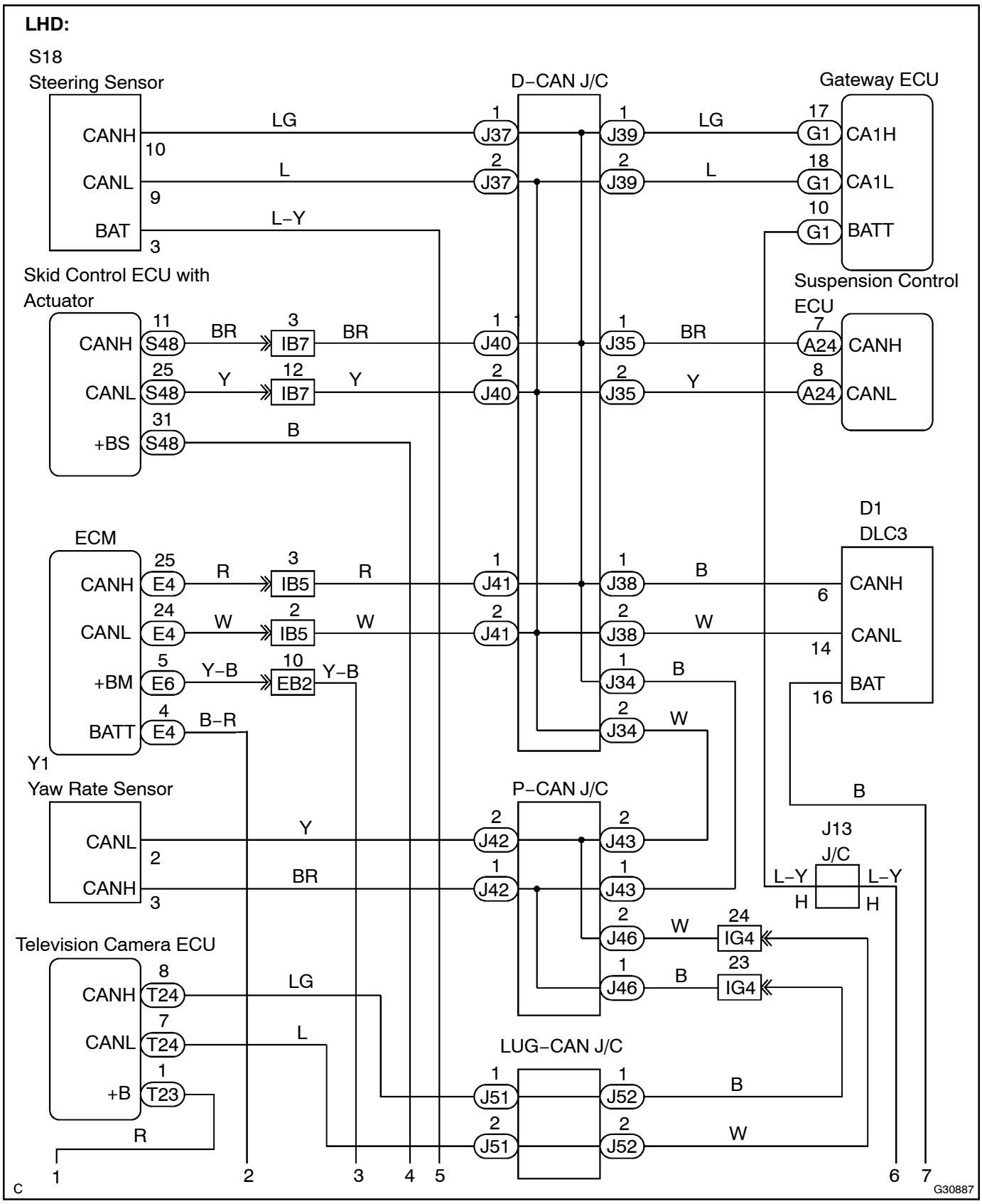
# CHECK CAN BUS LINE FOR SHORT TO +B (LHD, w/ LEXUS Navigation System)

