

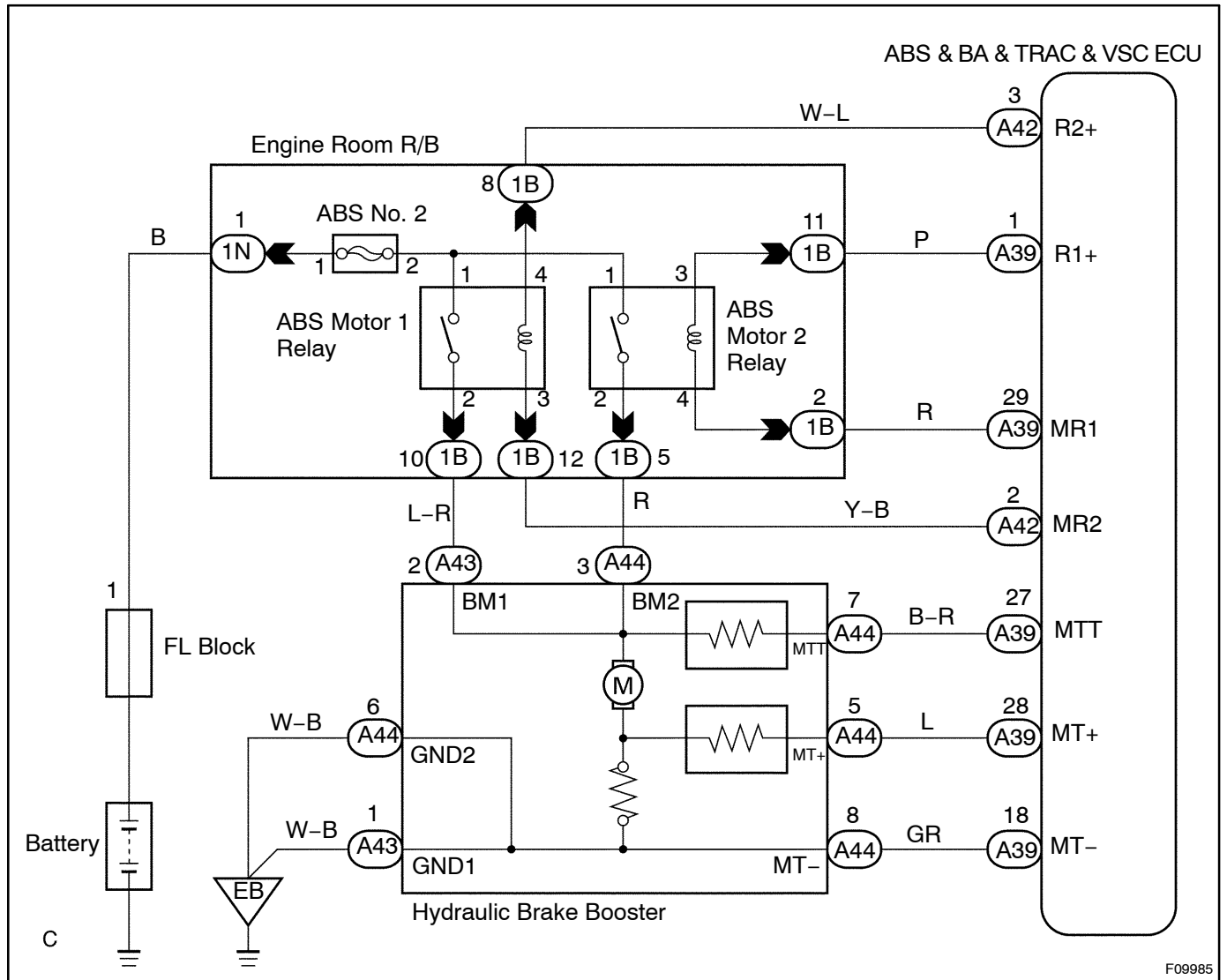
|            |                   |                            |
|------------|-------------------|----------------------------|
| <b>DTC</b> | <b>C1253 / 53</b> | <b>Motor Relay Circuit</b> |
|------------|-------------------|----------------------------|

