

|            |                 |   |
|------------|-----------------|---|
| <b>DTC</b> | <b>C0278/11</b> | <b>OPEN CIRCUIT IN ABS SOLENOID RELAY CIRCUIT</b> |
|------------|-----------------|---|

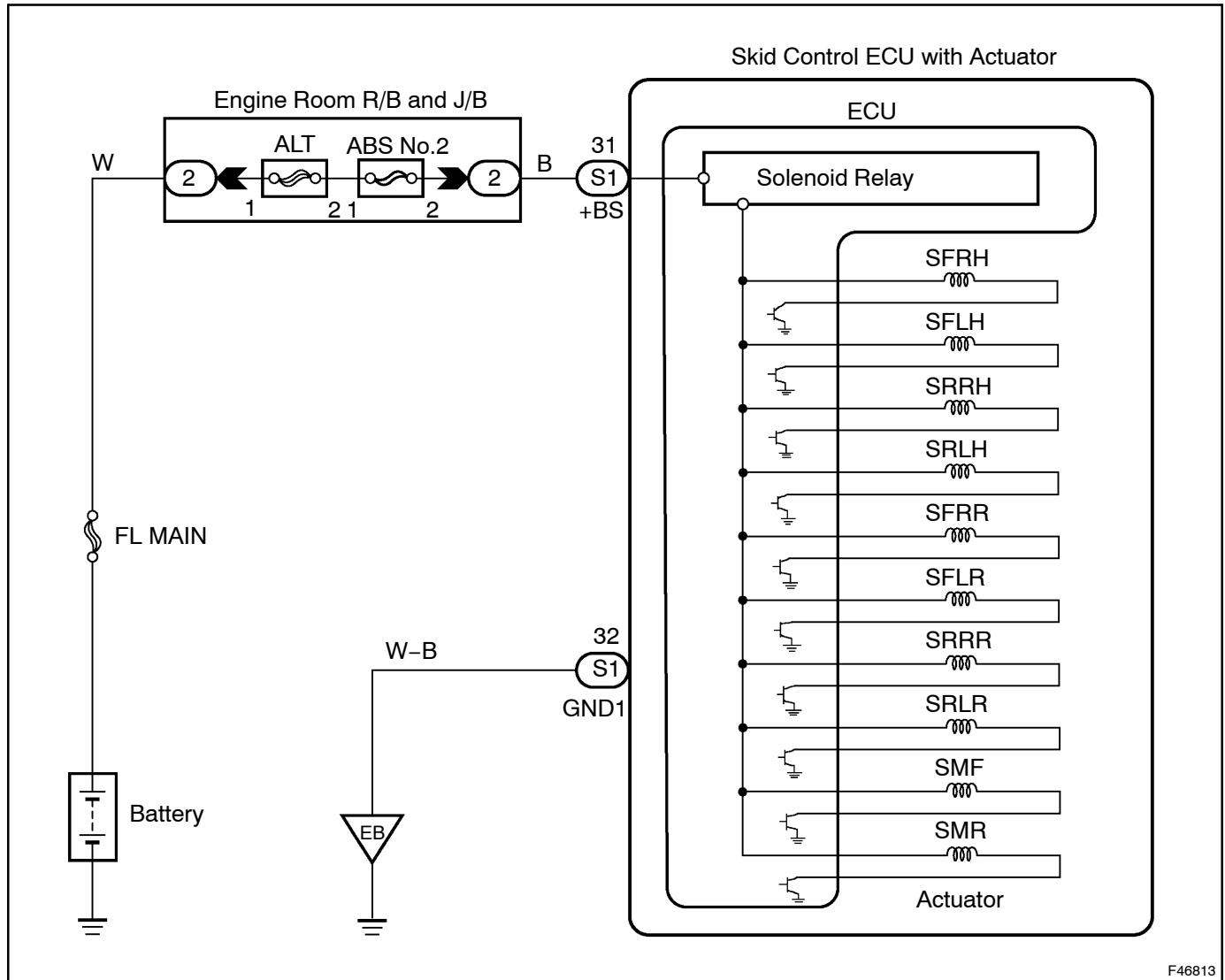
|            |                 |  |
|------------|-----------------|--|
| <b>DTC</b> | <b>C0279/12</b> | <b>SHORT CIRCUIT IN ABS SOLENOID RELAY CIRCUIT</b> |
|------------|-----------------|--|

## CIRCUIT DESCRIPTION

The ABS solenoid relay is built in the ABS & TRACTION actuator assy. This relay supplies power to each ABS solenoid. If the initial check is OK, after the ignition switch is turned to the ON position, the relay goes on.

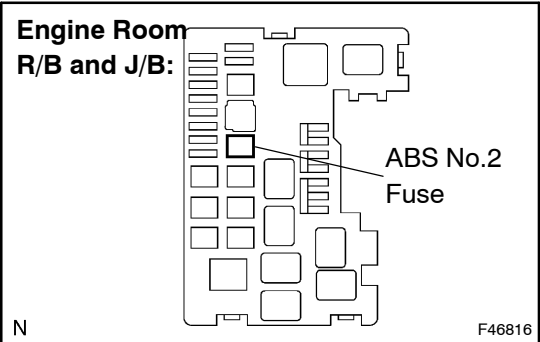
| DTC No.  | DTC Detecting Condition  | Trouble Area  |
|----------|--|---|
| C0278/11 | <p>When any of the following (1 to 2) is detected:</p> <p>(1) All the following conditions continue for at least 0.2 seconds.</p> <ul style="list-style-type: none"> <li>• IG voltage is between 9.5 and 17.2 V.</li> <li>• Relay contact is open when the relay is ON.</li> </ul> <p>(2) All the following conditions continue for at least 0.2 seconds.</p> <ul style="list-style-type: none"> <li>• IG voltage is 9.5 V or less when the relay is ON.</li> <li>• Relay contact remains open.</li> </ul> | <ul style="list-style-type: none"> <li>• ABS No.2 fuse</li> <li>• ABS SOL relay</li> <li>• ABS SOL relay circuit</li> <li>• ABS &amp; TRC actuator</li> </ul> |
| C0279/12 | <p>The following condition continues for at least 0.2 seconds.</p> <ul style="list-style-type: none"> <li>• Relay contact is closed immediately after turning IG switch to the ON position when the relay is OFF.</li> </ul>   | <ul style="list-style-type: none"> <li>• ABS No.2 fuse</li> <li>• ABS SOL relay</li> <li>• ABS SOL relay circuit</li> <li>• ABS &amp; TRC actuator</li> </ul> |

