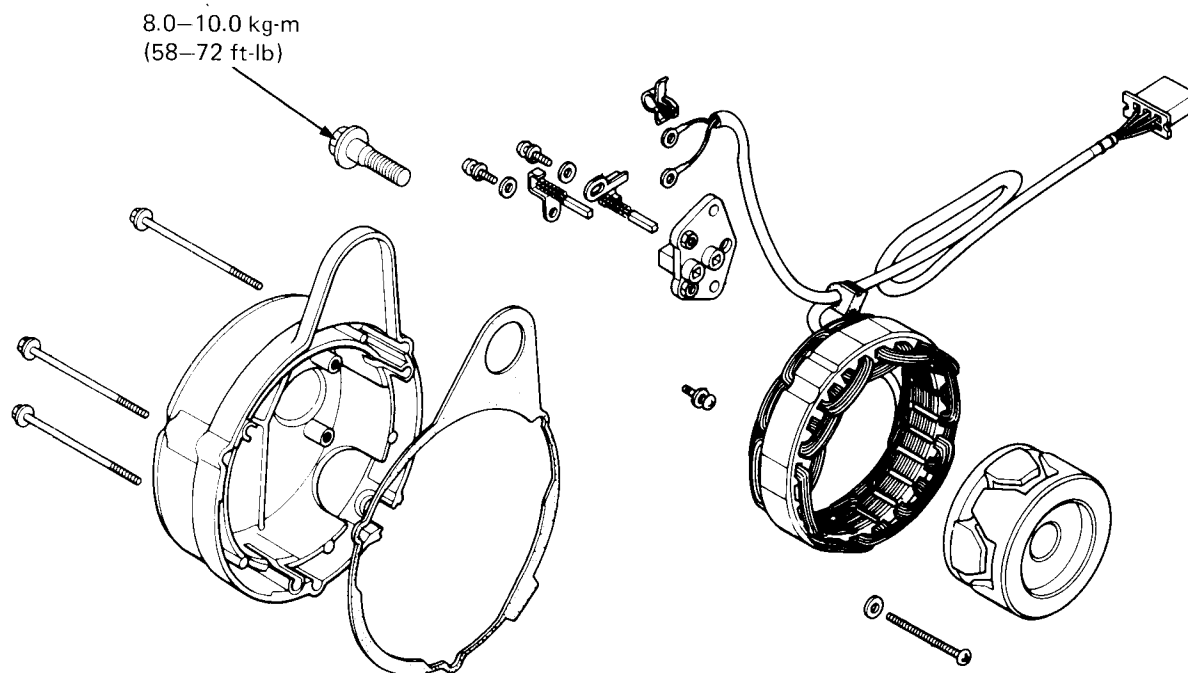


BATTERY/CHARGING SYSTEM





SERVICE INFORMATION	18-1
TROUBLESHOOTING	18-2
BATTERY	18-3
CHARGING SYSTEM	18-4
A.C. GENERATOR REMOVAL/ INSTALLATION	18-5
STATOR/ROTOR	18-7
VOLTAGE REGULATOR/RECTIFIER	18-8

SERVICE INFORMATION

GENERAL INSTRUCTIONS

- Battery fluid level should be checked regularly. Fill with distilled water when necessary.
- Quick charge a battery, only in an emergency. Slow-charging is preferred.
- Remove the battery from the motorcycle for charging. If the battery must be charged on the motorcycle, disconnect the battery cables.

WARNING

Do not smoke, and keep flames away from a charging battery. The gas produced by a battery will explode if a flame or spark is brought near.

- All charging system components can be tested on the motorcycle.

