SECTION CHG
CHARGING SYSTEM

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ALTERNATOR 24

NOTE:
To ensure a complete and thorough diagnosis, the battery, starter and alternator test segments must be done as a set from start to finish.

1.PRELIMINARY INSPECTION

Perform the preliminary inspection. Refer to CHG-21, "Inspection Procedure".

>> GO TO 2.

2.STOP POWER GENERATION VOLTAGE VARIABLE CONTROL SYSTEM

Stop the operation of the power generation voltage variable control in either of the following procedures.

- After selecting “ENGINE” of “SELECT SYSTEM” using CONSULT-III, set the DUTY value of “ALTERNATOR DUTY” to 0 % by selecting “ALTERNATOR DUTY” of “Active Test”. Continue “Active Test” until the end of inspection. (When the DUTY value is 0 or 100 %, the normal power generation is performed according to the characteristic of the IC voltage regulator of the alternator.)
- Turn the ignition switch OFF, and disconnect the battery current sensor connector. [However, DTC (P1550 - P1554) of the engine might remain. After finishing the inspection, connect the battery current sensor connector and erase the self-diagnostic results history of the engine using CONSULT-III.]

>> GO TO 3.

3.DIAGNOSIS WITH STARTING/CHARGING SYSTEM TESTER

Perform the charging system test using Starting/Charging System Tester (SST: J-44373). For details and operating instructions, refer to Technical Service Bulletin.

Test result

CHARGING SYSTEM NORMAL>>Charging system is normal and will also show “DIODE RIPPLE” test result.
NO CHARGING VOLTAGE>>GO TO 4.
LOW CHARGING VOLTAGE>>GO TO 12.
HIGH CHARGING VOLTAGE>>GO TO 14.
DIODE RIPPLE NORMAL>>Diode ripple is OK and will also show “CHARGING VOLTAGE” test result.
EXCESS RIPPLE DETECTED>>Replace the alternator. Perform “DIODE RIPPLE” test again using Starting/Charging System Tester (SST: J-44373) to confirm repair.
DIODE RIPPLE NOT DETECTED>>GO TO 4.

4.INSPECTION WITH CHARGE WARNING LAMP (IGNITION SWITCH IS ON)

Turn the ignition switch ON.

Does the charge warning lamp illuminate?

YES >> GO TO 6.
NO >> GO TO 5.

5.“L” TERMINAL CIRCUIT (OPEN) INSPECTION

Check “L” terminal circuit (open). Refer to CHG-10, "Diagnosis Procedure".

Is the “L” terminal circuit normal?

YES >> Replace alternator.
NO >> Repair as needed.

6.INSPECTION WITH CHARGE WARNING LAMP (IDLING)

Start the engine and run it at idle.

Does the charge warning lamp turn OFF?

YES >> GO TO 9.
NO >> GO TO 7.

7.“L” TERMINAL CIRCUIT (SHORT) INSPECTION

Check “L” terminal circuit (short). Refer to CHG-12, "Diagnosis Procedure".

Is the “L” terminal circuit normal?

YES >> GO TO 8.
NO >> Repair as needed.

8. "S" TERMINAL CIRCUIT INSPECTION

Check "S" terminal circuit. Refer to CHG-13, "Diagnosis Procedure".

Is the "S" terminal circuit normal?

YES >> GO TO 10.
NO >> Repair as needed.

9. INSPECTION WITH CHARGE WARNING LAMP (ENGINE AT 3,000 RPM)

Increase and maintain the engine speed at 3,000 rpm.

Does the charge warning lamp remain off?

YES >> GO TO 11.
NO >> GO TO 10.

10. INSPECTION OF ALTERNATOR PULLEY

Check alternator pulley. Refer to CHG-26, "Inspection".

Is alternator pulley normal?

YES >> Replace alternator.
NO >> Repair as needed.

11. "B" TERMINAL CIRCUIT INSPECTION

Check "B" terminal circuit. Refer to CHG-9, "Diagnosis Procedure".

Is "B" terminal circuit normal?

YES >> Replace alternator.
NO >> Repair as needed.

12. "B" TERMINAL CIRCUIT INSPECTION

Check "B" terminal circuit. Refer to CHG-9, "Diagnosis Procedure".

Is "B" terminal circuit normal?

YES >> GO TO 13.
NO >> Repair as needed.

13. INSPECTION OF ALTERNATOR PULLEY

Check alternator pulley. Refer to CHG-26, "Inspection".

Is alternator pulley normal?

YES >> Replace alternator.
NO >> Repair as needed.

14. "S" TERMINAL CIRCUIT INSPECTION

Check "S" terminal circuit. Refer to CHG-13, "Diagnosis Procedure".

Is the "S" terminal circuit normal?

