

ENGINE ELECTRICAL SYSTEM

Magnetic Switch [CB-23 Engine A/T]

1. Perform the pull-in coil open circuit test.
Using an ohmmeter, ensure that continuity exists between the terminal 50 and the terminal C.
If no continuity exists, replace the magnetic switch.
2. Perform the hold-in coil open circuit test.
Using an ohmmeter, ensure that continuity exists between the terminal 50 and the switch body.
If no continuity exists, replace the magnetic switch.

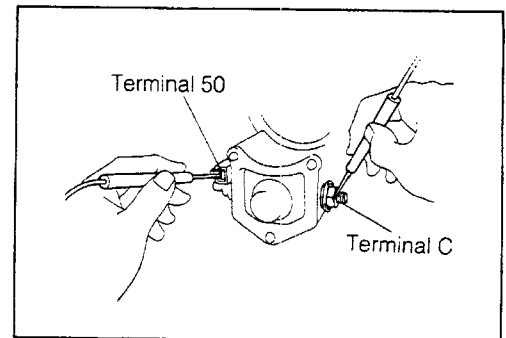


Fig. 10-65

WM-10071

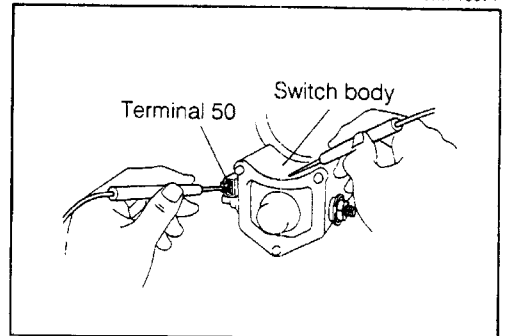


Fig. 10-66

WM-10072

ASSEMBLY [CB-23 Engine M/T and CB-61 & CB-80 Engines]

NOTE:

Use high-temperature grease to lubricate the bearings and sliding parts when assembling the starter.

WM-10073

1. Assemble the starter clutch to the armature.
 - (1) Place a new stop collar on the armature.
 - (2) Drive in the snap ring with a 14 mm (0.5 inch) socket wrench or the like. Then, fit it into the shaft groove.

- (3) Using a vise, compress the snap ring. Make sure that the snap ring fits correctly.

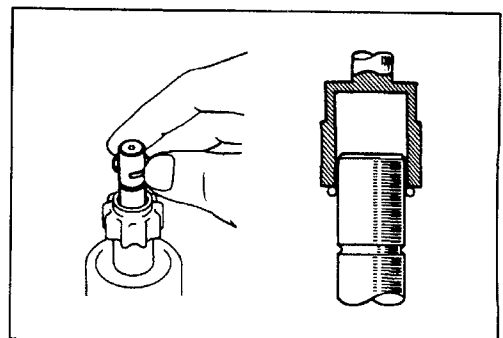


Fig. 10-67

WM-10074

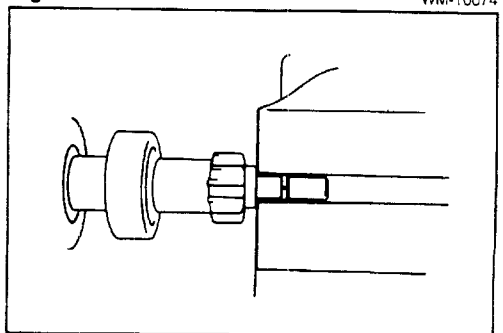


Fig. 10-68

WM-10075

ENGINE ELECTRICAL SYSTEM

- (4) Using a screwdriver, tap the pinion to slide the stop collar onto the snap ring.

2. Assemble the drive housing, drive lever and field frame to the armature.

- (1) Apply grease to the drive lever and drive housing bushing.
- (2) Install the drive lever to the drive housing.
- (3) Install the field frame on the armature.

