

SECTION **CHG**
CHARGING SYSTEM

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CHG

PRECAUTIONS

< PRECAUTION >

PRECAUTION

PRECAUTIONS

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

INFOID:000000004056825

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 SR and SB section 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 which 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 SR section.
- 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.

Precaution for Power Generation Variable Voltage Control System

INFOID:000000004056826

CAUTION:

For this model, the battery current sensor that is installed to the negative battery cable measures the charging/discharging current of the battery and performs various engine controls. If an electrical component is connected directly to the negative battery terminal, the current flowing through that component will not be measured by the battery current sensor. This condition may cause a malfunction of the engine control system and battery discharge may occur. Do not connect an electrical component or ground wire directly to the battery terminal.

PREPARATION

< PREPARATION >

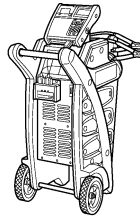
PREPARATION

PREPARATION

Special Service Tool

INFOID:000000004056827

| Tool number (Kent-Moore No.) Tool name | Description |
|--|--|
| — (—) Model GR-8 Multitasking Battery Diagnostic Station | Tests batteries, starting and charging systems. For operating instructions, refer to diagnostic station instruction manual. |



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Commercial Service Tool

INFOID:000000004056828

| Tool name | Description |
|------------|----------------------------------|
| Power tool | Loosening bolts, nuts and screws |



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DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

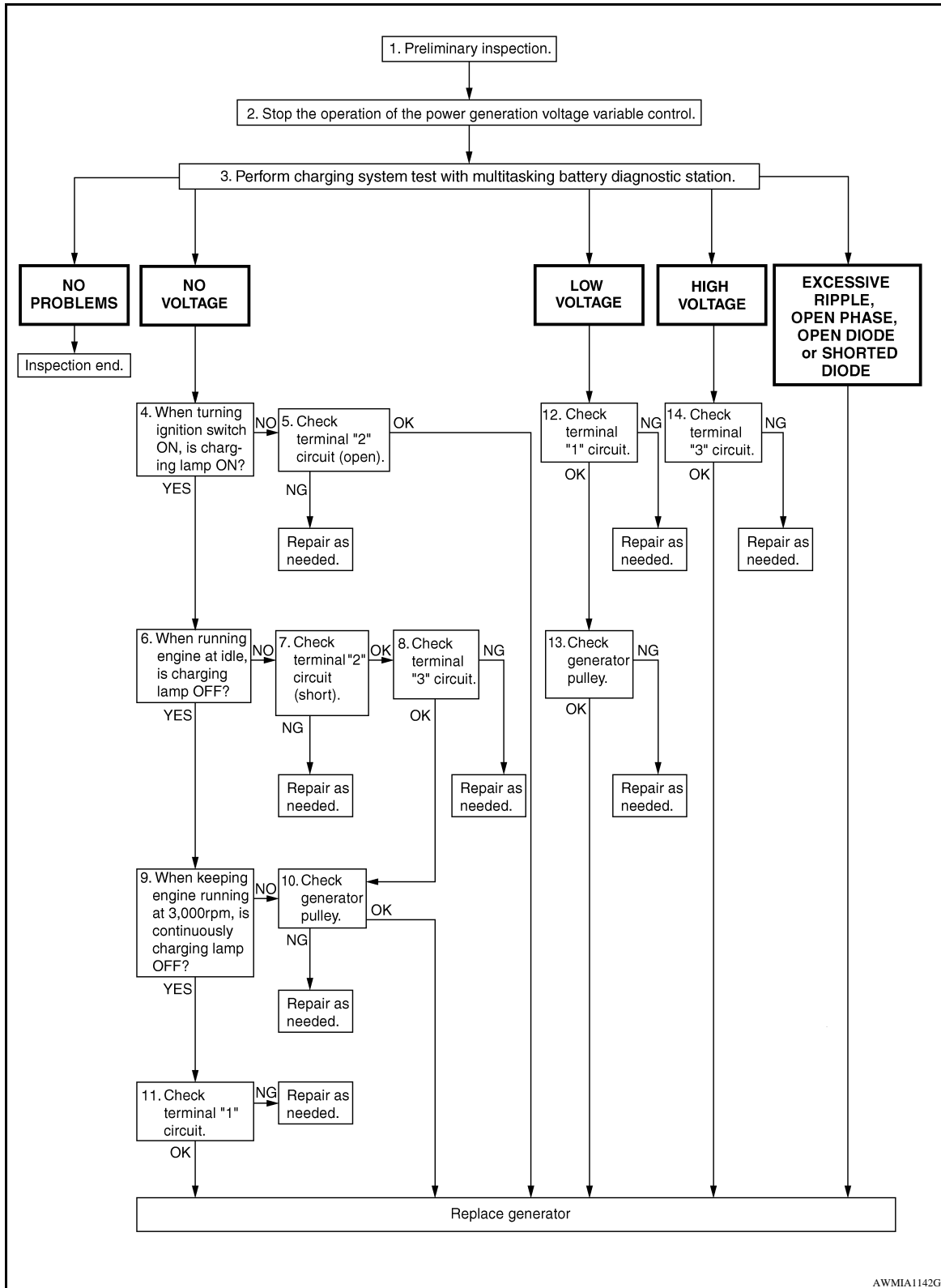
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000004056829

