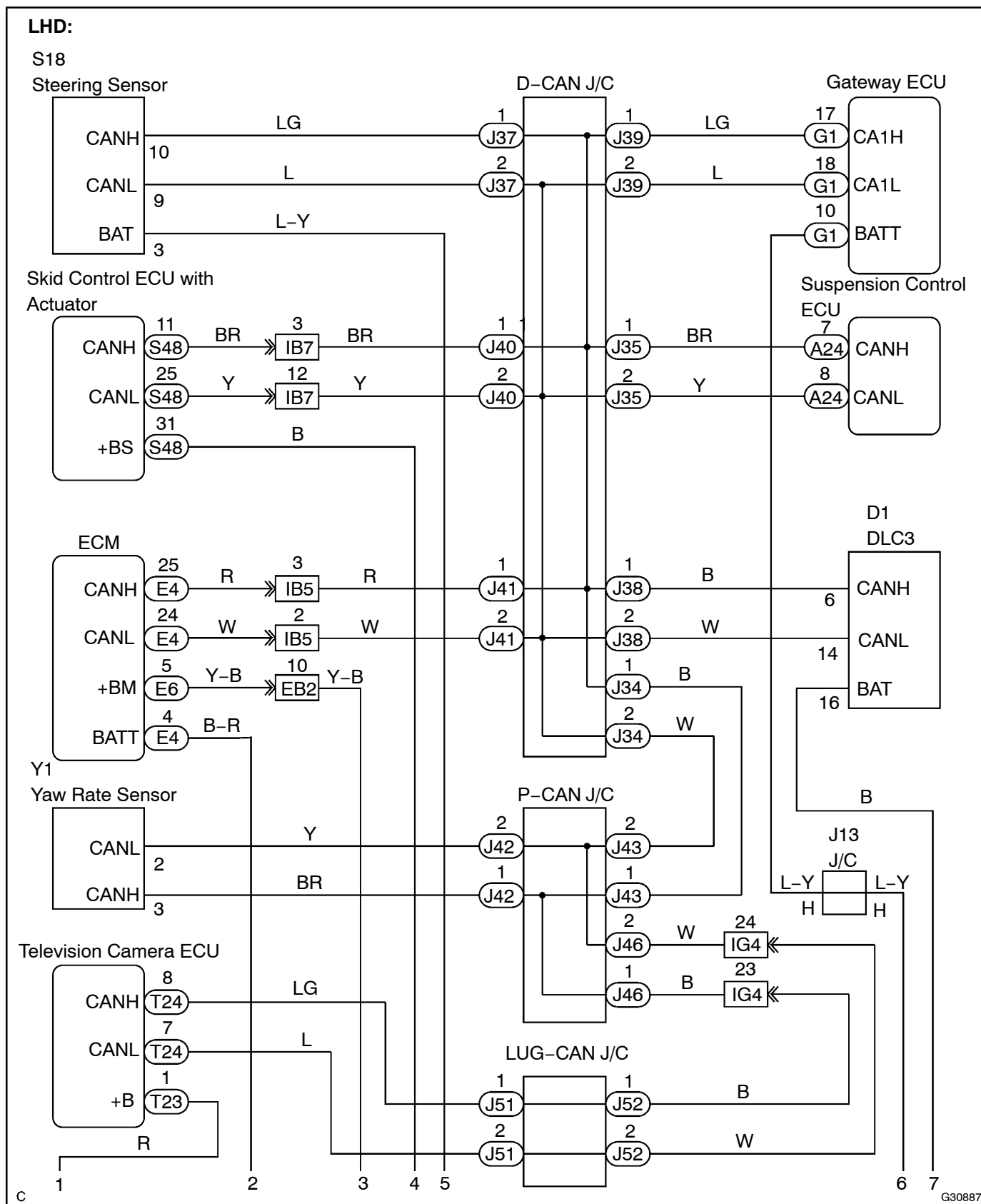# CHECK CAN BUS LINE FOR SHORT TO +B (LHD, w/ LEXUS Navigation System)

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 • Television camera ECU • Skid control ECU with actuator • Steering sensor • Yaw rate sensor • Suspension control ECU • ECM • Gateway ECU

WIRING DIAGRAM

LHD:

G30887

LHD:

G32454

INSPECTION PROCEDURE

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

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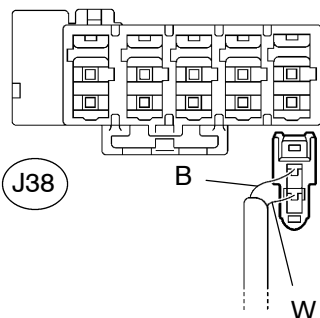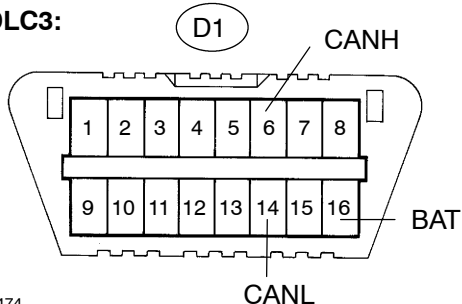

G25693   G31932

(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.**

DLC3:

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) − D1−16 (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:

B

Earth Terminal

(J43)

W
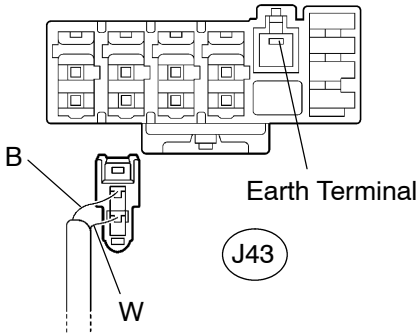
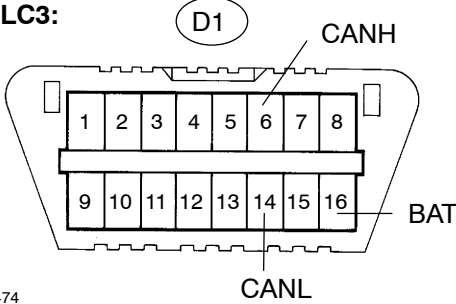G25695   G31933

(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: (D1)

CANH

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

| 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |

BAT

CANL

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) – D1−16 (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).

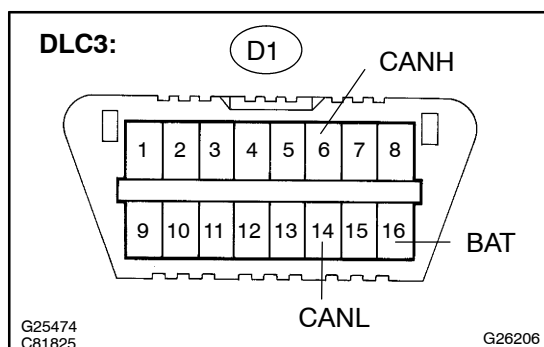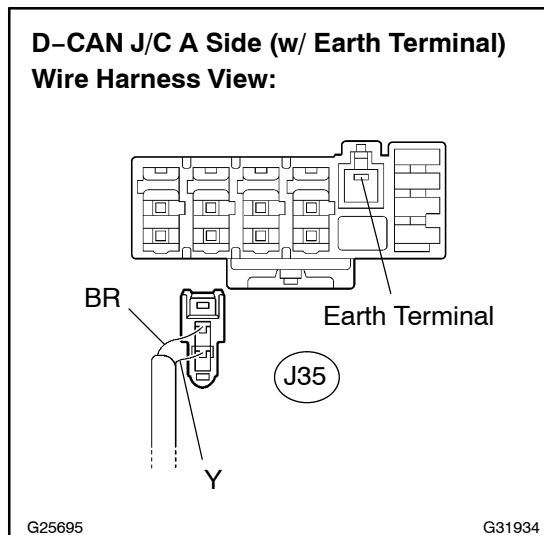| 5	CHECK CAN BUS LINE FOR SHORT TO +B(SUSPENSION CONTROL ECU SUB BUS LINE)

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

(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.**

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

BR

Earth Terminal

J35

Y

G25695   G31934

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

Standard:

DLC3:

D1

CANH

1	2	3	4	5	6	7	8

9	10	11	12	13	14	15	16

BAT

CANL

G25474
C81825   G26206

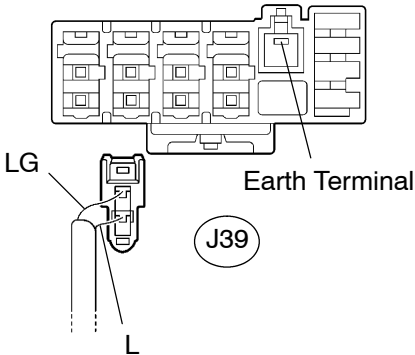| Tester connection	Condition	Specified value
D1−6 (CANH) − D1−16 (BAT)	Ignition Switch OFF	1 MΩ or more
D1−14 (CANL) − D1−16 (BAT)	Ignition Switch OFF	1 MΩ or more

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) |

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

LG

Earth Terminal

(J39)

L

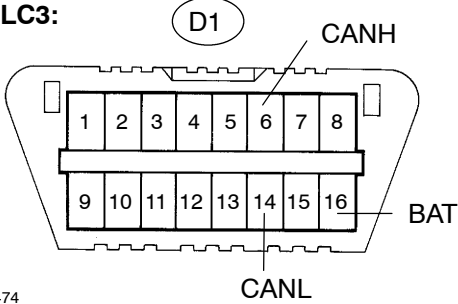G25695   G31934

(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:

(D1)

CANH

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

| 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | BAT

CANL

G25474
C81825   G26206

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

Standard:

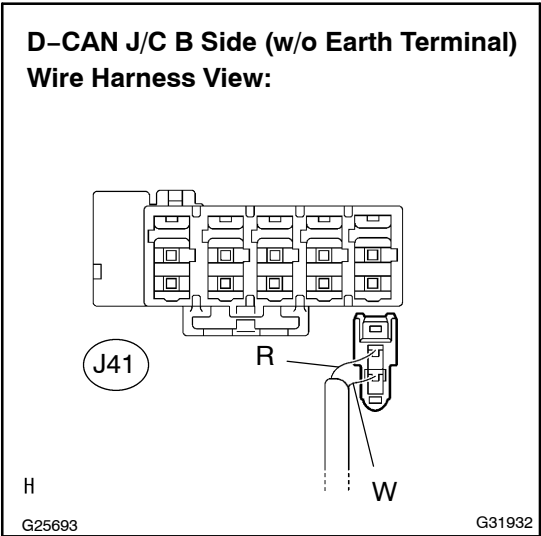| Tester connection	Condition	Specified value
D1−6 (CANH) − D1−16 (BAT)	Ignition Switch OFF	1 MΩ or more
D1−14 (CANL) − D1−16 (BAT)	Ignition Switch OFF	1 MΩ or more

| **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).
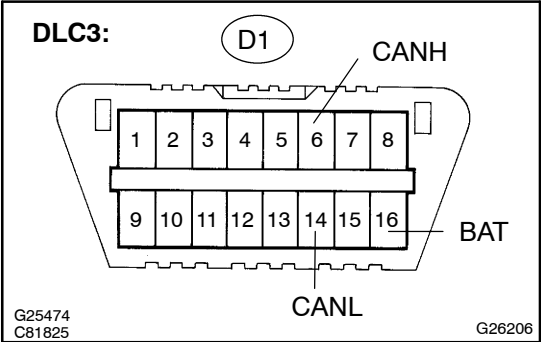
9	CHECK CAN BUS LINE FOR SHORT TO +B(ECU SUB BUS LINE)

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

H

(J41)   R   W

G25693   G31932

(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:   D1   CANH

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

| 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | BAT

CANL

G25474
C81825   G26206

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

Standard:

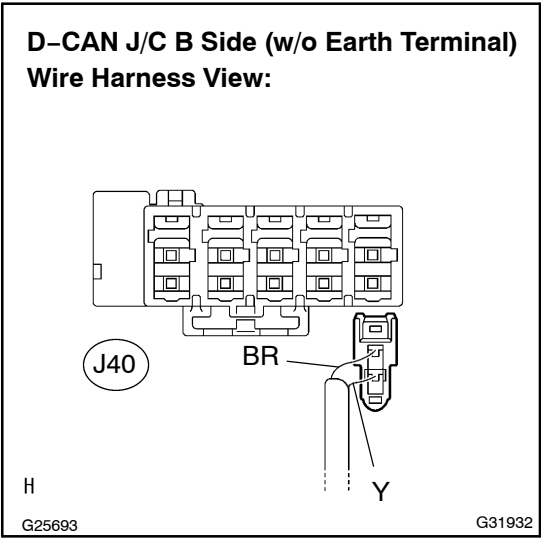| Tester connection	Condition	Specified value
D1–6 (CANH) – D1–16 (BAT)	Ignition Switch OFF	1 MΩ or more
D1–14 (CANL) – D1–16 (BAT)	Ignition Switch OFF	1 MΩ or more