## CIRCUIT DESCRIPTION

The ABS motor 1 relay and ABS motor 2 relay supplies power to the hydraulic brake booster pump motor. While the ABS & BA & TRAC & VSC are 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 | <p>When any of the following 1. through 4. is detected:</p> <ol style="list-style-type: none"> <li>1. After turning the ignition switch ON, open in the relay coil is detected for more than 1 sec.</li> <li>2. When the pressure switch does not control motor driving, the status that the motor relay is always ON continues for more than 1 sec. due to short circuit.</li> <li>3. When the pressure switch (PH) detects the low pressure or while the pump motor operates to increase the pressure, the status that the motor relay does not turn ON continues for more than 0.2 sec.</li> <li>4. When pressure switch does not control motor driving, the status that the motor relay is always ON due to the welded contact continues for more than 2 sec.</li> </ol> | <ul style="list-style-type: none"> <li>• ABS motor1 or ABS motor2 relay</li> <li>• ABS motor1 or ABS motor2 relay circuit</li> <li>• Hydraulic brake booster pump motor circuit</li> </ul> |

## WIRING DIAGRAM



F09985

## INSPECTION PROCEDURE

### HINT:

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

|   |                                                         |
|---|---------------------------------------------------------|
| 1 | <b>Check ABS motor1 and ABS motor2 relay operation.</b> |
|---|---------------------------------------------------------|

### PREPARATION:

- (a) Connect the LEXUS hand-held tester to the DLC3.
- (b) Turn the ignition switch ON and push the LEXUS hand-held tester main switch ON.
- (c) Select the ACTIVE TEST mode on the LEXUS hand-held tester.

### CHECK:

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

### OK:

The operation sound of the ABS motor 1 relay and ABS motor 2 relay should be heard.

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Go to step 3.

OK

|   |                                                                                                                                                                                   |
|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2 | <b>Check for short circuit (to B+) in harness and connector between MT of hydraulic brake booster and ABS &amp; BA &amp; TRAC &amp; VSC ECU (See page <a href="#">IN-34</a>).</b> |
|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

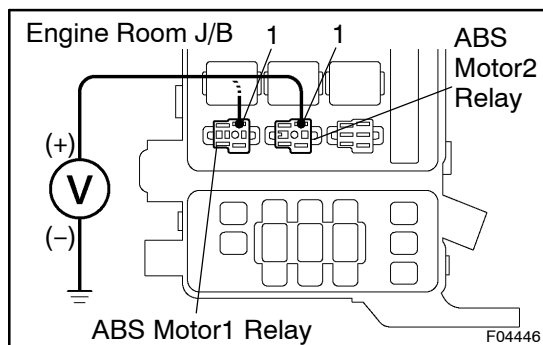
NG

Repair or replace harness or connector.

OK

**Check and replace ABS & BA & TRAC & VSC ECU.**

**3 Check voltage between terminal 1 of engine room J/B (for ABS motor 1 relay and ABS motor 2 relay) and body ground.**



**PREPARATION:**

Remove the ABS motor 1 relay and ABS motor 2 relay from engine room J/B.

**CHECK:**

Measure voltage between terminal 1 of engine room J/B (for ABS motor 1 relay and ABS motor 2 relay) and body ground.