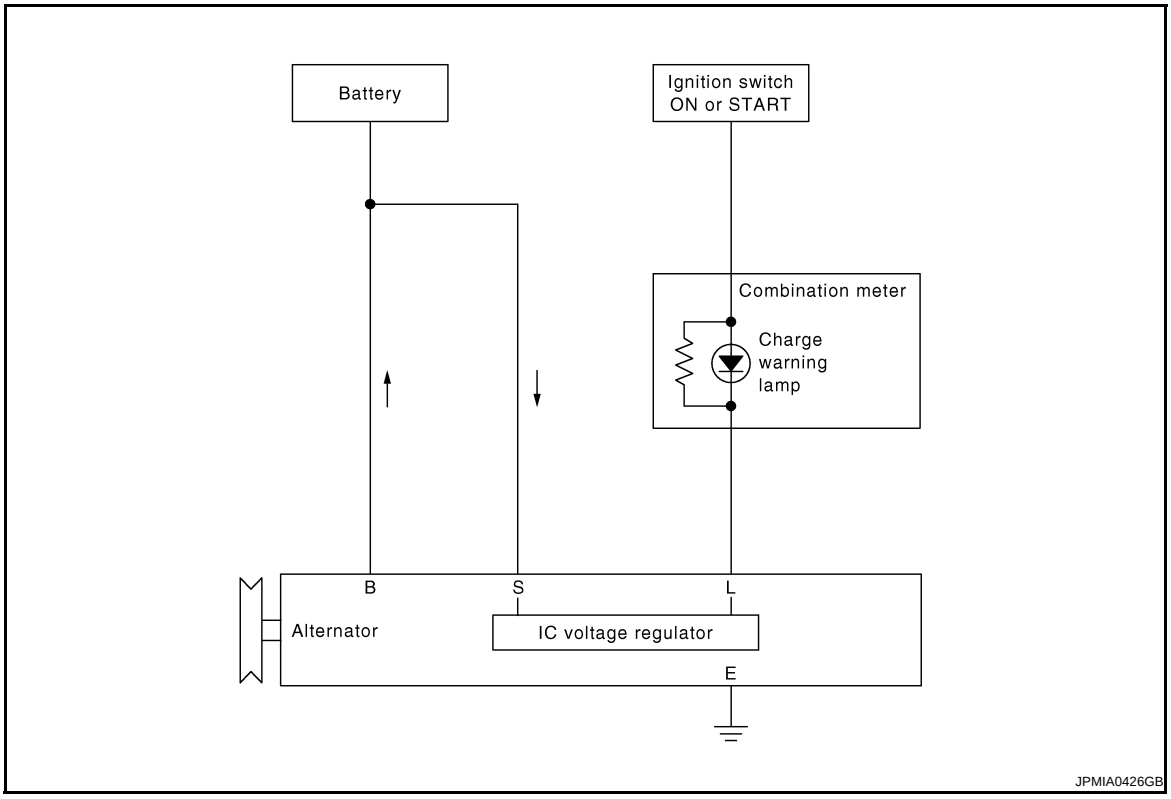
YES >> Replace alternator.
NO >> Repair as needed.

FUNCTION DIAGNOSIS

CHARGING SYSTEM

System Diagram

INFOID:0000000003412934



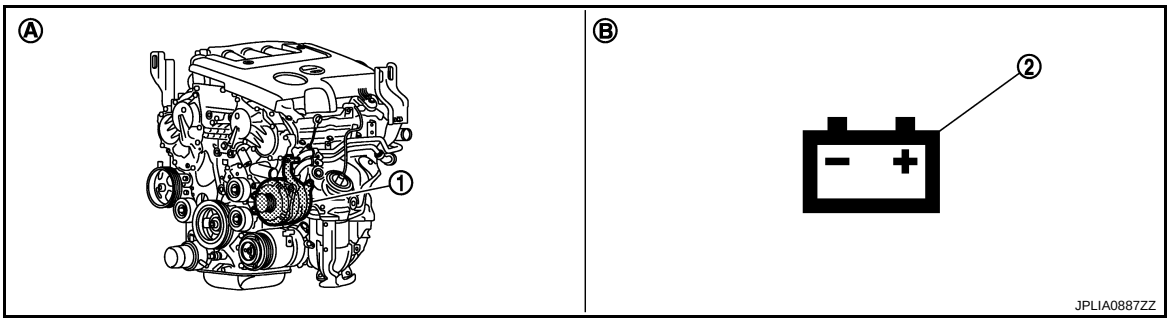
System Description

INFOID:0000000003412935

The voltage output is controlled by the IC voltage regulator.