TOOL

Common
Rotor puller

07933-4250000

SPECIFICATIONS

Battery	Capacity	12 V 14 AH	
	Specific gravity	1.280/20°C (68°F)	
	Charging rate	1.4 amperes maximum	
A C. generator	Capacity	1,500 rpm	5,000 rpm
		6.5A min	18A min
Voltage regulator		Transistorized non-adjustable regulator	



TROUBLESHOOTING

No power — key turned on:

1. Dead battery
 - Low fluid level
 - Low specific gravity
 - Charging system failure
2. Disconnected battery cable
3. Main fuse burned out
4. Faulty ignition switch

Low power — key turned on:

1. Weak battery
 - Low fluid level
 - Low specific gravity
 - Charging system failure
2. Loose battery connection

Low power — engine running:

1. Battery undercharged
 - Low fluid level
 - One or more dead cells
2. Charging system failure

Intermittent power:

1. Loose battery connection
2. Loose charging system connection
3. Loose starting system connection
4. Loose connection or short circuit in ignition system
5. Loose connection or short circuit in lighting system

Charging system failure:

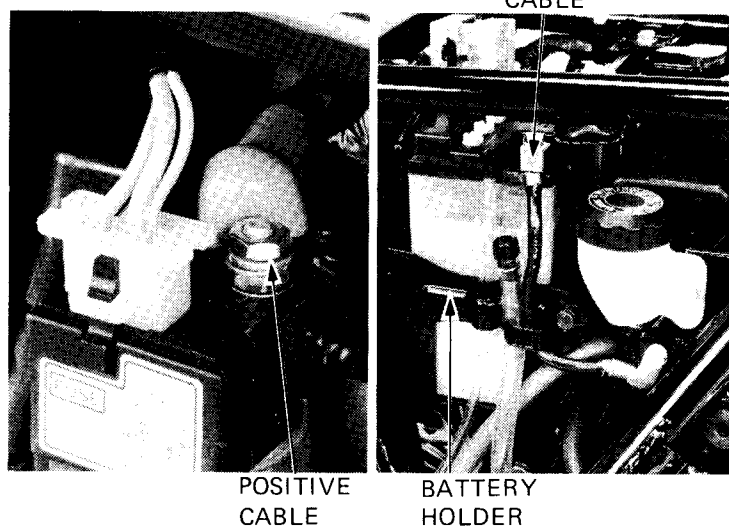
1. Loose, broken, or shorted wire or connection
2. Faulty voltage regulator/rectifier
3. Faulty A.C. generator



BATTERY

REMOVAL

- Remove the right and left side covers.
- Remove the seat.
- Disconnect the ground cable at the battery terminal.
- Disconnect the positive cable at the starter relay switch terminal.
- Remove the battery holder.



TESTING SPECIFIC GRAVITY

Test each cell with a hydrometer.

SPECIFIC GRAVITY: 1.270–1.290
(20°C, 68°F)

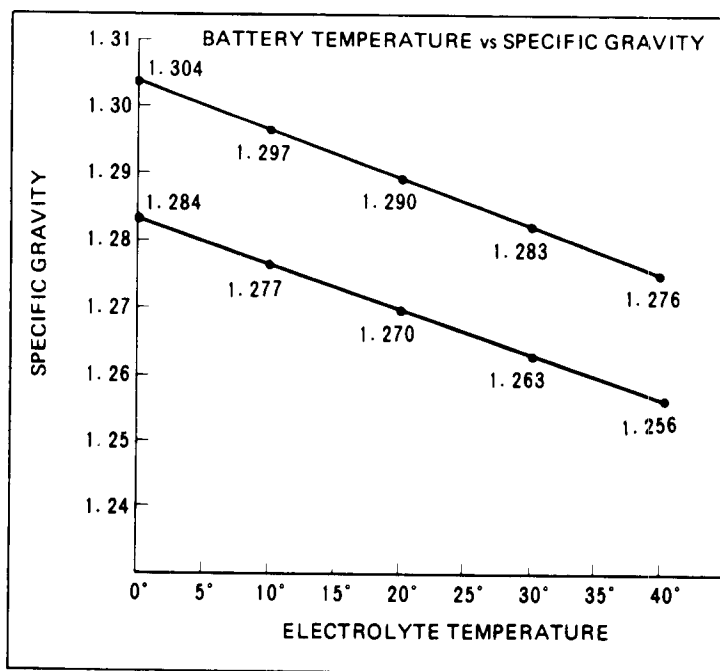
1.270–1.290	Fully charged
Below 1.260	Undercharged

NOTE

- The battery must be recharged if the specific gravity is below 1.230.
- The specific gravity varies with the temperature as shown in the accompanying table.
- Replace the battery if sulfation is evident or if the space below the cell plates is filled with sediment.