**OK:**

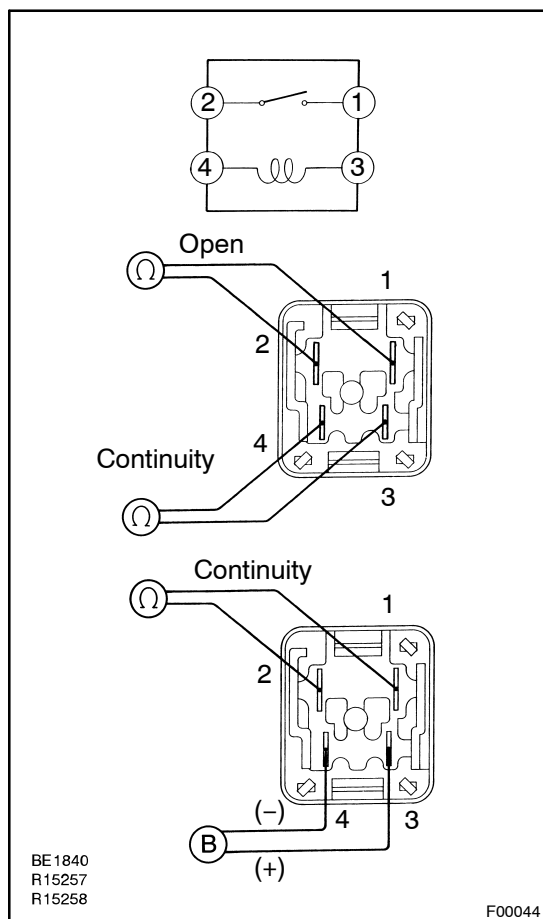
**Voltage: 10 – 14 V**

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**Check and repair harness or connector.**

**OK**

**4 Check ABS motor 1 relay and ABS motor 2 relay.**



**PREPARATION:**

Remove the ABS motor 1 relay and ABS motor 2 relay from engine room J/B.

**CHECK:**

Check continuity between each pair of terminal of motor relay.

**OK:**

|                   |                                                |
|-------------------|------------------------------------------------|
| Terminals 3 and 4 | Continuity<br>(Reference value <sup>*1</sup> ) |
| Terminals 1 and 2 | Open                                           |

<sup>\*1</sup>: ABS motor 1 relay 54  $\Omega$

ABS motor 2 relay 62  $\Omega$

**CHECK:**

- Apply battery positive voltage between terminals 3 and 4.
- Check continuity between terminals.

**OK:**

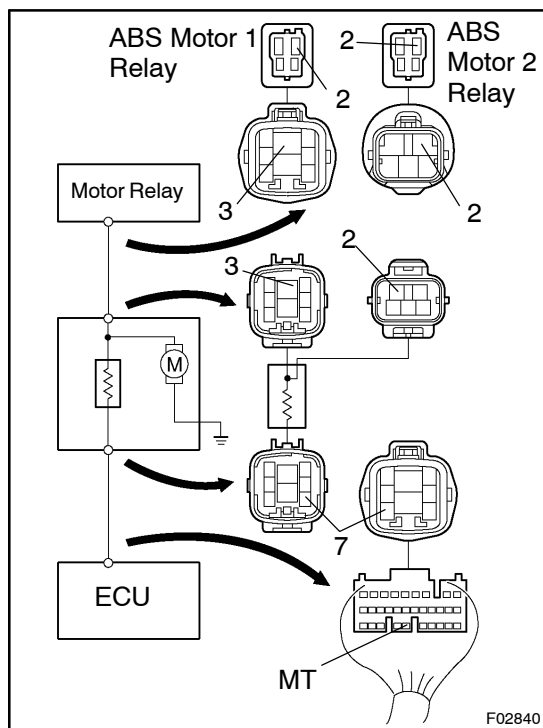
|                   |            |
|-------------------|------------|
| Terminals 1 and 2 | Continuity |
|-------------------|------------|

**NG**

**Replace ABS motor 1 relay or ABS motor 2 relay.**

OK

# 5 Check continuity between each terminal BM1 and BM2 and terminal MT of ABS & BA & TRAC & VSC ECU.



## PREPARATION:

Disconnect the 2 connectors from the hydraulic brake booster.

## CHECK:

- Check continuity between terminal BM1 of ABS motor2 relay and terminal MT of ABS & BA & TRAC & VSC ECU.
- Check continuity between terminal BM2 of ABS motor1 relay and terminal MT of ABS & BA & TRAC & VSC ECU.

## OK:

### Continuity

## HINT:

There is resistance of  $33 \pm 3 \Omega$  between terminal BM1 or BM2 and MT of the hydraulic brake booster.

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Repair or replace harness, connector or hydraulic brake booster.

OK

# 6 Check for open and short circuit in harness and connector between ABS motor1 and ABS motor2 relay and ABS & BA & TRAC & VSC ECU (See page IN-34).

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Repair or replace harness or connector.

OK

Check and replace ABS & BA & TRAC & VSC ECU.