**DESCRIPTION**
The motor relay (semiconductor relay) is built into the master cylinder solenoid and drives the pump motor based on a signal from the skid control ECU.

**INSPECTION PROCEDURE**
NOTICE:
When replacing the master cylinder solenoid, perform zero point calibration (See page BC-24).
HINT:
When C1253/53, C1254/54 or C1256/56 is output together with C1252/52, inspect and repair the trouble areas indicated by C1253/53, C1254/54 or C1256/56 first.

1. **CHECK HYDRAULIC BRAKE BOOSTER PUMP MOTOR OPERATION**

   (a) Turn the ignition switch off.
   (b) Depress the brake pedal more than 20 times.
   (c) Turn the ignition switch on.
   (d) Check how the hydraulic brake booster pump motor operates.

<table>
<thead>
<tr>
<th>Result</th>
<th>Proceed to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pump motor does not operate</td>
<td>A</td>
</tr>
<tr>
<td>Pump motor operates continuously (Does not stop)</td>
<td>B</td>
</tr>
<tr>
<td>Pump motor operates intermittently</td>
<td>C</td>
</tr>
<tr>
<td>Pump motor operates, then stops</td>
<td>D</td>
</tr>
</tbody>
</table>

B → REPLACE BRAKE BOOSTER PUMP ASSEMBLY

C → Go to step 4

D → Go to step 5

A →

2. **CHECK BRAKE PUMP MOTOR WIRE HARNESS CONNECTION (MT+ / MT-)**

   (a) Using a screwdriver, remove the 2 plugs from the hydraulic brake booster (See page BR-32).
   (b) Check the tightening torque of 2 screws which fasten the wire harness connecting the hydraulic brake booster and brake booster pump (See page BR-36).
   
   Torque: 2.9 N*m (30 kgf*cm, 26 in.*lbf)
3 CHECK RESISTANCE OF PUMP MOTOR WIRE HARNESS (MT+/MT-)

(a) Using a screwdriver, remove the 2 screws and pull the wire harness from the hydraulic brake booster assembly.
(b) Measure the resistance between the red wire (MT+) and black wire (MT-).

Standard resistance:
Below 2 Ω

NG

REPLACE BRAKE BOOSTER PUMP ASSEMBLY

OK

4 READ VALUE OF DATA LIST (ACCUMULATOR PRESSURE SENSOR)

(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch on.
(c) Turn the tester on.
(d) Select the DATA LIST mode on the intelligent tester.

DATA LIST: ABS/VSC

<table>
<thead>
<tr>
<th>Item</th>
<th>Measurement Item / Range (Display)</th>
<th>Normal Condition</th>
<th>Diagnostic Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC PRESS SENS</td>
<td>Accumulator pressure sensor reading / min.: 0 V, max.: 5 V</td>
<td>3.58 to 5 V</td>
<td>If value constant regardless of pump operation, accumulator pressure sensor malfunction suspected.</td>
</tr>
</tbody>
</table>

(e) Check that the accumulator pressure sensor output is normal.

Result

<table>
<thead>
<tr>
<th>Result</th>
<th>Proceed to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output value varies within &quot;Normal Condition&quot; range</td>
<td>A</td>
</tr>
<tr>
<td>Output value does not reach &quot;Normal Condition&quot; range</td>
<td>B</td>
</tr>
<tr>
<td>Output value constant regardless of pump motor operation</td>
<td>C</td>
</tr>
</tbody>
</table>

B REPLACE BRAKE BOOSTER PUMP ASSEMBLY

C REPLACE HYDRAULIC BRAKE BOOSTER
5 RECONFIRM DTC

(a) Clear the DTC (See page BC-45).
(b) Turn the ignition switch off.
(c) Turn the ignition switch on.
(d) Wait for more than 5 minutes.
(e) Check if the same DTC is recorded (See page BC-45).

Result

<table>
<thead>
<tr>
<th>Result</th>
<th>Proceed to</th>
</tr>
</thead>
<tbody>
<tr>
<td>DTC output</td>
<td>A</td>
</tr>
<tr>
<td>DTC not output</td>
<td>B</td>
</tr>
</tbody>
</table>

B REPLACE BRAKE BOOSTER PUMP ASSEMBLY

A REPLACE MASTER CYLINDER SOLENOID