WARNING

*The battery contains sulfuric acid. Avoid contact with skin, eyes, or clothing.
Antidote: Flush with water and get prompt medical attention.*



Specific gravity changes by 0.007 for every 10°C.



CHARGING

Connect the charger positive (+) cable to the battery positive (+) terminal.

Connect the charger negative (−) cable to the battery negative (−) terminal.

Charging current:

1.4 amperes max.

Charging:

Charge the battery until specific gravity is 1.270–1.290 at 20°C (68°F).

WARNING

- Before charging a battery, remove the cap from each cell.
- Keep flames and sparks away from a charging battery.
- Turn power ON/OFF at the charger, not at the battery terminals.
- Discontinue charging if the electrolyte temperature exceeds 45°C (113°F).

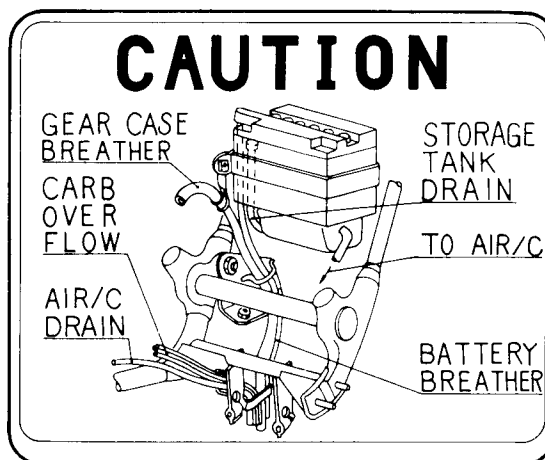
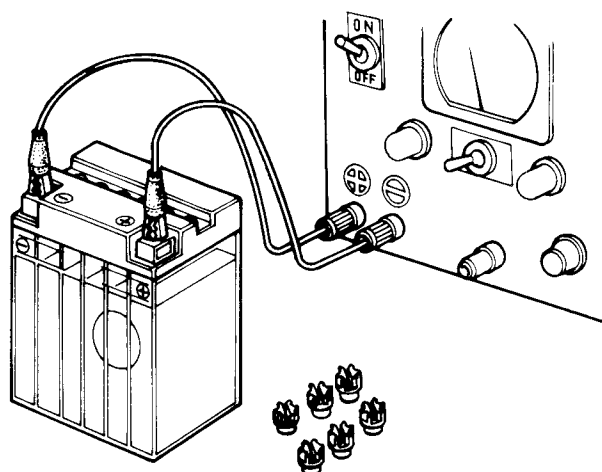
CAUTION:

Quick-charging should only be done in an emergency; slow-charging is preferred.

After installing the battery, coat the terminals with clean grease.

CAUTION:

Route the breather tube as shown on the battery caution label.



CHARGING SYSTEM

Current Test

NOTE

Be sure the battery is in good condition before performing this test.

Warm up the engine.

Remove the frame left side cover.

Turn headlight high beam on.

Run engine above 2,000 rpm.

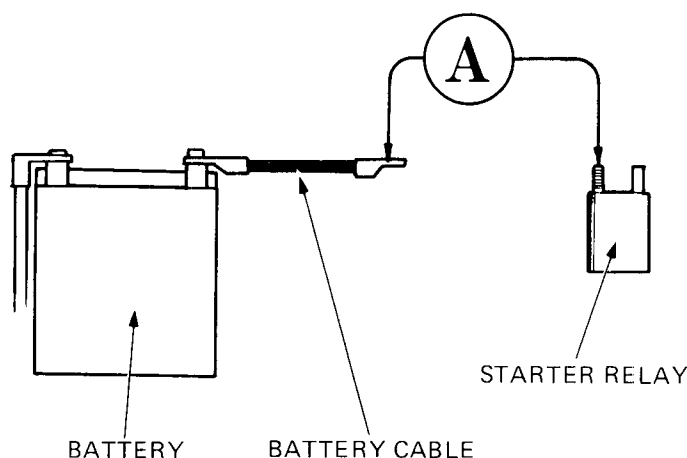
Disconnect the battery positive cable at the starter relay and connect an ammeter between the battery cable and terminal.

