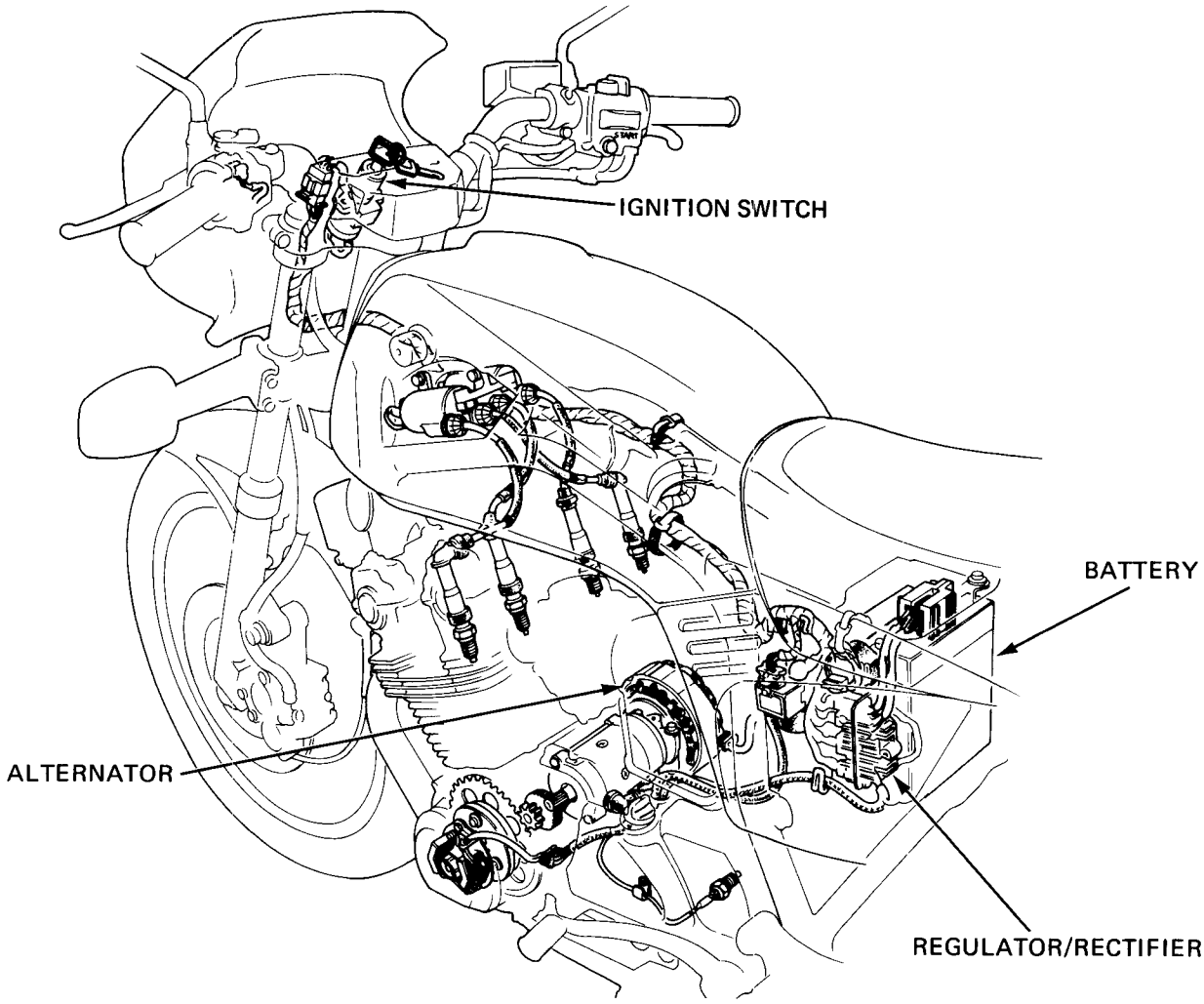

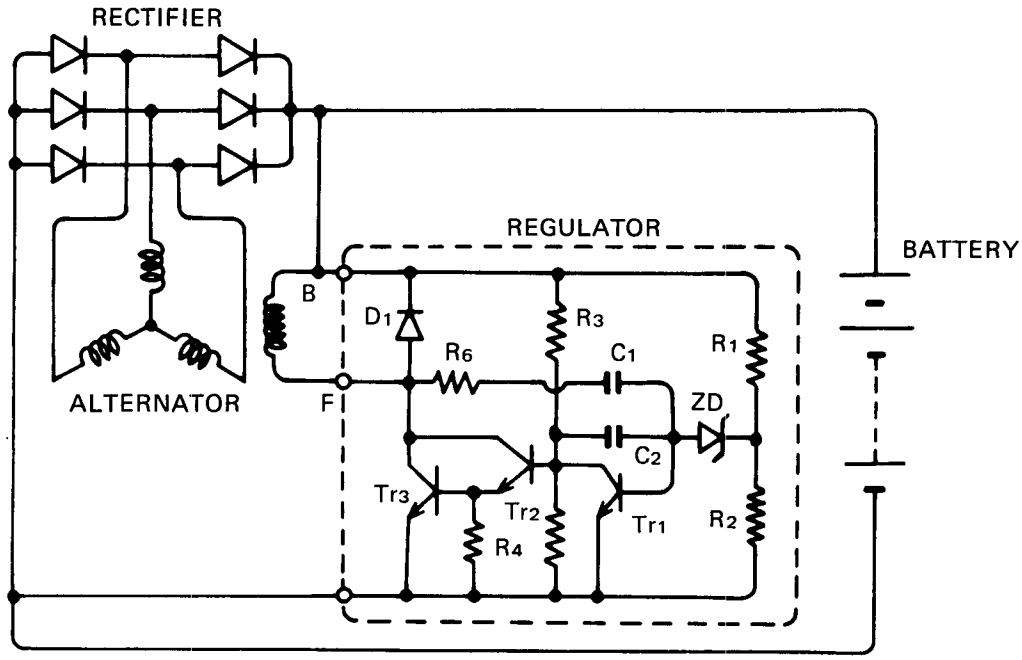

BATTERY/CHARGING SYSTEM

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17. BATTERY/CHARGING SYSTEM

SERVICE INFORMATION

GENERAL

- 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.
- Alternator removal is in Section 8.

SPECIFICATIONS

