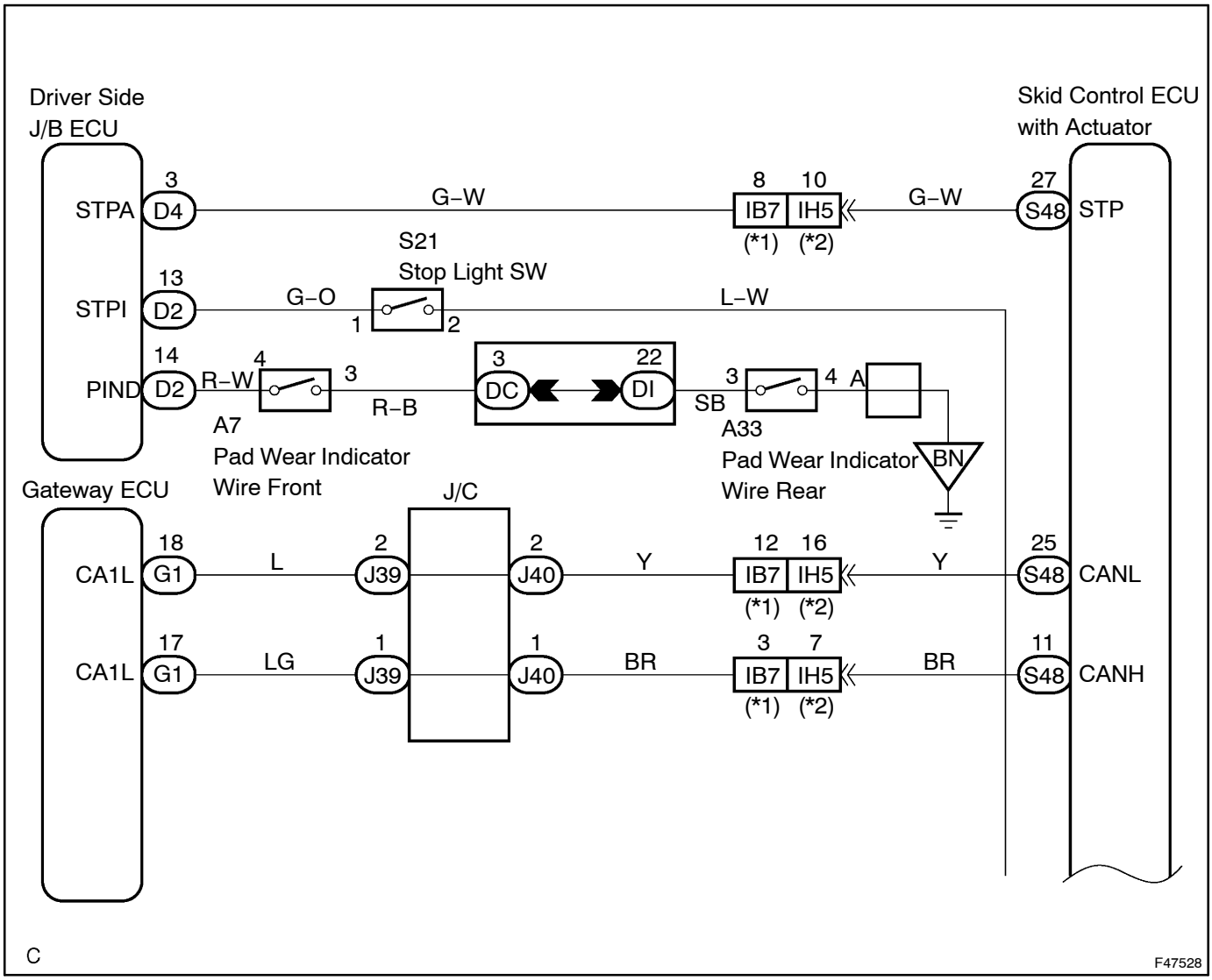
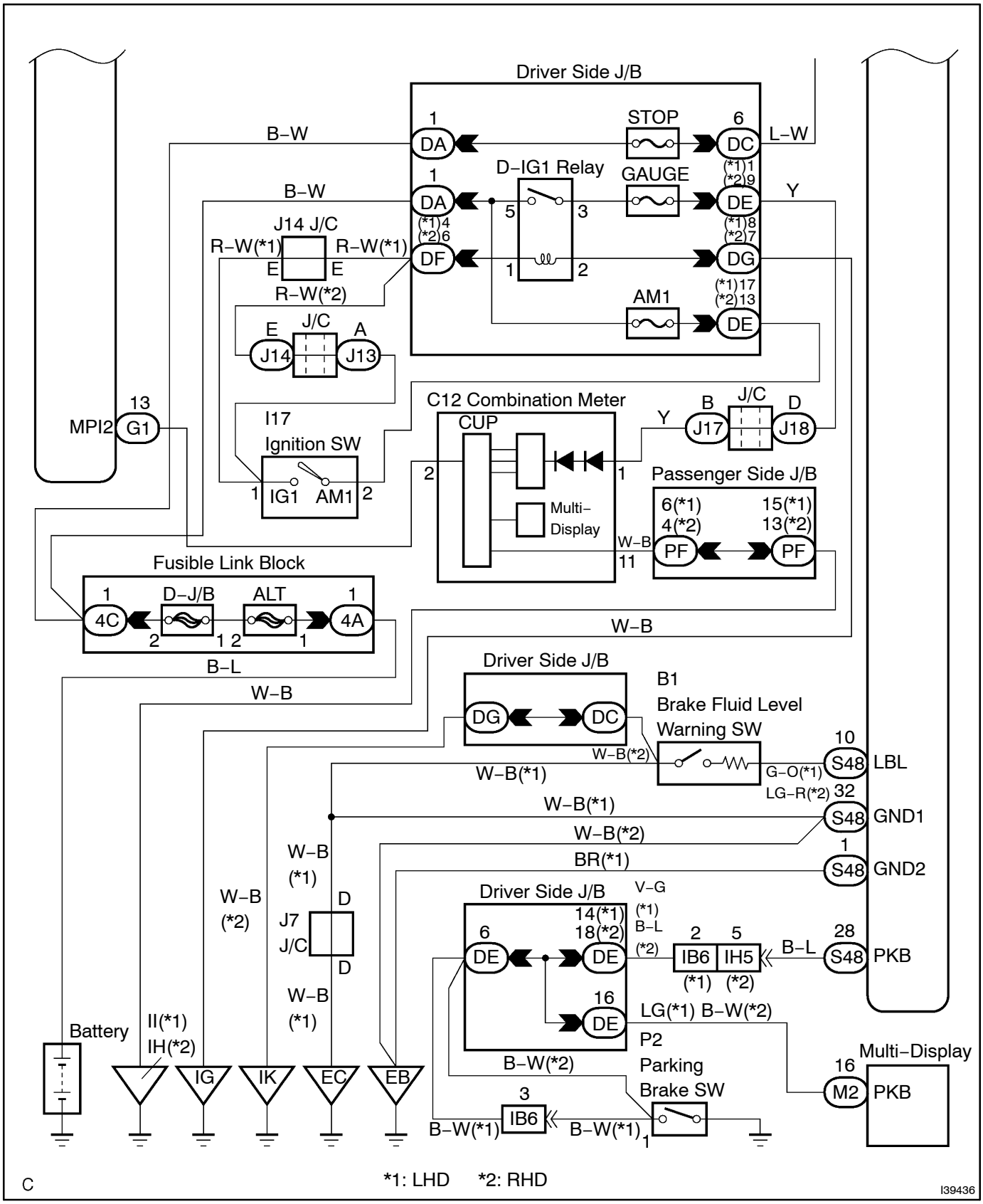
BRAKE WARNING LIGHT CIRCUIT

