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PG-1
PRECAUTIONS

PRECAUTION

PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

The Supplemental Restraint System such as “AIR BAG” and “SEAT BELT PRE-TENSIONER”, used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the “SRS AIR BAG” and “SEAT BELT” of this Service Manual.

WARNING:
• To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
• Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the “SRS AIR BAG”.
• Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

WARNING:
• When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
• When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

Precaution for Procedure without Cowl Top Cover

When performing the procedure after removing cowl top cover, cover the lower end of windshield with urethane, etc.
### Special Service Tools

<table>
<thead>
<tr>
<th>Tool number (Kent-Moore No.)</th>
<th>Tool name</th>
<th>Description</th>
</tr>
</thead>
</table>
| (J-48087)                    | Battery Service Center | Tests battery.  
For operating instructions, refer to Technical Service Bulletin and Battery Service Center User Guide. |

Revision: 2010 June
COMPONENT PARTS

SYSTEM DESCRIPTION

COMPONENT PARTS

Circuit Breaker

The PTC thermistor generates heat in response to current flow. The temperature (and resistance) of the thermistor element varies with current flow. Excessive current flow will cause the element’s temperature to rise. When the temperature reaches a specified level, the electrical resistance will rise sharply to control the circuit current. Reduced current flow will cause the element to cool. Resistance falls accordingly and normal circuit current flow is allowed to resume.

Battery

<table>
<thead>
<tr>
<th>Type</th>
<th>110D26L</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 hour rate capacity</td>
<td>[V – Ah]</td>
</tr>
<tr>
<td>Cold cranking current</td>
<td>[A]</td>
</tr>
</tbody>
</table>

Harness Connector

HARNESS CONNECTOR (TAB-LOCKING TYPE)

- The tab-locking type connectors help prevent accidental looseness or disconnection.
- The tab-locking type connectors are disconnected by pushing or lifting the locking tab(s). Refer to the figure below.

CAUTION:

Never pull the harness or wires when disconnecting the connector.
HARNESS CONNECTOR (SLIDE-LOCKING TYPE)

- A new style slide-locking type connector is used on certain systems and components, especially those related to OBD.
- The slide-locking type connectors help prevent incomplete locking and accidental looseness or disconnection.
- The slide-locking type connectors are disconnected by pushing or pulling the slider. Refer to the figure below.

**CAUTION:**
- Never pull the harness or wires when disconnecting the connector.
- Be careful not to damage the connector support bracket when disconnecting the connector.
HARNESS CONNECTOR (LEVER LOCKING TYPE)

- Lever locking type harness connectors are used on certain control units and control modules such as ECM, ABS actuator and electric unit (control unit), etc.
- Lever locking type harness connectors are also used on super multiple junction (SMJ) connectors.
- Always confirm the lever is fully locked in place by moving the lever as far as it will go to ensure full connection.

CAUTION:
Always confirm the lever is fully released (loosened) before attempting to disconnect or connect these connectors to avoid damage to the connector housing or terminals.

1. Control unit with single lever
   A. Fasten
   B. Loosen
   C. Lever

2. Control unit with dual levers
   A. Levers
   B. Fasten
   C. Loosen

3. SMJ connector
   A. Lever
   B. Fasten
   C. Loosen

Standardized Relay

NORMAL OPEN, NORMAL CLOSED AND MIXED TYPE RELAYS
Relays can mainly be divided into three types: normal open, normal closed and mixed type relays.
COMPONENT PARTS

< SYSTEM DESCRIPTION >

1M ............... 1 Make
1T ............... 1 Transfer
1M·1B ............ 1 Make 1 Break

2M ............... 2 Make

1T ................ 1 Transfer

1 Make 2M
1 Transfer 1M·1B

Revision: 2010 June
Revision: 2011 M37/M56
Wiring Diagram - BATTERY POWER SUPPLY FUSIBLE LINK No. L

INFOID:0000000005987074

Revision: 2010 June 2011 M37/M56
Wiring Diagram - BATTERY POWER SUPPLY FUSE No. 11

