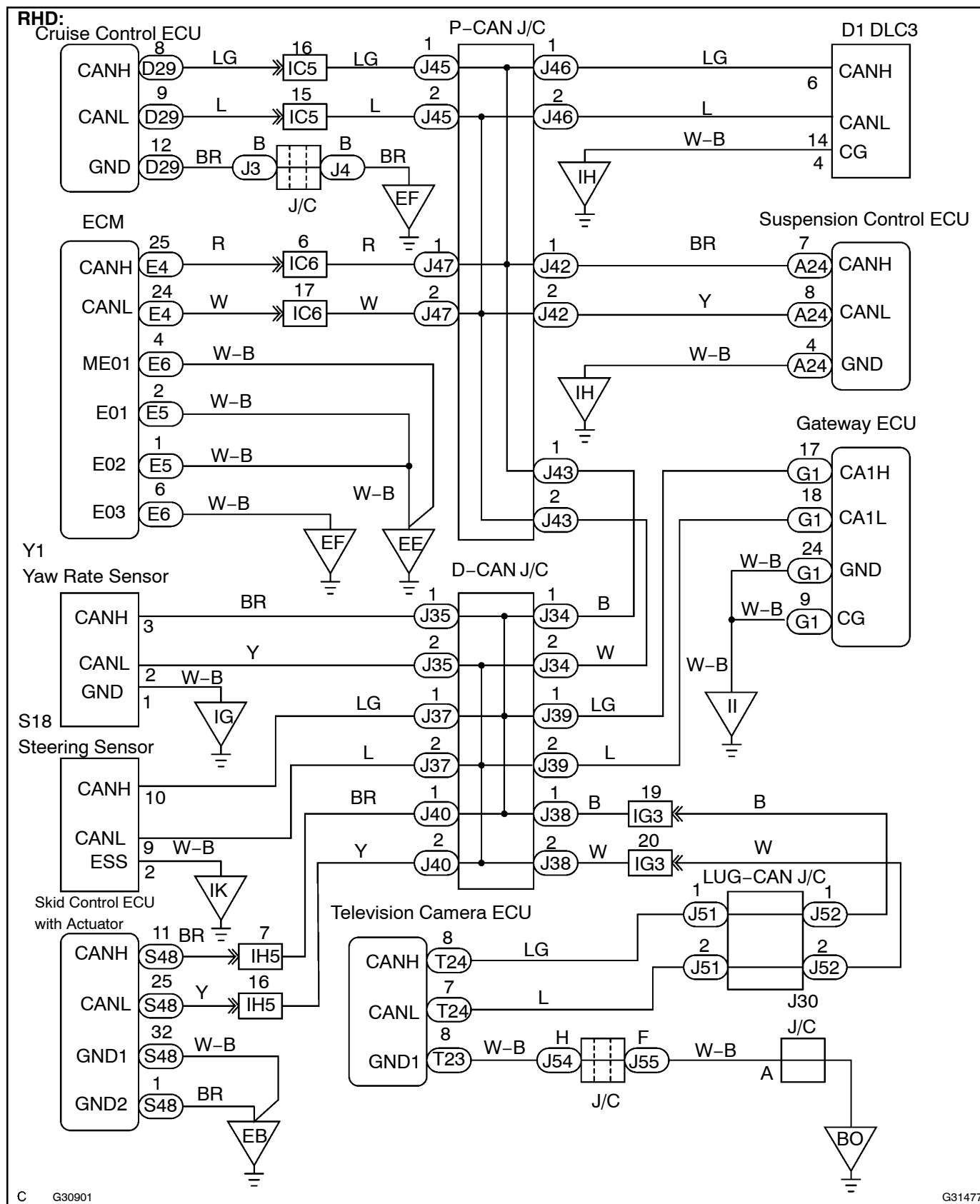
CHECK CAN BUS LINE FOR SHORT TO GND (RHD, w/ LEXUS Navigation System)

CIRCUIT DESCRIPTION

There may be a short circuit between the CAN bus line and GND when there is resistance between terminals 6 (CANH) and 4 (CG) or terminals 14 (CANL) and 4 (CG) of the DLC3.

Symptom	Trouble Area
There is resistance between terminals 6 (CANH) and 4 (CG) or terminals 14 (CANL) and 4 (CG) of the DLC 3.	• Short to GND • Cruise control ECU • Television camera ECU • Skid control ECU with actuator • Steering sensor • Yaw rate sensor • Suspension control ECU • ECM • Gateway ECU • Junction connector (D-CAN J/C) • Junction connector (P-CAN J/C) • Junction connector (LUG-CAN J/C)

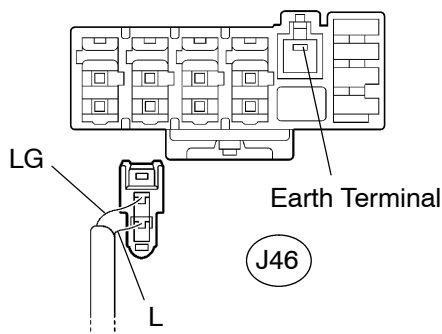
WIRING DIAGRAM



INSPECTION PROCEDURE

1 CHECK CAN BUS LINE FOR SHORT TO GND(DLC3 SUB BUS LINE)

P-CAN J/C A Side (w/ Earth Terminal)
Wire Harness View:



G25695

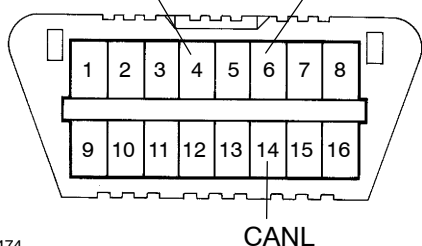
G31933

- (a) Turn the ignition switch to the LOCK position.
- (b) Disconnect the DLC3 sub bus line connector (J46) from the P-CAN J/C A side (w/ earth terminal).