Component Parts Location

INFOID:0000000003412936



1. Alternator
2. Charge warning lamp
A. Cylinder block left side
B. Combination meter

Component Description

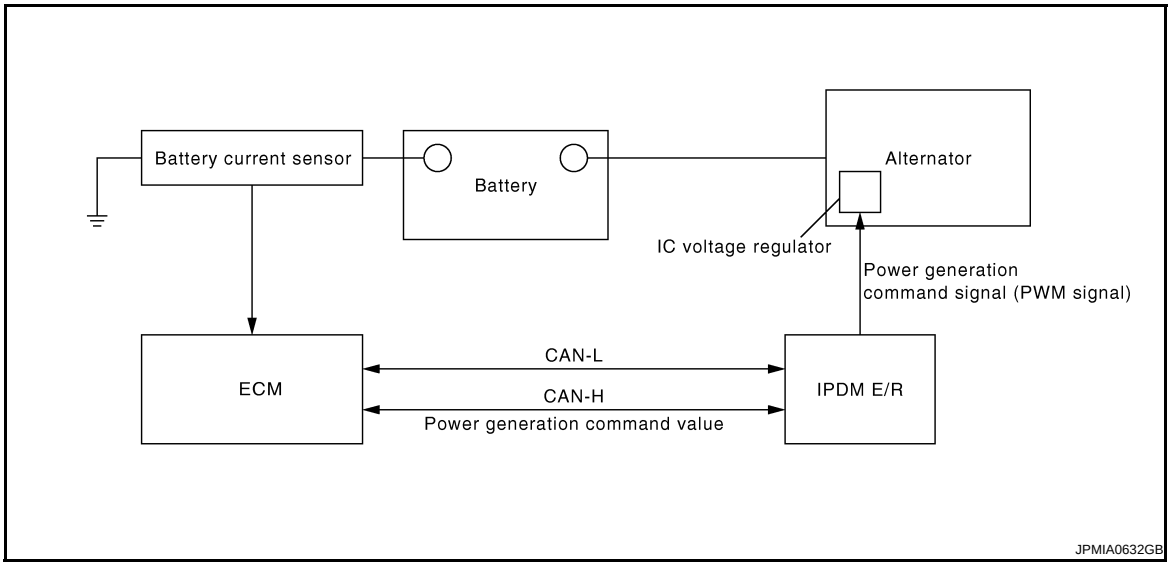
INFOID:0000000003412937

Component part	Description
Alternator	The alternator provides DC voltage to operate the vehicle's electrical system and to keep the battery charged.
Combination meter (Charge warning lamp)	The IC voltage regulator warning function activates to illuminate the charge warning lamp, if any of the following symptoms occur while alternator is operating: • Excessive voltage is produced. • No voltage is produced.

POWER GENERATION VOLTAGE VARIABLE CONTROL SYSTEM

System Diagram

INFOID:0000000003412938



System Description

INFOID:0000000003412939

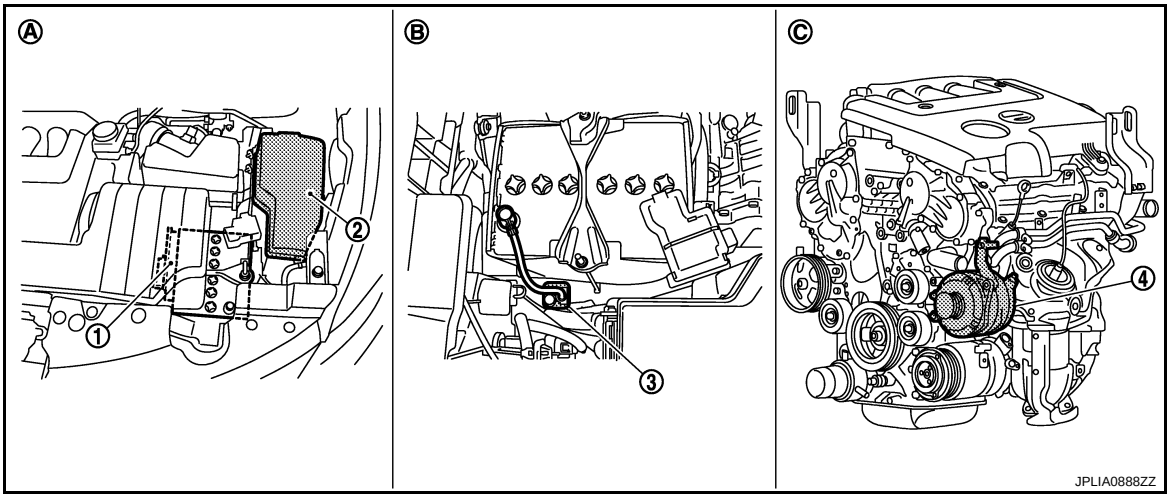
By performing the power generation voltage variable control, the engine load due to the power generation of the alternator is reduced and fuel consumption is decreased.

NOTE:

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

Component Parts Location

INFOID:0000000003412940



1. ECM
2. IPDM E/R
3. Battery current sensor
4. Alternator

A. Engine room dash panel (LH)
B. Battery
C. Cylinder block left side

Component Description

INFOID:0000000003412941

Component part	Description
Battery current sensor	Battery current sensor is installed to the battery cable at the negative terminal, and it detects the charging/discharging current of the battery and sends the voltage signal to ECM according to the current value.
ECM	Battery current sensor detects the charging/discharging current of the battery. ECM judges the battery condition based on this signal. ECM judges whether to perform the power generation voltage variable control according to the battery condition. When performing the power generation voltage variable control, ECM calculates the target power generation voltage according to the battery condition and sends the calculated value as the power generation command value to IPDM E/R.
IPDM E/R	IPDM E/R converts the received power generation command value into the power generation command signal (PWM signal) and sends it to the IC voltage regulator.
Alternator (IC voltage regulator)	IC voltage regulator controls the power generation voltage by the target power generation voltage based on the received power generation command signal. When there is no power generation command signal, the alternator performs the normal power generation according to the characteristic of the IC voltage regulator.

