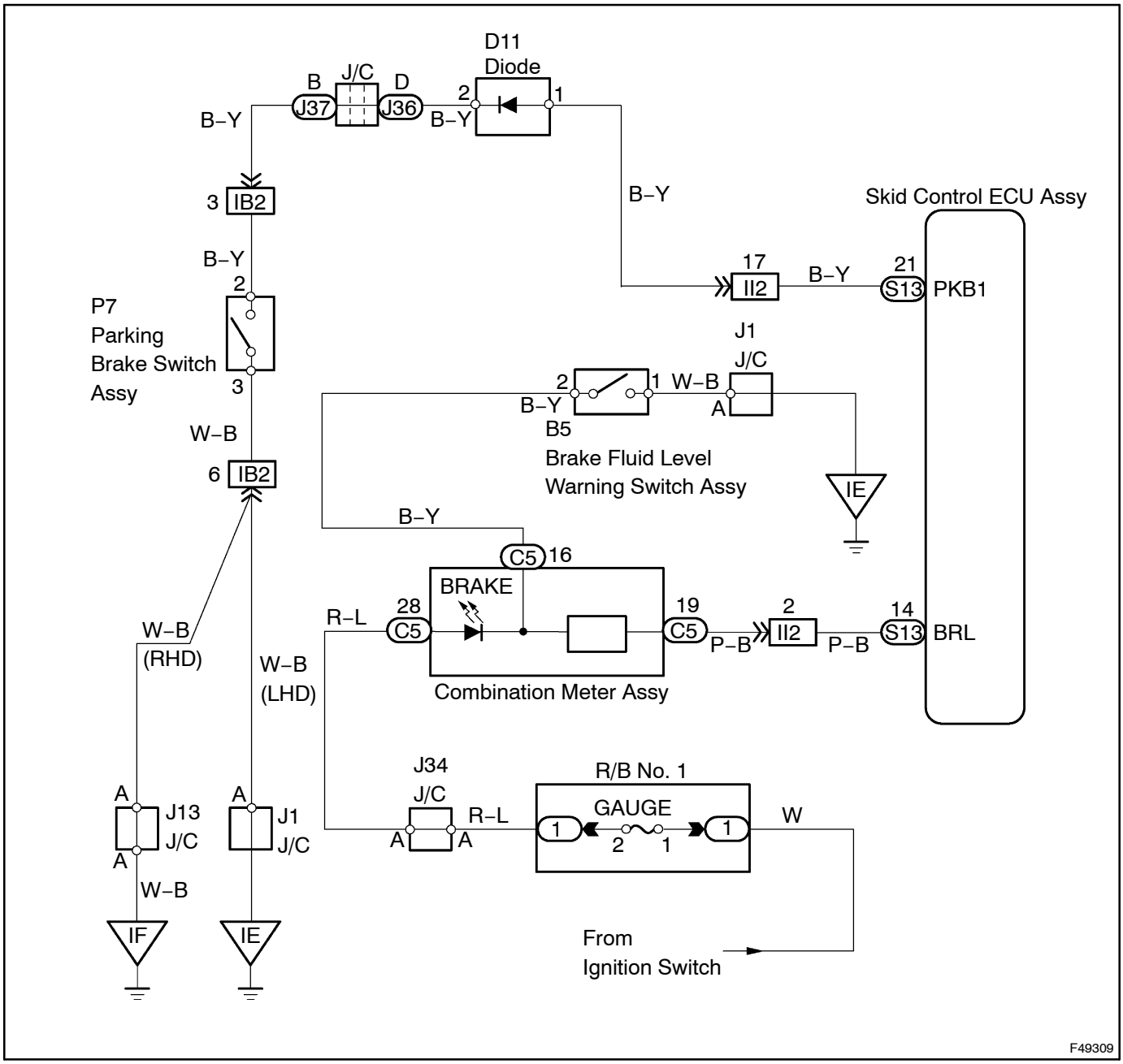
BRAKE WARNING LAMP CIRCUIT (REMAINS ON)

CIRCUIT DESCRIPTION

The brake warning lamp illuminates when the brake fluid is insufficient, the parking brake is applied or the vacuum created by the vacuum pump is below the standard level.

WIRING DIAGRAM



INSPECTION PROCEDURE

1 RECONFIRM DTC

(a) Check the DTC (see page 05–191).

HINT:

After erasing the DTC and driving the vehicle at more than 30 km/h (19 mph), check for DTCs.