NOTICE:

- Before disconnecting the connector, make a note of where it is connected.
- Reconnect the connector to its original position.

DLC3: CG (D1) CANH

G25474
C81825

G26206

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

Standard:

Tester connection	Condition	Specified value
D1-6 (CANH) - D1-4 (CG)	Ignition Switch OFF	1 MΩ or more
D1-14 (CANL) - D1-4 (CG)	Ignition Switch OFF	1 MΩ or more

NG

**REPAIR OR REPLACE DLC3 SUB BUS LINE OR
CONNECTOR (CAN-H, CAN-L)**

OK

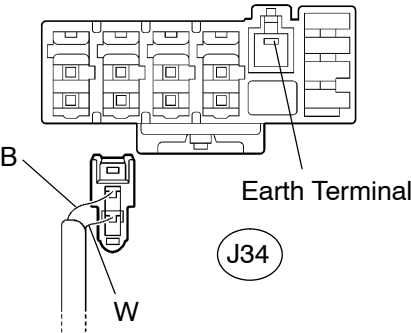
2 CONNECT CONNECTOR

- (a) Reconnect the DLC3 sub bus line connector (J46) to the P-CAN J/C A side (w/ earth terminal).



3 CHECK CAN BUS LINE FOR SHORT TO GND(CAN BUSES TO P-CAN J/C)

D-CAN J/C A Side (w/ Earth Terminal)
Wire Harness View:



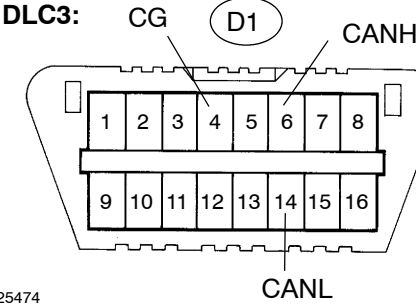
G25695

G31933

- (a) Disconnect the CAN main bus line connector (J34) from the D-CAN J/C A side (w/ earth terminal).

NOTICE:

- Before disconnecting the connector, make a note of where it is connected.
- Reconnect the connector to its original position.



G25474
C81825

G26206

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

Standard:

Tester connection	Condition	Specified value
D1-6 (CANH) - D1-4 (CG)	Ignition Switch OFF	1 kΩ or more
D1-14 (CANL) - D1-4 (CG)	Ignition Switch OFF	1 kΩ or more

OK

Go to step 18

NG

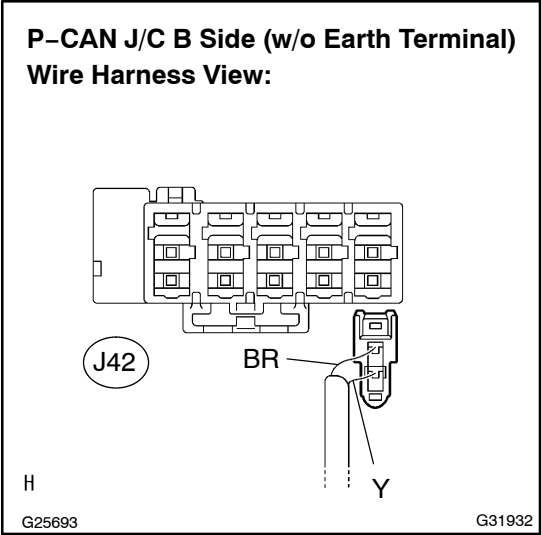
4 CONNECT CONNECTOR

- (a) Reconnect the CAN main bus line connector (J34) to the D-CAN J/C A side (w/ earth terminal).



5

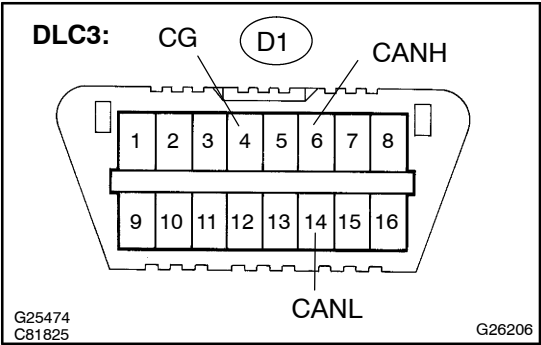
CHECK CAN BUS LINE FOR SHORT TO GND(SUSPENSION CONTROL ECU SUB BUS LINE)



NOTICE:
For vehicles without electronic modulated air suspension, go to step 7.

- (a) Disconnect the suspension control ECU sub bus line connector (J42) from the P-CAN J/C B side (w/o earth terminal).

- NOTICE:**
- **Before disconnecting the connector, make a note of where it is connected.**
 - **Reconnect the connector to its original position.**



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

Standard:

Tester connection	Condition	Specified value
D1-6 (CANH) – D1-4 (CG)	Ignition Switch OFF	1 kΩ or more
D1-14 (CANL) – D1-4 (CG)	Ignition Switch OFF	1 kΩ or more

OK

Go to step 12

NG

6

CONNECT CONNECTOR

- (a) Reconnect the suspension control ECU sub bus line connector (J42) to the P-CAN J/C B side (w/o earth terminal).