OVERALL SEQUENCE



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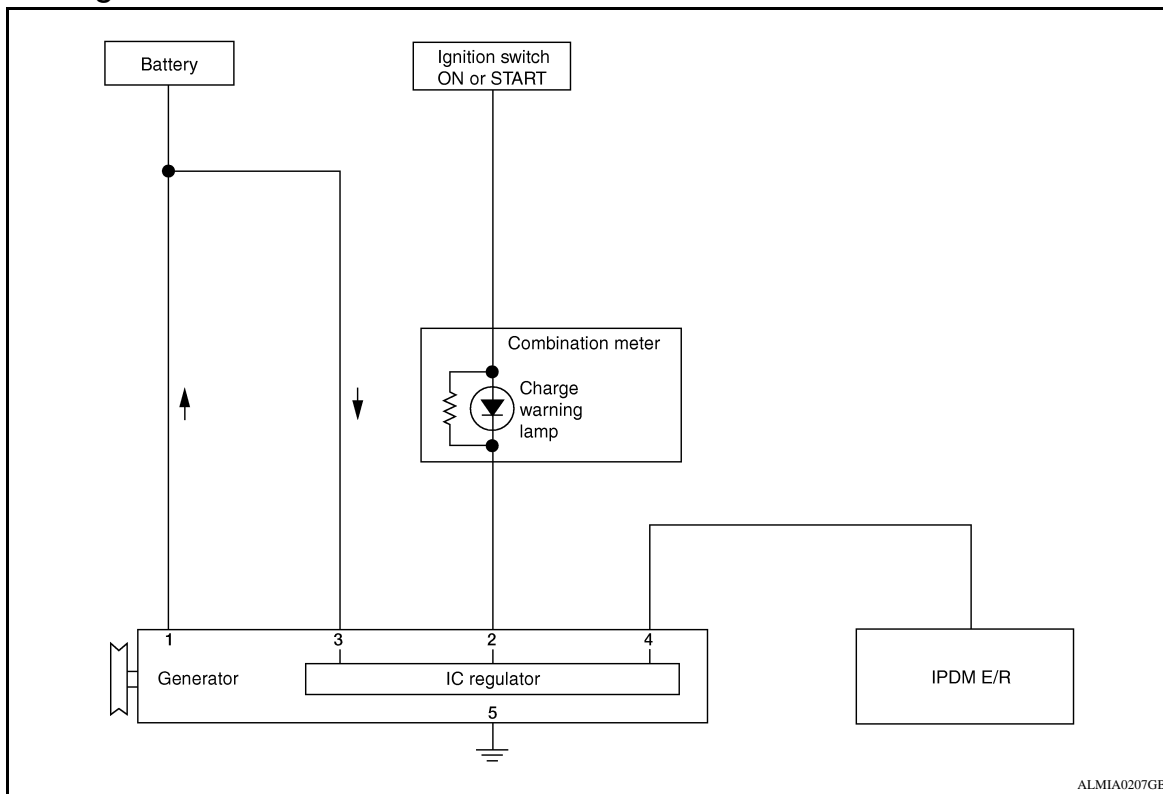
CHARGING SYSTEM

< FUNCTION DIAGNOSIS >

FUNCTION DIAGNOSIS

CHARGING SYSTEM

System Diagram



System Description

INFOID:0000000004056831

The generator provides DC voltage to operate the vehicle's electrical system and to keep the battery charged. The voltage output is controlled by the IC regulator.

Component Description

INFOID:0000000004056832

| Component part | | Description |
|---|--------------|--|
| Generator | Terminal "1" | Refer to CHG-10, "Description" . |
| | Terminal "2" | Refer to CHG-11, "Description" . |
| | Terminal "3" | Refer to CHG-12, "Description" . |
| | Terminal "4" | Used for the power generation voltage variable control system. Refer to CHG-6, "System Description" . |
| Combination meter (Charge warning lamp) | | The IC regulator warning function activates to illuminate the charge warning lamp if any of the following symptoms occur while generator is operating: <ul style="list-style-type: none"> Excessive voltage is produced. No voltage is produced. |
| IPDM E/R | | Used for the power generation voltage variable control system. Refer to CHG-6, "System Description" . |

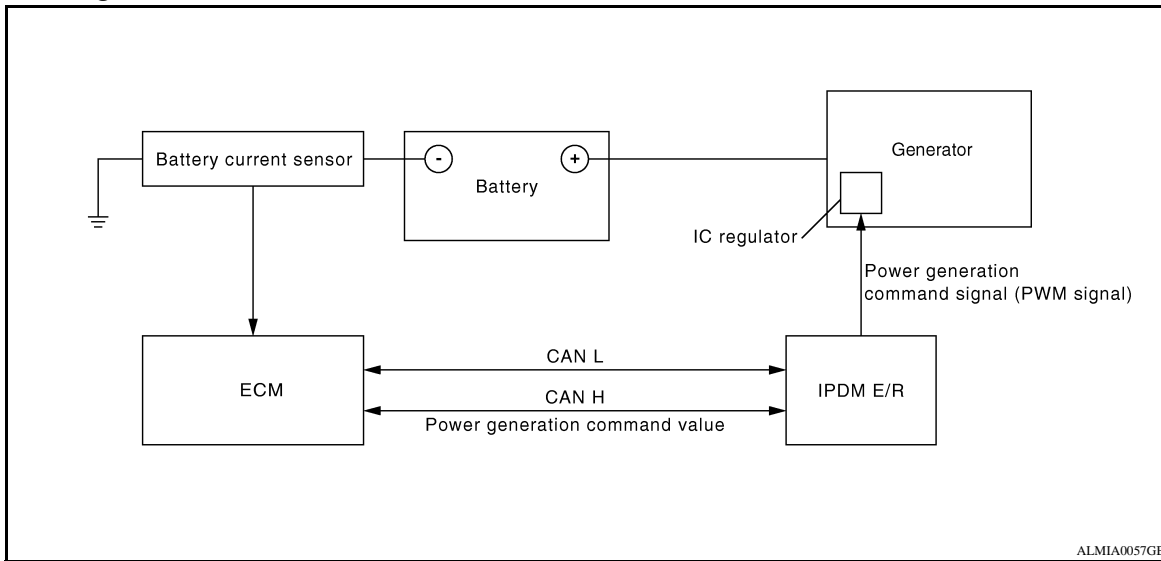
POWER GENERATION VOLTAGE VARIABLE CONTROL SYSTEM

< FUNCTION DIAGNOSIS >

POWER GENERATION VOLTAGE VARIABLE CONTROL SYSTEM

System Diagram

INFOID:000000004056833



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System Description

INFOID:000000004056834

Power generation variable voltage control system has been adopted. By varying the voltage to the generator, engine load due to power generation of the generator is reduced and fuel consumption is decreased.