## WIRING DIAGRAM



INSPECTION PROCEDURE

1 INSPECT FUSE(ABS NO.2)



- (a) Remove the ABS No.2 fuse from the engine room R/B and J/B.
- (b) Measure the resistance according to the value(s) in the table below.

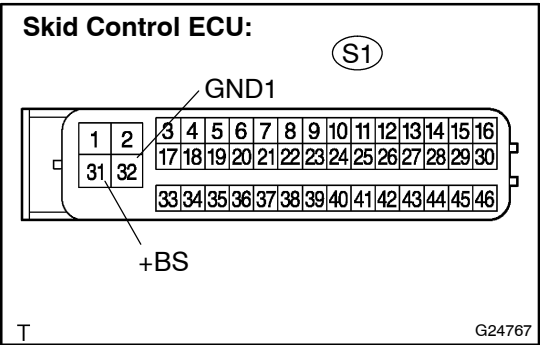
Standard:

|               |                        |
|---------------|------------------------|
| ABS No.2 fuse | Below 1 Ω (Continuity) |
|---------------|------------------------|

**NG** CHECK FOR SHORT IN ALL HARNESS AND CONNECTOR CONNECTED TO FUSE AND REPLACE FUSE

OK

2 INSPECT SKID CONTROL ECU CONNECTOR(+BS TERMINAL VOLTAGE)



- (a) Disconnect the skid control ECU S1 connector.
- (b) Turn the ignition switch to the ON position.
- (c) Measure the voltage according to the value(s) in the table below.

Standard:

|                            |                     |
|----------------------------|---------------------|
| Tester Connection          | Specified Condition |
| S1-31 (+BS) - S1-32 (GND1) | 10 to 14 V          |

**NG** Go to step 4

OK

3

RECONFIRM DTC

HINT:  
This code is detected when a problem is detected in the ABS & TRACTION actuator assy.  
The ABS solenoid relay is in the ABS & TRACTION actuator assy.  
Therefore, solenoid relay circuit inspection and relay unit inspection cannot be performed. Be sure to check if the DTC code is output before replacing the ABS & TRACTION actuator assy.  
(a) Clear the DTCs (see page 05-625).  
(b) Turn the ignition switch to the ON position.  
**Are the same DTCs recorded?**

NO

PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE (SEE PAGE 05-620)

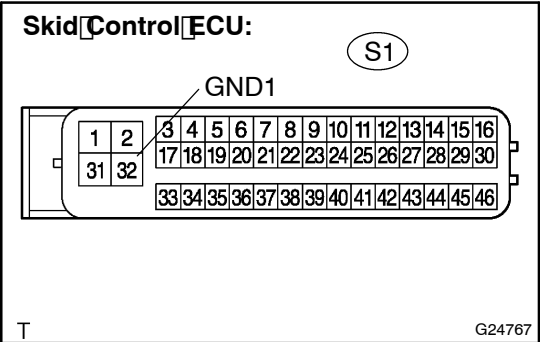
YES

REPLACE ABS & TRACTION ACTUATOR ASSY (SEE PAGE 32-20)

**NOTICE:**  
When replacing the ABS & TRACTION ACTUATOR ASSY, perform zero point calibration (see page 05-610).

4

INSPECT SKID CONTROL ECU CONNECTOR (GND TERMINAL CONTINUITY)



- (a) Disconnect the skid control ECU S1 connector.  
(b) Measure the resistance according to the value(s) in the table below.

**Standard:**

| Tester Connection          | Specified Condition |
|----------------------------|---------------------|
| S1-32 (GND1) – Body ground | Below 1 Ω           |

NG

REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

**5 RECONFIRM DTC****HINT:**

This code is detected when a problem is detected in the ABS & TRACTION actuator assy.

The ABS solenoid relay is in the ABS & TRACTION actuator assy.

Therefore, solenoid relay circuit inspection and relay unit inspection cannot be performed. Be sure to check if the DTC code is output before replacing the ABS & TRACTION actuator assy.

(a) Clear the DTCs (see page 05-625).

(b) Turn the ignition switch to the ON position.

**Are the same DTCs recorded? (see page 05-625).**

**HINT:**

It is suspected that the DTCs output was caused by the poor connection of the connector terminal.

**NO**

**PROCEED TO NEXT CIRCUIT INSPECTION  
SHOWN IN PROBLEM SYMPTOMS TABLE  
(SEE PAGE 05-620)**

**YES**

**REPLACE ABS & TRACTION ACTUATOR ASSY (SEE PAGE 32-20)**

**NOTICE:**

**When replacing the ABS & TRACTION actuator assy, perform zero point calibration (see page 05-610).**