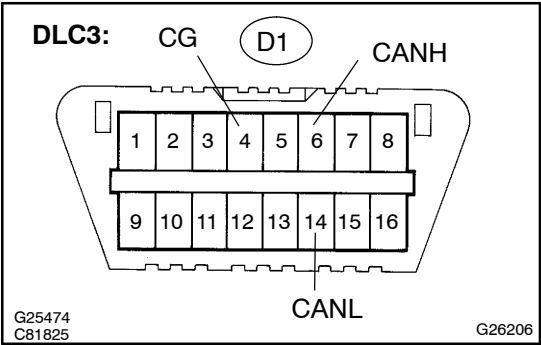
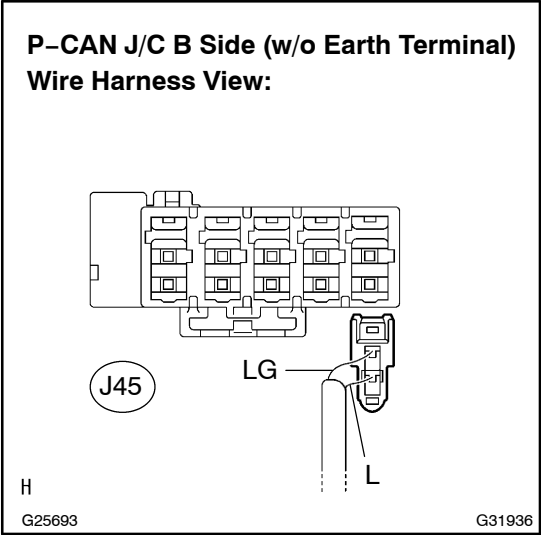
7 CHECK CAN BUS LINE FOR SHORT TO GND(CRUISE CONTROL ECU SUB BUS LINE)

NOTICE:
For vehicles without dynamic laser cruise control, go to step 9.

- (a) Disconnect the cruise control ECU sub bus line connector (J45) from the P-CAN J/C B side (w/o earth terminal).

NOTICE:

- Before disconnecting the connector, make a note of where it is connected.
- Reconnect the connector to its original position.



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

Standard:

Tester connection	Condition	Specified value
D1-6 (CANH) - D1-4 (CG)	Ignition Switch OFF	1 kΩ or more
D1-14 (CANL) - D1-4 (CG)	Ignition Switch OFF	1 kΩ or more

OK

Go to step 14

NG

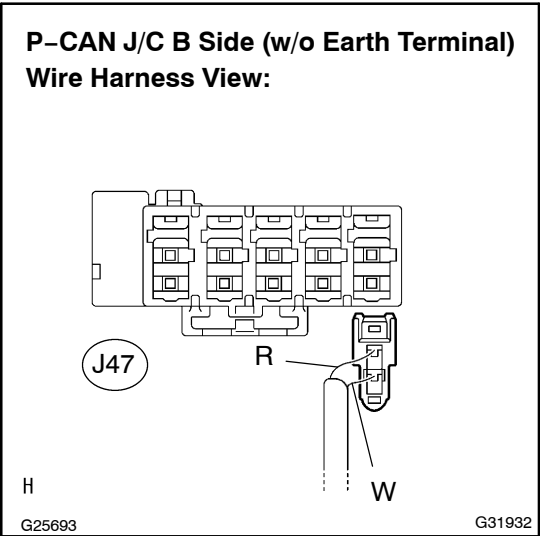
8 CONNECT CONNECTOR

- (a) Reconnect the cruise control ECU sub bus line connector (J45) to the P-CAN J/C B side (w/o earth terminal).



9

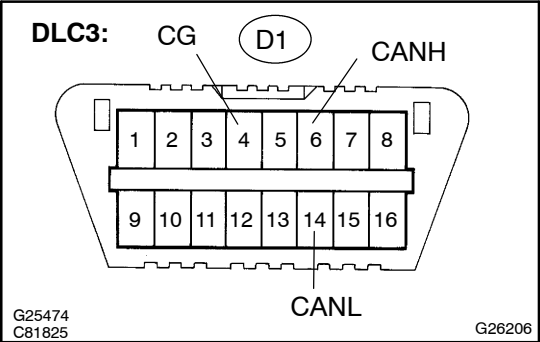
CHECK CAN BUS LINE FOR SHORT TO GND(ECM SUB BUS LINE)



- (a) Disconnect the ECM sub bus line connector (J47) from the P-CAN J/C B side (w/o earth terminal).

NOTICE:

- **Before disconnecting the connector, make a note of where it is connected.**
- **Reconnect the connector to its original position.**



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

Standard:

Tester connection	Condition	Specified value
D1-6 (CANH) - D1-4 (CG)	Ignition Switch OFF	1 kΩ or more
D1-14 (CANL) - D1-4 (CG)	Ignition Switch OFF	1 kΩ or more

OK

Go to step 16

NG

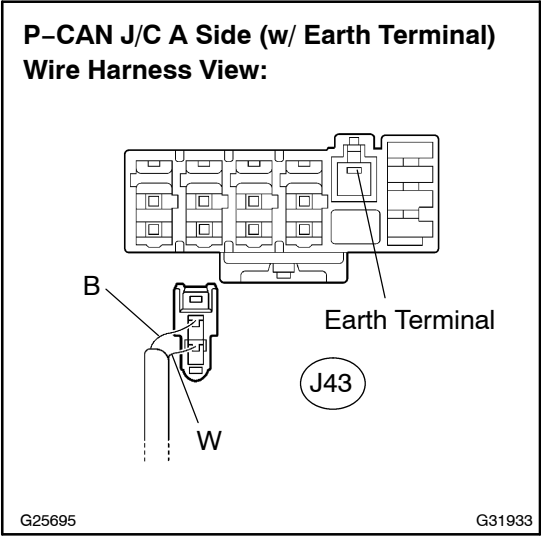
10

CONNECT CONNECTOR

- (a) Reconnect the ECM sub bus line connector (J47) to the D-CAN J/C B side (w/o earth terminal).



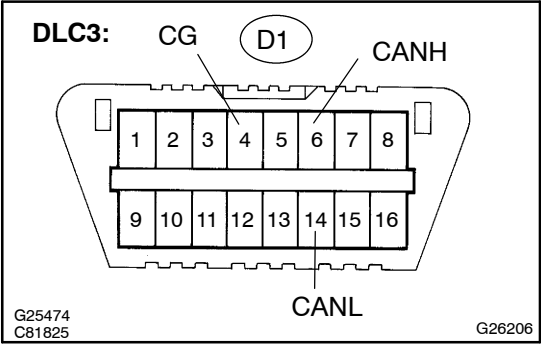
11 CHECK CAN BUS LINE FOR SHORT TO GND(P-CAN J/C)



- (a) Disconnect the CAN main bus line connector (J43) from the P-CAN J/C A side (w/ earth terminal).