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

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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 alternator

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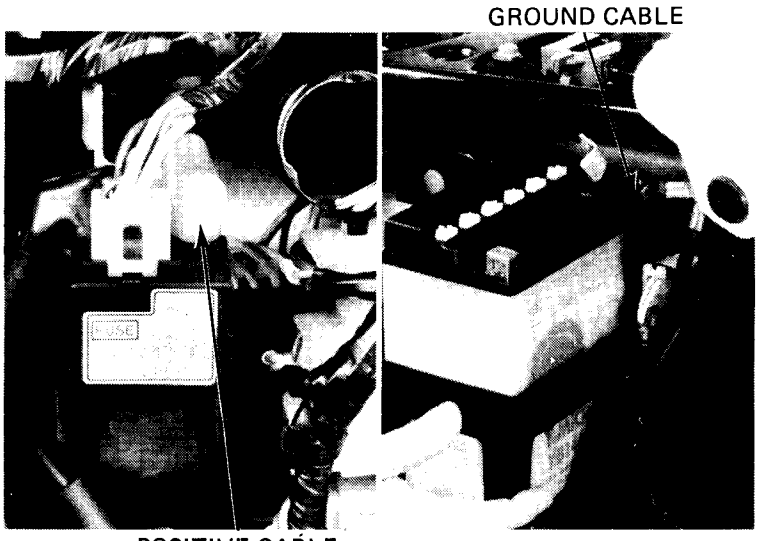
BATTERY

REMOVAL

Remove the frame right and left side covers.