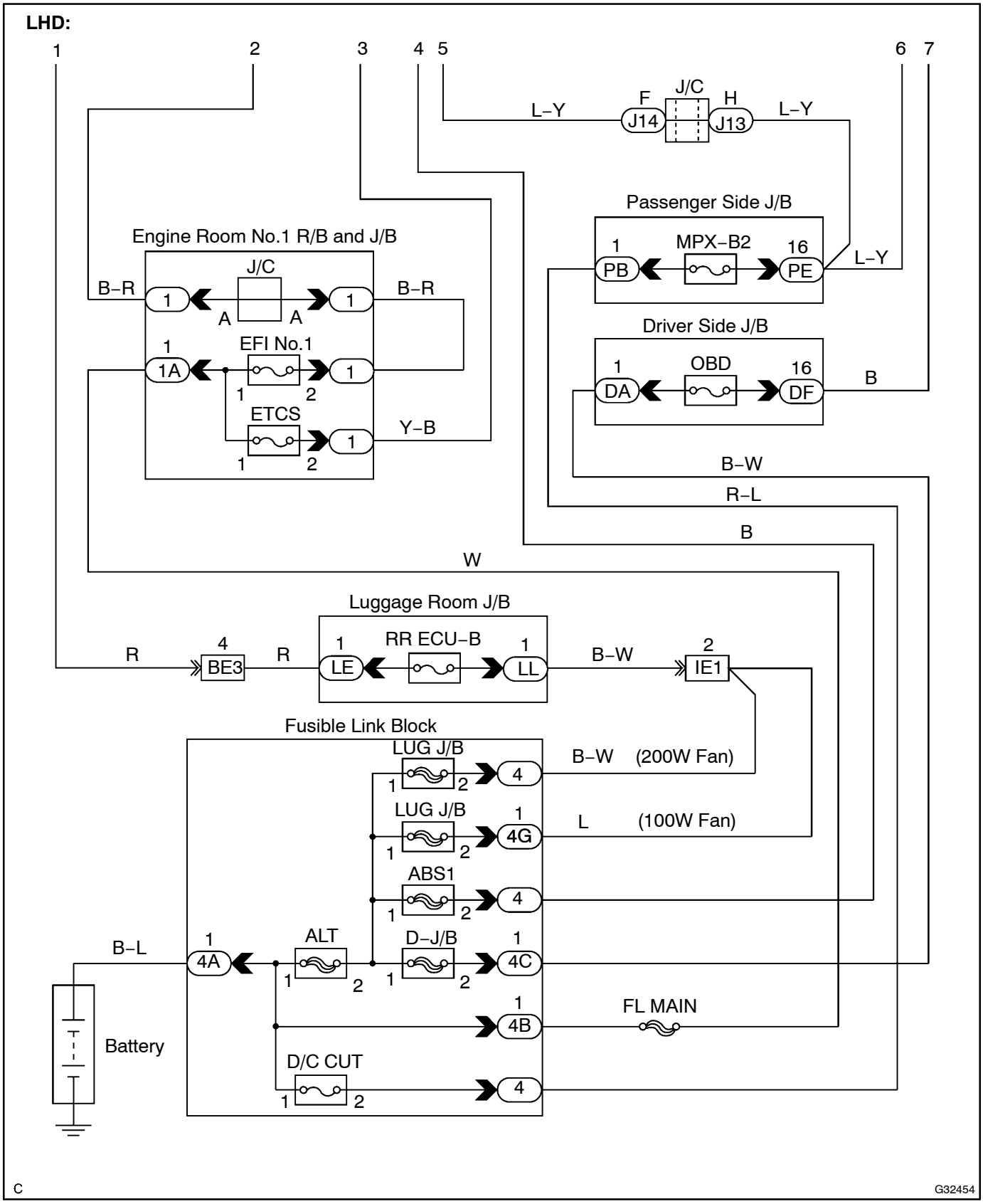
## CIRCUIT DESCRIPTION

There may be a short circuit between the CAN bus line and +B when there is resistance between terminals 6 (CANH) and 16 (BAT) or terminals 14 (CANL) and 16 (BAT) of the DLC3.

| Symptom | Trouble Area |
|---|---|
| There is resistance between terminals 6 (CANH) and 16 (BAT) or terminals 14 (CANL) and 16 (BAT) of the DLC 3. | • Short to +B<br>• Television camera ECU<br>• Skid control ECU with actuator<br>• Steering sensor<br>• Yaw rate sensor<br>• Suspension control ECU<br>• ECM<br>• Gateway ECU |