NOTE:

When any malfunction is detected in the power generation variable voltage control system, power generation is performed according to the characteristic of the IC regulator in the generator.

Component Description

INFOID:000000004056835

| Component part | Description |
|--------------------------|---|
| Battery current sensor | The battery current sensor is installed on the battery cable at the negative terminal. The battery current sensor detects the charging/discharging current of the battery and sends a voltage signal to the ECM according to the current value detected. |
| ECM | The battery current sensor detects the charging/discharging current of the battery. The ECM judges the battery condition based on this signal. The ECM judges whether to request more output via the power generation voltage variable control according to the battery condition. When performing the power generation voltage variable control, the ECM calculates the target power generation voltage according to the battery condition and sends the calculated value as the power generation command value to the IPDM E/R. |
| IPDM E/R | The IPDM E/R converts the received power generation command value into a pulse width modulated (PWM) command signal and sends it to the IC regulator. |
| Generator (IC regulator) | The IC regulator controls the power generation voltage by the target power generation voltage based on the received PWM command signal. When there is no PWM command signal, the generator performs the normal power generation according to the characteristic of the IC regulator. |

CHARGING SYSTEM PRELIMINARY INSPECTION

< COMPONENT DIAGNOSIS >

COMPONENT DIAGNOSIS

CHARGING SYSTEM PRELIMINARY INSPECTION

Inspection Procedure

INFOID:000000004056836

1. CHECK BATTERY TERMINALS CONNECTION

Check if battery terminals are clean and tight.

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair battery terminals connection.

2. CHECK FUSE

Check for blown fuse and fusible link.

| Unit | Power source (Power supply terminals) | Fuse or Fusible Link |
|-------------------|---------------------------------------|----------------------|
| Generator | Battery (terminal 3) | Fuse 30 |
| | Battery (terminal 1) | Fusible Link A |
| Combination meter | Ignition switch ON (terminal 2) | Fuse 14 |

Is the inspection result normal?

YES >> GO TO 3

NO >> Be sure to eliminate cause of malfunction before installing new fuse or fusible link.

3. CHECK GENERATOR GROUND TERMINAL CONNECTION

Verify connector E209 terminal 5 (generator ground harness) is clean and tight.

Is the inspection result normal?

YES >> GO TO 4

NO >> Repair connection.

4. CHECK DRIVE BELT TENSION

Check drive belt tension. Refer to [EM-14. "Checking Drive Belts"](#) (QR25DE) or [EM-126. "Checking Drive Belts"](#) (VQ40DE).

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair as needed.

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POWER GENERATION VOLTAGE VARIABLE CONTROL SYSTEM OPERATION INSPECTION

< COMPONENT DIAGNOSIS >

POWER GENERATION VOLTAGE VARIABLE CONTROL SYSTEM OPERATION INSPECTION

Inspection Procedure

INFOID:000000004056837

CAUTION:

When performing this inspection, always use a charged battery that has completed the battery inspection. (When the charging rate of the battery is low, the response speed of the voltage change will become slow. This can cause an incorrect inspection.)

1.CHECK ECM (CONSULT-III)

Perform ECM self-diagnosis with CONSULT-III. Refer to [EC-68, "CONSULT-III Function \(ENGINE\)"](#) (QR25DE) or [EC-523, "CONSULT-III Function \(ENGINE\)"](#) (VQ40DE).

Self-diagnostic results content

No malfunction detected>> GO TO 2

Malfunction detected>> Check applicable parts, and repair or replace corresponding parts.

2.CHECK OPERATION OF POWER GENERATION VOLTAGE VARIABLE CONTROL SYSTEM

1. Connect CONSULT-III and start the engine.
2. The selector lever is in "P" or "N" position and all of the electric loads and A/C, etc. are turned OFF.
3. Select "ALTERNATOR DUTY" in "Active Test" of "ENGINE", and then check the value of "BATTERY VOLT" monitor when DUTY value of "ALTERNATOR DUTY" is set to 40.0 %.

"BATTERY VOLT"

2 seconds after setting the DUTY value of "ALTERNATOR DUTY" to 40.0 % : 12 - 13.6 V

4. Check the value of "BATTERY VOLT" monitor when DUTY value of "ALTERNATOR DUTY" is set to 80.0%.

"BATTERY VOLT"

20 seconds after setting the DUTY value of "ALTERNATOR DUTY" to 80.0 % : +0.5 V or more against the value of "BATTERY VOLT" monitor when DUTY value is 40.0 %

Is the measurement value within specification?

YES >> Inspection End.

NO >> GO TO 3

3.CHECK IPDM E/R (CONSULT-III)

Perform IPDM E/R self-diagnosis with CONSULT-III. Refer to [PCS-15, "CONSULT - III Function \(IPDM E/R\)"](#).

Self-diagnostic results content

No malfunction detected>> GO TO 4

Malfunction detected>> Check applicable parts, and repair or replace corresponding parts.

4.CHECK HARNESS BETWEEN GENERATOR AND IPDM E/R

POWER GENERATION VOLTAGE VARIABLE CONTROL SYSTEM OPERATION INSPECTION

< COMPONENT DIAGNOSIS >

1. Turn ignition switch OFF.
2. Disconnect generator connector E205 and IPDM E/R connector E122.
3. Check continuity between generator harness connector E205 (A) terminal 4 and IPDM E/R harness connector E122 (B) terminal 37.

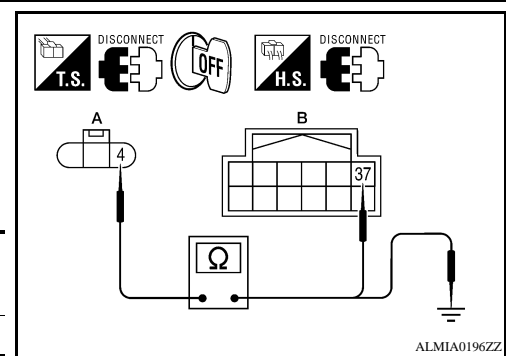
| A | | B | | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal | |
| E205 | 4 | E122 | 37 | Yes |

4. Check continuity between generator harness connector E122 (A) terminal 4 and ground.

| A | | — | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal | | |
| E205 | 4 | Ground | No |

Are the continuity test results as specified?

