DTC	C1378/44	CAPACITOR COMMUNICATION CIRCUIT MALFUNCTION

CIRCUIT DESCRIPTION

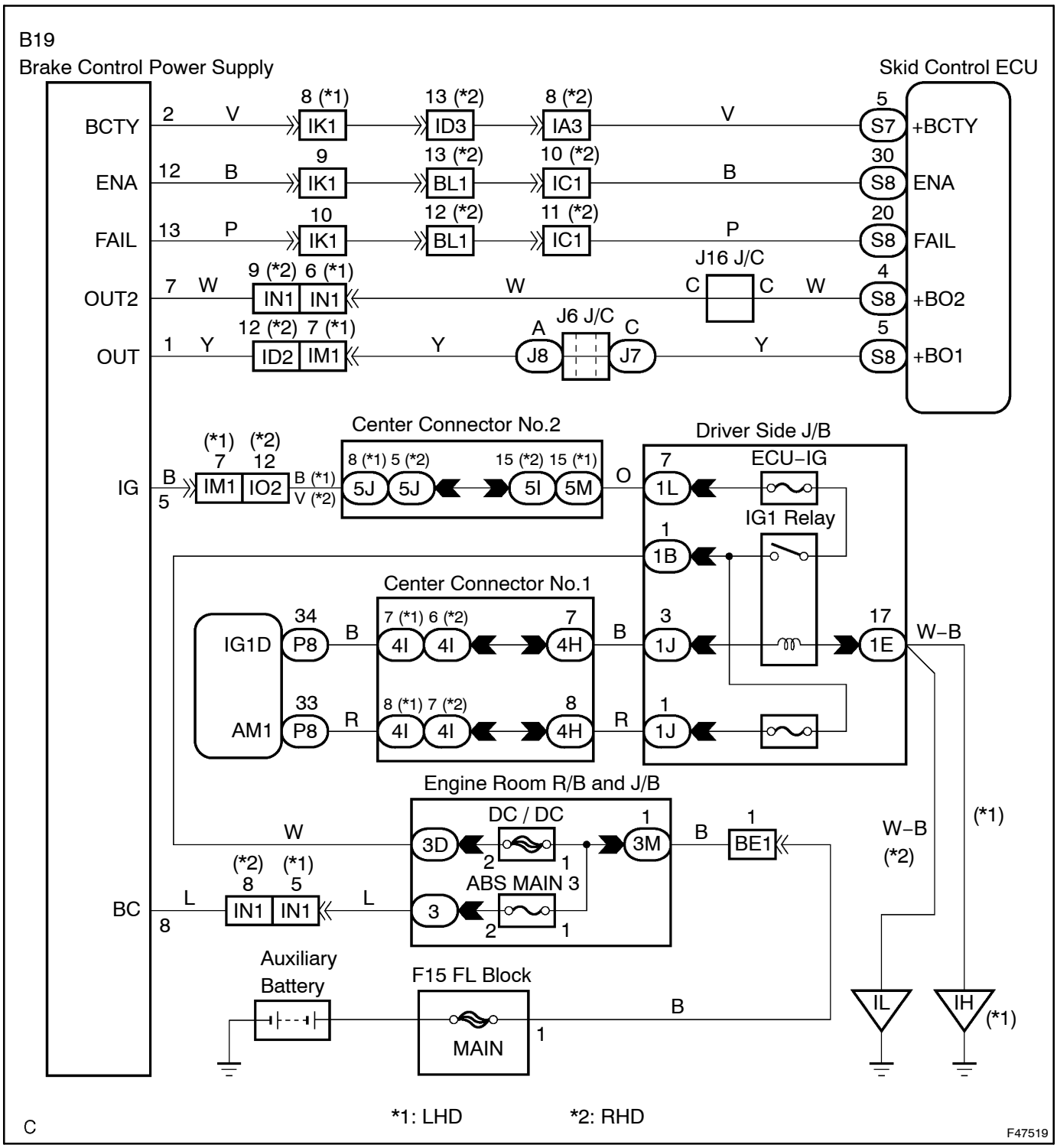
The brake control power supply assy (capacitor) provides auxiliary power for brake control when an auxiliary battery (12 V) voltage drops.

The FAIL and ENA line are placed between the skid control ECU and the brake control power supply assy. Signals indicating that the brake control power supply is in auxiliary mode are sent to the skid control ECU through the FAIL line.

Charge permit prohibition signals are sent to the brake control power supply through the ENA line.

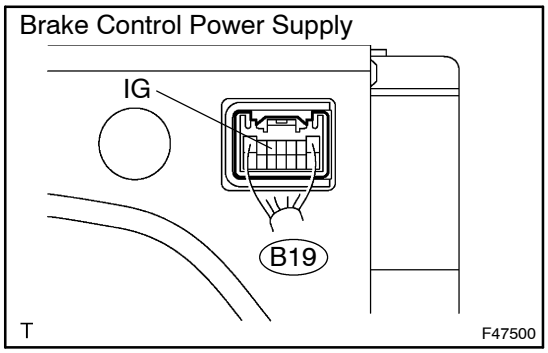
DTC No.	Detailed Code	DTC Detecting Condition	Trouble Area
C1378/44	112	• Open or short in FAIL line. • Malfunction inside the power back up unit.	• Harness and connector • Skid control ECU
C1378/44	113	• Open or short in ENA line • Malfunction inside the skid control ECU (circuit for communication with the capacitor)	• Harness and connector • Skid control ECU

WIRING DIAGRAM



INSPECTION PROCEDURE

1 INSPECT BRAKE CONTROL POWER SUPPLY ASSY



(a) Measure the voltage according to the value(s) in the table below.

