

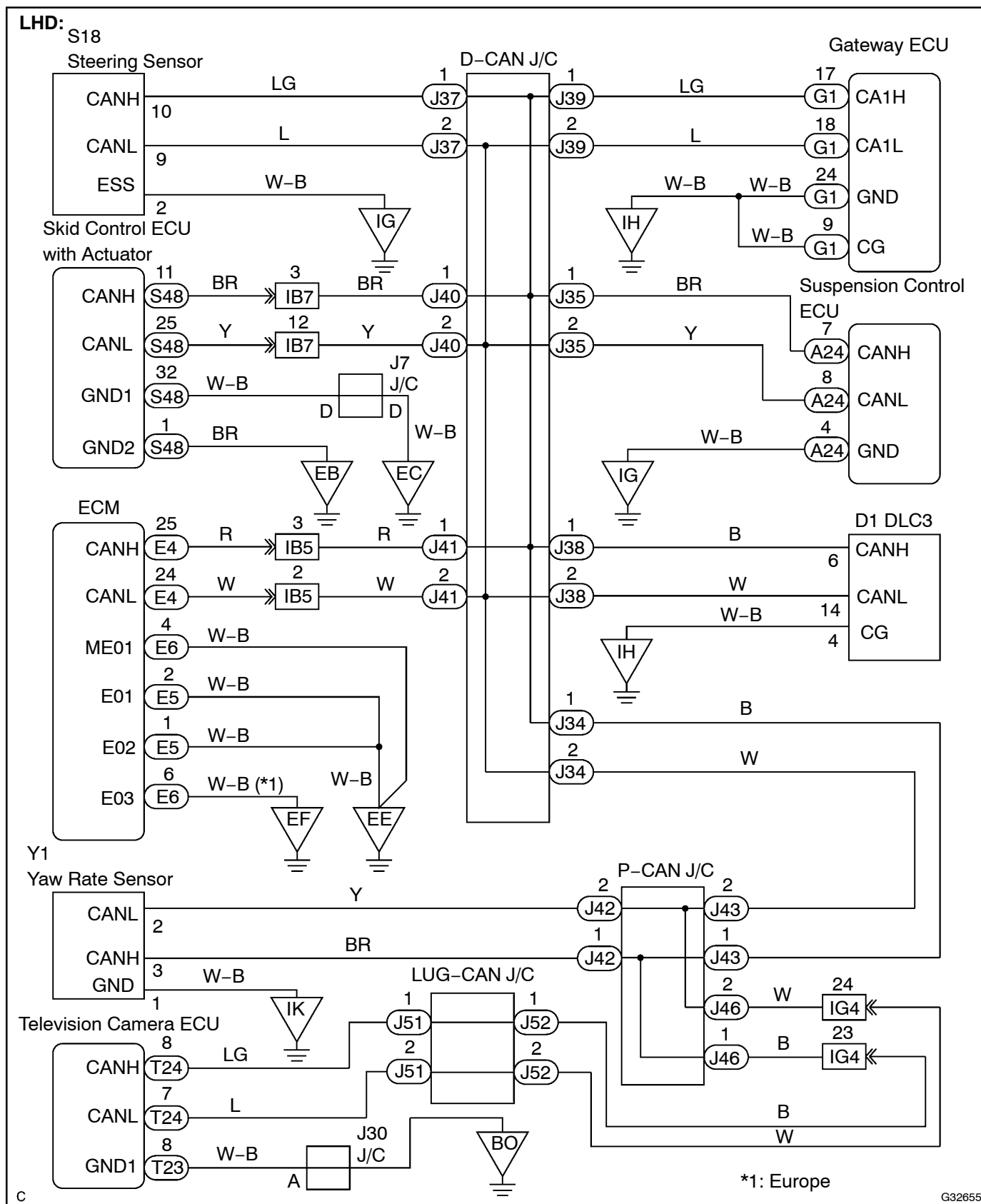
CHECK CAN BUS LINE FOR SHORT TO GND (LHD, w/ LEXUS Navigation System)

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.