# WIRING DIAGRAM




LHD:
1
2
3
4
5
6
7
J/C
F
H
J14
J13
L–Y
L–Y
Passenger Side J/B
1
MPX–B2
16
PB
PE
L–Y
Engine Room No.1 R/B and J/B
J/C
B–R
1
A
A
1
B–R
1
EFI No.1
1A
1
1
2
ETCS
1
1
2
Y–B
Driver Side J/B
1
OBD
16
DA
DF
B
B–W
R–L
B
W
Luggage Room J/B
R
4
BE3
R
1
RR ECU–B
1
LE
LL
B–W
2
IE1
Fusible Link Block
LUG J/B
B–W (200W Fan)
4
LUG J/B
1
L (100W Fan)
4G
ABS1
4
B–L
1
4A
ALT
D–J/B
1
4C
1
4B
FL MAIN
Battery
D/C CUT
4
C
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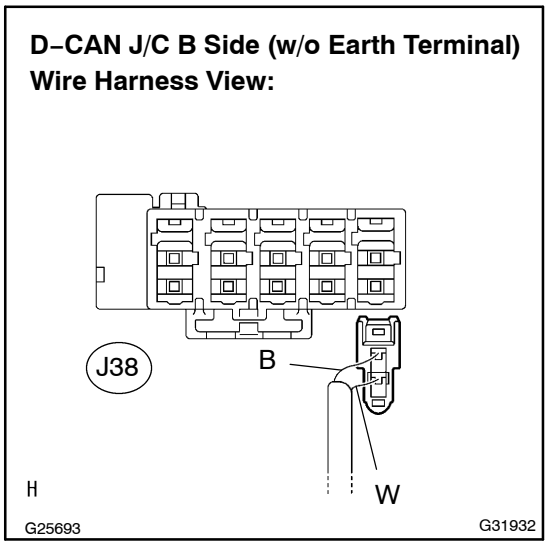
# INSPECTION PROCEDURE

| 1 | CHECK CAN BUS LINE FOR SHORT TO +B(DLC3 SUB BUS LINE) |
|---|---|

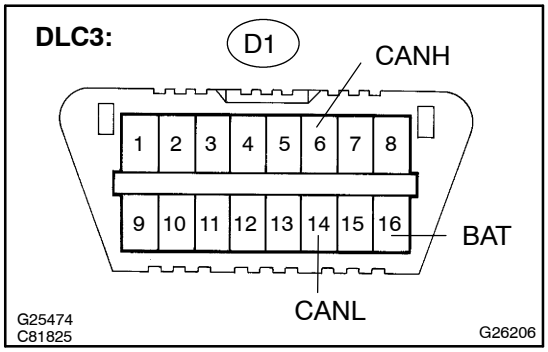



(a) Turn the ignition switch to the LOCK position.

(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) – D1–16 (BAT) | Ignition Switch OFF | 1 MΩ or more |
| D1–14 (CANL) – D1–16 (BAT) | Ignition Switch OFF | 1 MΩ or more |

**NG** → **REPAIR OR REPLACE DLC3 SUB BUS LINE OR CONNECTOR (CAN–H, CAN–L)**

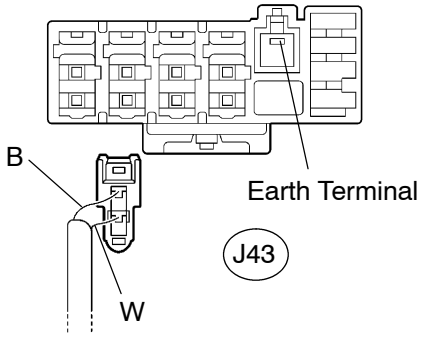
**OK**

| 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 +B(CAN BUSES TO D–CAN J/C)

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

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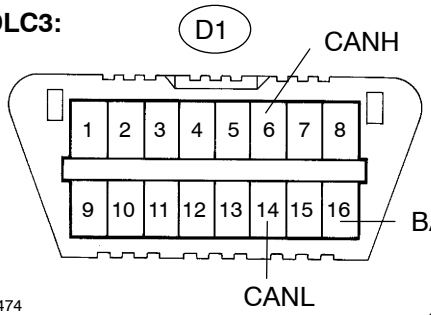
(a) Disconnect the CAN main bus line connector (J43) from the P–CAN J/C A side (w/ earth terminal).