NOTICE:

- **Before disconnecting the connector, make a note of where it is connected.**
- **Reconnect the connector to its original position.**



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

Standard:

Tester connection	Condition	Specified value
D1-6 (CANH) - D1-4 (CG)	Ignition Switch OFF	1 kΩ or more
D1-14 (CANL) - D1-4 (CG)	Ignition Switch OFF	1 kΩ or more

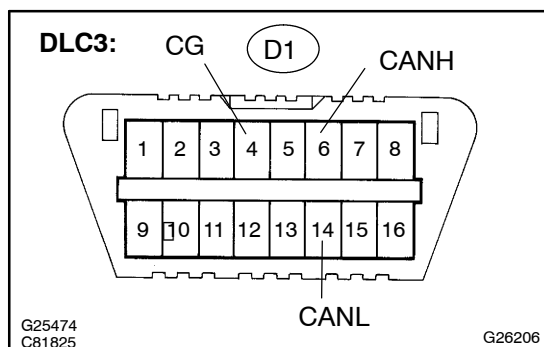
NG **REPLACE JUNCTION CONNECTOR (P-CAN J/C)**

OK

REPAIR OR REPLACE CAN MAIN BUS LINE FOR DISCONNECTION (P-CAN J/C, D-CAN J/C)

12 CONNECT CONNECTOR

- (a) Reconnect the suspension control ECU sub bus line connector (J42) to the P-CAN/J/CB side (w/o earth terminal).

**13 CHECK CAN BUS LINE FOR SHORT TO GND (SUSPENSION CONTROL ECU SUB BUS LINE)**

- (a) Disconnect the suspension control ECU connector (J42).
- (b) Measure the resistance according to the value(s) in the table below.

Standard:

Tester connection	Condition	Specified value
D1-6 (CANH) - D1-4 (CG)	Ignition Switch OFF	1 kΩ or more
D1-14 (CANL) - D1-4 (CG)	Ignition Switch OFF	1 kΩ or more

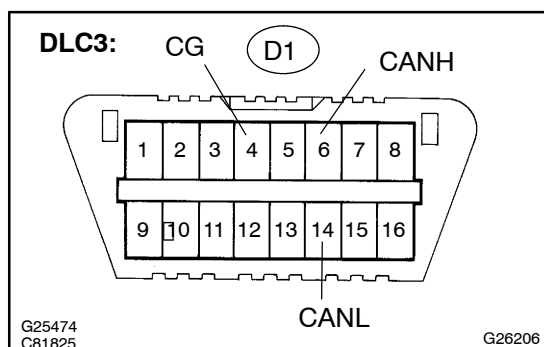
OK

REPLACE SUSPENSION CONTROL ECU (SEE PAGE 25-20)

NG

REPAIR OR REPLACE SUSPENSION CONTROL ECU SUB BUS LINE OR CONNECTOR (CAN-H, CAN-L)**14 CONNECT CONNECTOR**

- (a) Reconnect the cruise control ECU sub bus line connector (J45) to the P-CAN/J/CB side (w/o earth terminal).

**15 CHECK CAN BUS LINE FOR SHORT TO GND (CRUISE CONTROL ECU SUB BUS LINE)**

- (a) Disconnect the cruise control ECU connector (D29).
- (b) Measure the resistance according to the value(s) in the table below.

Standard:

Tester connection	Condition	Specified value
D1-6 (CANH) - D1-4 (CG)	Ignition Switch OFF	1 kΩ or more
D1-14 (CANL) - D1-4 (CG)	Ignition Switch OFF	1 kΩ or more

OK

REPLACE CRUISE CONTROL ECU ASSY (SEE PAGE 32-2)

NG

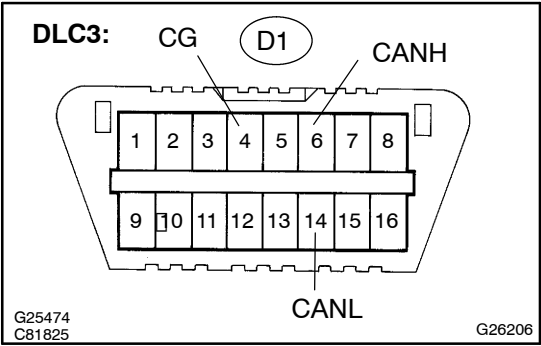
REPAIR OR REPLACE CRUISE CONTROL ECU SUB BUS LINE OR CONNECTOR (CAN-H, CAN-L)

16 CONNECT CONNECTOR

(a) Reconnect the ECM sub bus line connector (J47) to the D-CAN J/CB side (w/o earth terminal).



17 CHECK CAN BUS LINE FOR SHORT TO GND (ECM SUB BUS LINE)



- (a) Disconnect the ECM connector (E4).
(b) Measure the resistance according to the value(s) in the table below.

Standard:

Tester connection	Condition	Specified value
D1-6 (CANH) - D1-4 (CG)	Ignition Switch OFF	1 kΩ or more
D1-14 (CANL) - D1-4 (CG)	Ignition Switch OFF	1 kΩ or more

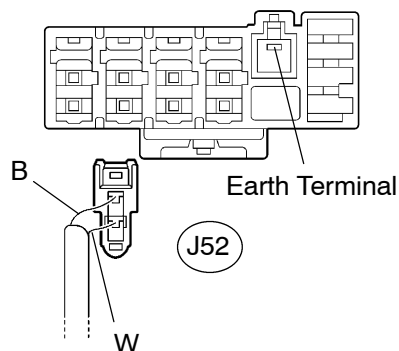
OK → REPLACE ECM (SEE PAGE 10-21)

NG

REPAIR OR REPLACE ECM SUB BUS LINE OR CONNECTOR (CAN-H, CAN-L)

18 CONNECT CONNECTOR

- (a) Reconnect the CAN main bus line connector (J34) to the D-CAN J/C A side (w/ earth terminal).