- YES >> Replace IPDM E/R. Refer to [PCS-34, "Removal and Installation of IPDM E/R"](#).
- NO >> Repair harness or connector between IPDM E/R and generator.



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B TERMINAL CIRCUIT

< COMPONENT DIAGNOSIS >

B TERMINAL CIRCUIT

Description

INFOID:000000004056838

The terminal "1" (B) circuit supplies power to charge the battery and operate the vehicles electrical system.

Diagnosis Procedure

INFOID:000000004056839

1.CHECK TERMINAL "1" CONNECTION

1. Turn ignition switch OFF.
2. Verify terminal "1" is clean and tight.

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair terminal "1" connection. Confirm repair by performing complete Starting/Charging system test. Refer to diagnostic station instruction manual.

2.CHECK TERMINAL "1" CIRCUIT

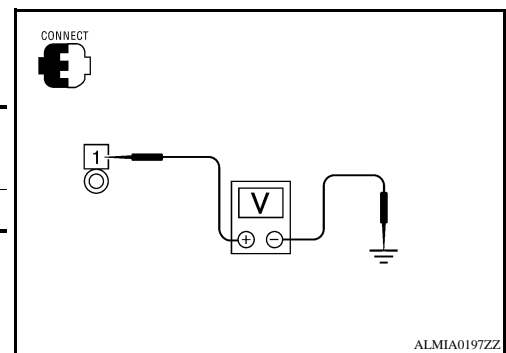
Check voltage between generator connector E206 terminal 1 and ground.

| (+) | | (-) | Voltage |
|-----------|----------|--------|-----------------|
| Connector | Terminal | | |
| E206 | 1 | Ground | Battery voltage |

Is voltage reading as specified?

YES >> GO TO 3.

NO >> Check harness for open between generator and fusible link.



3.CHECK TERMINAL "1" CONNECTION (VOLTAGE DROP TEST)

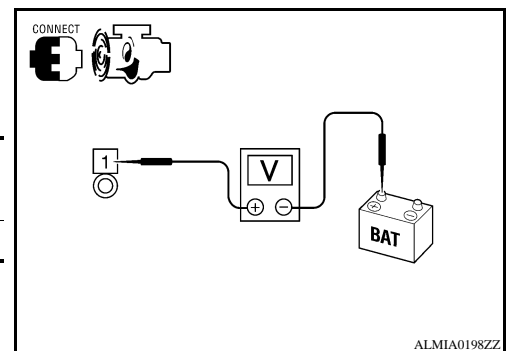
1. Start engine, then engine running at idle and warm.
2. Check voltage between battery positive terminal and generator connector E206 terminal 1.

| (+) | | (-) | Voltage |
|-----------|----------|---------------------------|----------------|
| Connector | Terminal | | |
| E206 | 1 | Battery positive terminal | Less than 0.2V |

Is the voltage reading as specified?

YES >> Terminal "1" circuit is normal. Refer to [CHG-4, "Work Flow"](#).

NO >> Check harness between battery and generator for high resistance.



L TERMINAL CIRCUIT

< COMPONENT DIAGNOSIS >

L TERMINAL CIRCUIT

Description

INFOID:000000004056840

The terminal "2" (L) circuit controls the charge warning lamp. The charge warning lamp illuminates when the ignition switch is set to ON or START. When the generator is providing sufficient voltage with the engine running, the charge warning lamp will go off. If the charge warning lamp illuminates with the engine running, a malfunction is indicated.

Diagnosis Procedure

INFOID:000000004056841

1. CHECK CHARGE WARNING LAMP CIRCUIT CONNECTION

Verify generator connector E205 terminal 2 is clean and tight.

Is the connection secure?

YES >> GO TO 2

NO >> Repair the connection. Confirm repair by performing complete Starting/Charging system test. Refer to diagnostic station instruction manual.

2. CHECK CHARGE WARNING LAMP CIRCUIT

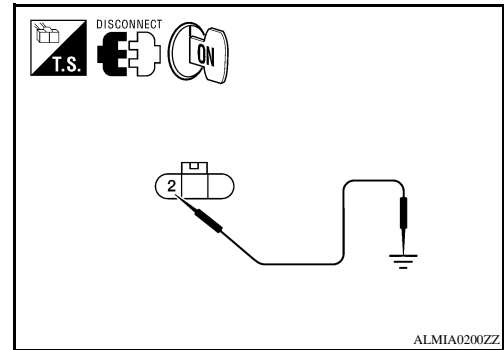
1. Disconnect generator connector E205.
2. Apply ground to generator harness connector E205 terminal 2 with the ignition switch in the ON position.

Charge lamp should illuminate

Does the charge lamp illuminate?

YES >> Check generator function. Refer to [CHG-4, "Work Flow"](#).

NO >> GO TO 3

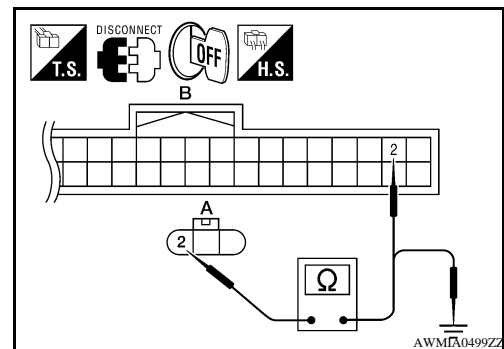


3. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect the combination meter connector M24.
3. Check continuity between generator harness connector E205 (A) terminal 2 and combination meter harness connector M24 (B) terminal 2.

| Terminal | | Terminal | | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal | |
| E205 | 2 | M24 | 2 | Yes |

4. Check continuity between generator harness connector E205 (A) terminal 2 and ground.



| Terminal | | — | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal | | |
| E205 | 2 | Ground | No |

Are the continuity results as specified?

