DI29A–06

DTC	C1253 / 53	Motor Relay Circuit

CIRCUIT DESCRIPTION

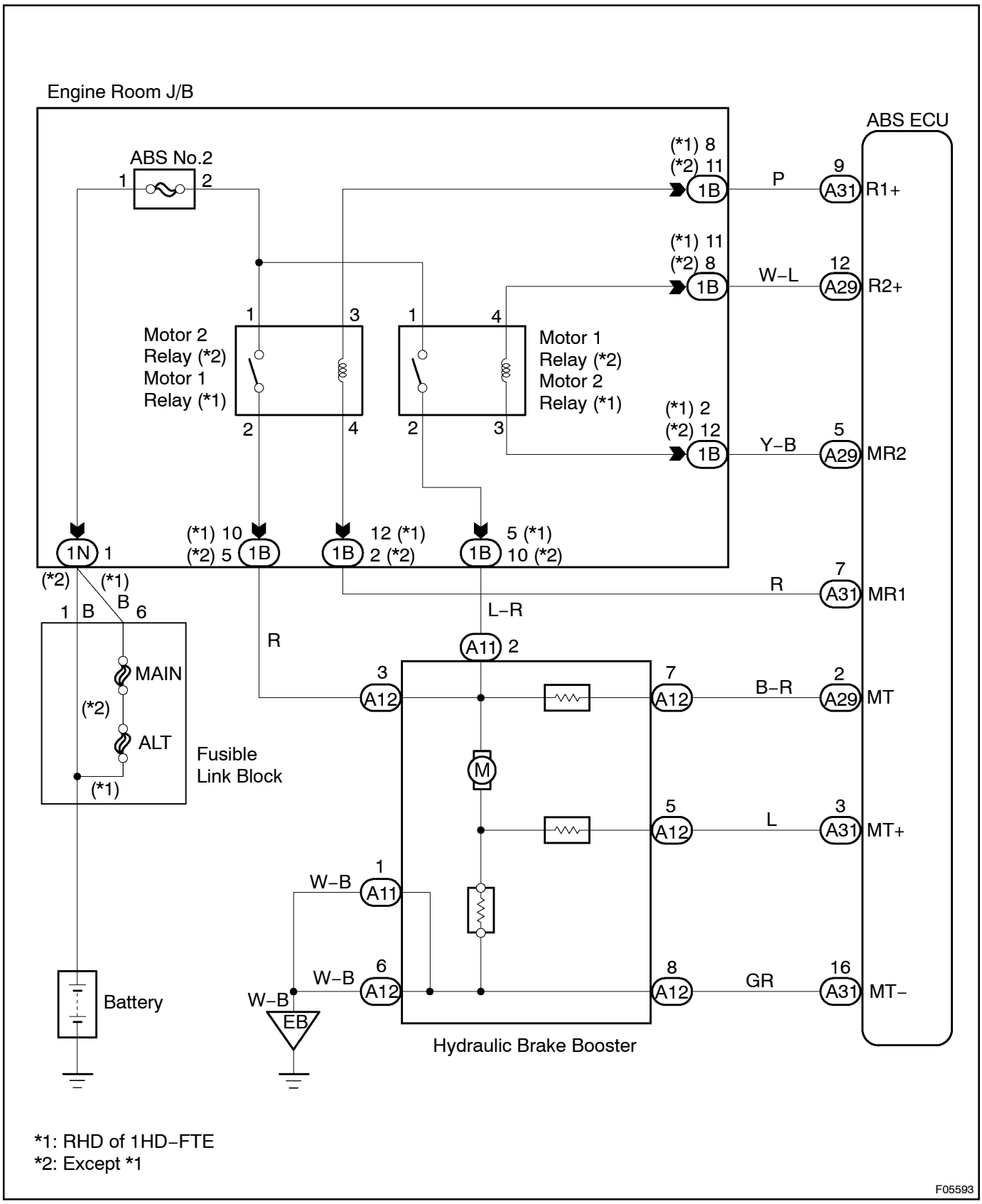
The ABS motor relay supplies power to the hydraulic brake booster pump motor. While the ABS is activated, the ECU switches the motor relay ON and operates the hydraulic brake booster pump motor.

