

|            |               |                                |
|------------|---------------|--------------------------------|
| <b>DTC</b> | <b>13, 14</b> | <b>ABS Motor Relay Circuit</b> |
|------------|---------------|--------------------------------|

## CIRCUIT DESCRIPTION

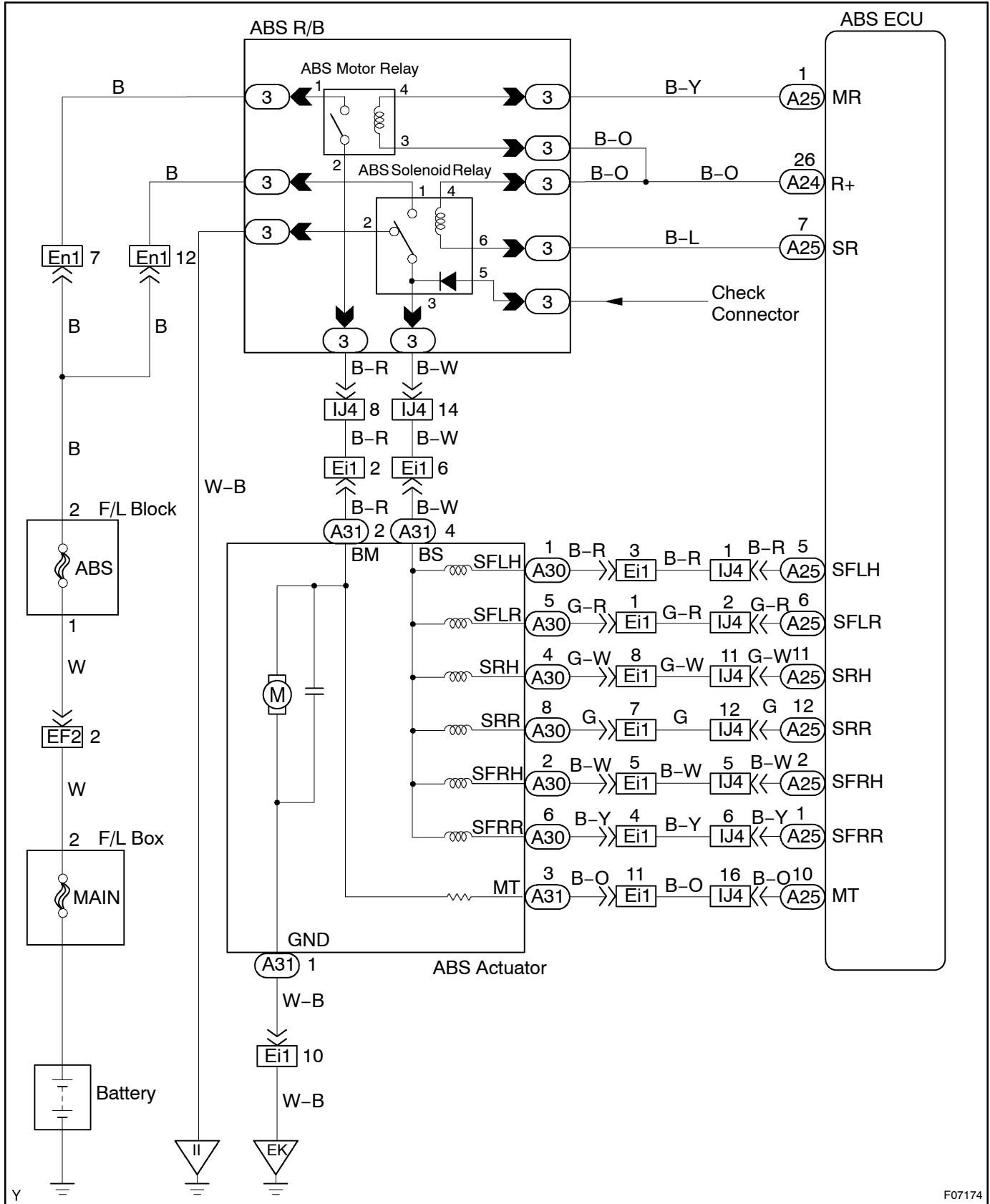
This ABS motor relay supplies power to the ABS pump motor. While the ABS is activated, the ABS ECU switches the ABS motor relay ON and operates the ABS pump motor.

| DTC No. | DTC Detecting Condition  | Trouble Area   |
|---------|--|--|
| 13      | <p>Conditions 1. or 2. continue for 0.2 seconds or more.</p> <ol style="list-style-type: none"> <li>1. ECU IG1 terminal voltage is 9.5 V to 18.5 V and during the initial checking or when the motor relay is ON while ABS is operating, the motor relay contact is OFF.</li> <li>2. During initial checking with ECU IG1 terminal voltage is less than 9.5 V or when the motor relay is ON during the ABS operation, the motor relay contact does not become ON.</li> </ol> | <ul style="list-style-type: none"> <li>•ABS motor relay</li> <li>•ABS motor relay circuit</li> </ul> |
| 14      | <p>Conditions 1. and 2. continue for 4 seconds or more.</p> <ol style="list-style-type: none"> <li>1. When the motor relay is OFF, the condition that the motor relay contact is ON.</li> <li>2. When the motor relay is OFF, ECU MT terminal is under the wire break condition.</li> </ol>  | <ul style="list-style-type: none"> <li>•ABS motor relay</li> <li>•ABS motor relay circuit</li> </ul> |