COMPONENT DIAGNOSIS

B TERMINAL CIRCUIT

Description

INFOID:0000000003412942

"B" terminal circuit supplies power to charge the battery and to operate the vehicle's electrical system.

Diagnosis Procedure

INFOID:0000000003412943

1.CHECK "B" TERMINAL CONNECTION

1. Turn ignition switch OFF.
2. Check if "B" terminal is clean and tight.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair "B" terminal connection. Confirm repair by performing complete Starting/Charging system test. Refer to Technical Service Bulletin.

2.CHECK "B" TERMINAL CIRCUIT

Check voltage between alternator "B" terminal and ground.

Terminals			Voltage (Approx.)
(+)		(–)	
Alternator "B" terminal	Terminal		
F59	1	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.
NO >> Check harness for open between alternator and fusible link.

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

1. Start engine, then engine running at idle and warm.
2. Check voltage between battery positive terminal and alternator "B" terminal.

Terminals			Voltage (Approx.)
(+)	(–)		
	Alternator "B" terminal	Terminal	
Battery positive terminal	F59	1	Less than 0.2 V

Is the inspection result normal?

YES >> "B" terminal circuit is normal. Refer to CHG-2, "Work Flow".
NO >> Check harness between battery and alternator for poor continuity.

L TERMINAL CIRCUIT (OPEN)

Description

INFOID:0000000003412944

The “L” terminal circuit controls the charge warning lamp. The charge warning lamp illuminates when the ignition switch is set to ON or START. When the alternator 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:0000000003412945

1.CHECK “L” TERMINAL CONNECTION

1. Turn ignition switch OFF.
2. Check if “L” terminal is clean and tight.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair “L” terminal connection. Confirm repair by performing complete Starting/Charging system test. Refer to Technical Service Bulletin.

2.CHECK “L” TERMINAL CIRCUIT (OPEN)

1. Disconnect alternator connector.
2. Apply ground to alternator harness connector terminal.
3. Check condition of the charge warning lamp with the ignition switch in the ON position.

Alternator harness connector	Terminal	Ground	Condition	
			Ignition switch position	Charge warning lamp
F60	3		ON	illuminate

Does it illuminate?

YES >> “L” terminal circuit is normal. Refer to CHG-2, "Work Flow".
NO >> GO TO 3.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the battery cable from the negative terminal.
2. Disconnect the combination meter connector.
3. Check continuity between alternator harness connector and combination meter harness connector.

Alternator harness connector		Combination meter harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
F60	3	M34	25	Existed

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair the harness or connector.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check continuity between combination meter harness connector and fuse block.

Combination meter harness connector		Fuse block		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M34	2	M3	12C	Existed

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair the harness.

5.CHECK POWER SUPPLY CIRCUIT

1. Connect the battery cable to the negative terminal.

2. Check voltage between combination meter harness connector and ground.

Terminals			Condition	Voltage (Approx.)
(+)		(–)		
Combination meter harness connector	Terminal			
M34	2	Ground	When the ignition switch is in ON position	Battery voltage

Is the inspection result normal?

YES >> Replace combination meter.
NO >> Inspect the power supply circuit. Refer to PG-59, "Wiring Diagram - IGNITION POWER SUPPLY - ".

L TERMINAL CIRCUIT (SHORT)

Description

INFOID:0000000003412946

The “L” terminal circuit controls the charge warning lamp. The charge warning lamp illuminates when the ignition switch is set to ON or START. When the alternator 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:0000000003412947

1.CHECK “L” TERMINAL CIRCUIT (SHORT)

1. Turn ignition switch OFF.
2. Disconnect alternator connector.
3. Turn ignition switch ON.

Does charge warning lamp illuminate?

YES >> GO TO 2.
NO >> Refer to CHG-2, "Work Flow".

2.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect combination meter connector.
4. Check continuity between combination meter harness connector and ground.

Combination meter harness connector		Ground	Continuity
Connector No.	Terminal No.		
M34	25		Not existed

Is the inspection result normal?

YES >> Replace combination meter.
NO >> Repair the harness.

S TERMINAL CIRCUIT

Description

INFOID:0000000003412948

The output voltage of the alternator is controlled by the IC voltage regulator at the “S” terminal detecting the input voltage.
The “S” terminal circuit detects the battery voltage to adjust the alternator output voltage with the IC voltage regulator.

Diagnosis Procedure

INFOID:0000000003412949

1.CHECK “S” TERMINAL CONNECTION

1. Turn ignition switch OFF.
2. Check if “S” terminal is clean and tight.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair “S” terminal connection. Confirm repair by performing complete Starting/Charging system test. Refer to Technical Service Bulletin.

2.CHECK “S” TERMINAL CIRCUIT

Check voltage between alternator harness connector and ground.