A	No DTC Code output
B	Malfunction Code

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

A

2 CHECK BRAKE WARNING LAMP

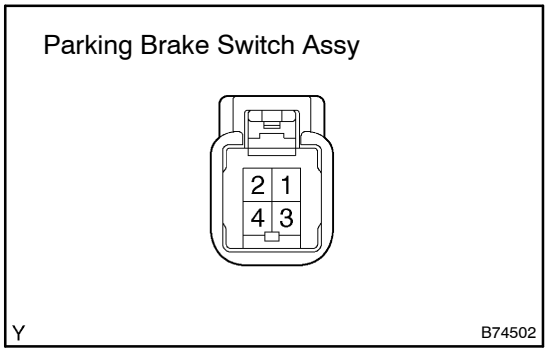
(a) Remove the skid control ECU but do not disconnect the connectors.
(b) Using a service wire, connect terminals BRL (S13–14) and body ground of the ECU connector.
(c) Turn the ignition switch ON.
(d) Check the brake warning lamp.

OK: Brake warning lamp turns OFF.

NG → **Go to step 10**

OK

3 INSPECT PARKING BRAKE SWITCH ASSY



(a) Remove the parking brake switch.
(b) Measure the resistance according to the table below.

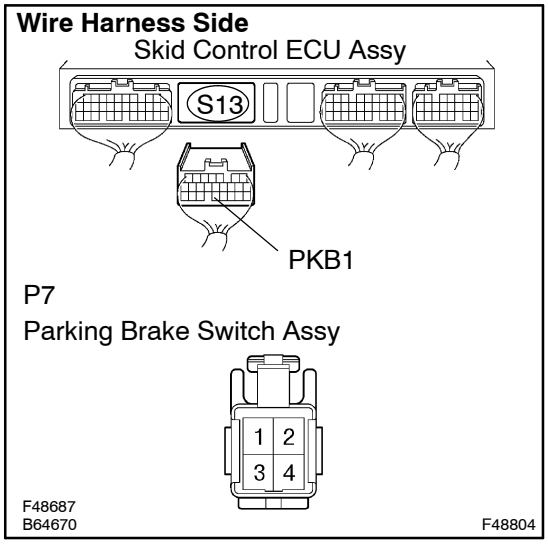
Standard:

Tester Connection	Switch Condition	Specified Condition
2 – 3	Pushed	Below 1 Ω
2 – 3	Not pushed	10 kΩ or higher

NG → **REPLACE PARKING BRAKE SWITCH ASSY**

OK

4	CHECK WIRE HARNESS (PARKING BRAKE SWITCH ASSY – SKID CONTROL ECU ASSY AND BODY GROUND)



(a) Disconnect the S13 ECU connector.
(b) Disconnect the P7 switch connector.
(c) Measure the resistance according to the table below.

Standard:

Tester Connection	Specified Condition
S13–21 (PKB1) – P7–2	Below 1 Ω
P7–3 – Body ground	Below 1 Ω
S13–21 (PKB1) – Body ground	10 kΩ or higher

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

OK

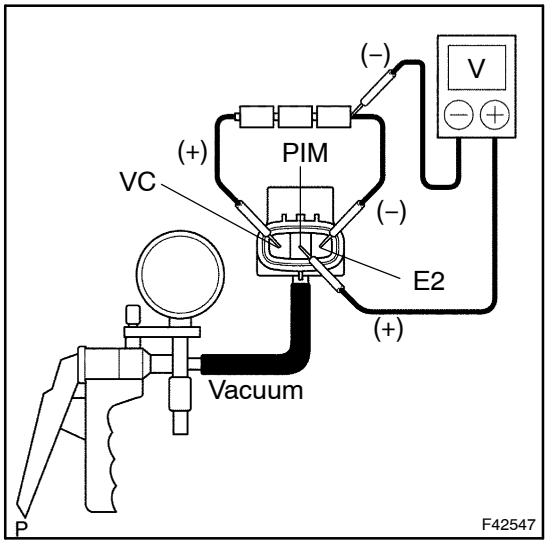
5	CHECK VACUUM HOSE

(a) Check for cracks and damage on the vacuum hoses.

NG → **REPLACE VACUUM HOSE**

OK

6	INSPECT VACUUM SENSOR (NO. 1, NO. 2)



(a) Check the vacuum sensor No. 1 and No. 2.

HINT:

Before checking vacuum sensor, check for cracks or damage on the vacuum hoses.

(1) Connect 3 dry batteries of 1.5 V in series.

(2) Connect the VC terminal to the battery's positive (+) terminal and the E2 terminal to the negative (–) terminal. Then apply about 4.5 V between the VC and E2 terminals.

NOTICE:

Do not apply 6 V or more to terminals VC and E2.

(3) Connect a voltmeter to terminals PIM and E2 of the ECU, and measure the output voltage at atmospheric pressure.

(4) Apply a vacuum to the vacuum sensor in 20 kPa (150 mmHg, 5.91 in.Hg) increments to 100 kPa (750 mmHg, 29.53 in.Hg).

(5) Measure the voltage drop and check the results in the table below.

