Transfer Control Device

CONSULT-II REFERENCE VALUE IN DATA MONITOR MODE

Data are reference value.

DATA MONITOR MODE REFERENCE

<table>
<thead>
<tr>
<th>Monitored item [Unit]</th>
<th>Content</th>
<th>Condition</th>
<th>Display value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHIFT ACT/R MON [ON/OFF]</td>
<td>Operating condition of actuator motor relay (integrated in transfer control unit)</td>
<td>• Vehicle stopped • Engine running • For A/T models, A/T selector lever &quot;N&quot; position with brake pedal depressed. • For M/T models, M/T shift lever neutral position with clutch and brake pedal depressed.</td>
<td>ON/OFF</td>
</tr>
</tbody>
</table>

TRANSFER CONTROL UNIT TERMINALS AND REFERENCE VALUE

Data are reference value and are measured between each terminal and ground.

CONNECTOR TERMINAL SPECIFICATION

<table>
<thead>
<tr>
<th>Terminal</th>
<th>Wire color</th>
<th>Item</th>
<th>Condition</th>
<th>Data (Approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>W/G</td>
<td>Ignition switch monitor</td>
<td>Ignition switch: ON</td>
<td>Battery voltage</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ignition switch: OFF</td>
<td>0V</td>
</tr>
<tr>
<td>27</td>
<td>L</td>
<td>Actuator motor power supply</td>
<td>Ignition switch: ON</td>
<td>Battery voltage</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ignition switch: OFF (5 seconds after ignition switch is turned OFF.)</td>
<td>0V</td>
</tr>
<tr>
<td>32</td>
<td>B</td>
<td>Actuator motor ground</td>
<td>Always</td>
<td>0V</td>
</tr>
<tr>
<td>40</td>
<td>V</td>
<td>Ignition switch</td>
<td>Ignition switch: ON</td>
<td>0V</td>
</tr>
</tbody>
</table>
Transfer switch off
relay

Ignition switch: OFF (5 seconds after
ignition switch is turned OFF.)

Battery voltage

⚠️ CAUTION: When using a circuit tester to measure voltage for inspection, be sure
not to extend forcibly any connector terminals.

DIAGNOSTIC PROCEDURE

1. CHECK POWER SUPPLY

   1. Turn ignition switch "OFF". (Stay for at least 5 seconds.)
   2. Disconnect transfer control unit harness connector.
   3. Check voltage between transfer control unit harness connector terminal and
ground.

CONNECTOR TERMINAL VOLTAGE SPECIFICATION

<table>
<thead>
<tr>
<th>Connector</th>
<th>Terminal</th>
<th>Voltage (Approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>M152</td>
<td>25 - Ground</td>
<td>0V</td>
</tr>
<tr>
<td>M153</td>
<td>27 - Ground</td>
<td></td>
</tr>
</tbody>
</table>
4. Turn ignition switch "ON". (Do not start engine.)

5. Check voltage between transfer control unit harness connector terminals and ground.

CONNECTION TERMINAL VOLTAGE SPECIFICATION

<table>
<thead>
<tr>
<th>Connector</th>
<th>Terminal</th>
<th>Voltage (Approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>M152</td>
<td>25 - Ground</td>
<td>Battery voltage</td>
</tr>
<tr>
<td>M153</td>
<td>27 - Ground</td>
<td></td>
</tr>
</tbody>
</table>
OK or NG

1. OK: GO TO 2.

2. NG: Check the following. If any items are damaged, repair or replace damaged parts.
   1. 10A fuse (No. 57, located in the fuse and relay box).
   2. 40A fusible link (No. j, located in the fuse and fusible link box).
   3. Harness for short or open between battery and transfer shut off relay 1 harness connector E156 terminal 3.
   4. Harness for short or open between transfer control unit harness connector M153 terminal 27 and transfer shut off relay 1 harness connector E156 terminal 5.
   5. Harness for short or open between ignition switch and transfer shut off relay 1 harness connector E156 terminal 1.
   6. Harness for short or open between transfer shut off relay 1 harness connector E156 terminal 2 and ground.
7. Harness for short or open between ignition switch and transfer control unit harness connector M152 terminal 25.