Allow engine to idle.

Increase engine speed slowly.

Charging amperage should begin by 1,700 rpm and should be a minimum of 8 amperes at 5,000 rpm.

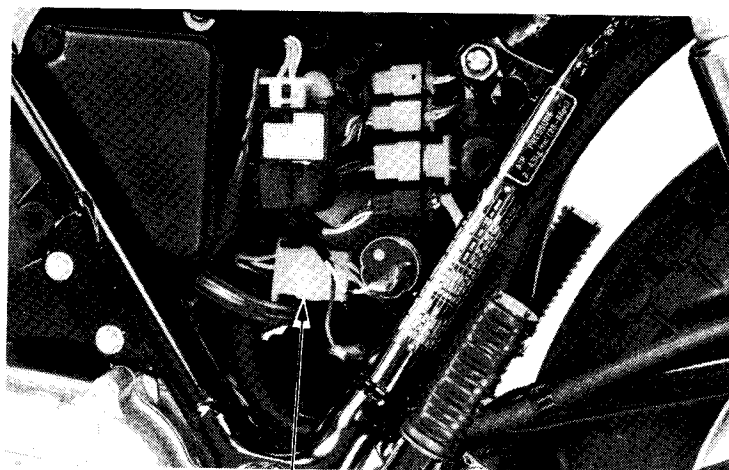
Check the stator (page 18-7) and then the regulator/rectifier (page 18-8), if the charging specifications are not met.





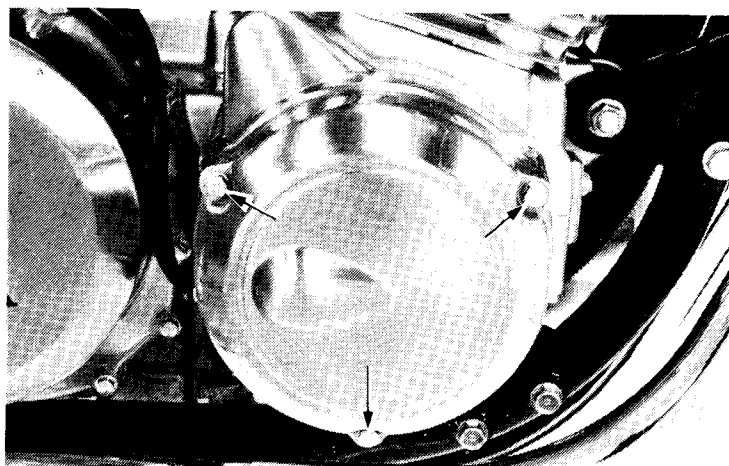
A. C. GENERATOR REMOVAL/ INSTALLATION

Remove the right side cover and disconnect the A.C. generator coupler.

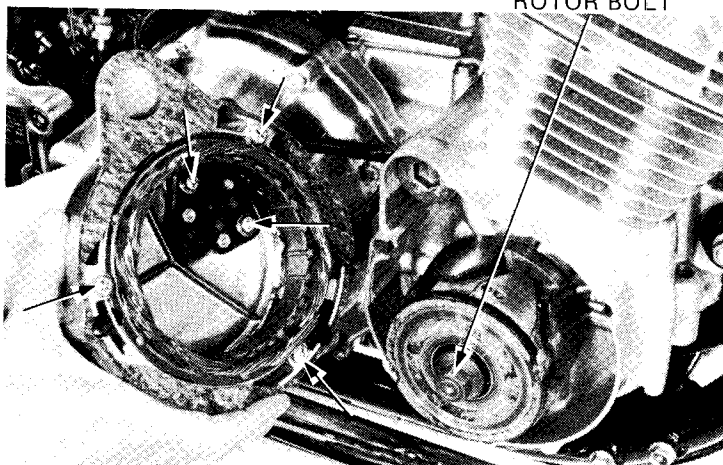


GENERATOR
COUPLER

Remove the A.C. generator cover by loosening three bolts.