**19 CHECK CAN BUS LINE FOR SHORT TO GND(LUG-CAN J/C)**
LUG-CAN J/C A Side
(w/ Earth Terminal):


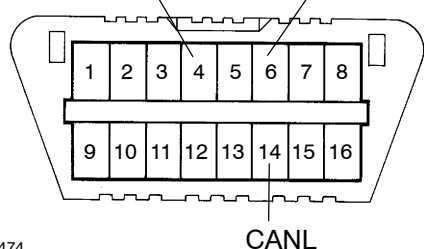
G25695

G31935

- (a) Disconnect the CAN main bus line connector (J52) from the LUG-CAN J/C A side (w/ earth terminal).

NOTICE:

- **Before disconnecting the connector, make a note of where it is connected.**
- **Reconnect the connector to its original position.**

DLC3: CG (D1) CANH
G25474
C81825

G26206

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

Standard:

Tester connection	Condition	Specified value
D1-6 (CANH) - D1-4 (CG)	Ignition Switch OFF	1 kΩ or more
D1-14 (CANL) - D1-4 (CG)	Ignition Switch OFF	1 kΩ or more

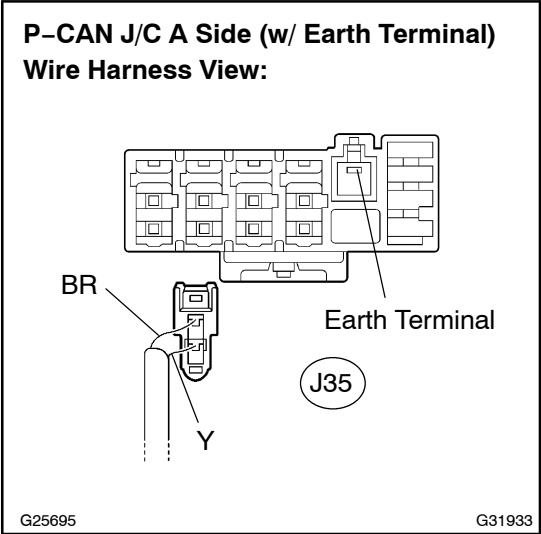
OK**Go to step 38****NG****20 CONNECT CONNECTOR**

- (a) Reconnect the CAN main bus line connector (J52) to the LUG-CAN J/C A side (w/ earth terminal).



21

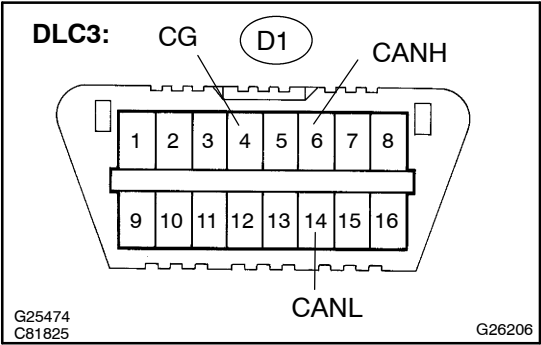
CHECK CAN BUS LINE FOR SHORT TO GND(YAW RATE SENSOR SUB BUS LINE)



- (a) Disconnect the yaw rate sensor sub bus line connector (J35) from the D-CAN J/C A side (w/ earth terminal).

NOTICE:

- **Before disconnecting the connector, make a note of where it is connected.**
- **Reconnect the connector to its original position.**



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

Standard:

Tester connection	Condition	Specified value
D1-6 (CANH) - D1-4 (CG)	Ignition Switch OFF	1 kΩ or more
D1-14 (CANL) - D1-4 (CG)	Ignition Switch OFF	1 kΩ or more

OK

Go to step 30

NG

22

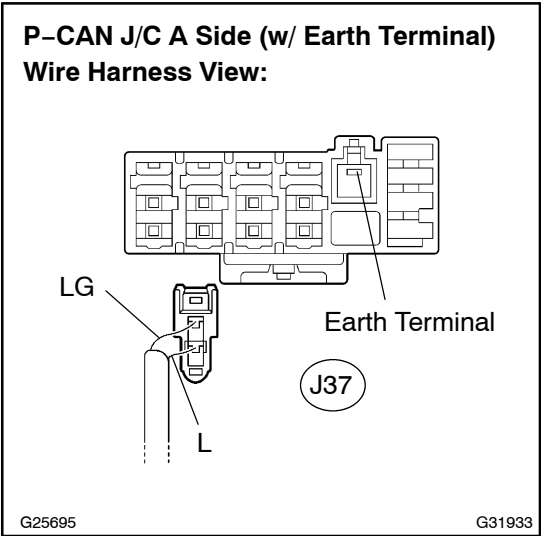
CONNECT CONNECTOR

- (a) Reconnect the yaw rate sensor sub bus line connector (J35) to the D-CAN J/C A side (w/ earth terminal).



23

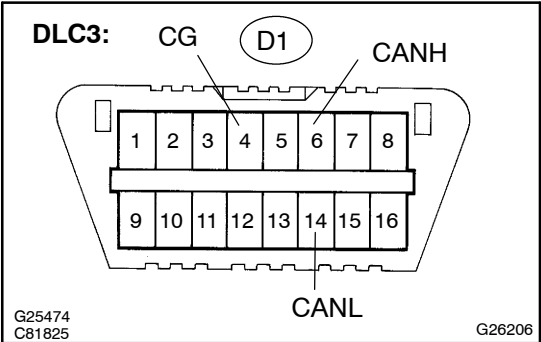
CHECK CAN BUS LINE FOR SHORT TO GND(STEERING SENSOR SUB BUS LINE)



- (a) Disconnect the steering sensor sub bus line connector (J37) from the D-CAN J/C A side (w/ earth terminal).