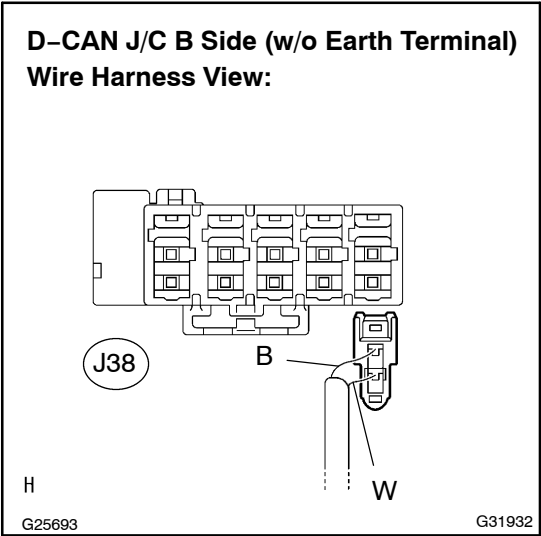
Symptom	Trouble Area
There is resistance between terminals 6 (CANH) and 4 (CG) or terminals 14 (CANL) and 4 (CG) of the DLC 3.	<ul style="list-style-type: none">• Short to GND• Television camera ECU• Skid control ECU with actuator• Steering sensor• Yaw rate sensor• Suspension control ECU• ECM• Gateway ECU• Junction connector (D-CAN J/C)• Junction connector (P-CAN J/C)• Junction connector (LUG-CAN J/C)

WIRING DIAGRAM



INSPECTION PROCEDURE

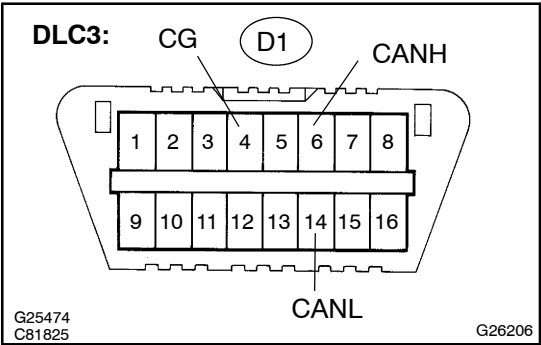
1 CHECK CAN BUS LINE FOR SHORT TO GND(DLC3 SUB BUS LINE)



- (a) Turn the ignition switch to the LOCK position.
(b) Disconnect the DLC3 sub 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.



- (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

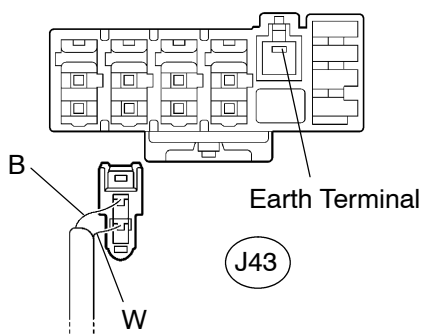
2 CONNECT CONNECTOR

- (a) Reconnect the DLC3 sub bus line connector (J38) to the D-CAN J/C B side (w/o earth terminal).



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

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

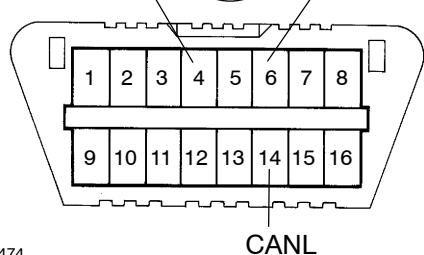


- (a) Disconnect the CAN main bus line connector (J43) from the P-CAN J/C A side (w/ earth terminal).

NOTICE:

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

DLC3: CG (D1) CANH



- (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 26

NG

4 CONNECT CONNECTOR

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

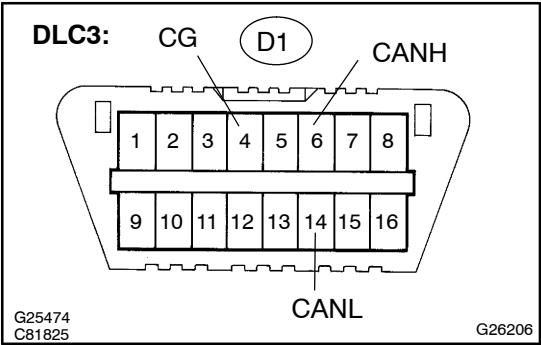
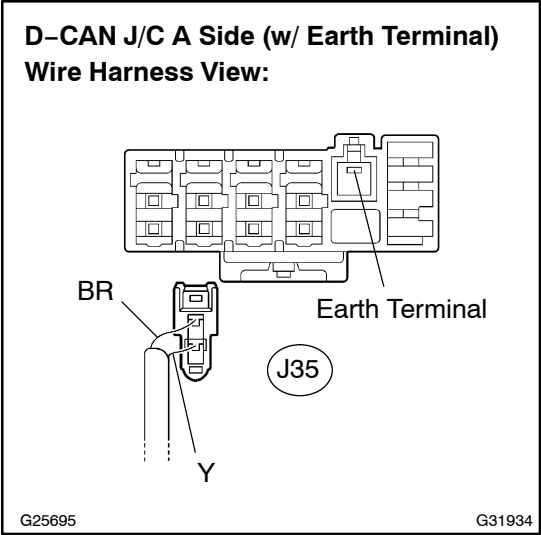
5 CHECK CAN BUS LINE FOR SHORT TO GND(SUSPENSION CONTROL ECU SUB BUS LINE)

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

- (a) Disconnect the suspension control ECU sub bus line connector (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 16

NG

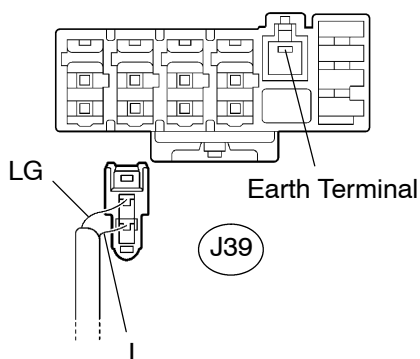
6 CONNECT CONNECTOR

- (a) Reconnect the suspension control ECU sub bus line connector (J35) to the D-CAN J/C A side (w/ earth terminal).



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

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



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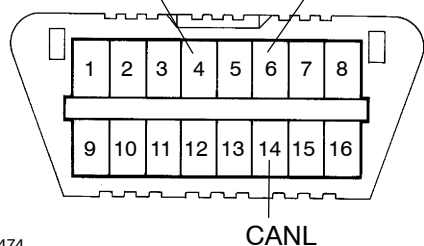
G31934

- (a) Disconnect the gateway ECU sub bus line connector (J39) 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.

DLC3: CG (D1) CANH

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- (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

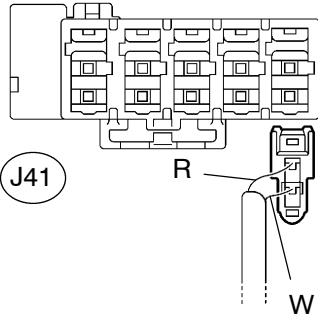
NG

8 CONNECT CONNECTOR

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

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

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

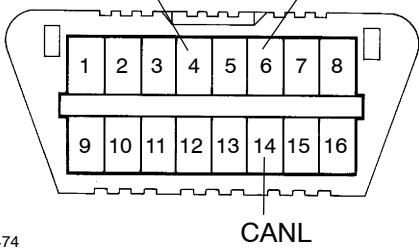


- (a) Disconnect the ECM sub bus line connector (J41) from the D-CAN J/C B side (w/o earth terminal).

NOTICE:

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

DLC3: CG D1 CANH



- (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 20

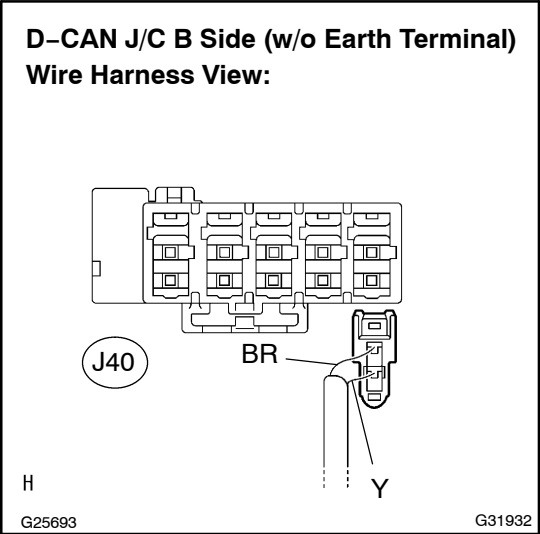
NG

10 CONNECT CONNECTOR

- (a) Reconnect the ECM sub bus line connector (J41) to the D-CAN J/C B side (w/o earth terminal).