Fail safe function:

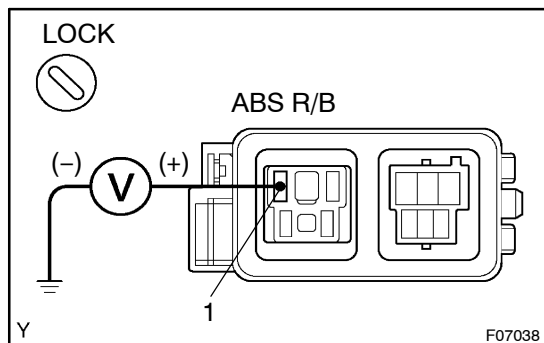
If trouble occurs in the ABS motor relay circuit, the ABS ECU cuts off the current to the ABS solenoid relay and prohibits ABS control.

## WIRING DIAGRAM



## INSPECTION PROCEDURE

- 1 Check voltage between terminal 1 of ABS R/B (for ABS motor relay) and body ground.**

**PREPARATION:**

Remove ABS motor relay from ABS R/B.

**CHECK:**

Measure voltage between terminal 1 of ABS R/B (for ABS motor relay) and body ground.

**OK:**

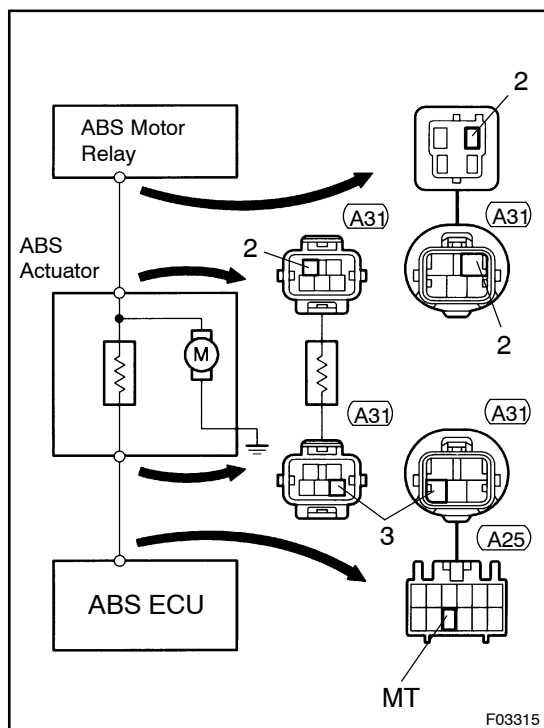
**Voltage: 10 – 14 V**

**NG**

**Check and repair harness or connector.**

**OK**

- 2 Check continuity between terminal 2 of ABS R/B (for ABS motor relay) and terminal MT of ABS ECU.**

**CHECK:**

Check continuity between terminal 2 of ABS R/B (for ABS motor relay) and terminal MT of ABS ECU.

**OK:**

**Continuity**

**HINT:**

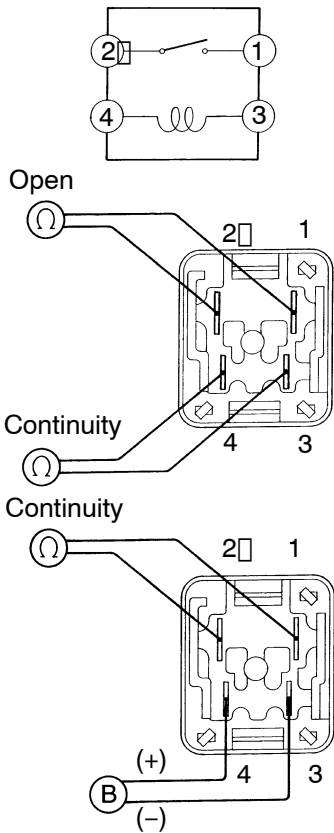
There is a resistance of approx. 33  $\Omega$  between terminals A31 – 2 and A31 – 3 of ABS actuator.

**NG**

**Repair or replace harness or ABS actuator.**

**OK**

### 3 Check ABS motor relay.



BE1840  
R15257  
R15258

F00044

#### PREPARATION:

Remove ABS motor relay from ABS R/B.

#### CHECK:

Check continuity between each terminal of ABS motor relay.

#### OK:

|                   |                                   |
|-------------------|-----------------------------------|
| Terminals 3 and 4 | Continuity (Reference value 62 Ω) |
| Terminals 1 and 2 | Open                              |

#### CHECK:

(a) Apply battery voltage between terminals 3 and 4.

(b) Check continuity between terminals.

#### OK:

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

NG

Replace ABS motor relay.

OK

### 4 Check for open and short circuit in harness and connector between ABS motor relay and ABS ECU (See page IN-30).

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 ABS ECU may be defective.