OK > **Go to step 18**

NG

10	CONNECT CONNECTOR

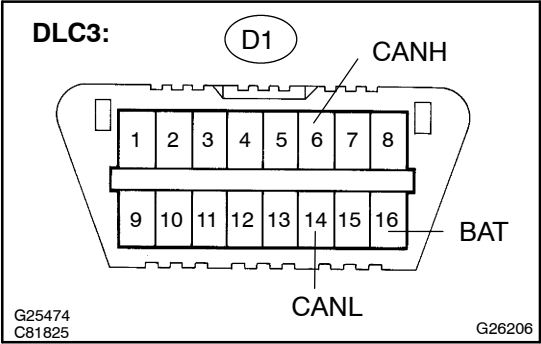(a) Reconnect the ECM sub bus line connector (J41) to the D–CAN J/C B side (w/o earth terminal).

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

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

J40   BR

H   Y

G25693   G31932

(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.**

DLC3:   D1   CANH

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

| 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | BAT

CANL

G25474
C81825   G26206

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

Standard:

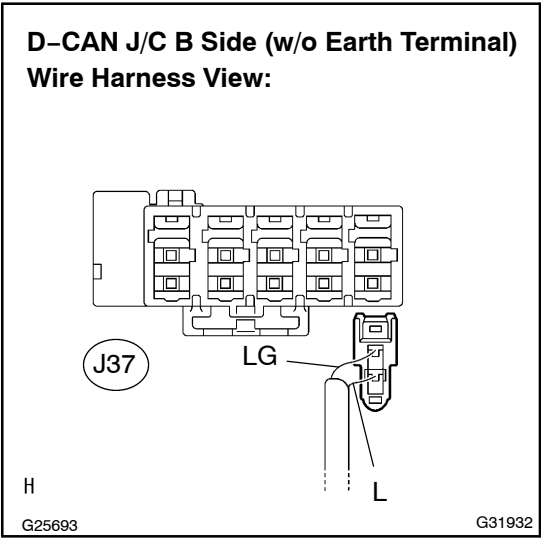| Tester connection	Condition	Specified value
D1–6 (CANH) – D1–16 (BAT)	Ignition Switch OFF	1 MΩ or more
D1–14 (CANL) – D1–16 (BAT)	Ignition Switch OFF	1 MΩ or more

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) |

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

G25693   G31932

(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.**

DLC3:

G25474
C81825   G26206
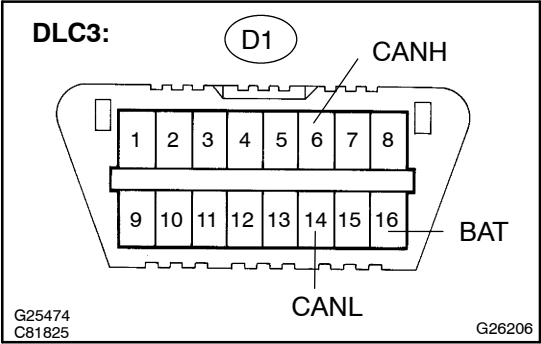
(b) Measure the resistance according to the value(s) in the table below.

Standard:

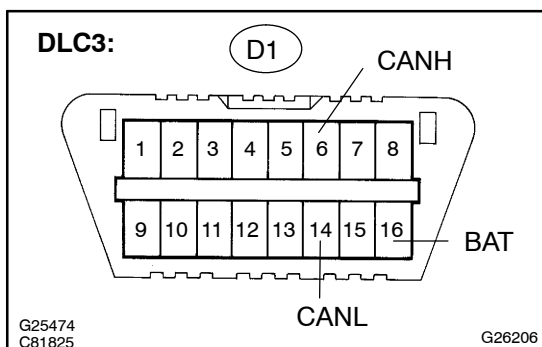| Tester connection	Condition	Specified value
D1-6 (CANH) – D1-16 (BAT)	Ignition Switch OFF	1 MΩ or more
D1-14 (CANL) – D1-16 (BAT)	Ignition Switch OFF	1 MΩ or more

| 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).