11

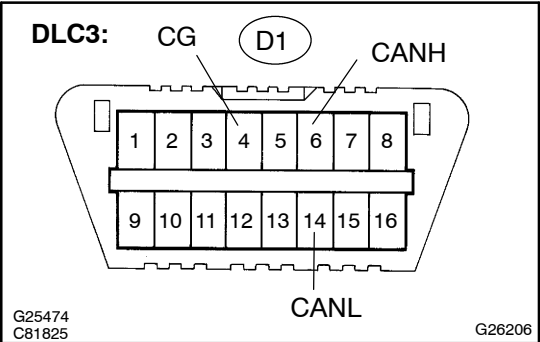
CHECK CAN BUS LINE FOR SHORT TO GND(SKID CONTROL ECU SUB BUS LINE)



- (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

OKI

Go to step 22

NG

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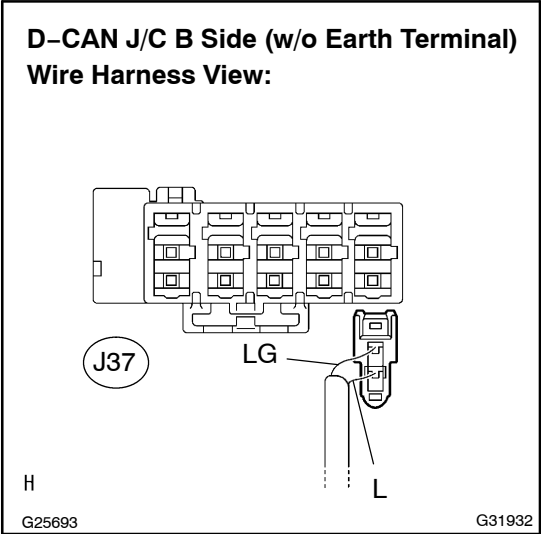
CONNECT CONNECTOR

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



13

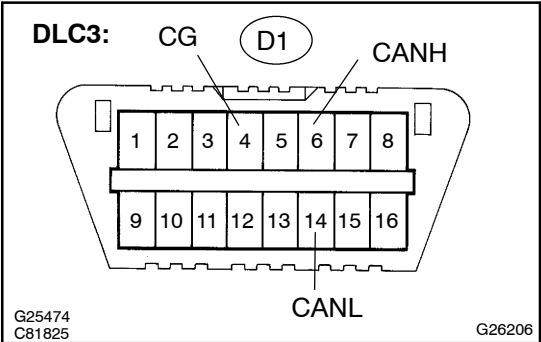
CHECK CAN BUS LINE FOR SHORT TO GND(STEERING SENSOR SUB BUS LINE)



- (a) Disconnect the steering sensor sub bus line connector (J37) from the D-CAN J/C 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 24

NG

14

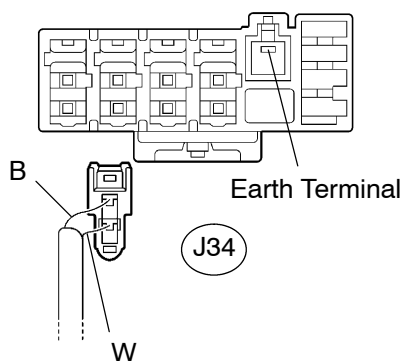
CONNECT CONNECTOR

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



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

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



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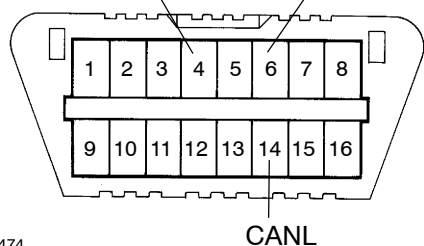
G31934

- (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.