Terminals			Voltage (Approx.)
(+)		(–)	
Alternator harness connector	Terminal		
F60	4	Ground	Battery voltage

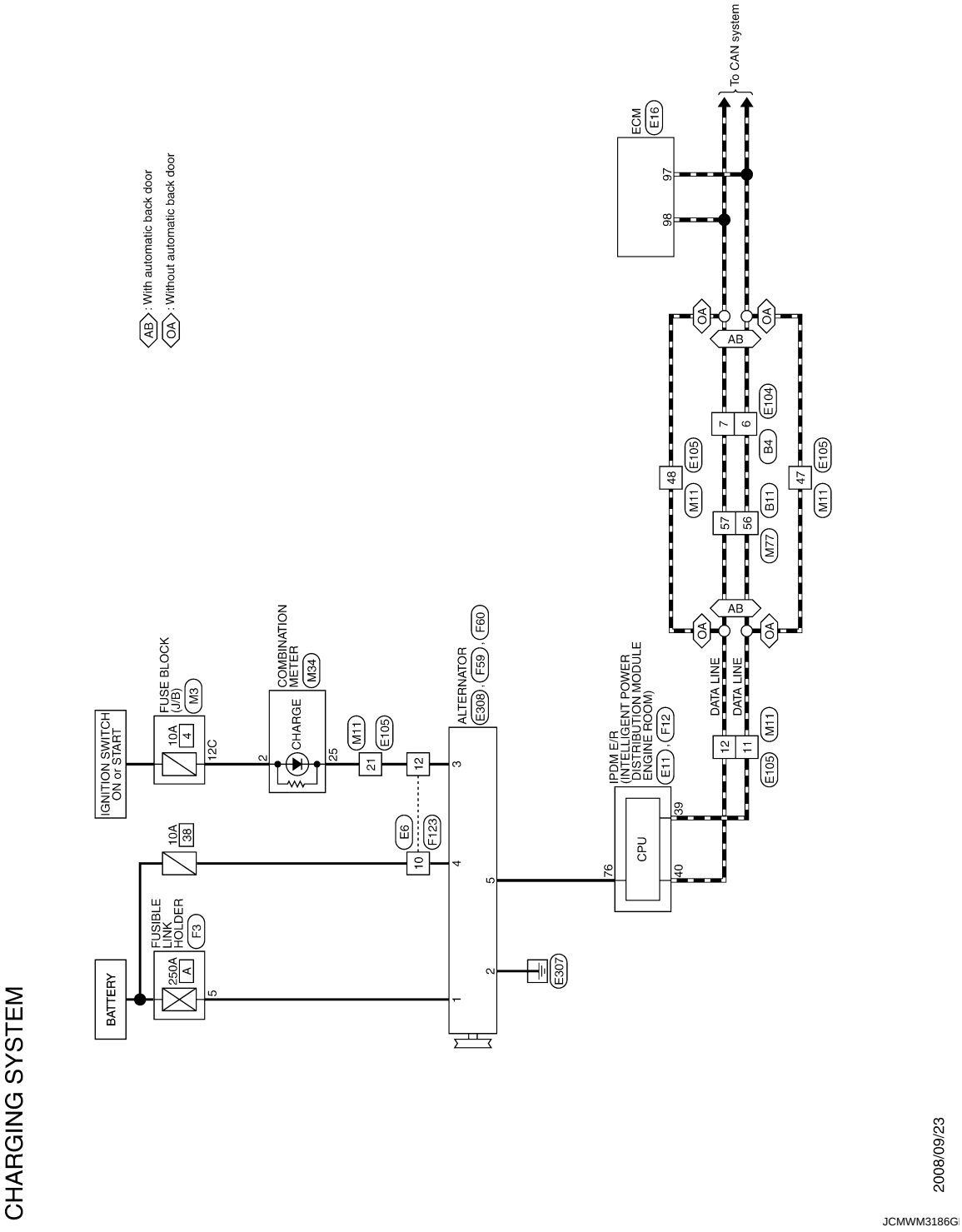
Is the inspection result normal?

YES >> Refer to CHG-2, "Work Flow".
NO >> Check harness for open between alternator and fuse.

CHARGING SYSTEM

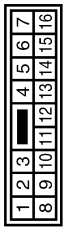
Wiring Diagram - CHARGING SYSTEM -

INFOID:0000000003412950



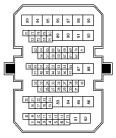
CHARGING SYSTEM

Connector No.	B4
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS



Terminal No.	Color of Wire	Signal Name [Specification]
6	P	–
7	L	–

Connector No.	B11
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS19

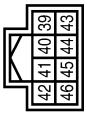


Terminal No.	Color of Wire	Signal Name [Specification]
56	P	–
57	L	–

Connector No.	E6
Connector Name	WIRE TO WIRE
Connector Type	TK16MGY-1V

Terminal No.	Color of Wire	Signal Name [Specification]
10	W	–
12	BR	–

Connector No.	E11
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	TH08FW-NH

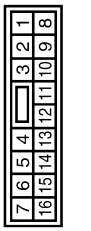


Terminal No.	Color of Wire	Signal Name [Specification]
39	P	–
40	L	–

Connector No.	E16
Connector Name	ECM
Connector Type	RH24FB-RZ8-L-LH

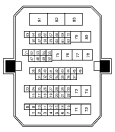
Terminal No.	Color of Wire	Signal Name [Specification]
97	P	VEHCAN-L
98	L	VEHCAN-H