Remove the seat and tool kit.
Disconnect the ground cable at the battery terminal. Then disconnect the positive cable at the starter relay.

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

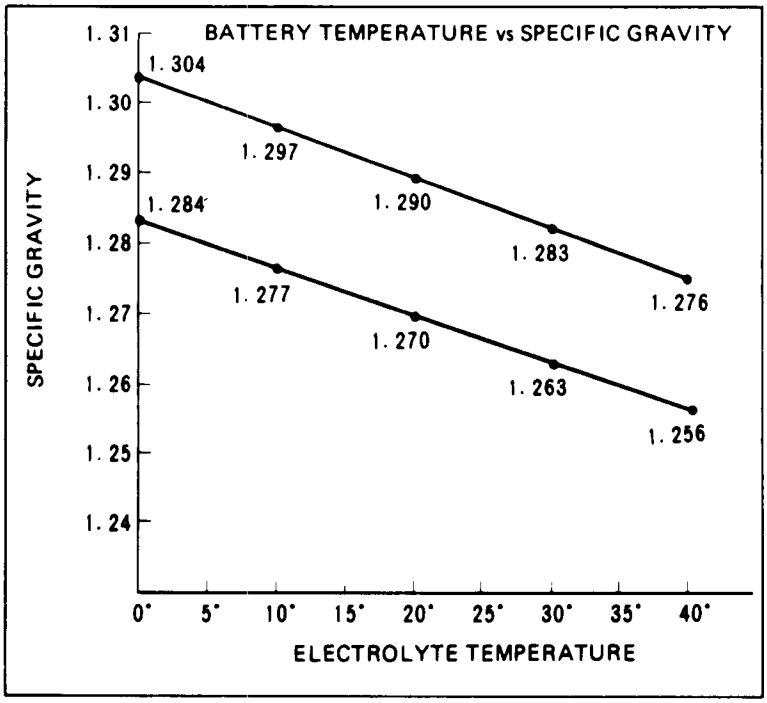
NOTE:

- 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.

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CHARGING

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

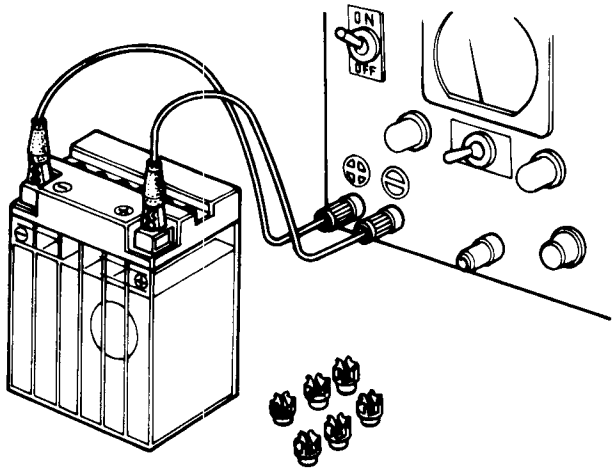
CAUTION:

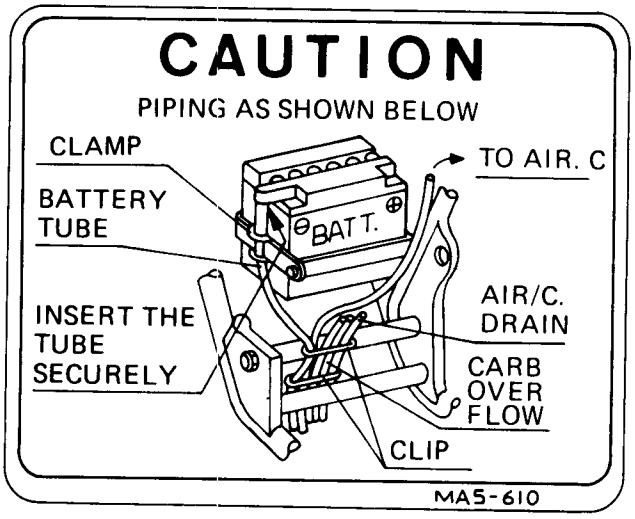
Quick-charging should only be done in an emergency; slow-charging is preferred.