3. Install the brush holder and brushes.

- (1) Place the brush holder over the armature shaft.
- (2) Using a piece of steel wire, hold the brush spring back and install the brush in the brush holder. Install the four brushes.

4. Install the end frame.

- (1) Apply grease to the end frame bushing.
- (2) Install the end frame on the armature shaft and secure with two through bolts.

5. Install the bearing cover.

- (1) Install the rubber, spring and lock plate.
- (2) Using a feeler gauge, measure the armature thrust clearance between the lock plate and the end frame.
Thrust clearance: 0.05 - 0.60 mm
(0.0020 - 0.0236 inch)

- (3) Install the bearing cover with the two screws.

6. Install the magnetic switch.

- Hook the magnetic switch stud underneath the drive lever spring. Install the two nuts.

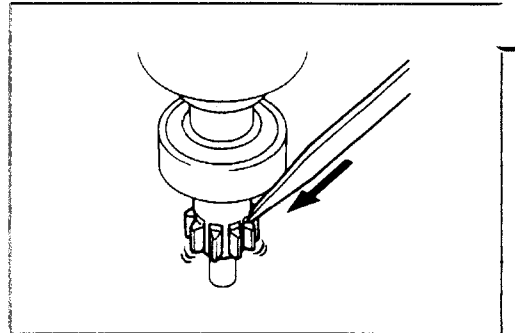


Fig. 10-69

WM-10076

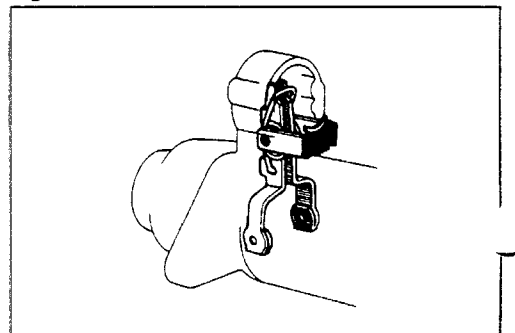


Fig. 10-70

WM-10077

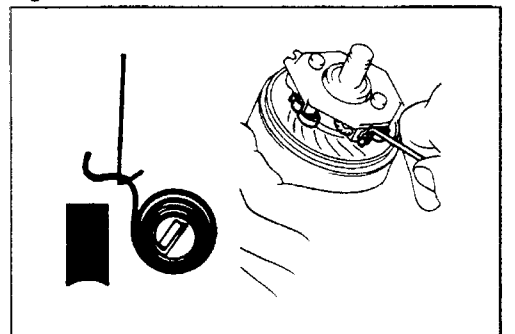


Fig. 10-71

WM-10078

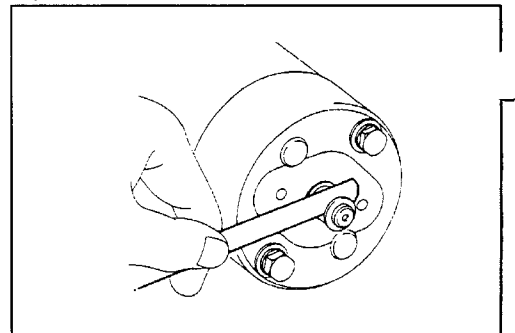


Fig. 10-72

WM-10079

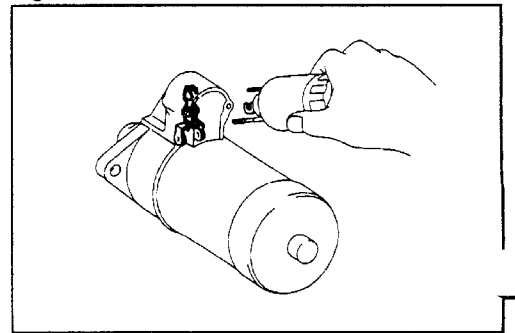


Fig. 10-73

WM-10080

ASSEMBLY [CB-23 Engine A/T]

NOTE:

Use high-temperature type grease to lubricate the bearings and gears when assembling the starter.