**NOTICE:**

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

**DLC3:**

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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) – D1–16 (BAT) | Ignition Switch OFF | 1 MΩ or more |
| D1–14 (CANL) – D1–16 (BAT) | Ignition Switch OFF | 1 MΩ or more |

**OK** → **Go to step 24**

**NG**

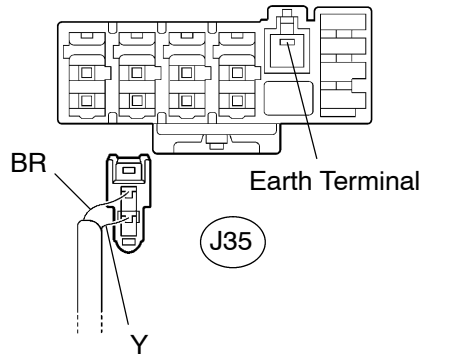
## 4 CONNECT CONNECTOR

(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 +B(SUSPENSION CONTROL ECU SUB BUS LINE)

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

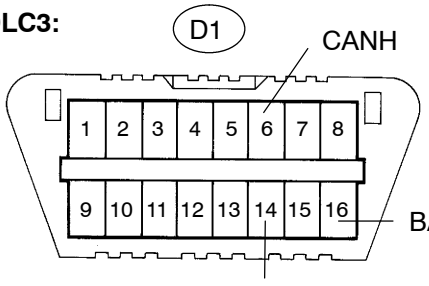
**D–CAN J/C A Side (w/ Earth Terminal) Wire Harness View:**




(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.**

**DLC3:**




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

| Tester connection | Condition | Specified value |
|---|---|---|
| D1–6 (CANH) – D1–16 (BAT) | Ignition Switch OFF | 1 MΩ or more |
| D1–14 (CANL) – D1–16 (BAT) | Ignition Switch OFF | 1 MΩ or more |

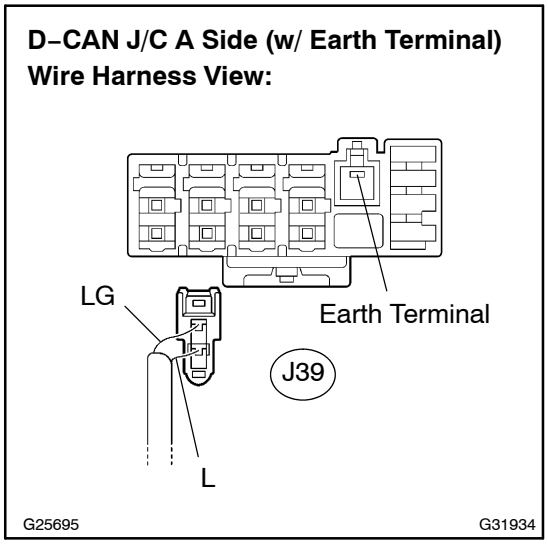
**OK** → **Go to step 14**

**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).

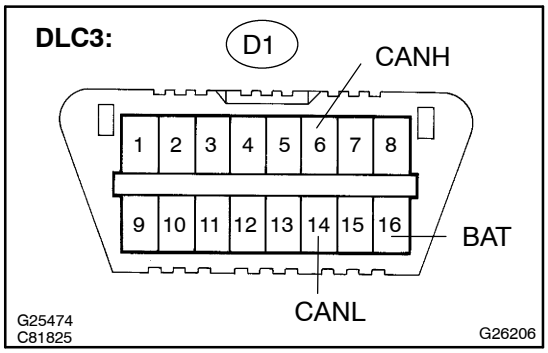
## 7 CHECK CAN BUS LINE FOR SHORT TO +B(GATEWAY ECU SUB BUS LINE)




(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.**




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

**Standard:**

| Tester connection | Condition | Specified value |
|---|---|---|
| D1–6 (CANH) – D1–16 (BAT) | Ignition Switch OFF | 1 MΩ or more |
| D1–14 (CANL) – D1–16 (BAT) | Ignition Switch OFF | 1 MΩ or more |