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.

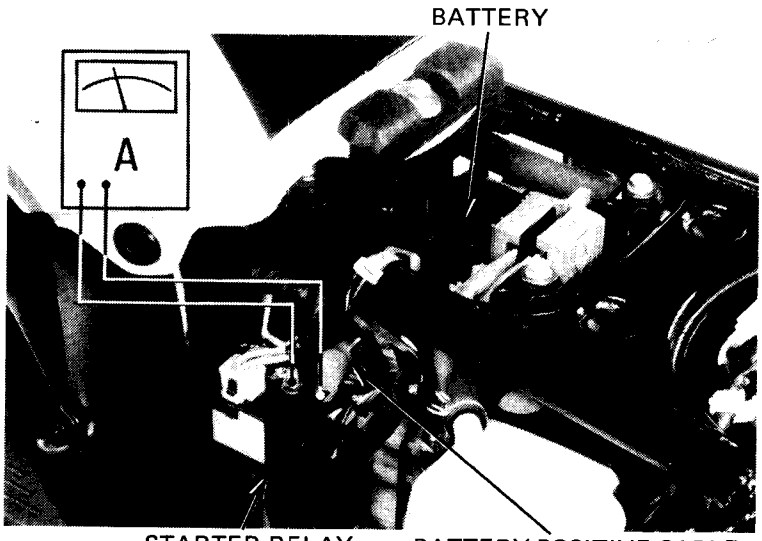
Warm up the engine and remove the frame left side cover.
Remove the seat.
Turn headlight high beam on and run the engine above 2,000 rpm.

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 18 amperes at 5,000 rpm.

Check the stator (page 17-5) and then the regulator/rectifier (page 17-6), if the charging specifications are not met.



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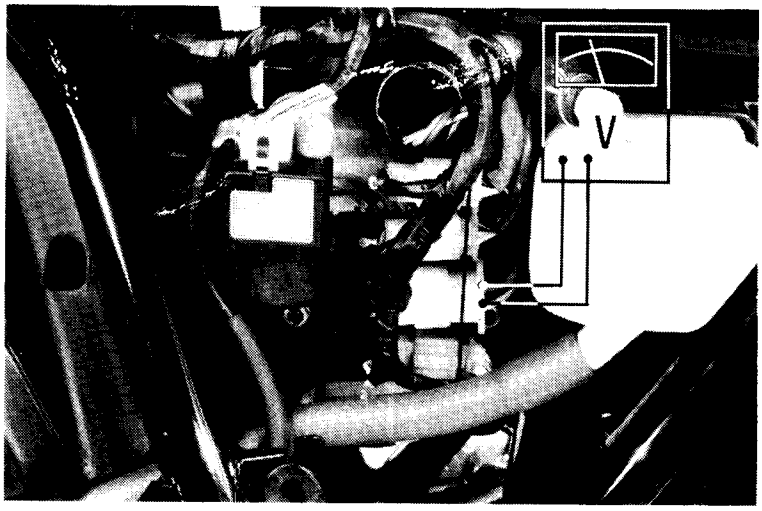
STATOR/ROTOR