1. Place the armature into the field frame.
Apply grease to the armature bearings and insert the armature into the field frame.

WM-10081

2. Install the brush holder and brushes.
 - (1) While the brush spring is held back by means of a screwdriver, install the brush into the brush holder. Thus, install the four brushes.

NOTE:

Make sure that the positive lead wires are not grounded.

- (2) Install the end cover to the field frame.

3. Install the steel ball into the clutch shaft hole.
Apply grease to the ball and spring, and insert them into the clutch shaft hole.

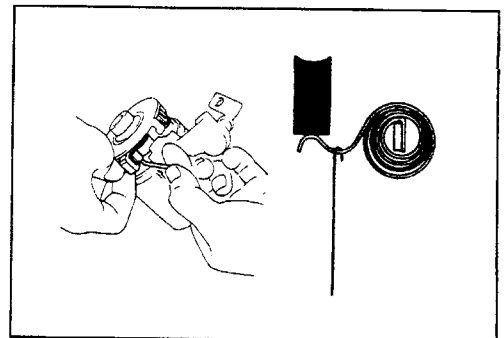


Fig. 10-74

WM-10082

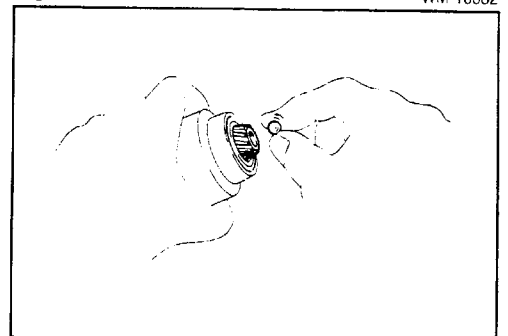


Fig. 10-75

WM-10083

4. Install the gear and clutch assembly.
 - (1) Apply grease to the gear and clutch assembly.
 - (2) Place the clutch assembly, idle gear and bearing in the starter housing.

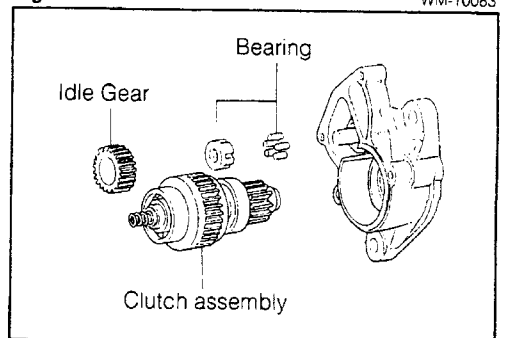


Fig. 10-76

WM-10084

5. Install the starter housing.
Place the starter housing on the magnetic switch and install the two screws.

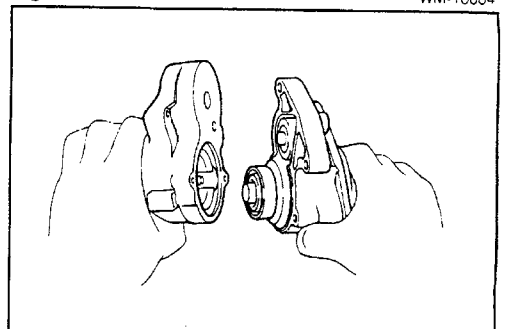


Fig. 10-77

WM-10085

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6. Install the field frame with armature in the magnetic switch.
 - (1) Place the felt seal on the armature shaft.
 - (2) Align the protrusion of the field frame with the magnetic switch.

- (3) Install the two through bolts.
 - (4) Connect the coil lead to the terminal on the magnetic switch.