DLC3: CG (D1) CANH

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- (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

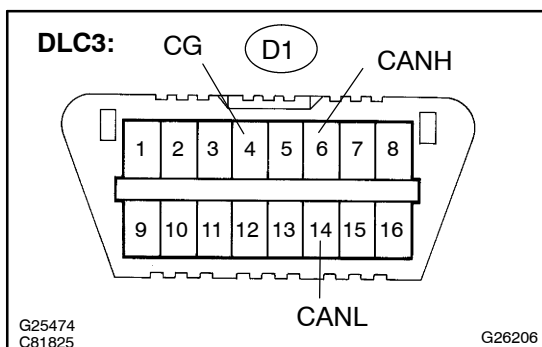
REPLACE JUNCTION CONNECTOR (D-CAN J/C)

OK

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

16 CONNECT CONNECTOR

- (a) Reconnect the suspension control ECU sub bus line connector (J35) to the D-CAN J/C A side (w/ earth terminal).

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

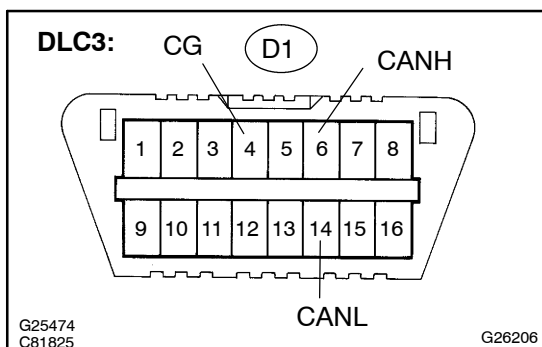
- (a) Disconnect the suspension control ECU connector (A24).
 (b) Measure the resistance according to the value(s) in the table below.

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)****18 CONNECT CONNECTOR**

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

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

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

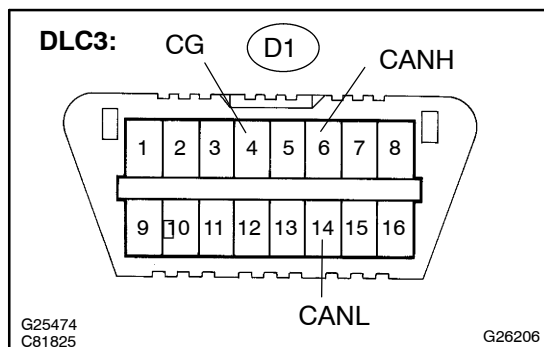
Standard:

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)**

20 CONNECT CONNECTOR

- (a) Reconnect the ECM sub bus line connector (J41) to the D-CAN/CB side (w/o earth terminal).

**21 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

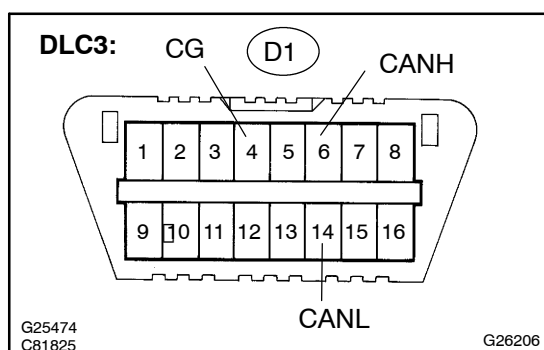
OK

REPLACE ECM (SEE PAGE 10-21)

NG

REPAIR OR REPLACE ECM SUB BUS LINE OR CONNECTOR (CAN-H, CAN-L)**22 CONNECT CONNECTOR**

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

**23 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 (CAN-H, CAN-L)

24

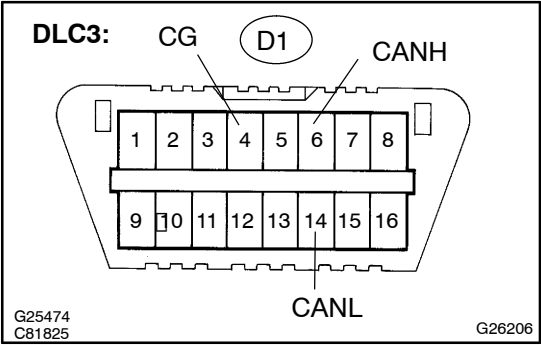
CONNECT CONNECTOR

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



25

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

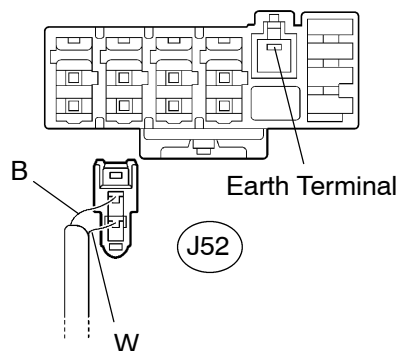
REPLACE STEERING SENSOR (SEE PAGE 32-65)