Connector No.	E104
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-CS



Terminal No.	Color of Wire	Signal Name [Specification]
6	P	–
7	L	–

Connector No.	E105
Connector Name	WIRE TO WIRE
Connector Type	TH70MW-CS10-M3



Terminal No.	Color of Wire	Signal Name [Specification]
11	P	–
12	L	–
21	BR	–
47	P	–
48	L	–

Connector No.	E308
Connector Name	ALTERNATOR
Connector Type	–

Terminal No.	Color of Wire	Signal Name [Specification]
2	B	–

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CHARGING SYSTEM

Connector No.	F3
Connector Name	FUSIBLE LINK HOLDER
Connector Type	–

Terminal No.	Color of Wire	Signal Name [Specification]
5	B/R	–

Connector No.	F123
Connector Name	WIRE TO WIRE
Connector Type	TK16FGY-1V

Terminal No.	Color of Wire	Signal Name [Specification]
10	Y/B	–
12	BR	–

Connector No.	F12
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	TH12FW-CS12-M4

Terminal No.	Color of Wire	Signal Name [Specification]
76	SB	–

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS12FW-CS

Terminal No.	Color of Wire	Signal Name [Specification]
12C	O	–

Connector No.	F59
Connector Name	ALTERNATOR
Connector Type	–

Terminal No.	Color of Wire	Signal Name [Specification]
1	B/R	–

Connector No.	M11
Connector Name	WIRE TO WIRE
Connector Type	TH70FW-CS10-M3

Terminal No.	Color of Wire	Signal Name [Specification]
11	P	–
12	L	–
21	BR	–
47	P	–
48	L	–

Connector No.	F60
Connector Name	ALTERNATOR
Connector Type	HS03FB

Terminal No.	Color of Wire	Signal Name [Specification]
3	BR	–
4	Y/B	–
5	SB	–

Connector No.	M34
Connector Name	COMBINATION METER
Connector Type	TH40FW-NH

Terminal No.	Color of Wire	Signal Name [Specification]
2	O	IGN
25	BR	CHG

JCMWM3188G

CHARGING SYSTEM

Connector No.	M77
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS19

H.S

Terminal No.	Color of Wire	Signal Name [Specification]
56	P	–
57	L	–

JCMWM3189GI

SYMPTOM DIAGNOSIS

CHARGING SYSTEM

Symptom Table

INFOID:0000000003412951

Symptom	Reference
Discharged battery	Refer to CHG-2, "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.	

PRECAUTION

PRECAUTIONS

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

INFOID:0000000003412952

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 AIRBAG” 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 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 “SRS AIRBAG”.**
- **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 Voltage Variable Control System

INFOID:0000000003412954

CAUTION:

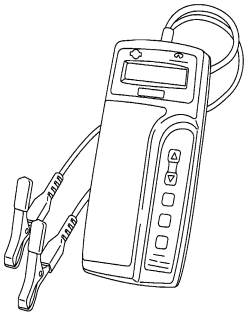
For this model, the battery current sensor that is installed to the battery cable at the negative terminal measures the charging/discharging current of the battery, and performs various controls. If the electrical component or the ground wire is connected directly to the battery terminal, the current other than that being measured with the battery current sensor is charging to or discharging from the battery. This condition causes the malfunction of the control, and then the battery discharge may occur. Do not connect the electrical component or the ground wire directly to the battery terminal.

PREPARATION

PREPARATION

Special Service Tools

INFOID:0000000003412955

Tool number (Kent-Moore No.) Tool name	Description
— (J-44373 Model MCR620) Starting/Charging System Tester  SEL403X	Tests starting and charging systems. For operating instructions, refer to Technical Service Bulletin.

Commercial Service Tools

INFOID:0000000003412956

Tool name	Description
Power tool PIIB1407E	Loosening bolts, nuts and screws

ON-VEHICLE MAINTENANCE

CHARGING SYSTEM PRELIMINARY INSPECTION

Inspection Procedure

INFOID:0000000003412957

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.

Unit	Power source (Power supply terminals)	Fuse No.
Alternator	Battery (“S” terminal)	38
Combination meter	Ignition switch ON (“L” terminal)	4

Is the inspection result normal?

YES >> GO TO 3.
NO >> Be sure to eliminate the cause of malfunction before installing new fuse.

3.CHECK “E” TERMINAL CONNECTION

Check if “E” terminal (alternator ground harness) is clean and tight.

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair “E” terminal connection.

4.CHECK DRIVE BELT TENSION

Check drive belt tension. Refer to EM-13, "Checking".

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair as needed.

POWER GENERATION VOLTAGE VARIABLE CONTROL SYSTEM OPERATION INSPECTION

Inspection Procedure

INFOID:0000000003412958

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-115, "CONSULT-III Function".

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” at “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 the 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-12, "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 ALTERNATOR AND IPDM E/R

1. Turn ignition switch OFF.
2. Disconnect alternator connector and IPDM E/R connector.
3. Check continuity between alternator harness connector and IPDM E/R harness connector.