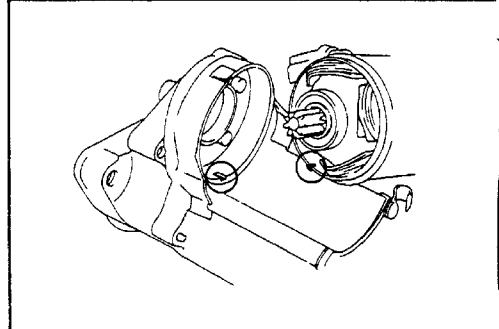


Fig. 10-78

WM-10086

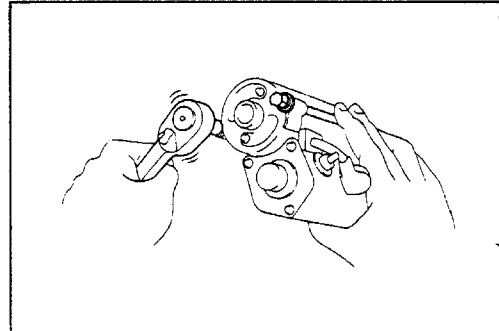
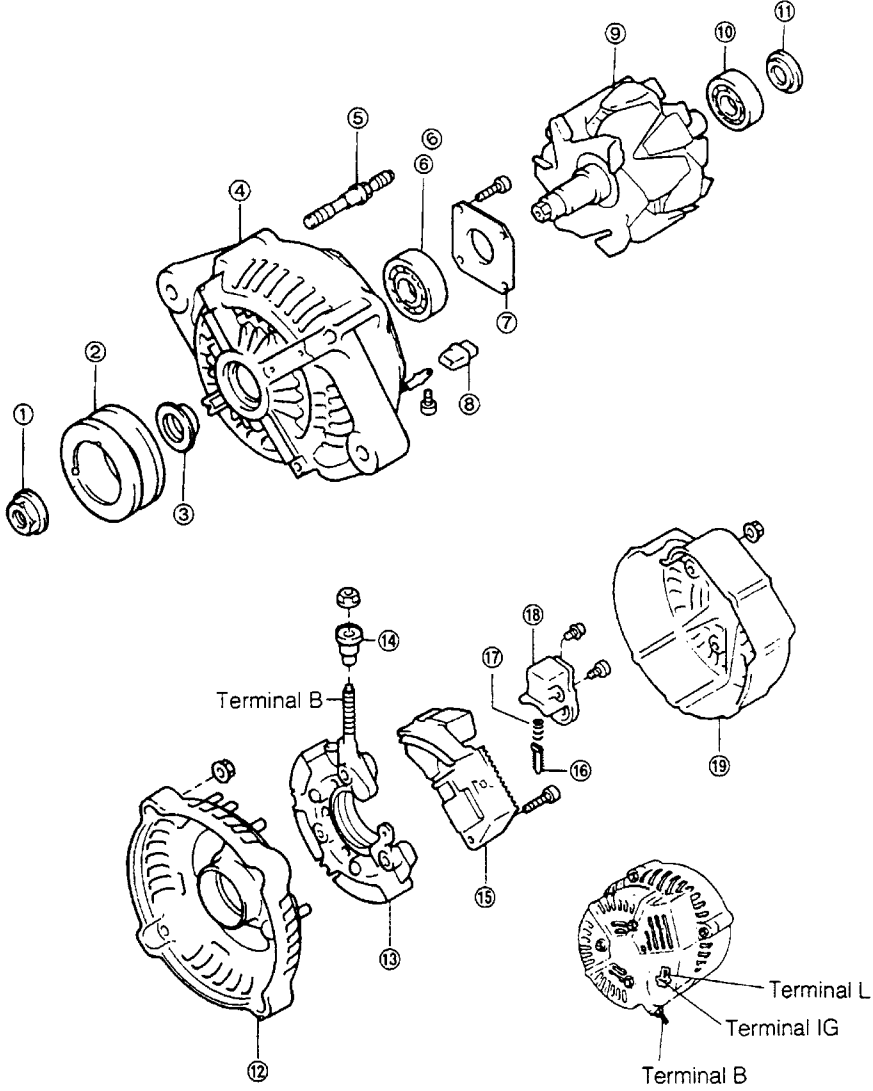


