DTC AlwaysON MALFUNCTION IN ABS ECU

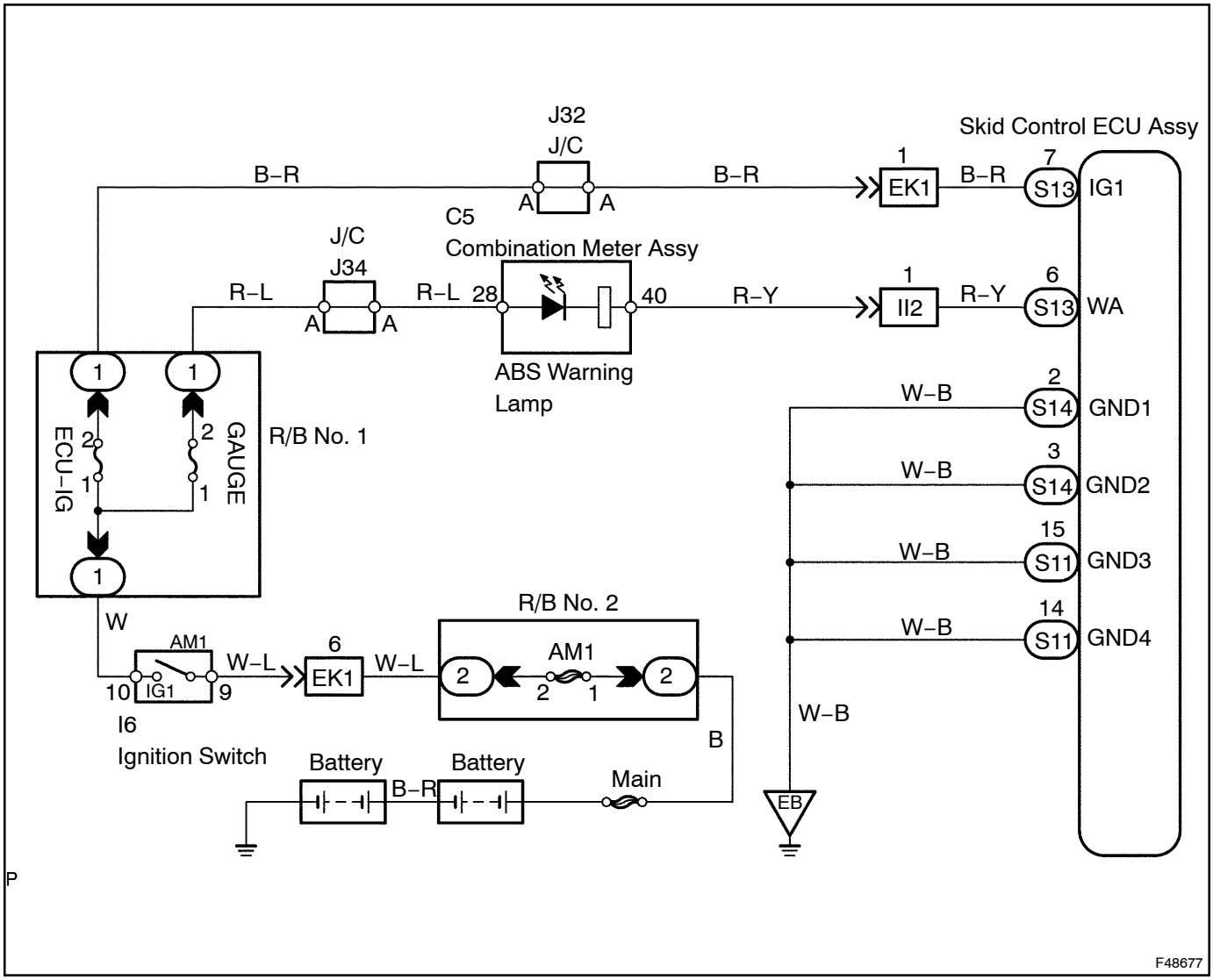
CIRCUIT DESCRIPTION

DTC No.	DTC Detection Condition	Trouble Area
Always ON	1, 2 or 3 is detected: 1. ECU connectors are disconnected from ECU 2. Malfunction occurs in ECU internal circuit 3. Malfunction occurs in ABS warning lamp circuit	• Battery • Fuse • ABS warning lamp circuit • Charging system • Power source circuit • Skid control ECU assy

HINT:

- There is a case that the hand–held tester cannot be used if the ECU is abnormal.
- Fail–safe function:
  If any trouble occurs in the ECU, the ECU will cut off current to the ABS SOL MAIN relay and prohibit ABS control and BRAKE ASSIST.