Alternator harness connector		IPDM E/R harness connector		Continuity
Connector	Terminal	Connector	Terminal	
F60	5	F12	76	Existed

4. Check continuity between alternator harness connector and ground.

Alternator harness connector		Ground	Continuity
Connector	Terminal		
F60	5		Not existed

Is the inspection result normal?

YES >> Replace IPDM E/R.
NO >> Repair harness or connector between IPDM E/R and alternator.

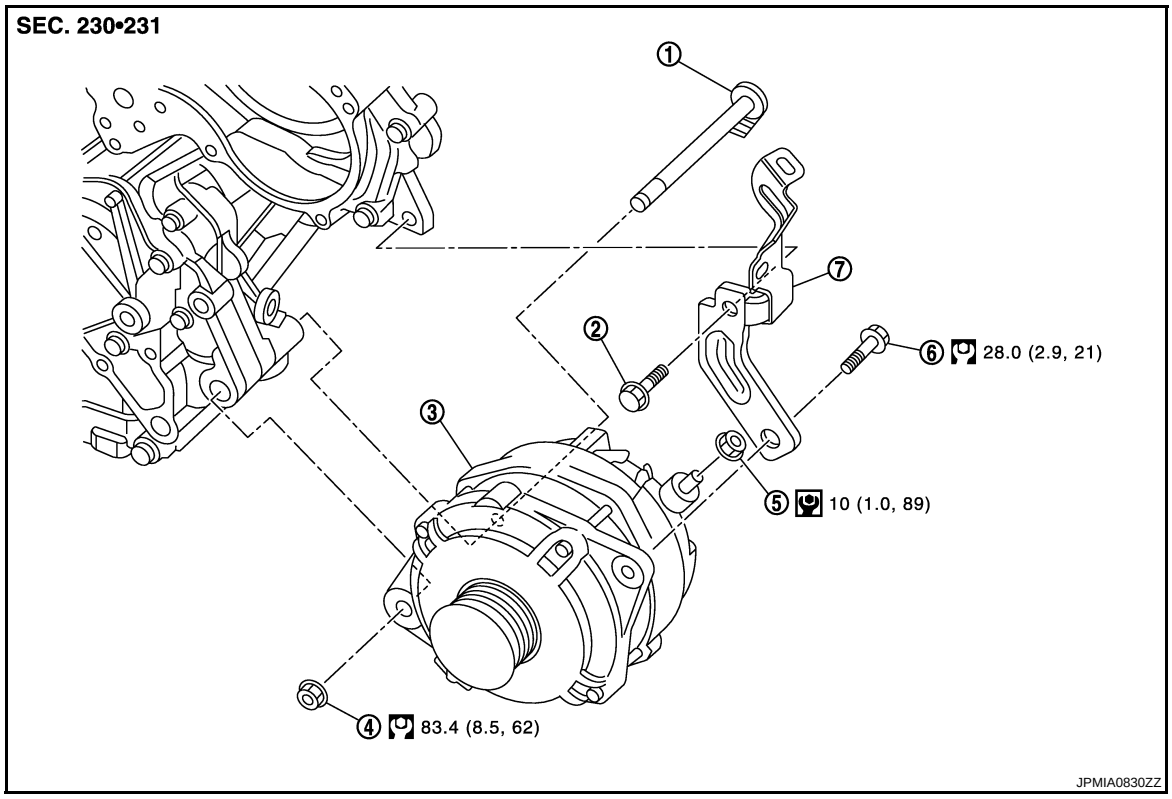
ON-VEHICLE REPAIR

ALTERNATOR

Exploded View

INFOID:0000000003441418

REMOVAL

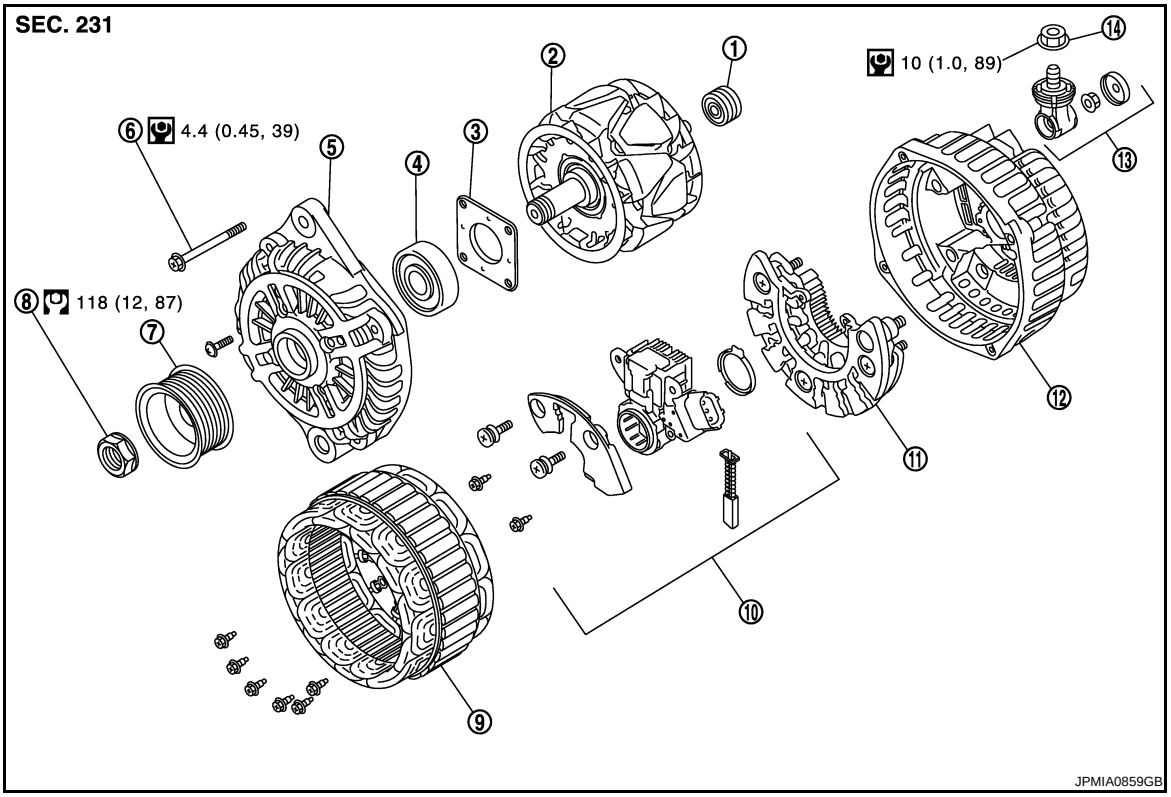


1. Alternator mounting bolt
2. Alternator stay mounting bolt
3. Alternator
4. Alternator mounting nut
5. “B” terminal nut
6. Alternator stay mounting bolt
7. Alternator bracket

Refer to GI-4, "Components" for symbols in the figure.

DISASSEMBLY

Type: A003TJ1791



1. Rear bearing
2. Rotor assembly
3. Retainer
4. Front bearing
5. Front bracket assembly
6. Through bolt
7. Pulley
8. Pulley nut
9. Stator assembly
10. IC voltage regulator assembly
11. Diode assembly
12. Rear bracket assembly
13. Terminal set

Refer to GI-4, "Components" for symbols in the figure.

Removal and Installation

INFOID:0000000003412964

REMOVAL

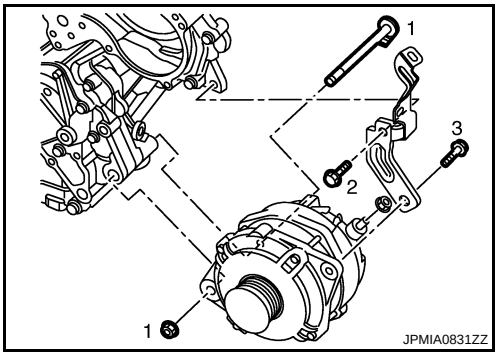
1. Disconnect the negative battery terminal.
2. Remove engine cover.
3. Remove front wheel and tire (RH).
4. Remove splash guard (RH) Refer to EXT-23, "FENDER PROTECTOR : Exploded View".
5. Remove air cleaner and air duct assembly. Refer to CO-8, "Draining".
6. Remove drive belt. Refer to EM-13, "Removal and Installation".
7. Remove A/C compressor. Refer to HA-37, "Removal and Installation".
8. Remove idler pulley.
9. Disconnect the oil pressure switch.
10. Disconnect the alternator harness connectors.