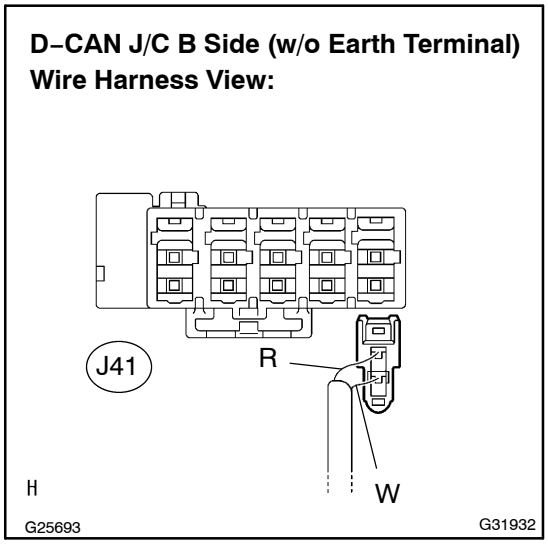
**OK** → **Go to step 16**

**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).

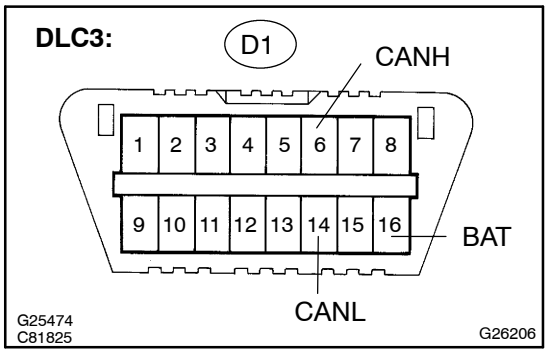
## 9 CHECK CAN BUS LINE FOR SHORT TO +B(ECU SUB BUS LINE)




(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.**




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

**Standard:**

| Tester connection | Condition | Specified value |
|---|---|---|
| D1–6 (CANH) – D1–16 (BAT) | Ignition Switch OFF | 1 MΩ or more |
| D1–14 (CANL) – D1–16 (BAT) | Ignition Switch OFF | 1 MΩ or more |

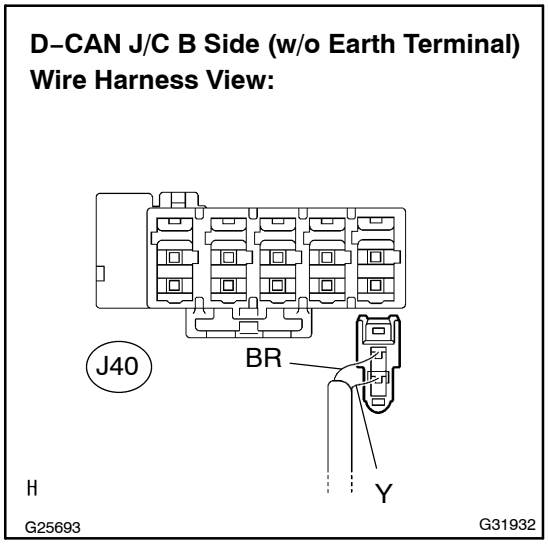
**OK** → **Go to step 18**

**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).

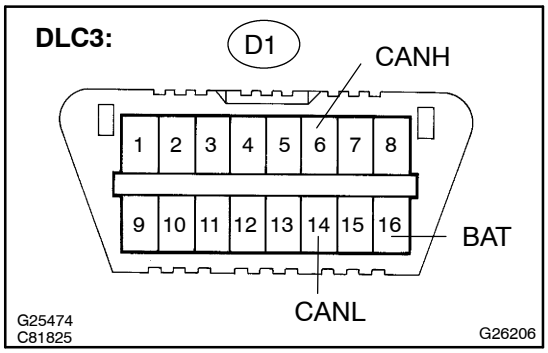
## 11 CHECK CAN BUS LINE FOR SHORT TO +B(SKID CONTROL ECU SUB BUS LINE)




(a) Disconnect the skid control ECU sub bus line connector (J40) 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) – D1–16 (BAT) | Ignition Switch OFF | 1 MΩ or more |
| D1–14 (CANL) – D1–16 (BAT) | Ignition Switch OFF | 1 MΩ or more |