8. Battery and ignition switch. Refer to "POWER SUPPLY ROUTING CIRCUIT".

9. Transfer shut off relay 1. Refer to, "COMPONENT INSPECTION".

2. CHECK GROUND CIRCUIT

1. Turn ignition switch "OFF".

2. Disconnect transfer control unit harness connector.

3. Check continuity between transfer control unit harness connector M153 terminal 32 and ground.

   **Continuity should exist**.

   Also check harness for short to power.

OK or NG

1. OK: GO TO 3.

2. NG: Repair open circuit or short to power in harness or connectors.
3. CHECK POWER SUPPLY SIGNAL

1. Turn ignition switch "OFF". (Stay for at least 5 seconds.)

2. Connect transfer control unit harness connector.

3. Check voltage between transfer control unit harness connector terminal and ground.

CONNECTOR TERMINAL VOLTAGE SPECIFICATION

<table>
<thead>
<tr>
<th>Connector</th>
<th>Terminal</th>
<th>Voltage (Approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>M153</td>
<td>40 - Ground</td>
<td>Battery voltage</td>
</tr>
</tbody>
</table>
4. Turn ignition switch "ON". (Do not start engine.)

5. Check voltage between transfer control unit harness connector terminal and ground.

CONNECTOR TERMINAL VOLTAGE SPECIFICATION

<table>
<thead>
<tr>
<th>Connector</th>
<th>Terminal</th>
<th>Voltage (Approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>M153</td>
<td>40 - Ground</td>
<td>0V</td>
</tr>
</tbody>
</table>

Courtesy of NISSAN MOTOR CO., U.S.A.
OK or NG

1. OK: GO TO 4.

2. NG: Check the following. If any items are damaged, repair or replace damaged parts.
   
   1. Harness for short or open between battery and transfer shut off relay 2 harness connector E157 terminal 1.

   2. Harness for short or open between transfer shut off relay 2 harness connector E157 terminal 2 and transfer control unit harness connector M153 terminal 40.

   3. Transfer shut off relay 2. Refer to "COMPONENT INSPECTION ".

4. CHECK TRANSFER CONTROL UNIT

Check transfer control unit input/output signal. Refer to "TRANSFER CONTROL UNIT INPUT/OUTPUT SIGNAL REFERENCE VALUES ".

OK or NG
1. OK-1: With CONSULT-II: GO TO 5.


3. NG: Check transfer control unit pin terminals for damage or loose connection with harness connector. If any items are damaged, repair or replace damaged parts.

5. PERFORM SELF-DIAGNOSIS (WITH CONSULT-II)

With CONSULT-II

1. Turn ignition switch "ON". (Do not start engine.)

2. Select "SELF-DIAG RESULTS" mode for "ALL MODE AWD/4WD" with CONSULT-II.

3. Touch "ERASE".

4. Turn ignition switch "OFF" and wait at least 10 seconds.

5. Perform the self-diagnosis again.

Is the "SHIFT ACT CIR [P1819]" displayed?

1. YES: Replace transfer control unit. Refer to, "REMOVAL AND INSTALLATION".

2. NO: Inspection End.

6. PERFORM SELF-DIAGNOSIS (WITHOUT CONSULT-II)

Without CONSULT-II

1. Perform the self-diagnosis and then erase self-diagnostic results. Refer to, "SELF-DIAGNOSTIC PROCEDURE (WITHOUT CONSULT-II)" and, "ERASE SELF-DIAGNOSIS".

2. Perform the self-diagnosis again.

Do the self-diagnostic results indicate transfer control device?

1. YES: Replace transfer control unit. Refer to, "REMOVAL AND INSTALLATION".

2. NO: Inspection End.