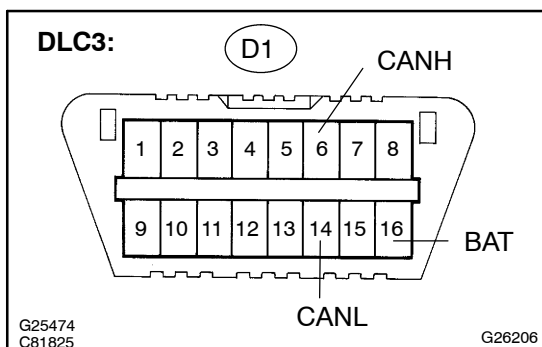| 15 | CHECK CAN BUS LINE FOR SHORT TO +B(SUSPENSION CONTROL ECU SUB BUS LINE) |

DLC3:

(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) |

DLC3:

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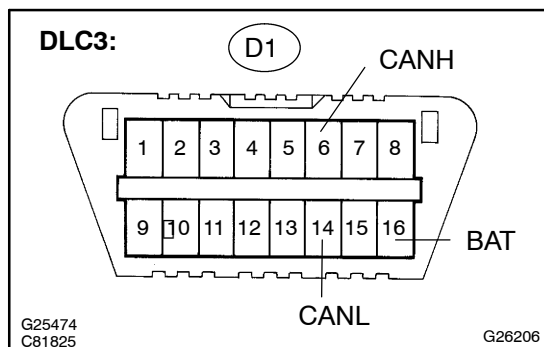(b) Measure the resistance according to the value(s) in the table below.
Standard:

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) |

DLC3:

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

Standard:

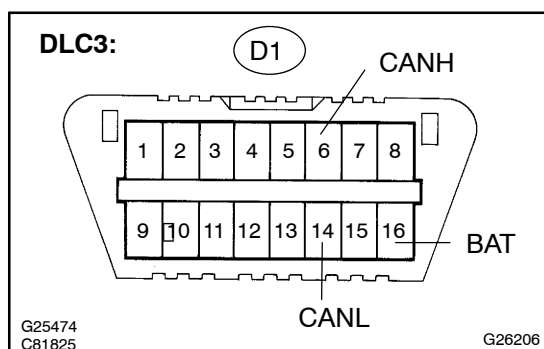| Tester connection	Condition	Specified value
D1–6 (CANH) – D1–16 (BAT)	Ignition Switch OFF	1 MΩ or more
D1–14 (CANL) – D1–16 (BAT)	Ignition Switch OFF	1 MΩ or more

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) |

DLC3:

(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) |

DLC3:

D1

CANH

1 2 3 4 5 6 7 8

9 10 11 12 13 14 15 16

BAT

CANL

G25474
C81825
G26206
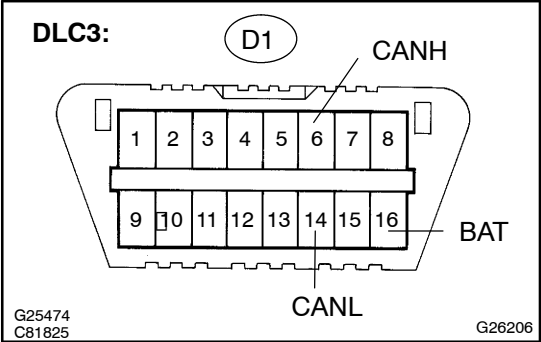
(a) Disconnect the steering sensor connector (S18).

(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)

LUG–CAN J/C A Side
(w/ Earth Terminal):
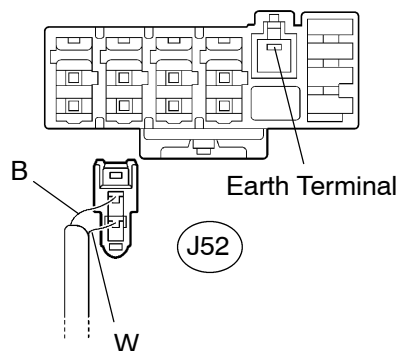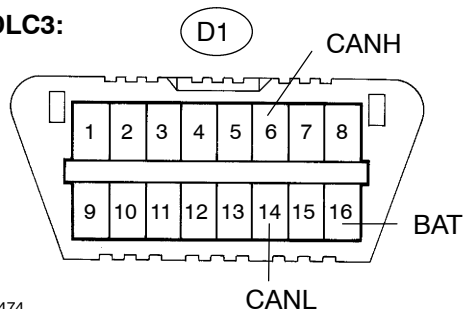