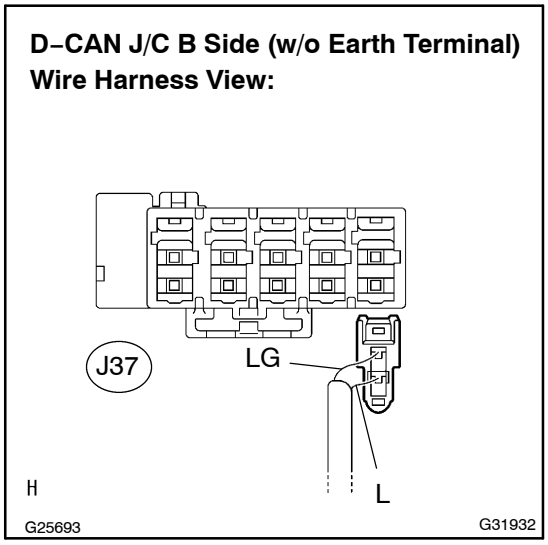
**OK** → **Go to step 20**

**NG**

## 12 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).

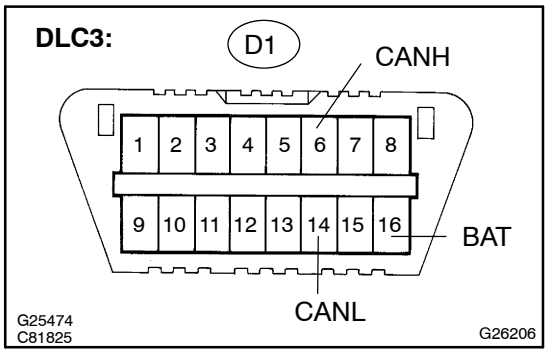
## 13 CHECK CAN BUS LINE FOR SHORT TO +B(STEERING SENSOR SUB BUS LINE)




(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) – D1–16 (BAT) | Ignition Switch OFF | 1 MΩ or more |
| D1–14 (CANL) – D1–16 (BAT) | Ignition Switch OFF | 1 MΩ or more |

**OK** → **Go to step 22**

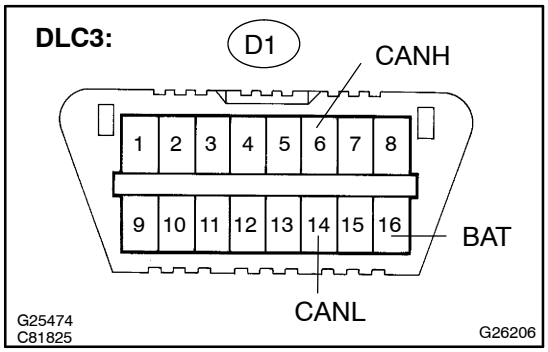
**NG**

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

## 14 CONNECT CONNECTOR

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

## 15 CHECK CAN BUS LINE FOR SHORT TO +B(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) – D1–16 (BAT) | Ignition Switch OFF | 1 MΩ or more |
| D1–14 (CANL) – D1–16 (BAT) | Ignition Switch OFF | 1 MΩ or more |

**OK** → **REPLACE SUSPENSION CONTROL ECU (SEE PAGE 25–20)**

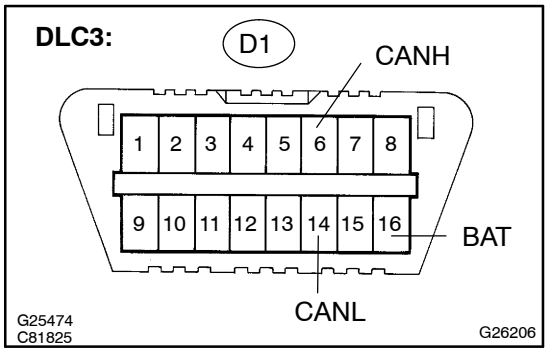
**NG**

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

## 16 CONNECT CONNECTOR

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

## 17 CHECK CAN BUS LINE FOR SHORT TO +B(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) – D1–16 (BAT) | Ignition Switch OFF | 1 MΩ or more |
| D1–14 (CANL) – D1–16 (BAT) | Ignition Switch OFF | 1 MΩ or more |

**OK** → **REPLACE GATEWAY ECU**

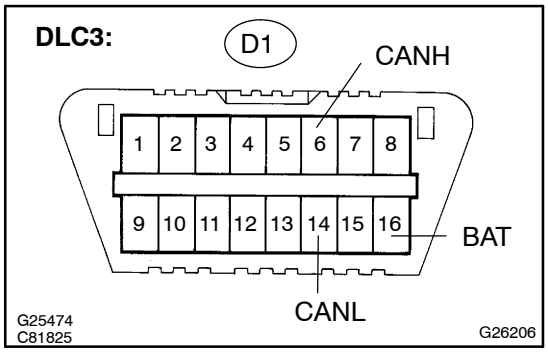
**NG**

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

## 18 CONNECT CONNECTOR

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

## 19 CHECK CAN BUS LINE FOR SHORT TO +B(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) – D1–16 (BAT) | Ignition Switch OFF | 1 MΩ or more |
| D1–14 (CANL) – D1–16 (BAT) | Ignition Switch OFF | 1 MΩ or more |