YES >> Replace the combination meter. Refer to [IP-11, "Removal and Installation"](#).

NO >> Repair the harness or connector.

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S TERMINAL CIRCUIT

< COMPONENT DIAGNOSIS >

S TERMINAL CIRCUIT

Description

INFOID:000000004056842

The output voltage of the generator is controlled by the IC regulator at terminal "3" (S) detecting the input voltage. Terminal "3" circuit detects the battery voltage to adjust the generator output voltage with the IC regulator.

Diagnosis Procedure

INFOID:000000004056843

1. CHECK VOLTAGE REGULATOR CIRCUIT CONNECTION

Check to see if connector E205 terminal 3 is clean and tight.

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair terminal connection. Confirm repair by performing complete Starting/Charging system test.
Refer to diagnostic station instruction manual.

2. CHECK VOLTAGE REGULATOR CIRCUIT

Check voltage between generator harness connector E205 terminal 3 and ground.

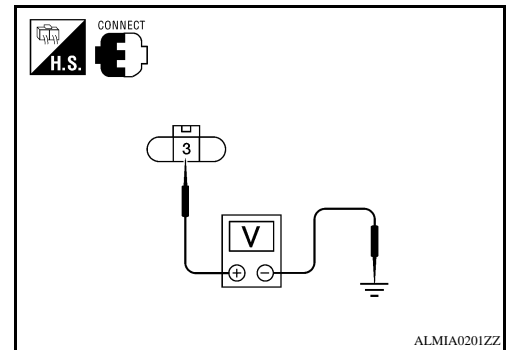
3 - ground

Battery voltage

Does battery voltage exist?

YES >> Refer to [CHG-4, "Work Flow"](#).

NO >> Check harness for open between generator and fuse.



CHARGING SYSTEM

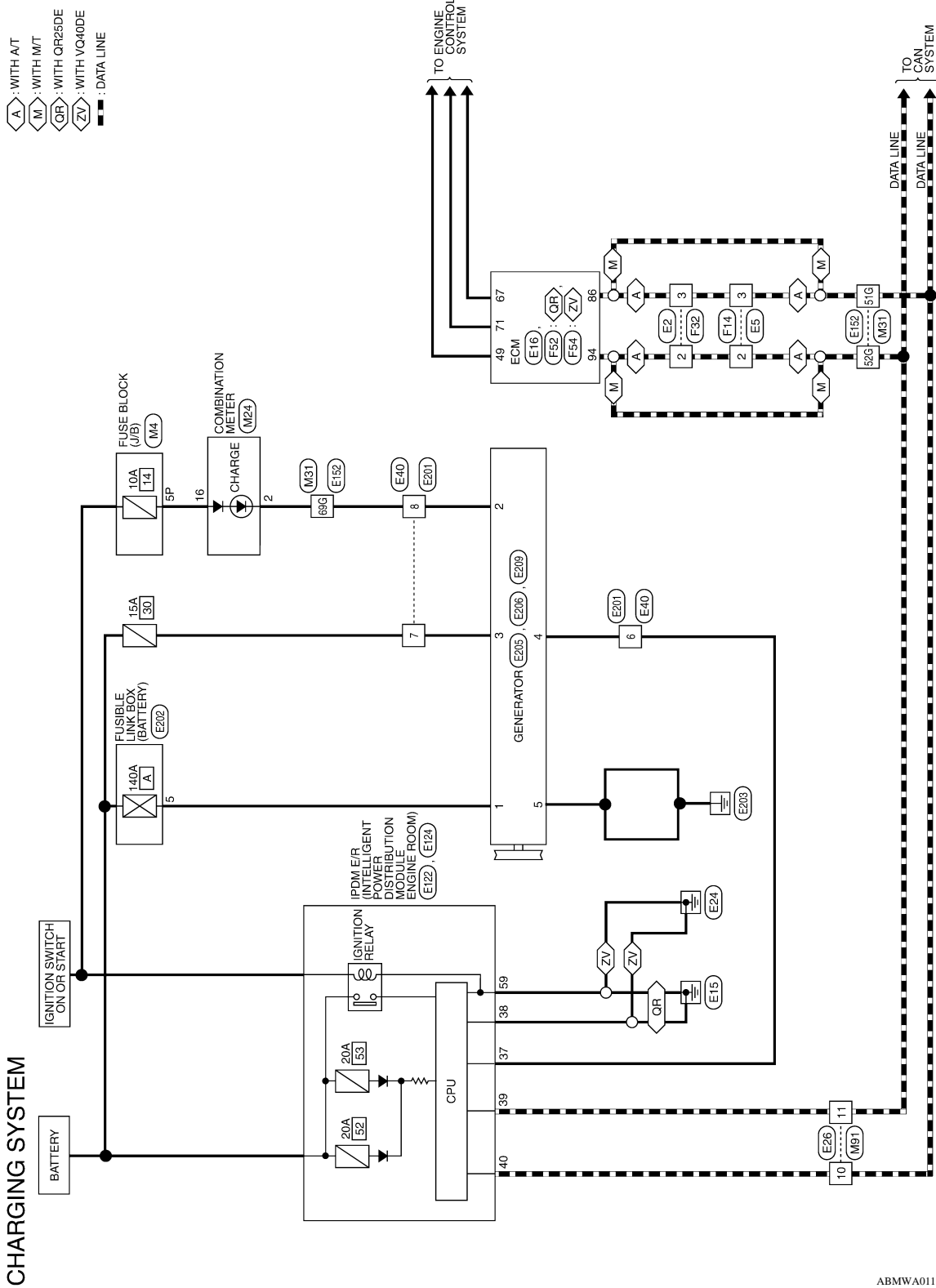
< COMPONENT DIAGNOSIS >

CHARGING SYSTEM

Wiring Diagram

INFOID:000000004056844

- : WITH A/T
- : WITH M/T
- : WITH QR25DE
- : WITH VQ40DE
- : DATA LINE



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CHARGING SYSTEM

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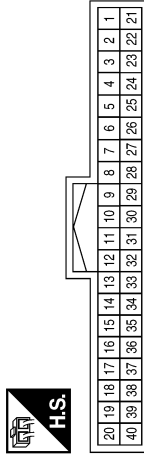
CHARGING SYSTEM CONNECTORS

| | |
|-----------------|------------------|
| Connector No. | M4 |
| Connector Name | FUSE BLOCK (J/B) |
| Connector Color | WHITE |