CIRCUIT DESCRIPTION

The BRAKE warning light comes on when the brake fluid is insufficient, the parking brake is applied or the EBD is defective.
The skid control ECU is connected to the combination meter via CAN and Multiplex communications.
The pad wear indicator is installed to the brake pad (right side).
If the wear indicator wire is open, ”Brake Wear” appears on the multi–information display, which indicates that the pad must be replaced.

WIRING DIAGRAM




Driver Side J/B
STOP
GAUGE
AM1
D–IG1 Relay
B–W
L–W
Y
R–W(*1)
R–W(*2)
J14 J/C
J/C
C12 Combination Meter
CUP
Multi–Display
I17
Ignition SW
IG1
AM1
MPI2
G1
Passenger Side J/B
Fusible Link Block
D–J/B
ALT
4C
4A
B–L
W–B
Driver Side J/B
B1
Brake Fluid Level Warning SW
W–B(*2)
W–B(*1)
G–O(*1)
LG–R(*2)
S48
LBL
GND1
GND2
BR(*1)
J7 J/C
W–B (*1)
W–B (*2)
Driver Side J/B
V–G (*1)
B–L (*2)
IB6
IH5
PKB
Battery
II(*1)
IH(*2)
IG
IK
EC
EB
LG(*1) B–W(*2)
P2
Parking Brake SW
B–W(*2)
B–W(*1)
Multi–Display
M2
*1: LHD *2: RHD
C
I39436

INSPECTION PROCEDURE

HINT:

- When releasing the parking brake, set the chocks to hold the vehicle for safety.
- Check that ”Brake Wear” does not appear on the multi–information display.
  If it appears, check that brake pad thickness and replace the pad as necessary.