HINT:

Measure the voltage from behind the connector connected.

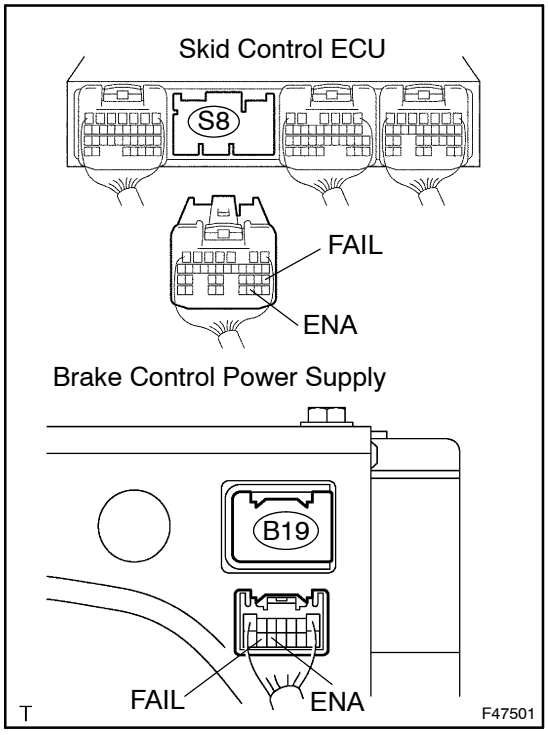
Standard:

Tester Connection	Condition	Specified Condition
B19–5 (IG) – Body ground	Power Switch ON (READY)	10 to 14 V

NG → **REPLACE HARNESS OR CONNECTOR**

OK

2 INSPECT SKID CONTROL ECU TERMINAL VOLTAGE(FAIL, ENA TERMINAL)



(a) Disconnect the skid control ECU connector and brake control power supply connector.

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

Standard:

Tester Connection	Specified Condition
S8–30 (ENA) – B19–12 (ENA)	Below 1 Ω
S8–20 (FAIL) – B19–13 (FAIL)	Below 1 Ω

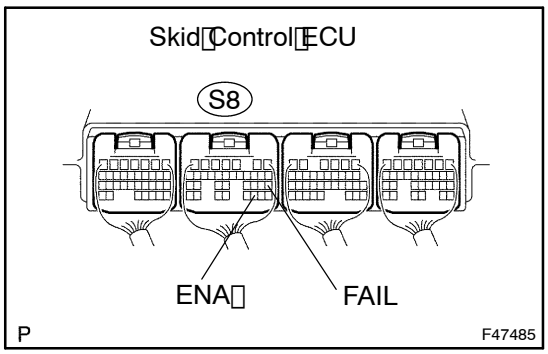
(c) Measure the resistance according to the value(s) in the table below.

Tester Connection	Specified Condition
S8–30 (ENA) – Body ground	10 kΩ or higher
S8–20 (FAIL) – Body ground	10 kΩ or higher

NG → **REPLACE BRAKE CONTROL POWER SUPPLY**

OK

3 INSPECT SKID CONTROL ECU ASSY

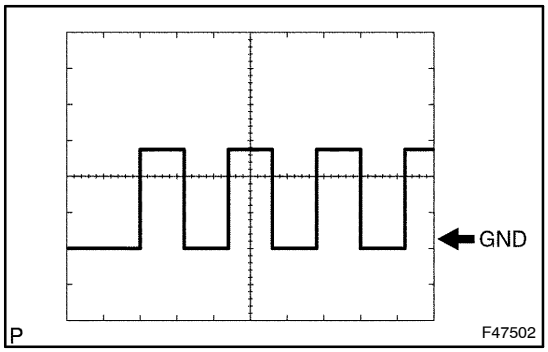


(a) Check the waveform between terminal S8–20 (FAIL) and the ground of the skid control ECU using an oscilloscope.

(b) Check the waveform between terminal S8–30 (ENA) and the ground of the skid control ECU using an oscilloscope.

OK:

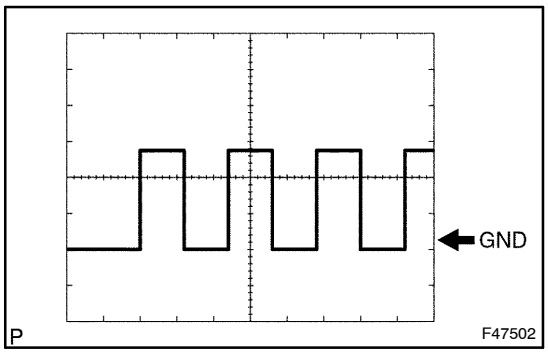
Waveform is output as shown in the illustration.



(1) Oscilloscope waveform (FAIL)

HINT:

- Terminals FAIL ⇔ GND
- Instrument 5 V/DIV, 200 ms/DIV
- Condition READY is displayed on the meter



(2) Oscilloscope waveform (ENA)

HINT:

- Terminals ENA ⇔ GND
- Instrument 5 V/DIV, 100 ms/DIV
- Condition READY is displayed on the meter

Result:

A	Both waveforms are normal
B	Waveform (ENA) is abnormal
C	Waveform (FAIL) is abnormal

B → **REPLACE BRAKE CONTROL POWER SUPPLY**

C → **REPLACE SKID CONTROL ECU ASSY**

A

REPLACE SKID CONTROL ECU ASSY (SEE PAGE 32–81 or 32–82)

NOTICE:

When replacing the skid control ECU assy, perform initialization of linear solenoid valve and calibration (see page 05–721).