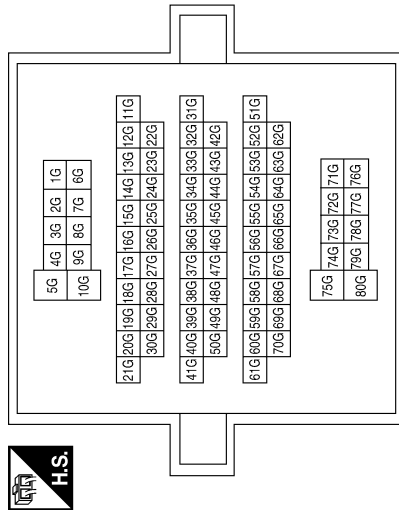
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5P | W/G | - |

| | |
|-----------------|-------------------|
| Connector No. | M24 |
| Connector Name | COMBINATION METER |
| Connector Color | WHITE |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|--------------------|
| 2 | P | CHARGE (ALT) INPUT |
| 16 | W/G | RUN START |

| | |
|-----------------|--------------|
| Connector No. | M31 |
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 51G | P | - |
| 52G | L | - |
| 69G | P | - |

| | |
|-----------------|--------------|
| Connector No. | M91 |
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |



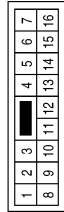
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 10 | P | - |
| 11 | L | - |

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CHARGING SYSTEM

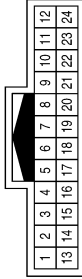
< COMPONENT DIAGNOSIS >

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|-----------------|--------------|
| Connector No. | E2 |
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |



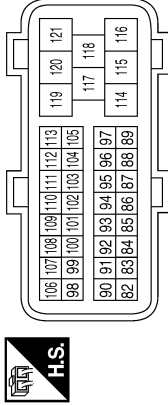
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 2 | L | - |
| 3 | P | - |

| | |
|-----------------|--------------|
| Connector No. | E5 |
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 2 | L | - |
| 3 | P | - |

| | |
|-----------------|-------|
| Connector No. | E16 |
| Connector Name | ECM |
| Connector Color | BLACK |



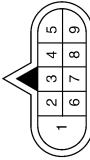
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 86 | P | CAN-L |
| 94 | L | CAN-H |

| | |
|-----------------|--------------|
| Connector No. | E26 |
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |



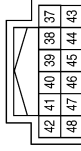
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 10 | P | - |
| 11 | L | - |

| | |
|-----------------|--------------|
| Connector No. | E40 |
| Connector Name | WIRE TO WIRE |
| Connector Color | GRAY |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 6 | Y | - |
| 7 | SB | - |
| 8 | P | - |

| | |
|-----------------|--|
| Connector No. | E122 |
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Color | WHITE |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|--------------|
| 37 | Y | ALT-C CONT |
| 38 | B | GND (SIGNAL) |
| 39 | L | CAN-H |
| 40 | P | CAN-L |

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CHARGING SYSTEM

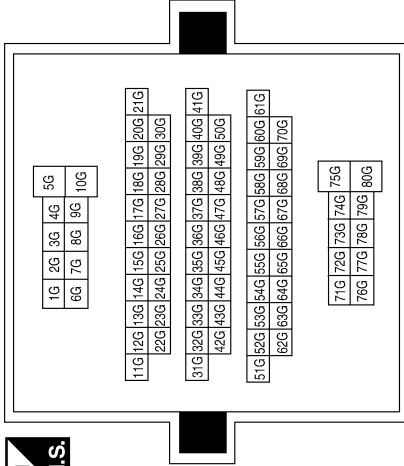
< COMPONENT DIAGNOSIS >

| | |
|-----------------|--|
| Connector No. | E124 |
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Color | BLACK |



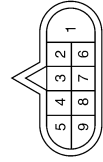
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 59 | B | GND (POWER) |

| | |
|-----------------|--------------|
| Connector No. | E152 |
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 51G | P | - |
| 52G | L | - |
| 69G | P | - |

| | |
|-----------------|--------------|
| Connector No. | E201 |
| Connector Name | WIRE TO WIRE |
| Connector Color | GRAY |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 6 | Y | - |
| 7 | SB | - |
| 8 | P | - |

| | |
|-----------------|----------------------------|
| Connector No. | E202 |
| Connector Name | FUSIBLE LINK BOX (BATTERY) |
| Connector Color | - |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5 | B/R | - |

| | |
|-----------------|-----------|
| Connector No. | E205 |
| Connector Name | GENERATOR |
| Connector Color | BLACK |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 2 | P | L |
| 3 | SB | S |
| 4 | Y | C |

| | |
|-----------------|-----------|
| Connector No. | E206 |
| Connector Name | GENERATOR |
| Connector Color | - |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1 | B/R | B |

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CHARGING SYSTEM

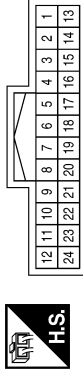
< COMPONENT DIAGNOSIS >

| | |
|-----------------|-----------|
| Connector No. | E209 |
| Connector Name | GENERATOR |
| Connector Color | - |



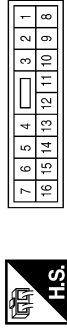
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5 | B | E |

| | |
|-----------------|--------------|
| Connector No. | F14 |
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |



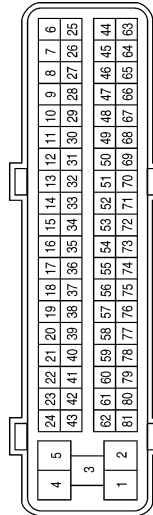
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 2 | L | - |
| 3 | P | - |

| | |
|-----------------|--------------|
| Connector No. | F32 |
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |



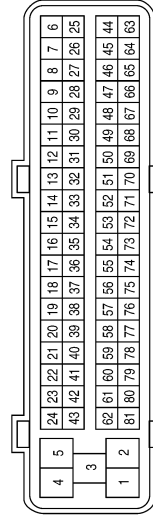
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 2 | L | - |
| 3 | P | - |

| | |
|-----------------|-------------------|
| Connector No. | F52 |
| Connector Name | ECM (WITH QR25DE) |
| Connector Color | BLACK |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|---------------|
| 49 | P | AVCC (PDPRES) |
| 67 | B | GND-A |
| 71 | R | CURSEN |

| | |
|-----------------|-------------------|
| Connector No. | F54 |
| Connector Name | ECM (WITH VQ40DE) |
| Connector Color | BLACK |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|---------------|
| 49 | P | AVCC (PDPRES) |
| 67 | B | GND-A |
| 71 | R | CURSEN |

ABMLA0301GB

CHARGING SYSTEM

< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS

CHARGING SYSTEM

Symptom Table

INFOID:000000004056845

| Symptom | Reference |
|--|---|
| Battery discharged | Refer to CHG-4, "Work Flow" . |
| The charge warning lamp does not illuminate when the ignition switch is set to ON. | |
| The charge warning lamp does not turn OFF after the engine starts. | |
| The charging warning lamp turns ON when increasing the engine speed. | |

GENERATOR

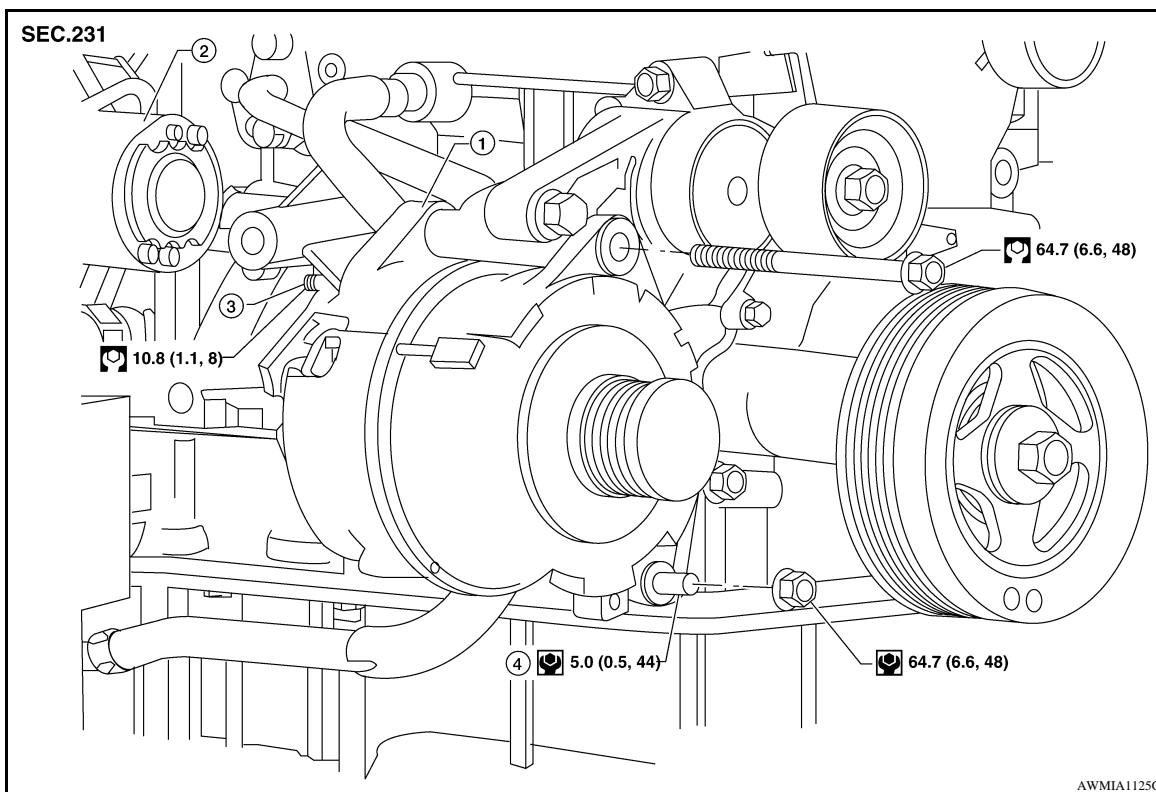
< ON-VEHICLE REPAIR >

ON-VEHICLE REPAIR

GENERATOR

Removal and Installation - QR25DE Models

INFOID:000000004056846



1. Generator
2. Starter motor assembly
3. Terminal "1"
4. Generator lower stud

REMOVAL

1. Disconnect the negative battery terminal.
2. Remove the fan shroud. Refer to [CO-16, "Exploded View"](#).
3. Remove the drive belt. Refer to [EM-14, "Removal and Installation"](#).
4. Disconnect the generator harness connectors.
5. Remove generator mounting nut, using power tools.
6. Remove the generator upper bolt, using power tools.
7. Remove the generator.

GENERATOR PULLEY INSPECTION

Perform the following.

- Make sure that the generator pulley does not rattle.
- Make sure that the generator pulley nut is properly tightened.

Generator pulley nut : 118 N·m (12.0 kg·m, 87 ft·lb)

INSTALLATION

Installation is in the reverse order of removal.

- Be sure the generator spacer is in place on the lower stud.
- Install the generator and check tension of drive belt. Refer to [EM-14, "Checking Drive Belts"](#).