Power Supply Routing Circuit

INFOID:000000009567079

Revision: 2010 June 2011 M37/M56

PG-43

2011 M37/M56
POWER SUPPLY ROUTING CIRCUIT
POWER SUPPLY ROUTING CIRCUIT

< WIRING DIAGRAM >

Revision: 2010 June
PG-59

2011 M37/M56
POWER SUPPLY ROUTING CIRCUIT

< WIRING DIAGRAM >
POWER SUPPLY ROUTING CIRCUIT

< WIRING DIAGRAM >
POWER SUPPLY ROUTING CIRCUIT

< WIRING DIAGRAM >

Revision: 2010 June 2011 M37/M56

PG-98
POWER SUPPLY ROUTING CIRCUIT

< WIRING DIAGRAM >
POWER SUPPLY ROUTING CIRCUIT

< WIRING DIAGRAM >

Revision: 2010 June

JCMWA56870B

2011 M37/M56
POWER SUPPLY ROUTING CIRCUIT

Wiring Diagram - IGNITION POWER SUPPLY FUSE No. 46

INFOID:0000000005987090

Revision: 2010 June 2011 M37/M56

JCMWA5669GB

PG-118
FUSE BLOCK - JUNCTION BOX (J/B)
Fuse, Connector and Terminal Arrangement
Fuse and Fusible Link Arrangement
Fuse, Connector and Terminal Arrangement
How To Read Harness Layout

1. Connector model
2. Cavity
3. Male (M) and female (F) terminals
4. Connector color
5. Special type

CONNECTOR SYMBOL
Main symbols of connector (in Harness Layout) are indicated in the below.
Engine Control Harness

VQ37VHR

INFOID:0000000085967116

Revision: 2010 June
HARNESS LAYOUT

Passenger Compartment

VK56VD

Revision: 2010 June
HARNESS LAYOUT

Door Harness

FRONT DOOR HARNESS (LH SIDE)
BATTERY INSPECTION

BATTERY INSPECTION

How to Handle Battery

CAUTION:
• If it becomes necessary to start the engine with a booster battery and jumper cables, use a 12-volt booster battery.
• After connecting battery cables, ensure that they are tightly clamped to battery terminals for good contact.
• Never add distilled water through the hole used to check specific gravity.

METHODS OF PREVENTING OVER-DISCHARGE

The following precautions must be taken to prevent over-discharging a battery.
• The battery surface (particularly its top) should always be kept clean and dry.
• The terminal connections should be clean and tight.
• At every routine maintenance, check the electrolyte level. This also applies to batteries designated as “low maintenance” and “maintenance-free”.

• When the vehicle is not going to be used over a long period of time, disconnect the battery cable from the negative terminal. (If the vehicle has an extended storage switch, turn it off.)

• Check the charge condition of the battery. Periodically check the specific gravity of the electrolyte. Keep a close check on charge condition to prevent over-discharge.

CHECKING ELECTROLYTE LEVEL

WARNING:
Never allow battery fluid to come in contact with skin, eyes, fabrics, or painted surfaces. After touching a battery, never touch or rub your eyes until you have thoroughly washed your hands. If acid contacts eyes, skin or clothing, immediately flush with water for 15 minutes and seek medical attention.
< BASIC INSPECTION >

- Remove the cell plug using a suitable tool.
- Add distilled water up to the MAX level.

Sulphation
A battery will be completely discharged if it is left unattended for a long time and the specific gravity will become less than 1.100. This may result in sulphation on the cell plates.
To determine if a battery has been “sulphated”, note its voltage and current when charging it. As shown in the figure, less current and higher voltage are observed in the initial stage of charging sulphated batteries.
A sulphated battery may sometimes be brought back into service by means of a long, slow charge, 12 hours or more, followed by a battery capacity test.

SPECIFIC GRAVITY CHECK
1. Read hydrometer and thermometer indications at eye level.
2. Use the chart below to correct your hydrometer reading according to electrolyte temperature.