WIRING DIAGRAM



INSPECTION PROCEDURE

1 INSPECT BATTERY

(a) Check the battery voltage.
Standard: 20 to 32 V

NG → **CHECK AND REPAIR CHARGING SYSTEM (See Pub. No. RM1008E, page 19–5)**

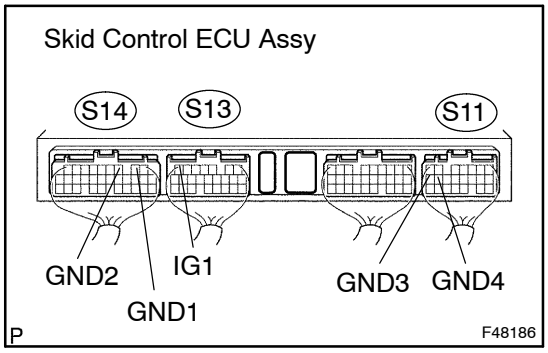
OK

2 CHECK SKID CONTROL ECU ASSY (POWER SOURCE)

When using the hand–held tester:
(a) Connect the hand–held tester (with 24 V VIM) to the DLC3.
(b) Start the engine.
(c) Select the DATA LIST on the hand–held tester.
(d) Check the voltage condition output from the ECU displayed on hand–held tester.
Skid control ECU assy:

Item	Measurement Item/ Range (Display)	Normal Condition	Diagnostic Note
IG VOLTAGE	ECU power supply voltage / UNDER / NORMAL / OVER	OVER: 32 V NORMAL: 20 V to 32V UNDER: Below 19 V	–

OK: ”Normal” is displayed.



When not using the hand–held tester:
(e) Remove the ECU but do not disconnect the connectors.
(f) Turn the ignition switch ON.
(g) Measure the voltage according to the table below.
Standard:

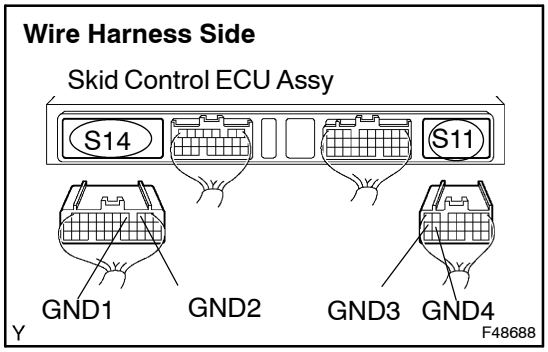
Tester Connection	Specified Condition
S13–7 (IG1) – S14–2 (GND1)	20 to 32 V
S13–7 (IG1) – S14–3 (GND2)	20 to 32 V
S13–7 (IG1) – S11–14 (GND4)	20 to 32 V
S13–7 (IG1) – S11–15 (GND3)	20 to 32 V

NG → **Go to step 3**

OK

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

3 CHECK WIRE HARNESS (SKID CONTROL ECU ASSY – BODY GROUND)



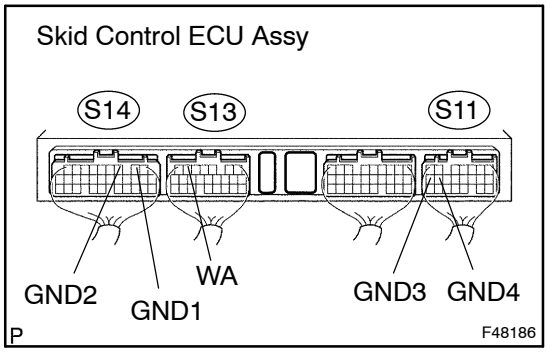
(a) Disconnect the S11 and S14 ECU connectors.
(b) Measure the resistance according to the table below.
Standard:

Tester Connection	Specified Condition
S14–2 (GND1) – Body ground	Below 1 Ω
S14–3 (GND2) – Body ground	Below 1 Ω
S11–14 (GND4) – Body ground	Below 1 Ω
S11–15 (GND3) – Body ground	Below 1 Ω

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

OK

4 CHECK ABS WARNING LAMP



(a) Remove the ECU but do not disconnect the connectors.
(b) Using a service wire, connect terminals WA (S13–6) and GND (S14–2, 3, S11–14, 15) of the ECU connectors.
(c) Turn the ignition switch ON.
(d) Check the ABS warning lamp.
OK: ABS warning lamp turns off.

NG → **Go to step 5**

OK

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

5 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

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