**OK** → **REPLACE ECM (SEE PAGE 10–21)**

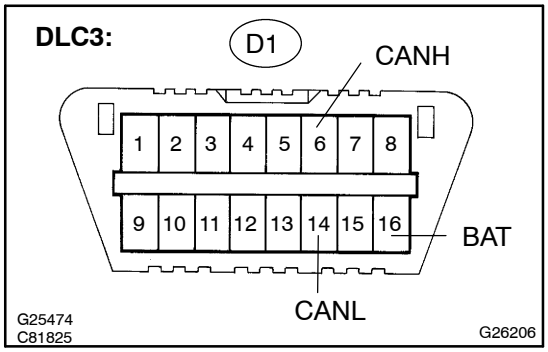
**NG**

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

## 20 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).

## 21 CHECK CAN BUS LINE FOR SHORT TO +B(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) – D1–16 (BAT) | Ignition Switch OFF | 1 MΩ or more |
| D1–14 (CANL) – D1–16 (BAT) | Ignition Switch OFF | 1 MΩ or more |

**OK** → **REPLACE SKID CONTROL ECU WITH ACTUATOR (SEE PAGE 32–53)**

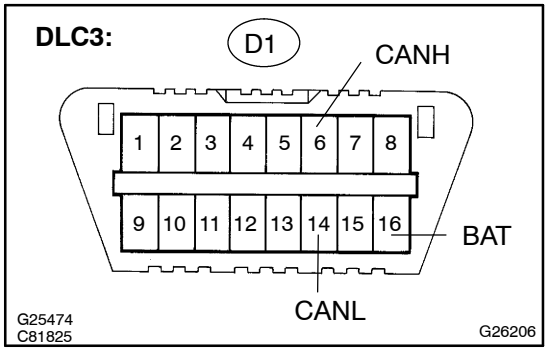
**NG**

**REPAIR OR REPLACE SKID CONTROL ECU WITH ACTUATOR (CAN–H, CAN–L)**

| 22 | CONNECT CONNECTOR |
|---|---|

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

| 23 | CHECK CAN BUS LINE FOR SHORT TO +B(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) – D1–16 (BAT) | Ignition Switch OFF | 1 MΩ or more |
| D1–14 (CANL) – D1–16 (BAT) | Ignition Switch OFF | 1 MΩ or more |

**OK** → **REPLACE STEERING SENSOR (SEE PAGE 32–65)**

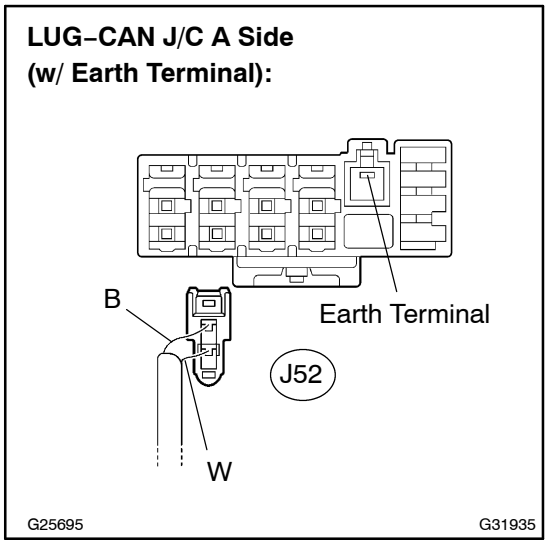
**NG**

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

## 24 CONNECT CONNECTOR

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

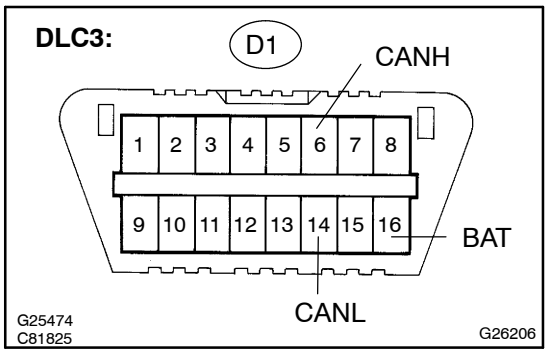
## 25 CHECK CAN BUS LINE FOR SHORT TO +B(CAN BUSES TO LUG–CAN J/C)