Remove the generator stator with the brush holder by loosening five screws.
Shift the transmission into gear and apply the rear brake.
Remove the generator rotor bolt.

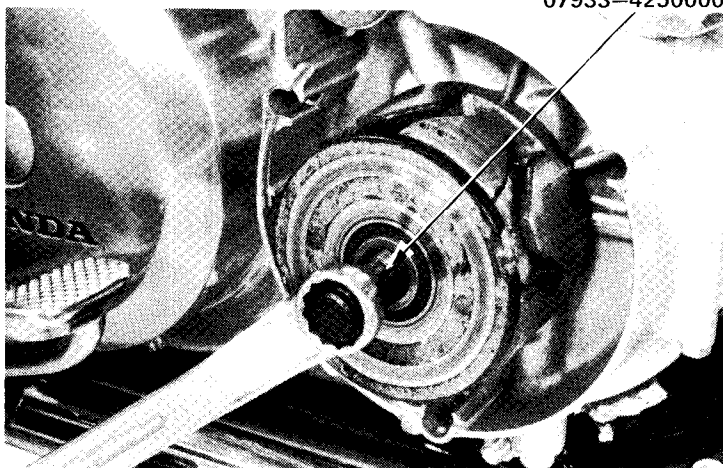


GENERATOR
ROTOR BOLT



Remove the generator rotor while applying the rear brake.

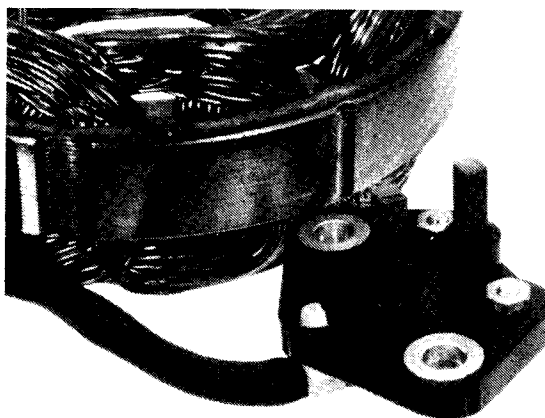
ROTOR PULLER
07933-4250000



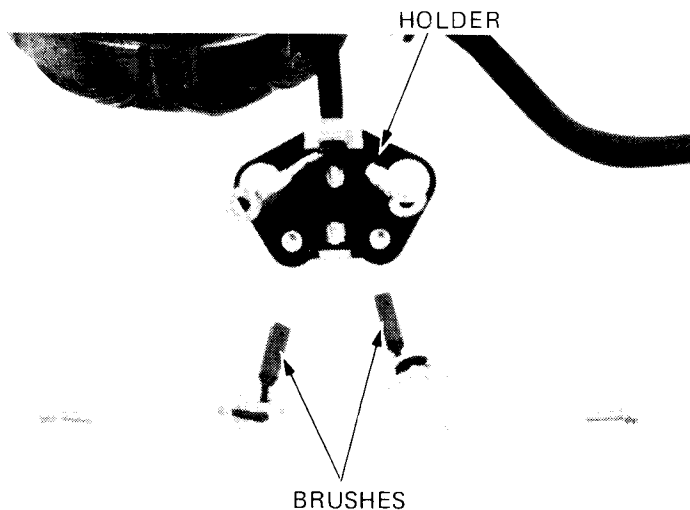
INSPECTION

Inspect the length of each brush as shown. If it shows wear to the scribed service limit line, replace the brush.

SERVICE LIMIT: Scribed line



Remove and replace the brush by removing the mounting screws.