DTC No.	DTC Detecting Condition	Trouble Area
C1253 / 53	When any of the following (1) through (4) is detected: (1) After turning the ignition switch ON, open in the relay coil is detected for more than 1 sec. (2) When the pressure switch does not control motor driving, the condition that the motor relay is always ON continues for more than 1 sec. due to short circuit. (3) When the pressure switch (PH) detects the low pressure or while the pump motor operates to increase the pressure, the condition that the motor relay does not turn ON continues for more than 0.2 secs. (4) When pressure switch does not control motor driving, the condition that the motor relay is always ON due to the welded contact continues for more than 2 secs.	• ABS motor relay • ABS motor relay circuit • Hydraulic brake booster pump motor circuit

Fail safe function:

If trouble occurs in the ABS motor relay circuit, the ECU cuts off current to the ABS solenoid relay and prohibits ABS control.

WIRING DIAGRAM



*1: RHD of 1HD–FTE
*2: Except *1

F05593

INSPECTION PROCEDURE

Start the inspection from step 1 in case of using the hand–held tester and start from step 3 in case of not using hand–held tester.

1	**Check ABS motor relay operation.**

PREPARATION:

(a) Connect the hand–held tester to the DLC3.

(b) Turn the ignition switch ON and push the hand–held tester main switch ON.

(c) Select the ACTIVE TEST mode on the hand–held tester.

CHECK:

Check the operation sound of the ABS motor relays individually when operating it with the hand–held tester.

OK:

The operation sound of the ABS motor relay should be heard.

NG → **Go to step 3.**

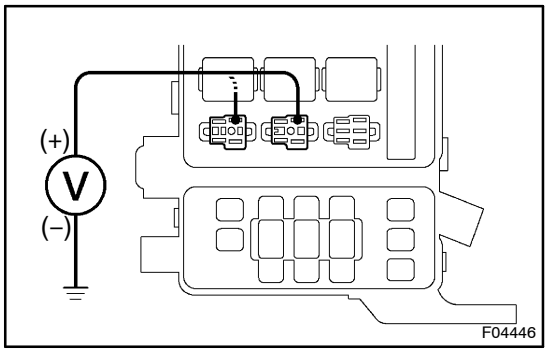
OK

2	**Check for short circuit (to B+) in harness and connector between MT of hydraulic brake booster and ABS ECU (See page IN–24).**

OK → **Check and replace ABS ECU.**

NG

3	**Check voltage between terminal 1 of Engine Room R/B No. 2 (for ABS motor relay) and body ground.**



PREPARATION:

Remove ABS motor relay from Engine Room R/B No. 2.

CHECK:

Measure voltage between terminal 1 of Engine Room R/B No. 2 (for ABS motor relay) and body ground.