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

26 CONNECT CONNECTOR

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

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


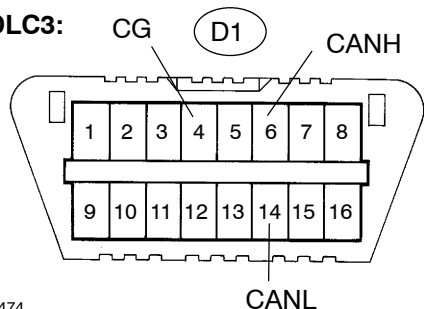
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- (a) Disconnect the CAN main bus line connector (J52) from the LUG-CAN J/C A side (w/ earth terminal).

NOTICE:

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

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- (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

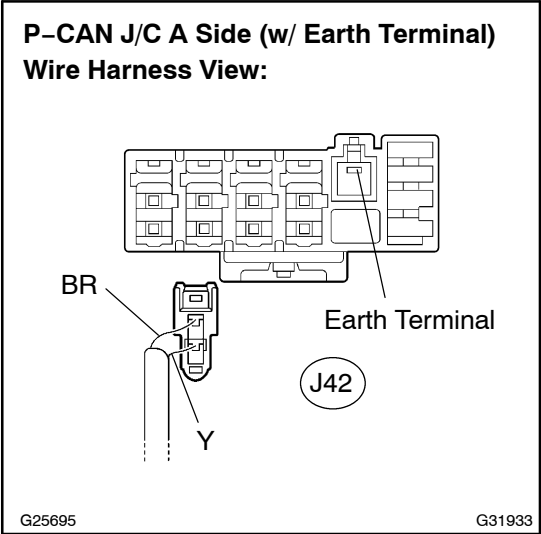
OK**Go to step 34****NG****28 CONNECT CONNECTOR**

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



29

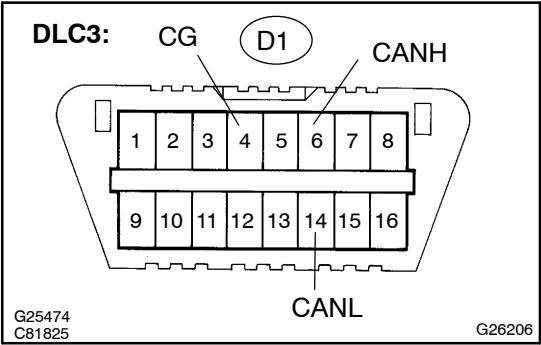
CHECK CAN BUS LINE FOR SHORT TO GND(YAW RATE SENSOR SUB BUS LINE)



- (a) Disconnect the yaw rate sensor sub bus line connector (J42) 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

OK

Go to step 32

NG

30

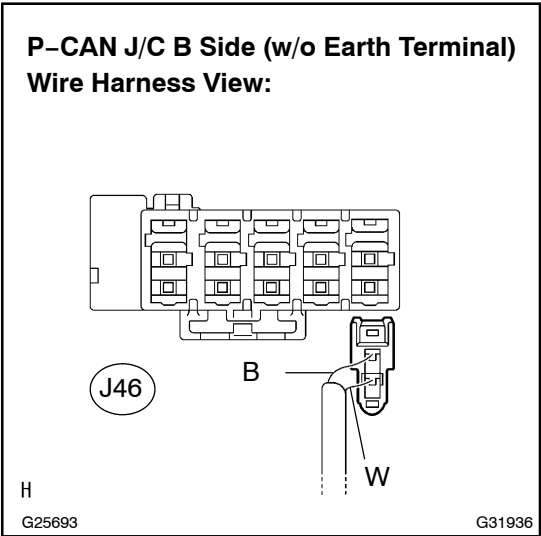
CONNECT CONNECTOR

- (a) Reconnect the yaw rate sensor sub bus line connector (J42) to the P-CAN J/C A side (w/ earth terminal).