<table>
<thead>
<tr>
<th>Battery electrolyte temperature [°C (°F)]</th>
<th>Add to specific gravity reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>71 (160)</td>
<td>0.032</td>
</tr>
<tr>
<td>66 (150)</td>
<td>0.028</td>
</tr>
<tr>
<td>60 (140)</td>
<td>0.024</td>
</tr>
<tr>
<td>54 (130)</td>
<td>0.020</td>
</tr>
<tr>
<td>49 (120)</td>
<td>0.016</td>
</tr>
<tr>
<td>43 (110)</td>
<td>0.012</td>
</tr>
<tr>
<td>38 (100)</td>
<td>0.008</td>
</tr>
<tr>
<td>32 (90)</td>
<td>0.004</td>
</tr>
<tr>
<td>27 (80)</td>
<td>0</td>
</tr>
<tr>
<td>21 (70)</td>
<td>−0.004</td>
</tr>
<tr>
<td>16 (60)</td>
<td>−0.008</td>
</tr>
<tr>
<td>10 (50)</td>
<td>−0.012</td>
</tr>
<tr>
<td>4 (40)</td>
<td>−0.016</td>
</tr>
<tr>
<td>−1 (30)</td>
<td>−0.020</td>
</tr>
<tr>
<td>−7 (20)</td>
<td>−0.024</td>
</tr>
</tbody>
</table>
**BATTERY INSPECTION**

**< BASIC INSPECTION >**

<table>
<thead>
<tr>
<th>Battery electrolyte temperature [°C (°F)]</th>
<th>Add to specific gravity reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>−12 (10)</td>
<td>−0.028</td>
</tr>
<tr>
<td>−18 (0)</td>
<td>−0.032</td>
</tr>
</tbody>
</table>

**Charging Rates**

<table>
<thead>
<tr>
<th>Amps</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>1 hour</td>
</tr>
<tr>
<td>25</td>
<td>2 hours</td>
</tr>
<tr>
<td>10</td>
<td>5 hours</td>
</tr>
<tr>
<td>5</td>
<td>10 hours</td>
</tr>
</tbody>
</table>

Do not charge at more than 50 ampere rate.

**NOTE:**

The ammeter reading on your battery charger will automatically decrease as the battery charges. This indicates that the voltage of the battery is increasing normally as the state of charge improves. The charging amps indicated above refer to initial charge rate.

- If, after charging, the specific gravity of any two cells varies more than 0.050, the battery should be replaced.

**Work Flow**

**TROUBLE DIAGNOSIS WITH BATTERY SERVICE CENTER**

For battery testing, use Battery Service Center (J-48087). For details and operating instructions, refer to Technical Service Bulletin and/or Battery Service Center User Guide.
FUSE INSPECTION

< BASIC INSPECTION >

FUSE INSPECTION

How To Check

• If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.
• Use fuse of specified rating. Never use fuse of more than specified rating.
• Do not partially install fuse; always insert it into fuse holder properly.
• Remove fuse for “ELECTRICAL PARTS (BAT)” if vehicle is not used for a long period of time.
FUSIBLE LINK INSPECTION

How To Check

A melted fusible link can be detected either by visual inspection or by feeling with finger tip. If its condition is questionable, use circuit tester or test lamp.

1. Fusible link

CAUTION:
- If fusible link should melt, it is possible that critical circuit (power supply or large current carrying circuit) is shorted. In such a case, carefully check and eliminate cause of malfunction.
- Never wrap outside of fusible link with vinyl tape. Important: Never let fusible link touch any other wiring harness, vinyl or rubber parts.
Removal and Installation

REMOVAL
1. Remove battery cover.
2. Remove cowl top cover (RH). Refer to EXT-21, "Exploded View".
3. Remove cover of battery positive terminal.
4. Loosen battery terminal nuts, and disconnect both battery cables from battery terminals.
   **CAUTION:**
   When disconnecting, disconnect the battery cable from the negative terminal first.
5. Remove battery fix frame mounting nuts and battery fix frame.
6. Remove battery.

INSTALLATION
Install in the reverse order of removal.
**CAUTION:**
When connecting, connect the battery cable to the positive terminal first.
Reset electronic systems as necessary. Refer to GI-65, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Required Procedure After Battery Disconnection".
Removal and Installation

REMOVAL
1. Remove battery cover.
2. Disconnect the battery cable from the negative terminal.
3. Remove cover of battery positive terminal.
4. Remove harness mounting nuts and battery terminal with fusible link mounting nut.
5. Disconnect harness connector and remove battery terminal with fusible link.

INSTALLATION
Install in the reverse order of removal.
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>110D26L</td>
</tr>
<tr>
<td>20 hour rate capacity [V – Ah]</td>
<td>12 – 75</td>
</tr>
<tr>
<td>Cold cranking current (For reference value) [A]</td>
<td>720</td>
</tr>
</tbody>
</table>