(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.**




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

**Standard:**

| Tester connection | Condition | Specified value |
|---|---|---|
| D1–6 (CANH) – D1–16 (BAT) | Ignition Switch OFF | 1 MΩ or more |
| D1–14 (CANL) – D1–16 (BAT) | Ignition Switch OFF | 1 MΩ or more |

**OK** → **Go to step 30**

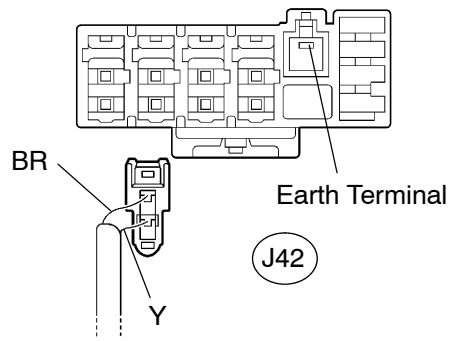
**NG**

## 26 CONNECT CONNECTOR

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

## 27 CHECK CAN BUS LINE FOR SHORT TO +B(YAW RATE SENSOR SUB BUS LINE)

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

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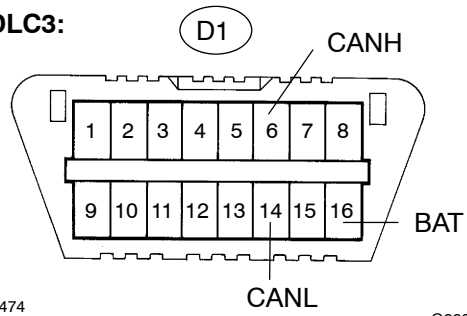
(a) Disconnect the yaw rate sensor sub bus line connector (J42) from the P–CAN J/C A side (w/ earth terminal).

**NOTICE:**

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

**DLC3:**

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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) – D1–16 (BAT) | Ignition Switch OFF | 1 MΩ or more |
| D1–14 (CANL) – D1–16 (BAT) | Ignition Switch OFF | 1 MΩ or more |

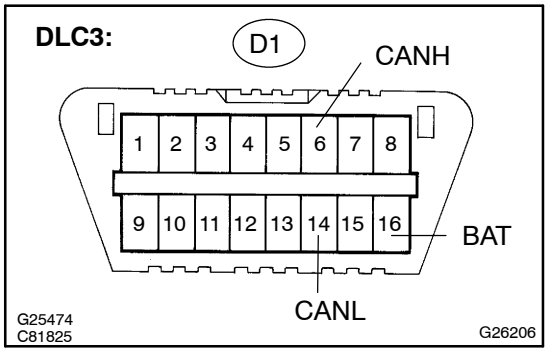
**NG** → **REPAIR OR REPLACE CAN MAIN BUS LINE OR CONNECTOR (P–CAN J/C – LUG–CAN J/C)**

**OK**

## 28 CONNECT CONNECTOR

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

## 29 CHECK CAN BUS LINE FOR SHORT TO +B(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) – D1–16 (BAT) | Ignition Switch OFF | 1 MΩ or more |
| D1–14 (CANL) – D1–16 (BAT) | Ignition Switch OFF | 1 MΩ or more |

**OK** → **REPLACE YAW RATE SENSOR (SEE PAGE 32–63)**

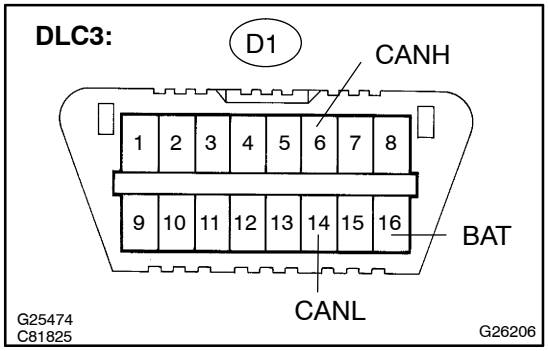
**NG**

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

## 30 CONNECT CONNECTOR

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

## 31 CHECK CAN BUS LINE FOR SHORT TO +B(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) – D1–16 (BAT) | Ignition Switch OFF | 1 MΩ or more |
| D1–14 (CANL) – D1–16 (BAT) | Ignition Switch OFF | 1 MΩ 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)**