INSPECTION

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

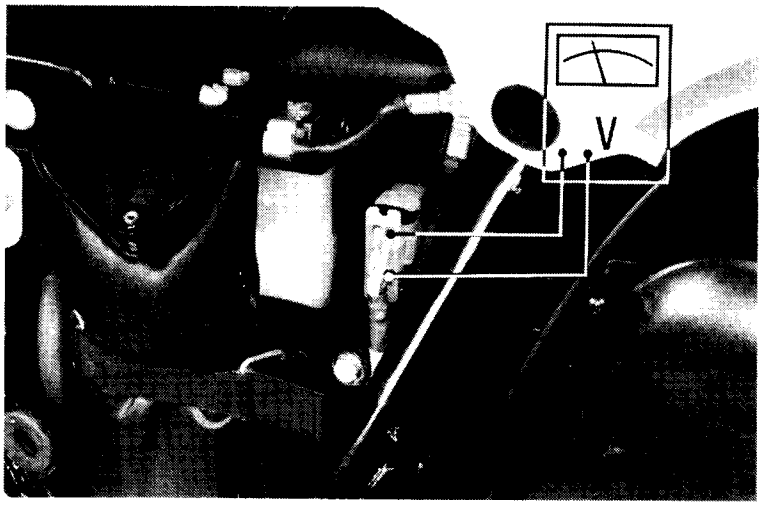
Connect a DC voltmeter to regulator Red/White wire and Green wire. Read the voltage, it should be equal to the battery voltage. Check wire and battery cable connections, if not.

Connect a DC voltmeter to the stator six pole connector Black and White 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 Yellow wire leads. You should read 8-10 volts. Move one lead to the remaining Yellow wire. You should read 8-10 volts. Replace the stator if voltage output is not within specifications.



STATOR CONTINUITY TEST

Warm up the engine. After the engine is warm, stop the engine.

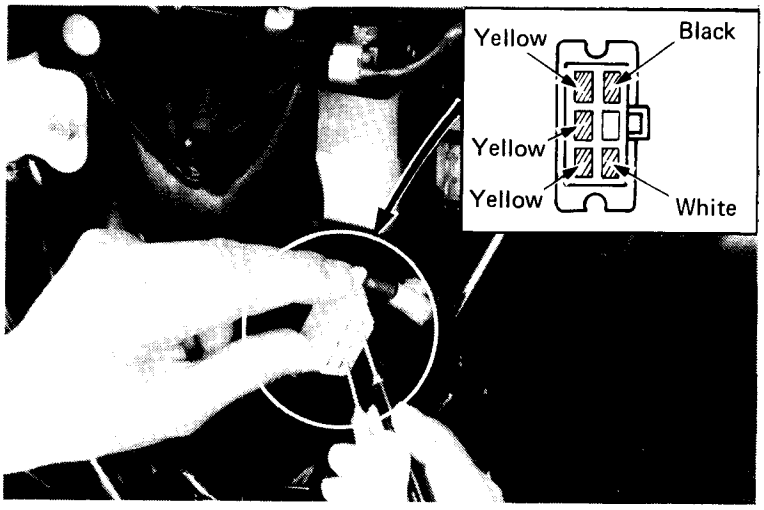
Remove the frame right side cover.

Check the resistance of the stator six pole connector wires.

Use the R x 1 ohmmeter scale.

Black-White: 10-12 Ω
Yellow-Yellow: 0.4-0.5 Ω
Yellow-ground: ∞

Replace the stator if not within specifications.



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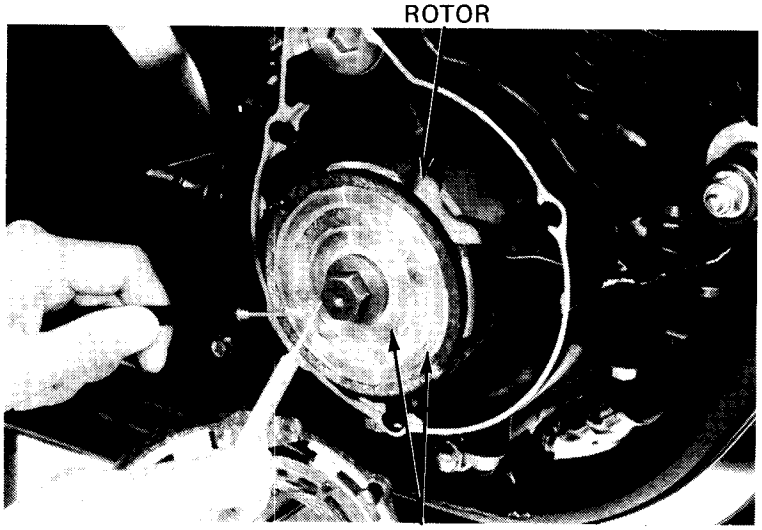
ROTOR CONTINUITY TEST