Fig. 10-79

WM-10087

ALTERNATOR

COMPONENTS OF ALTERNATOR



- ① Pulley lock nut
- ② Alternator pulley
- ③ Spacer collar
- ④ Drive end frame Ay
- ⑤ Stud bolt
- ⑥ Bearing
- ⑦ Retainer plate
- ⑧ Bush
- ⑨ Alternator rotor Ay
- ⑩ Bearing

- ⑪ Bearing cover
- ⑫ Rear end frame
- ⑬ Rectifier
- ⑭ Terminal insulator
- ⑮ IC regulator
- ⑯ Brush
- ⑰ Spring
- ⑱ Brush holder Ay
- ⑲ Rear end cover

Fig. 10-80

WM-10088

ENGINE ELECTRICAL SYSTEM

DISASSEMBLY

1. Remove the nut and terminal B insulator.
2. Remove the three bolts and rear end cover.
3. Remove the two screws of the brush holder assembly. Also, remove the three screws of the IC regulator assembly.
4. Remove the brush holder assembly and regulator assembly.

INSPECTION

1. IC Regulator Diode
Ensure that continuity exists between the terminal B and the terminal F.
F → B Continuity exists.
B → F No continuity exists.

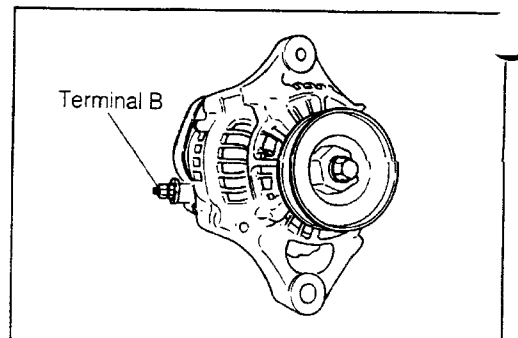


Fig. 10-81

WM-10089

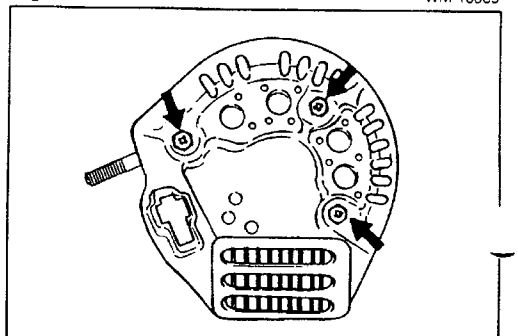


Fig. 10-82

WM-10090

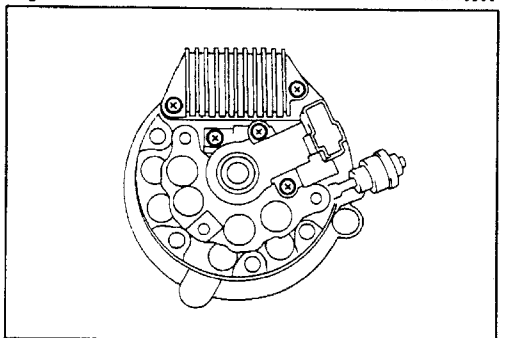


Fig. 10-83

WM-10091