1	CHECK BRAKE FLUID LEVEL IN RESERVOIR

(a) Check that the brake fluid level is proper.
OK:
Brake fluid level is proper.

NG → **ADD BRAKE FLUID**

OK ↓

2	CHECK DTC

(a) Are the DTC recorded for ABS, VSC, CAN and/or Multiplex communication system ?
OK:

DTC is not output	A
DTC is output	B

B → **REPAIR CIRCUIT INDICATED BY OUTPUT CODE**

A ↓

3 INSPECT BRAKE WARNING LIGHT

(a) Connect the Intelligent tester II to the DLC3.
(b) Start the engine.
(c) Select the item "Brk Light" in the ACTIVE TEST and operate the BRAKE warning light on the Intelligent tester II.

Item	Vehicle Condition / Test Details	Diagnostic Note
Brake Warning Light	Turns BRAKE warning light ON / OFF	Observe combination meter

(d) Check that "ON" and "OFF" of the BRAKE warning light are indicated on the combination meter when using the Intelligent tester II.
OK:
Turn the BRAKE warning light on or off in accordance with the Intelligent tester II.

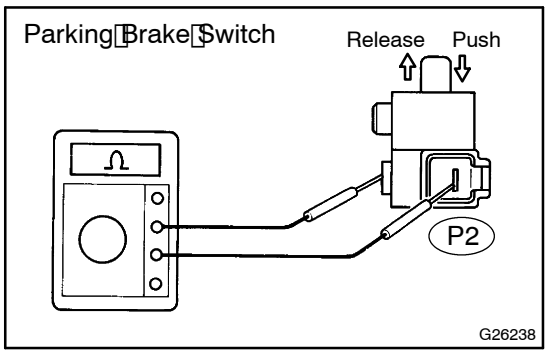
NG → **Go to step 4**

OK

REPLACE ABS & TRACTION ACTUATOR ASSY (SEE PAGE 32–53)

NOTICE:
When replacing the ABS & TRACTION actuator assy, perform zero point calibration (see page 05–387).

4 INSPECT PARKING BRAKE SWITCH ASSY



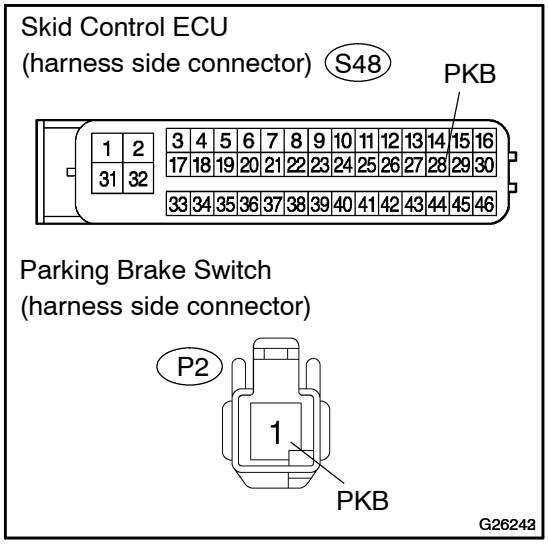
(a) Remove the parking brake switch connector.
(b) Measure the resistance according to the value(s) in the table below.
Standard:

Tester Connection	Switch Condition	Specified Condition
P2–1 – Ground part	Released	Below 1 Ω
P2–1 – Ground part	Pushed in	1 MΩ or higher

NG → **REPLACE PARKING BRAKE SWITCH ASSY**

OK

5 CHECK HARNESS OR CONNECTOR(SKID CONTROL ECU – PARKING BRAKE SWITCH)



(a) Disconnect the skid control ECU connector and the parking brake switch connector.

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

Standard:

Tester Connection	Specified Condition
S48–28 (PKB) – P2–1 (PKB)	Below 1 Ω

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

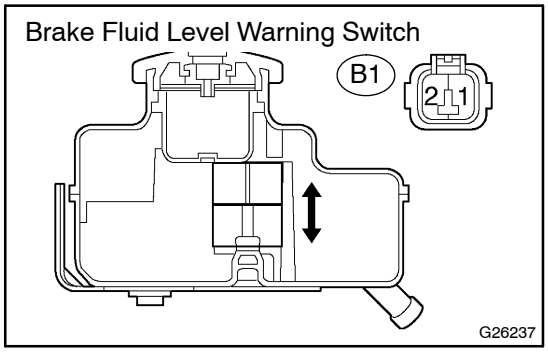
Standard:

Tester Connection	Specified Condition
S48–28 (PKB) – Body ground	1 MΩ or higher

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

6 INSPECT BRAKE FLUID LEVEL WARNING SWITCH



(a) Remove the reservoir tank cap and strainer.