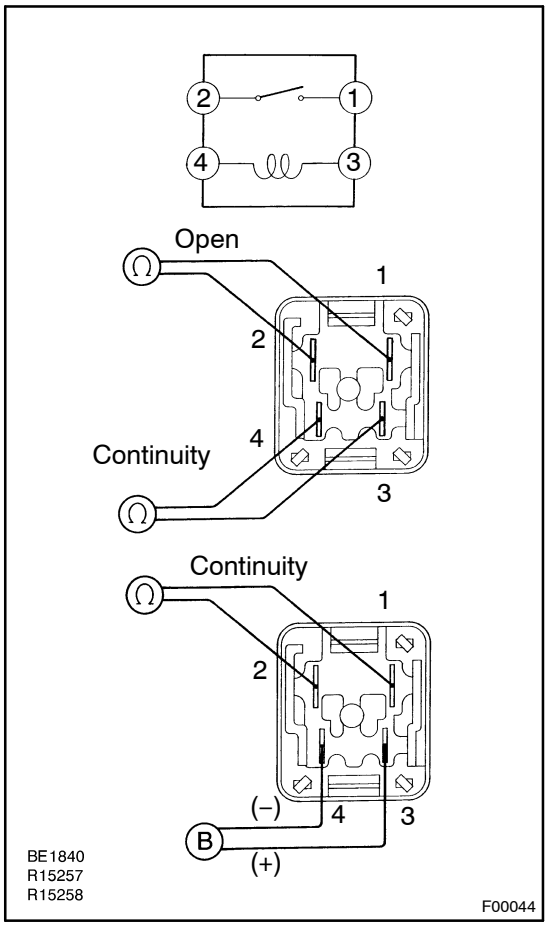
OK:

Voltage: 10 – 14 V

NG → **Check and repair harness or connector.**

OK

4	**Check ABS motor relays.**



PREPARATION:

Remove the 2 ABS motor relays from Engine Room R/B No. 2.

CHECK:

Check continuity between each pair of terminal of motor relay.

OK:

Terminals 3 and 4	Continuity (Reference value *1)
Terminals 1 and 2	Open

***1: Motor relay 1 62 Ω**
Motor relay 2 54 Ω

CHECK:

(a) Apply battery voltage between terminals 3 and 4.
(b) Check continuity between 1 and 2 terminals.

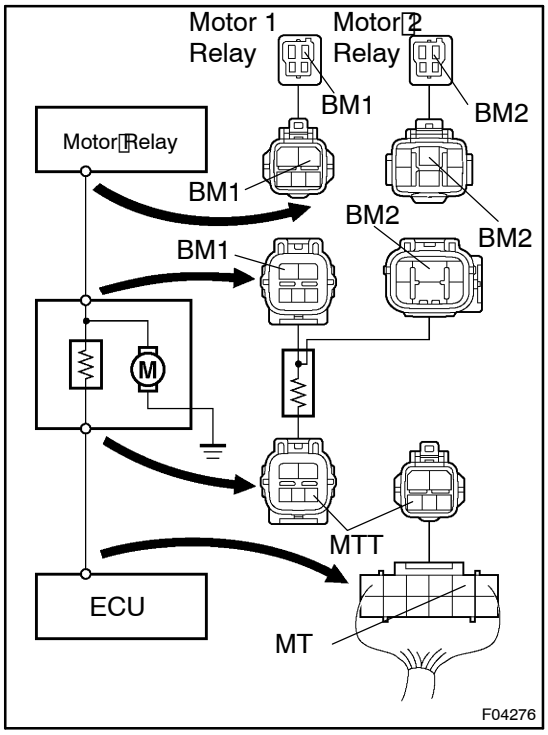
OK:

Terminals 1 and 2	Continuity

NG → **Replace ABS motor relay.**

OK

5	**Check continuity between each terminal BM1 and BM2 and terminal MTT of ABS ECU.**



PREPARATION:

Disconnect the 2 connectors from the hydraulic brake booster.

CHECK:

(a) Check continuity between terminal BM1 of ABS motor relay and terminal MT of ABS ECU.

(b) Check continuity between terminal BM2 of ABS motor relay and terminal MT of ABS ECU.

OK:

Continuity

HINT:

There is resistance of 33 ± 3 Ω between terminal BM1 or BM2 and MTT of the hydraulic brake booster.

NG	**Repair or replace harness or hydraulic brake booster.**

OK

6	**Check for open and short circuit in harness and connector between ABS motor relay and ABS ECU (See page IN–24).**

NG	**Repair or replace harness or connector.**

OK

If the same code is still output after the DTC is deleted, check the contact condition of each connection. If the connections are normal, the ECU may be defective.