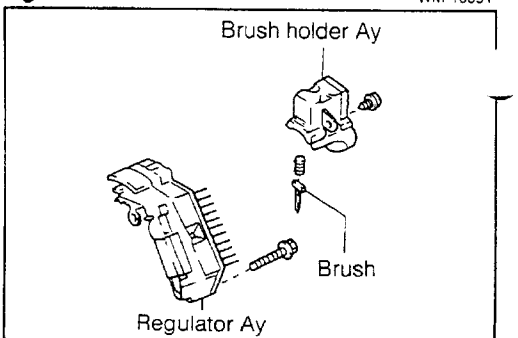


Fig. 10-84

WM-10092

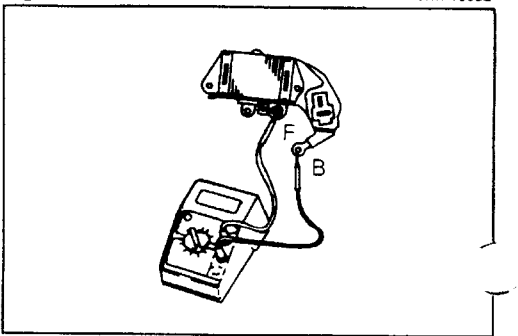


Fig. 10-85

WM-10093

2. Brush

Measure the exposed brush length.

Exposed length

Specified value: 10.5 mm (0.413 inch)

Limit: 4.5 mm (0.177 inch)

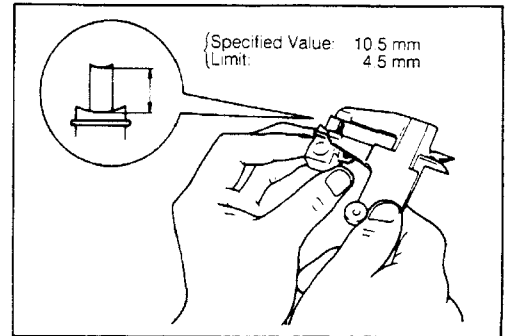


Fig. 10-86

WM-10094

3. Rectifier

Ensure that continuity exists between the terminal B and the rectifier terminal.

F → Rectifier Continuity exists.

Rectifier → B No continuity exists.

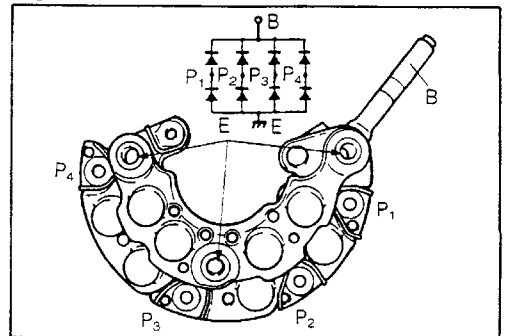


Fig. 10-87

WM-10095

4. Stator

Measure the resistance between the terminals, using an ohmmeter.

Resistance: Less than 1 Ω

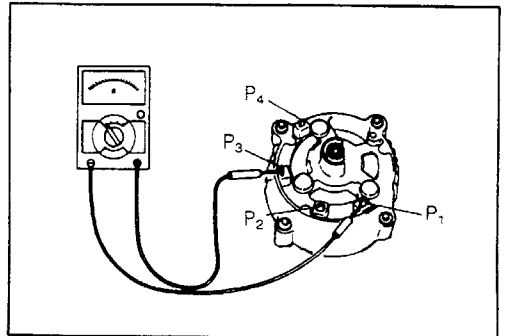


Fig. 10-88

WM-10096

5. Rotor

Measure the resistance between the slip rings, using an ohmmeter.

Resistance: 2.9 Ω

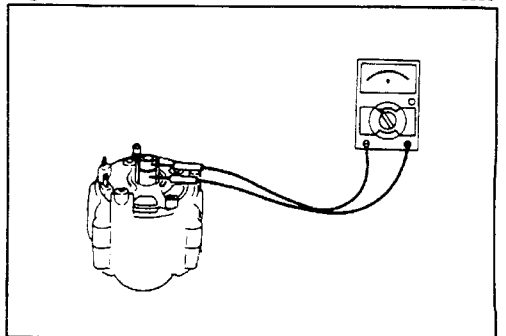


Fig. 10-89

WM-10097

ASSEMBLY

1. Install the brush holder assembly together with the IC regulator into the body from the side direction.

NOTE:

Be very careful not to distort the holder cover during the installation.