11. Remove the alternator bolt and nuts, using power tools.
12. Slide the alternator out and remove.

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

- **Temporarily tighten all of alternator bolt and nuts. And then tighten them in numerical order shown in the figure.**



- **Be sure to tighten “B” terminal nut carefully.**
- **Install alternator and check tension of belt. Refer to EM-26, "Exploded View".**
- **For this model, the power generation voltage variable control system that controls the power generation voltage of the alternator has been adopted. Therefore, the power generation voltage variable control system operation inspection should be performed after replacing the alternator, and then make sure that the system operates normally. Refer to CHG-22, "Inspection Procedure".**

Inspection

INFOID:0000000003412965

ALTERNATOR PULLEY INSPECTION

Perform the following.

- Make sure that alternator pulley does not rattle.
- Make sure that alternator pulley nut is tight.

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

Alternator

INFOID:0000000003412962

Type		A003TJ1791
		MITSUBISHI make
Nominal rating	[V - A]	12 – 130
Ground polarity		Negative
Minimum revolution under no-load (When 13.5 V is applied)	[rpm]	Less than 1,300
Hot output current (When 13.5 V is applied)	[A/rpm]	More than 61/1,500 More than 109/2,500 More than 129/5,000
Regulated output voltage	[V]	14.1 – 14.7*
Minimum length of brush	[mm (in)]	More than 5.00 (0.197)
Brush spring pressure	[N (g, oz)]	4.1 – 5.3 (418 – 541, 14.7 – 19.1)
Slip ring minimum outer diameter	[mm (in)]	More than 22.1 (0.870)
Rotor (Field coil) resistance	[Ω]	1.8 – 2.2

*: Adjustment range of power generation voltage variable control is 11.4 – 15.6 V.