Standard:

Front Brake Caliper Fluid Pressure	Voltage
80 kPa (150 mmHg, 5.91 in.Hg)	1.2 V
40 kPa (450 mmHg, 17.71 in.Hg)	2.4 V
0 kPa (750 mmHg, 29.53 in.Hg)	3.6 V

(6) Check the difference of voltage between the vacuum sensors.

Standard: Difference is 340 mV or more.

NG → **REPLACE VACUUM SENSOR**

OK

7 CHECK BRAKE FLUID LEVEL IN RESERVOIR

(a) Check the fluid level and add fluid, if necessary.

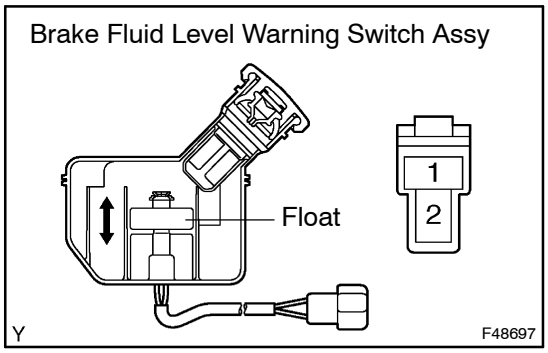
NOTICE:

Immediately wipe off any brake fluid that does not belong.

NG → **CHECK AND REPAIR BRAKE FLUID LEAKAGE AND ADD FLUID**

OK

8 INSPECT BRAKE FLUID LEVEL WARNING SWITCH ASSY



(a) Remove the reservoir tank cap and strainer.
(b) Disconnect the B5 switch connector.
(c) Measure the resistance according to the table below.

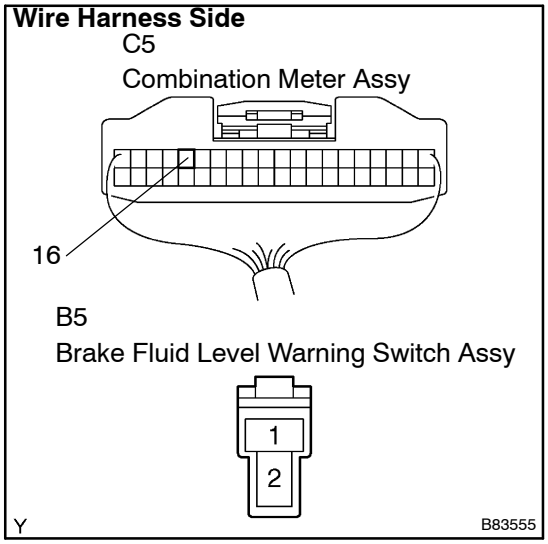
Standard:

Tester Connection	Switch Condition	Specified Condition
1 – 2	Float UP	10 kΩ or higher
1 – 2	Float DOWN	Below 1 Ω

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

OK

9 CHECK WIRE HARNESS (COMBINATION METER ASSY – BRAKE FLUID LEVEL WARMING SWITCH ASSY AND BODY GROUND)



(a) Disconnect the C5 meter connector.
(b) Disconnect the B5 switch connector.
(c) Measure the resistance according to the table below.

Standard:

Tester Connection	Specified Condition
C5–16 – B5–2	Below 1 Ω
B5–1 – Body ground	Below 1 Ω

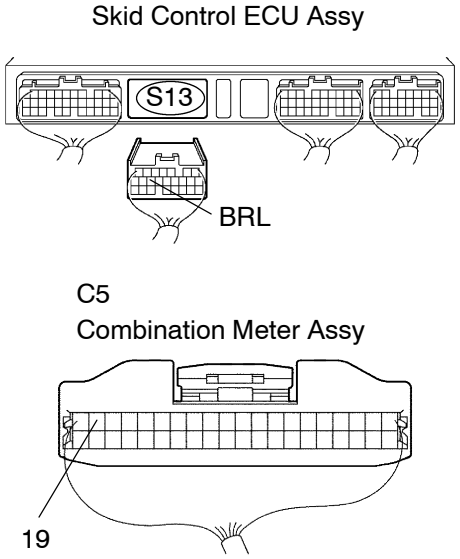
NG → **REPLACE OR REPLACE HARNESS AND CONNECTOR**

OK

REPLACE SKID CONTROL ECU ASSY (See page 01–27)

10	CHECK WIRE HARNESS (SKID CONTROL ECU ASSY – COMBINATION METER ASSY)

Wire Harness Side



(a) Disconnect the S13 ECU connector.
(b) Disconnect the C5 meter connector.
(c) Measure the resistance according to the table below.

Standard:

Tester Connection	Specified Condition
S13–4 (BRL) – C5–19	Below 1 Ω
S13–4 (BRL) – Body ground	10 kΩ or higher

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

OK

REPLACE COMBINATION METER ASSY (See Pub. No. RM1008E, page 71–1)