31

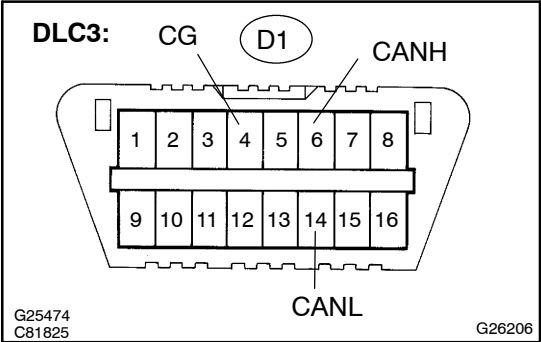
CHECK CAN BUS LINE FOR SHORT TO GND(P-CAN J/C)



- (a) Disconnect the CAN main bus line connector (J46) 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

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

NG

REPLACE JUNCTION CONNECTOR (P-CAN J/C)

32

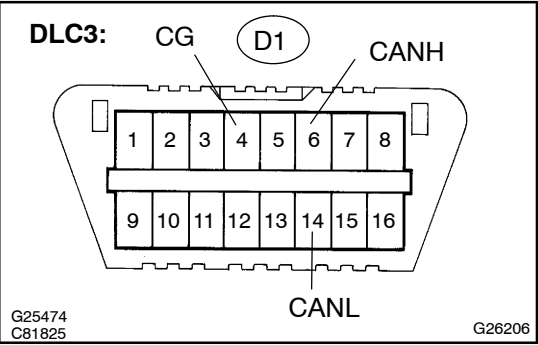
CONNECT CONNECTOR

- (a) Reconnect the yaw rate sensor sub bus line connector (J42) to the P-CAN J/C A side (w/ earth terminal).



33

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

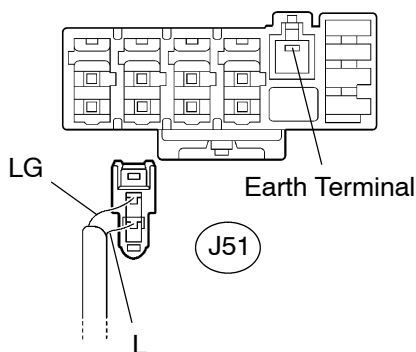
REPLACE YAW RATE SENSOR

NG

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

34 CONNECT CONNECTOR

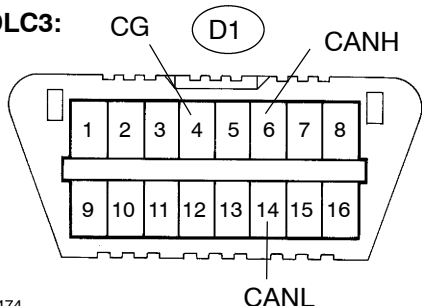
- (a) Reconnect the CAN main bus line connector (J52) to the LUG-CAN J/C A side (w/ earth terminal).

**35 CHECK CAN BUS LINE FOR SHORT TO GND(TELEVISION CAMERA ECU SUB BUS LINE)****LUG-CAN J/C A Side
(w/ Earth Terminal):**

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G31935

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

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

Standard:

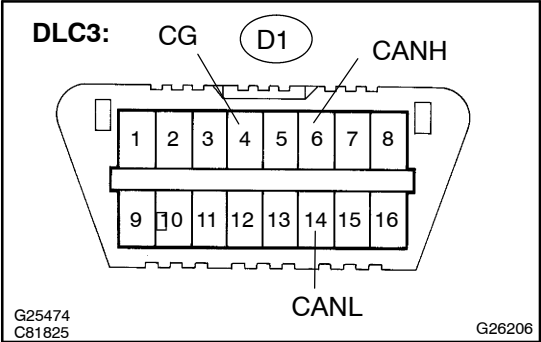
Tester connection	Condition	Specified value
D1-6 (CANH) - D1-4 (CG)	Ignition Switch OFF	1 kΩ or more
D1-14 (CANL) - D1-4 (CG)	Ignition Switch OFF	1 kΩ or more

NG**REPLACE JUNCTION CONNECTOR (LUG-CAN J/C)****OK****36 CONNECT CONNECTOR**

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



37 **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)