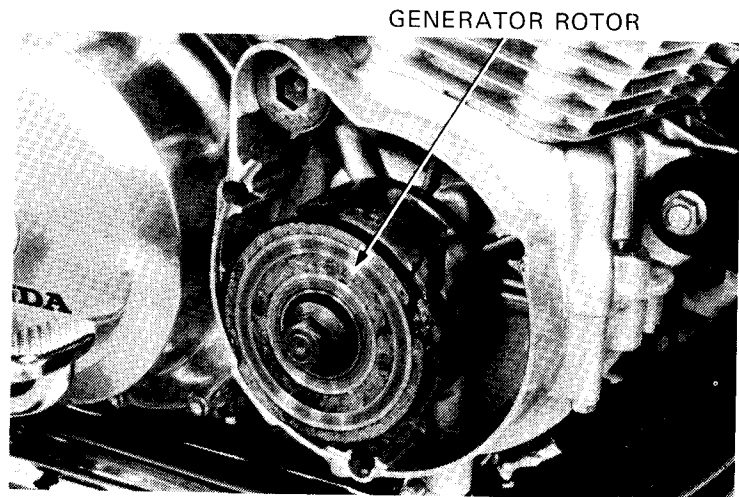


INSTALLATION

Install the generator rotor.

TORQUE: 8.0–10.0 kg-m (58–72 ft-lb)

Route the generator leads properly.



STATOR/ROTOR

INSPECTION

Remove the frame right and left side covers.
Turn the ignition switch on.

Measure battery voltage.

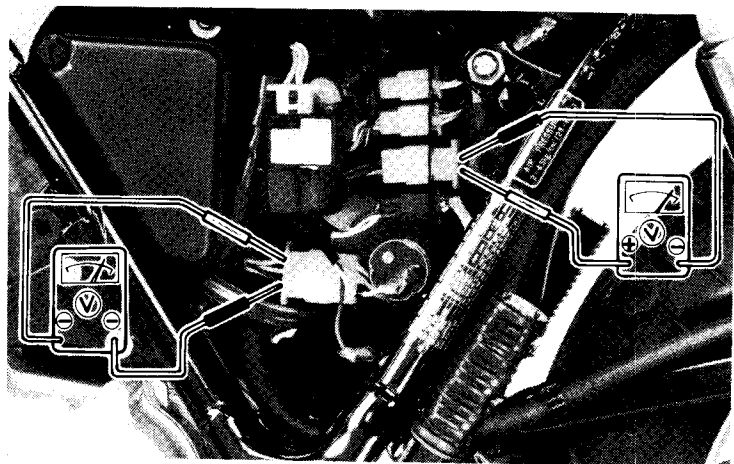
Connect a DC voltmeter to regulator R/W wire and ground. Read the voltage, it should be equal to the battery voltage. Check wire and battery cable connections, if not.

Connect a DC voltmeter to the stator six pole connector B and W wires, without disconnecting them. Read the voltage, it should be equal to the battery voltage. Check the wire and battery cable connections (photo), if battery voltage is not equal.

Disconnect the DC voltmeter.

Warm up the engine. Disconnect the stator six pole connector.

Connect an AC voltmeter leads to any two Y wire leads. You should read 8-10 volts. Move one lead to the remaining Y wire. You should read 8-10 volts. Replace the stator if voltage output is not within specifications.



**STATOR CONTINUITY TEST**

Warm up the engine.

Stop the engine.

Remove the frame right side cover.

Check the resistance of the stator six pole connector wires.

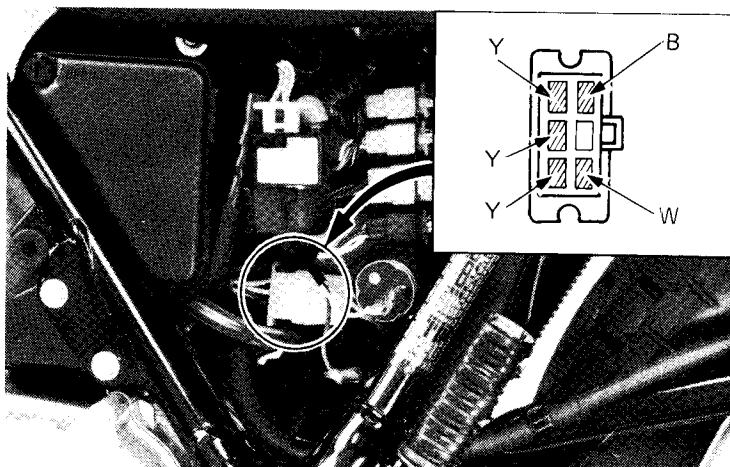
Use the R x 1 ohmmeter scale.