G25695   G31935

(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:

G25474
C81825   G26206

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

Standard:

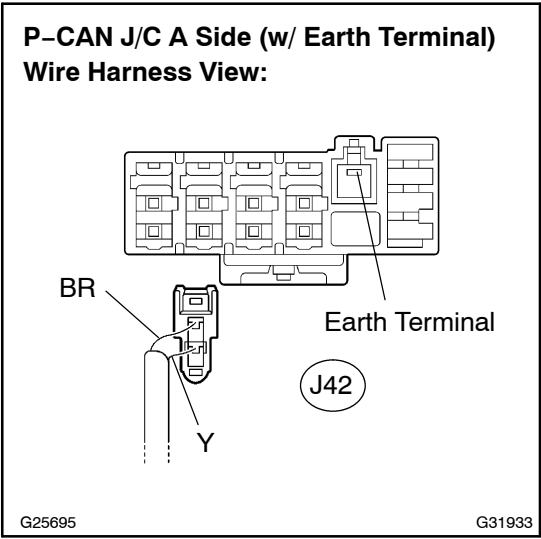| Tester connection	Condition	Specified value
D1–6 (CANH) – D1–16 (BAT)	Ignition Switch OFF	1 MΩ or more
D1–14 (CANL) – D1–16 (BAT)	Ignition Switch OFF	1 MΩ or more

OK	Go to step 30

NG

26	CONNECT CONNECTOR

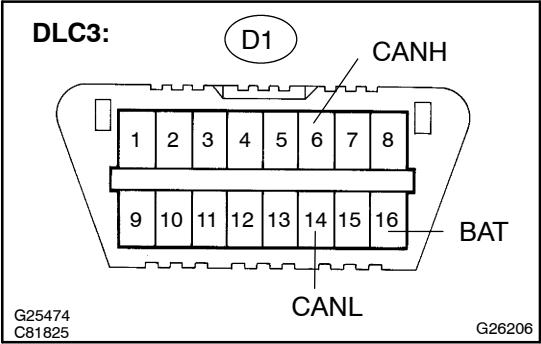(a) Reconnect the CAN main bus line connector (J52) to the LUG–CAN J/C A side (w/ earth terminal).

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:

BR

Earth Terminal

(J42)

Y

G25695   G31933

(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:

(D1)   CANH

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

| 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |

BAT

CANL

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

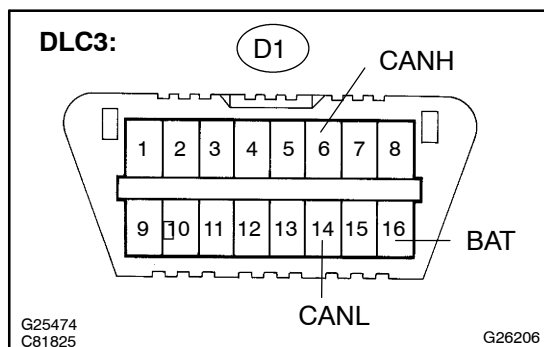| NG	REPAIR OR REPLACE CAN MAIN BUS LINE OR CONNECTOR (P–CAN J/C – LUG–CAN J/C)

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) |

DLC3:

(a) Disconnect the yaw rate sensor connector (Y1).

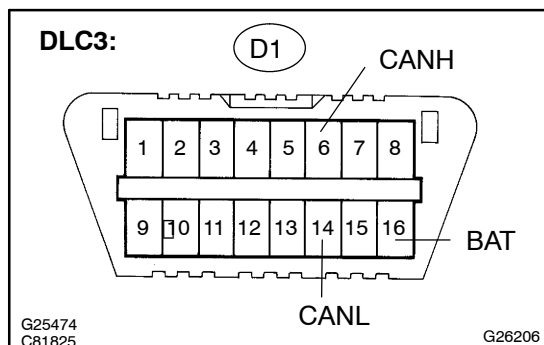(b) Measure the resistance according to the value(s) in the table below.

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) |

DLC3:

(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) |