NOTICE:

- Before disconnecting the connector, make a note of where it is connected.
- Reconnect the connector to its original position.



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

Standard:

Tester connection	Condition	Specified value
D1-6 (CANH) - D1-4 (CG)	Ignition Switch OFF	1 kΩ or more
D1-14 (CANL) - D1-4 (CG)	Ignition Switch OFF	1 kΩ or more

OK

Go to step 34

NG

24

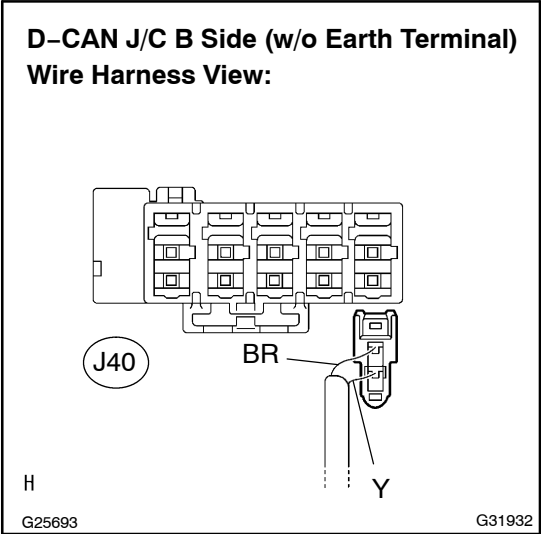
CONNECT CONNECTOR

- (a) Reconnect the steering sensor sub bus line connector (J37) to the D-CAN J/C A side (w/ earth terminal).



25

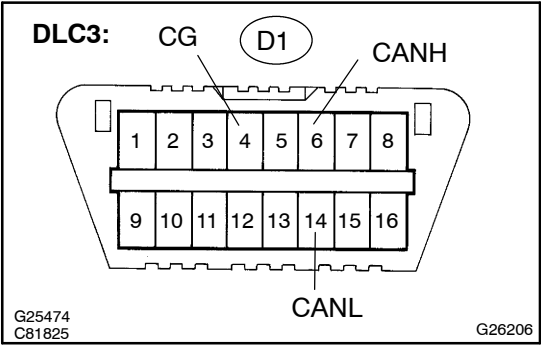
CHECK CAN BUS LINE FOR SHORT TO GND(SKID CONTROL ECU SUB BUS LINE)



(a) Disconnect the skid control ECU sub bus line connector (J40) from the D-CAN J/C (w/o earth terminal).

NOTICE:

- **Before disconnecting the connector, make a note of where it is connected.**
- **Reconnect the connector to its original position.**



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

Standard:

Tester connection	Condition	Specified value
D1-6 (CANH) - D1-4 (CG)	Ignition Switch OFF	1 kΩ or more
D1-14 (CANL) - D1-4 (CG)	Ignition Switch OFF	1 kΩ or more

OK **Go to step 32**

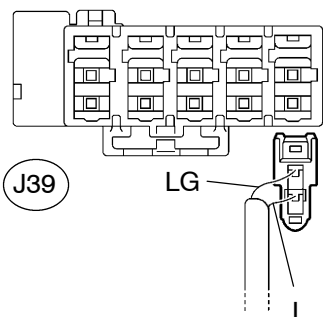
NG

26

CONNECT CONNECTOR

(a) Reconnect the skid control ECU sub bus line connector (J40) to the D-CAN J/C B side (w/o earth terminal).



27 CHECK CAN BUS LINE FOR SHORT TO GND(GATEWAY ECU SUB BUS LINE)**D-CAN J/C B Side (w/o Earth Terminal)
Wire Harness View:**

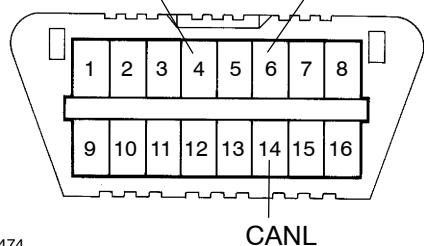
G25693

G31932

- (a) Disconnect the gateway ECU sub bus line connector (J39) from the D-CAN J/C B side (w/o earth terminal).

NOTICE:

- **Before disconnecting the connector, make a note of where it is connected.**
- **Reconnect the connector to its original position.**

DLC3: CG (D1) CANHG25474
C81825

G26206

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

Standard:

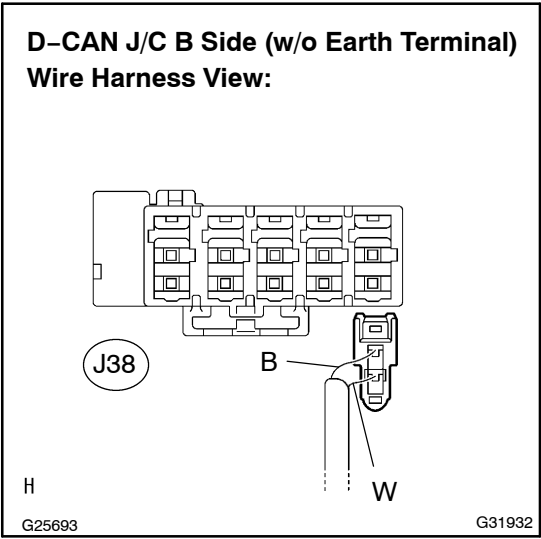
Tester connection	Condition	Specified value
D1-6 (CANH) - D1-4 (CG)	Ignition Switch OFF	1 kΩ or more
D1-14 (CANL) - D1-4 (CG)	Ignition Switch OFF	1 kΩ or more

OK**Go to step 36****NG****28 CONNECT CONNECTOR**

- (a) Reconnect the gateway ECU sub bus line connector (J39) to the D-CAN J/C B side (w/o earth terminal).