2. Install the brush holder, using the five screws. Also, install the IC regulator into position.

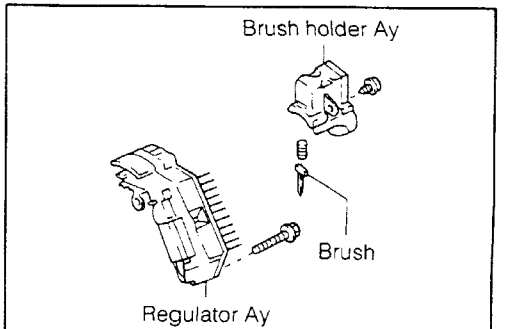


Fig. 10-90

WM-10098

ENGINE ELECTRICAL SYSTEM

3. Install the rear end cover.

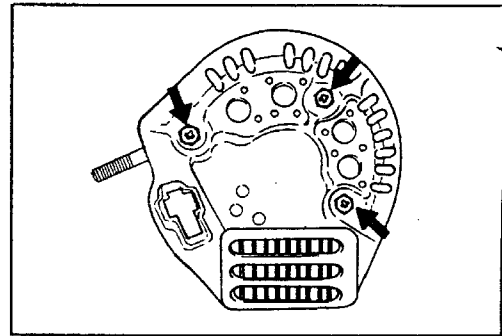


Fig. 10-91

WM-10099

4. Install the terminal B insulator and nut.

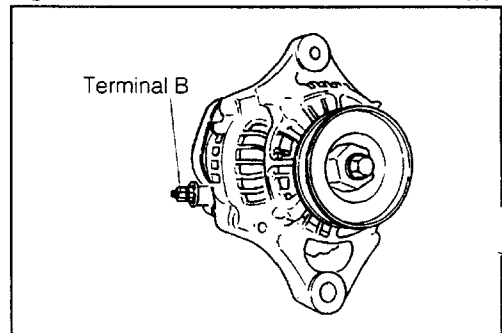


Fig. 10-92

WM-10100

IN-VEHICLE INSPECTION

1. No-Load Performance Test

- (1) Connect the probes to the battery. Connect the DC 200 A probe to the alternator terminal B wire harness.
- (2) Run the engine at 2000 rpm.
Regulating Voltage: 13.9 - 15.1 (25°C)
Current: Less than 10 A.

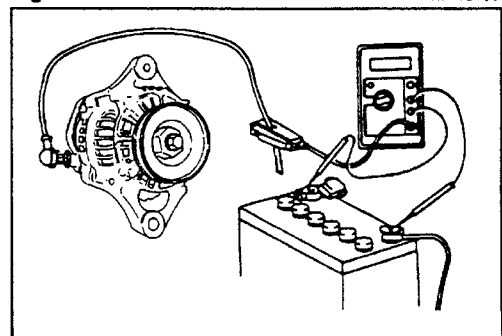


Fig. 10-93

WM-10101

2. Load Performance Test

- (1) Run the engine at 2000 rpm.
- (2) Turn on the headlamps and blower fan.
Regulated Voltage: 13.9 - 15.1 V
Current: More than 30 A

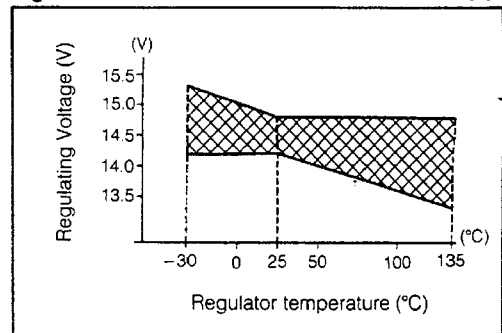


Fig. 10-94

WM-10102