(b) Disconnect the brake fluid level warning switch connector.

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

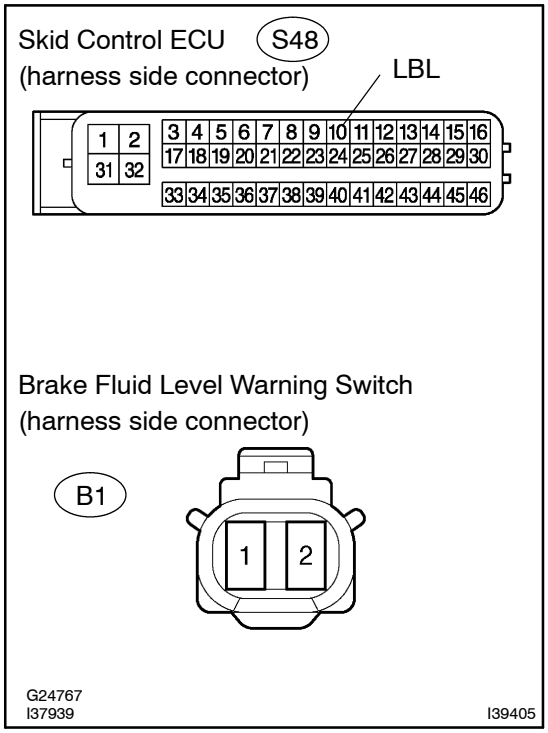
Standard:

Tester Connection	Switch Condition	Specified Condition
(B1–1) – (B1–2)	Float UP	1 MΩ or higher
(B1–1) – (B1–2)	Float DOWN	Below 1 Ω

NG → **REPLACE BRAKE FLUID LEVEL WARNING SWITCH**

OK

7	CHECK HARNESS OR CONNECTOR(BRAKE FLUID LEVEL WARNING SWITCH – SKID CONTROL ECU)



(a) Disconnect the skid control ECU connector and the brake fluid level warning switch connector.

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

Standard:

Tester Connection	Specified Condition
S48–10 (LBL) – (B1–1)	Below 1 Ω

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

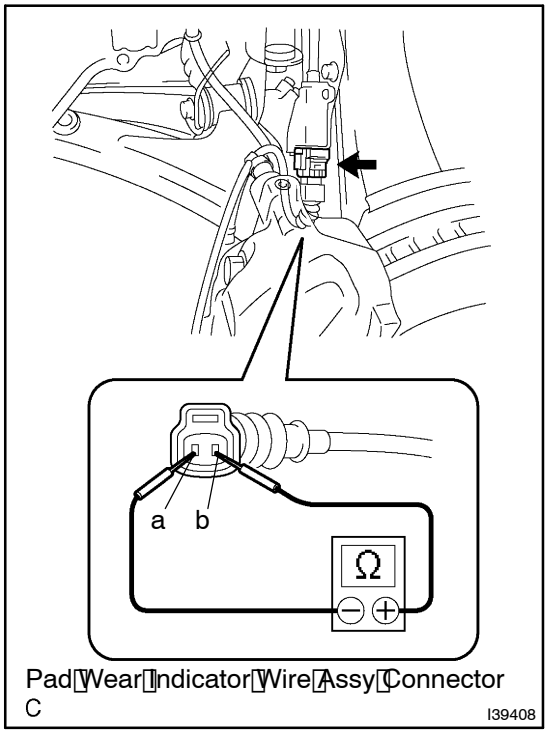
Standard:

Tester Connection	Specified Condition
S48–10 (LBL) – Body ground	1 MΩ or higher

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

8	INSPECT PAD WEAR INDICATOR WIRE ASSY



Pad Wear Indicator Wire Assy Connector C
I39408

FRONT:

HINT:

Check that there are no scratches or cracks on the pad wear indicator.

(a) Remove the front wheel RH.

(b) Disconnect front pad wear indicator connector.

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

Standard:

Tester Connection	Specified Condition
Terminal a – Terminal b	Below 1 Ω
Terminal a – Body ground	1 MΩ or higher

REAR:

HINT:

Check that there are no scratches or cracks on the pad wear indicator.

(a) Remove the rear wheel RH.

(b) Disconnect the pad wear indicator connector.

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

Standard:

Tester Connection	Specified Condition
Terminal a – Terminal b	Below 1 Ω
Terminal a – Body ground	1 MΩ or higher

NG → **REPLACE PAD WEAR INDICATOR WIRE ASSY**

OK

REPLACE ABS & TRACTION ACTUATOR ASSY (SEE PAGE 32–53)

NOTICE:

When replacing the ABS & TRACTION Actuator assy, perform zero point calibration (see page 05–387).