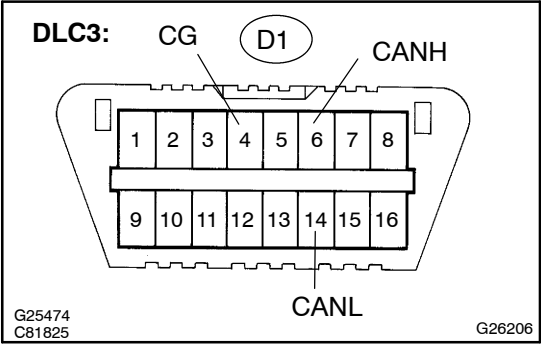
29 CHECK CAN BUS LINE FOR SHORT TO GND(D-CAN J/C)



- (a) Disconnect the CAN main bus line connector (J38) from the D-CAN J/C B side (w/o earth terminal).

NOTICE:

- **Before disconnecting the connector, make a note of where it is connected.**
- **Reconnect the connector to its original position.**



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

Standard:

Tester connection	Condition	Specified value
D1-6 (CANH) - D1-4 (CG)	Ignition Switch OFF	1 kΩ or more
D1-14 (CANL) - D1-4 (CG)	Ignition Switch OFF	1 kΩ or more

NG

REPLACE JUNCTION CONNECTOR (D-CAN J/C)

OK

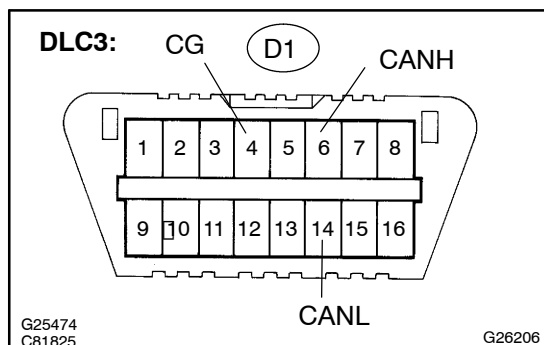
REPAIR OR REPLACE CAN MAIN BUS LINE OR CONNECTOR (D-CAN J/C - LUG-CAN J/C)

30 CONNECT CONNECTOR

- (a) Reconnect the yaw rate sensor sub bus line connector (J35) to the D-CAN J/C A side (w/ earth terminal).



31 CHECK CAN BUS LINE FOR SHORT TO GND (YAW RATE SENSOR SUB BUS LINE)



- (a) Disconnect the yaw rate sensor connector (Y1).
 (b) Measure the resistance according to the value(s) in the table below.

Standard:

Tester connection	Condition	Specified value
D1-6 (CANH) - D1-4 (CG)	Ignition Switch OFF	1 kΩ or more
D1-14 (CANL) - D1-4 (CG)	Ignition Switch OFF	1 kΩ or more

OK

REPLACE YAW RATE SENSOR (SEE PAGE 32-63)

NG

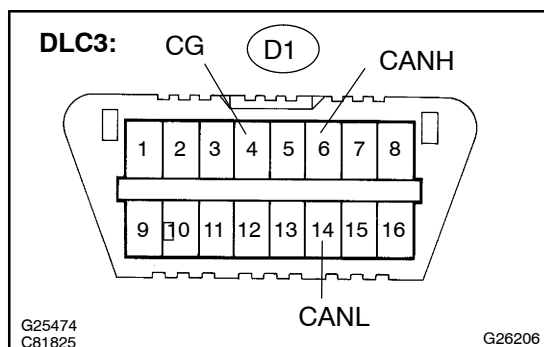
REPAIR OR REPLACE YAW RATE SENSOR SUB BUS LINE OR CONNECTOR (CAN-H, CAN-L)

32 CONNECT CONNECTOR

- (a) Reconnect the skid control ECU sub bus line connector (J40) to the D-CAN/CB side (w/o earth terminal).



33 CHECK CAN BUS LINE FOR SHORT TO GND (SKID CONTROL ECU SUB BUS LINE)



- (a) Disconnect the skid control ECU connector (S48).
 (b) Measure the resistance according to the value(s) in the table below.

Standard:

Tester connection	Condition	Specified value
D1-6 (CANH) - D1-4 (CG)	Ignition Switch OFF	1 kΩ or more
D1-14 (CANL) - D1-4 (CG)	Ignition Switch OFF	1 kΩ or more

OK

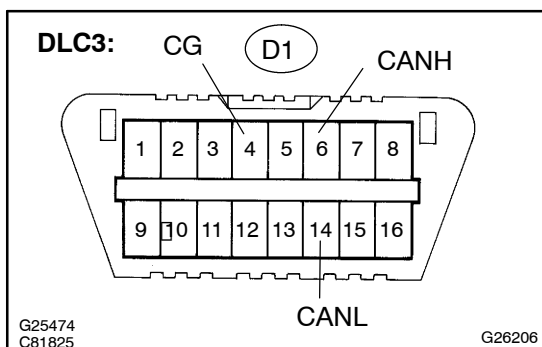
REPLACE SKID CONTROL ECU WITH ACTUATOR (SEE PAGE 32-53)

NG

REPAIR OR REPLACE SKID CONTROL ECU SUB BUS LINE OR CONNECTOR

34 CONNECT CONNECTOR

- (a) Reconnect the steering sensor sub bus line connector (J37) to the D-CAN J/C A side (w/earth terminal).

**35 CHECK CAN BUS LINE FOR SHORT TO GND (STEERING SENSOR SUB BUS LINE)**

- (a) Disconnect the steering sensor connector (S18).
 (b) Measure the resistance according to the value(s) in the table below.