Terminal "1" nut : 10.8 N·m (1.1 kg·m, 8 ft·lb)

GENERATOR

< ON-VEHICLE REPAIR >

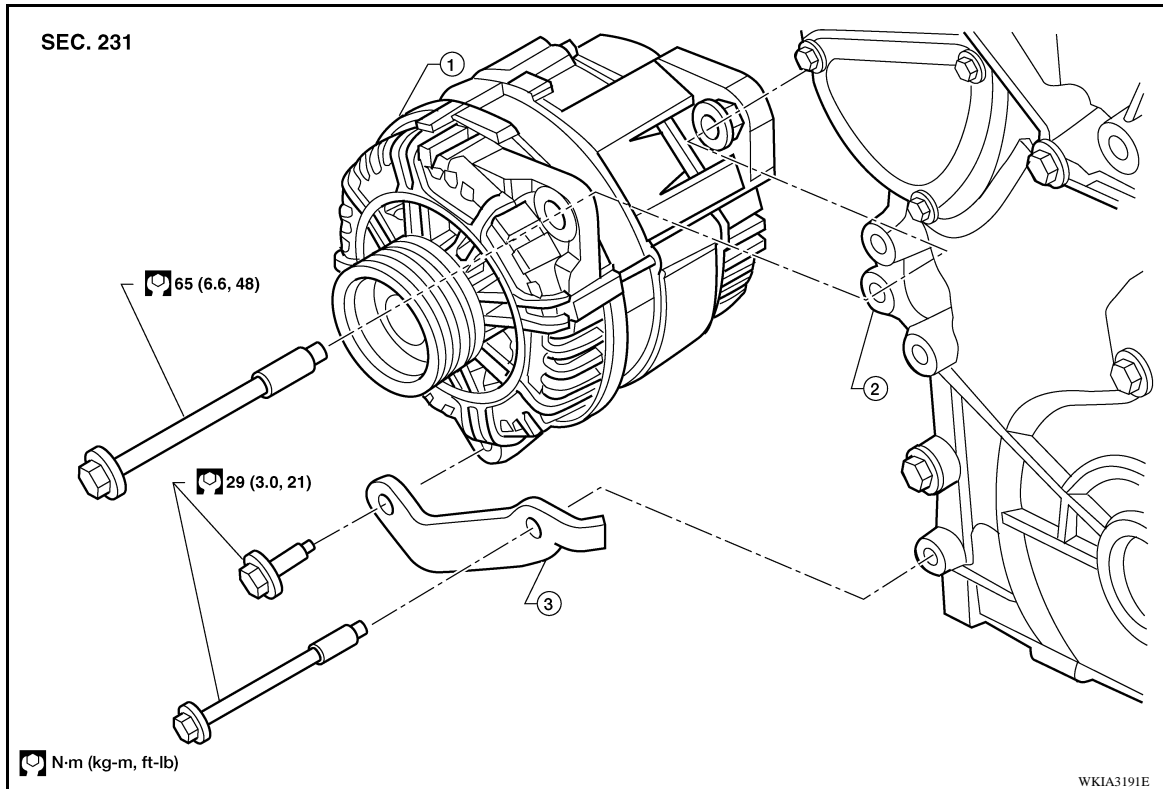
CAUTION:

Be sure to tighten terminal "1" nut carefully.

- For this model, the power generation voltage variable control system that controls the power generation voltage of the generator has been adopted. Therefore, the power generation voltage variable control system operation inspection should be performed after replacing the generator, and then make sure that the system operates normally. Refer to [CHG-8. "Inspection Procedure"](#).

Removal and Installation - VQ40DE Models

INFOID:000000004056847



1. Generator

2. Engine block

3. Generator stay

REMOVAL

- Disconnect the negative battery terminal.
- Remove the fan shroud. Refer to [CO-44. "Exploded View"](#).
- Remove the drive belt. Refer to [EM-126. "Removal and Installation"](#).
- Remove generator stay, using power tools.
- Remove the generator upper bolt, using power tools.
- Disconnect the generator harness connectors.
- Remove the generator.

GENERATOR PULLEY INSPECTION

Perform the following.

- Make sure that the generator pulley does not rattle.
- Make sure that the generator pulley nut is properly tightened.

Generator pulley nut : 118 N-m (12.0 kg-m, 87 ft-lb)

INSTALLATION

Installation is in the reverse order of removal.

- Install the generator and check tension of drive belt. Refer to [EM-126. "Adjustment"](#).

Terminal "1" nut : 10.8 N-m (1.1 kg-m, 8 ft-lb)

GENERATOR

< ON-VEHICLE REPAIR >

CAUTION:

Be sure to tighten terminal "1" nut carefully.

- For this model, the power generation voltage variable control system that controls the power generation voltage of the generator has been adopted. Therefore, the power generation voltage variable control system operation inspection should be performed after replacing the generator, and then make sure that the system operates normally. Refer to [CHG-8, "Inspection Procedure"](#).

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CHG

SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

Generator

INFOID:000000004056848

| | QR25DE | VQ40DE |
|---|--|--|
| Type | LR1110-724 | TG15S147 |
| | Hitachi | Valeo |
| Nominal rating | 12V-110A | 14V-130A |
| Ground polarity | Negative | |
| Minimum revolution under no-load | 1,100 rpm | 1,200 rpm |
| Hot output current (When 13.5 volts is applied) | More than 70A/1,800 rpm More than 91A/2,500 rpm More than 110A/5,000 rpm | More than 52A/1,500 rpm More than 82A/1,800 rpm More than 115A/2,500 rpm More than 130A/5,000 rpm |
| Regulated output voltage | 14.1 - 14.7V @ 20°C | 13.5 @ 5,000 rpm @ 20°C |
| Minimum length of brush | 6 mm (0.24 in) | — |
| Brush spring pressure | 1.0 - 3.432 N (0.102 - 0.3501 kg, 0.22 - 0.7715 lbs) | — |
| Slip ring minimum outer diameter | 26 mm (1.02 in) | — |
| Rotor (Field coil) resistance | 2.1 ohms | — |
| Adjustment range of power generation variable voltage control | — | 11.4 - 15.6V |