Remove the alternator cover.

Remove the brush assembly and 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 and the seat.

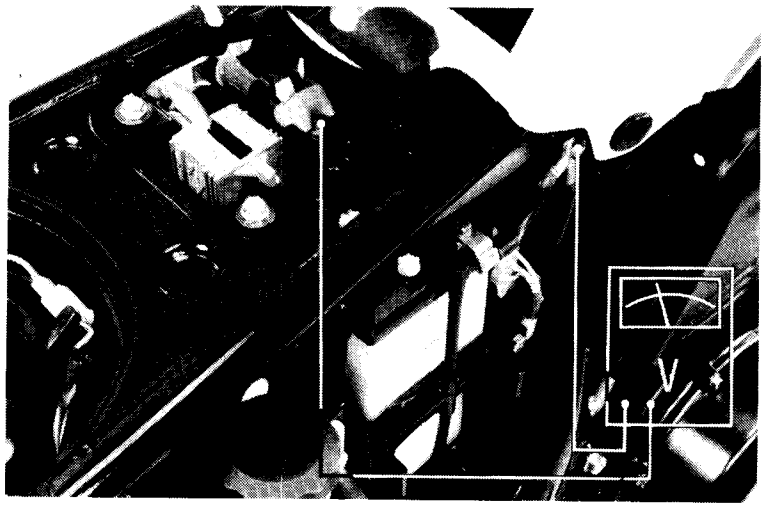
Start the engine.

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.

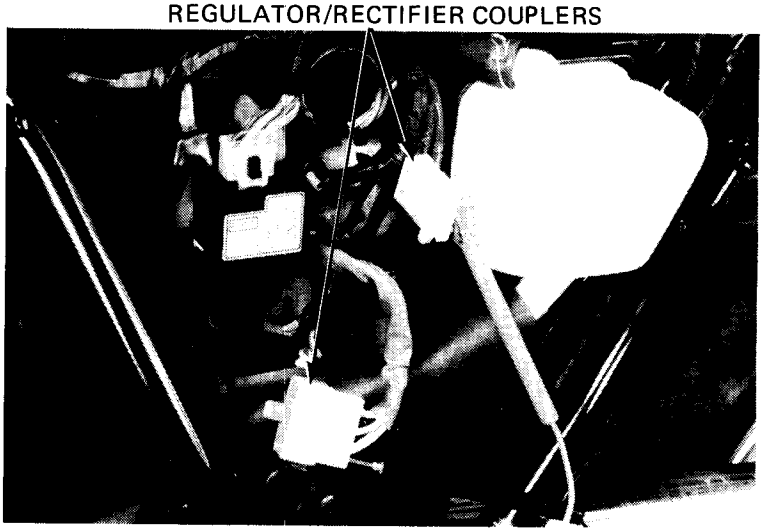


RECTIFIER TEST

Check the resistance between the leads with an ohmmeter.

RESISTANCE IN ONE DIRECTION:
Green and any yellow: 5–40 Ω
Red/white and any yellow: 5–40 Ω
RESISTANCE IN THE OTHER DIRECTION:
Red/white and any yellow: 2000 Ω min.
Green and any yellow: 2000 Ω min.

REGULATOR/RECTIFIER COUPLERS



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