Standard:

Tester connection	Condition	Specified value
D1-6 (CANH) - D1-4 (CG)	Ignition Switch OFF	1 kΩ or more
D1-14 (CANL) - D1-4 (CG)	Ignition Switch OFF	1 kΩ or more

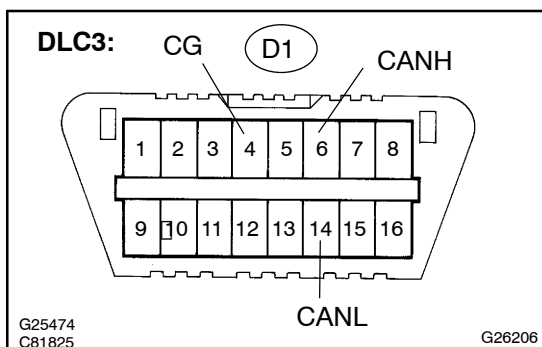
OK

REPLACE STEERING SENSOR (SEE PAGE 32-65)

NG

REPAIR OR REPLACE STEERING SENSOR SUB BUS LINE OR CONNECTOR (CAN-H, CAN-L)**36 CONNECT CONNECTOR**

- (a) Reconnect the gateway ECU sub bus line connector (J39) to the D-CAN J/C B side (w/o earth terminal).

**37 CHECK CAN BUS LINE FOR SHORT TO GND (GATEWAY ECU)**

- (a) Disconnect the gateway ECU connector (G1).
 (b) Measure the resistance according to the value(s) in the table below.

Standard:

Tester connection	Condition	Specified value
D1-6 (CANH) - D1-4 (CG)	Ignition Switch OFF	1 kΩ or more
D1-14 (CANL) - D1-4 (CG)	Ignition Switch OFF	1 kΩ or more

OK

REPLACE GATEWAY ECU

NG

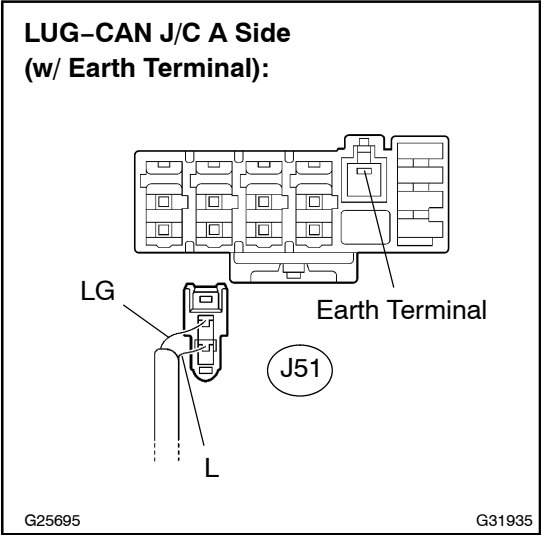
REPAIR OR REPLACE GATEWAY ECU SUB BUS LINE OR CONNECTOR (CAN-H, CAN-L)**38 CONNECT CONNECTOR**

- (a) Reconnect the CAN main bus line connector (J52) to the LUG-CAN J/C A side (w/ earth terminal).

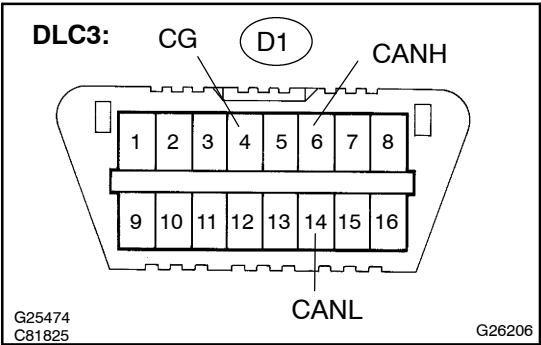


39

CHECK CAN BUS LINE FOR SHORT TO GND(TELEVISION CAMERA ECU SUB BUS LINE)



- (a) Disconnect the television camera ECU sub bus line connector (J51) from the LUG-CAN J/C A side (w/ earth terminal).



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

Standard:

Tester connection	Condition	Specified value
D1-6 (CANH) – D1-4 (CG)	Ignition Switch OFF	1 kΩ or more
D1-14 (CANL) – D1-4 (CG)	Ignition Switch OFF	1 kΩ or more

NG

REPLACE JUNCTION CONNECTOR
(LUG-CAN J/C)

OK

40

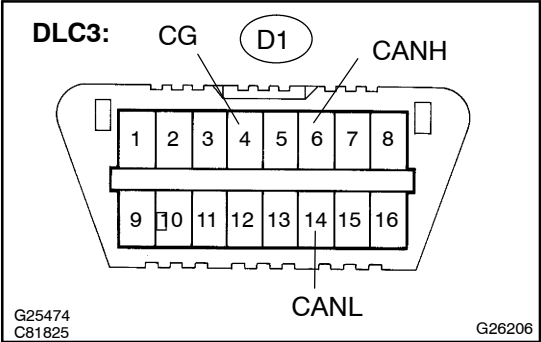
CONNECT CONNECTOR

- (a) Reconnect the television camera ECU sub bus line connector (J51) to the LUG-CAN J/C A side (w/ earth terminal).



41

CHECK CAN BUS LINE FOR SHORT TO GND (TELEVISION CAMERA ECU SUB BUS LINE)



- (a) Disconnect the television camera ECU connector (T24).
- (b) Measure the resistance according to the value(s) in the table below.

Standard:

Tester connection	Condition	Specified value
D1-6 (CANH) - D1-4 (CG)	Ignition Switch OFF	1 kΩ or more
D1-14 (CANL) - D1-4 (CG)	Ignition Switch OFF	1 kΩ or more

OK

REPLACE TELEVISION CAMERA ECU (SEE PAGE 67-15)

NG

REPAIR OR REPLACE TELEVISION CAMERA ECU SUB BUS LINE OR CONNECTOR (CAN-H, CAN-L)