B - W: 10-12 Ω

Y - Y: 0.4-0.5 Ω

Y - ground: ∞

Replace the stator if not within specifications.

**ROTOR CONTINUITY TEST**

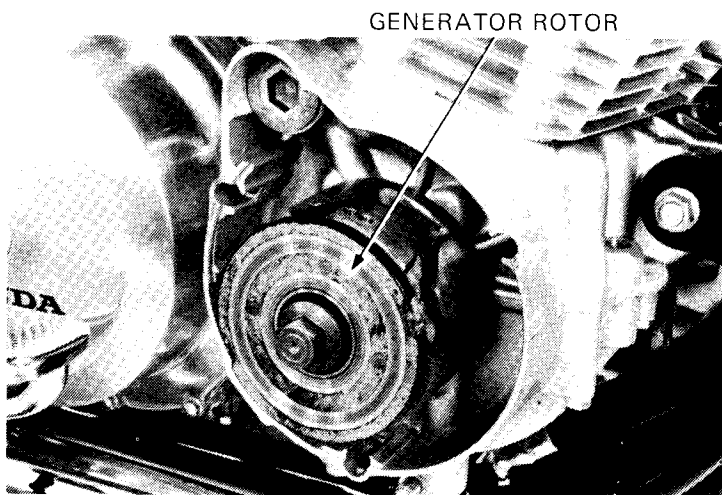
Remove the generator cover.

Remove the brush assembly.

Check the resistance between the two rotor slip rings.

SLIP RING - TO - SLIP RING: 3.6-4.4 Ω

Replace the rotor, if not within specifications.

**VOLTAGE REGULATOR/RECTIFIER****VOLTAGE REGULATOR TEST**

Remove the frame left side cover.

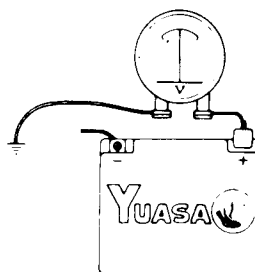
Start the engine.

Connect a DC voltmeter; positive lead to battery positive and negative lead to a frame ground.

Increase engine speed to 3,000 rpm.

MAXIMUM VOLTAGE: 14-15 V

Replace the voltage regulator, if not within specifications.





RECTIFIER TEST

Check the resistance between the leads with an ohmmeter.

RESISTANCE IN NORMAL DIRECTION:

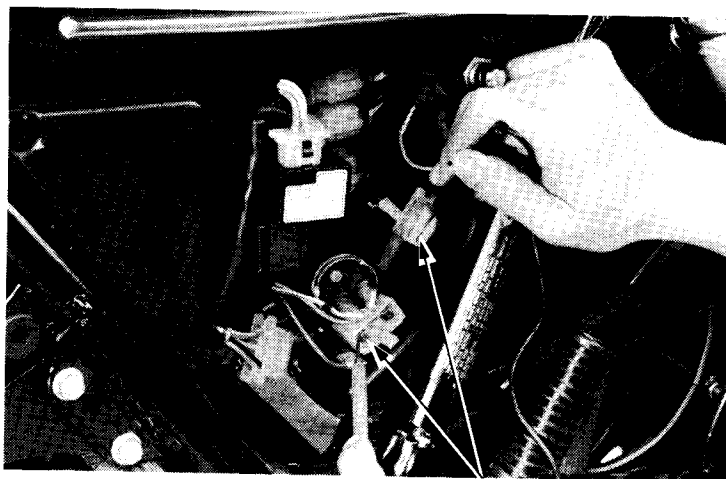
Green and any yellow: 5–40 Ω

Red/white and any yellow: 5–40 Ω

RESISTANCE IN REVERSE DIRECTION:

Red/white and any yellow: 2000 Ω min.

Green and any yellow: 2000 Ω min.



REGULATOR/
RECTIFIER
COUPLER

