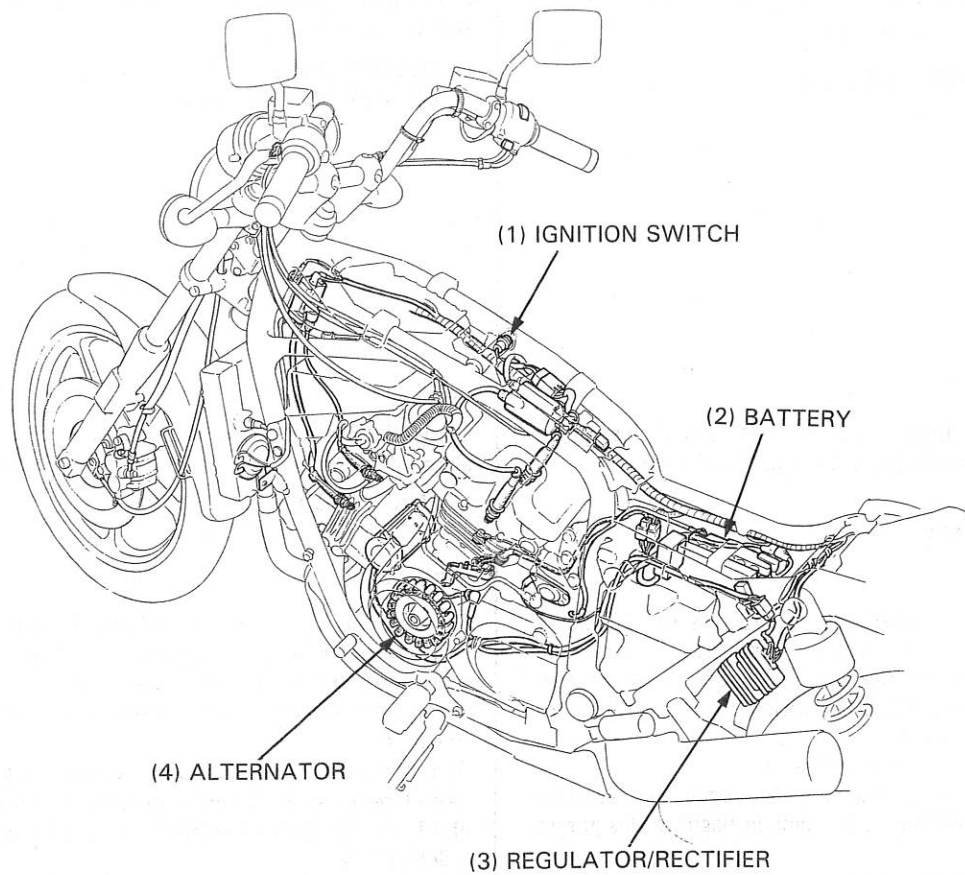
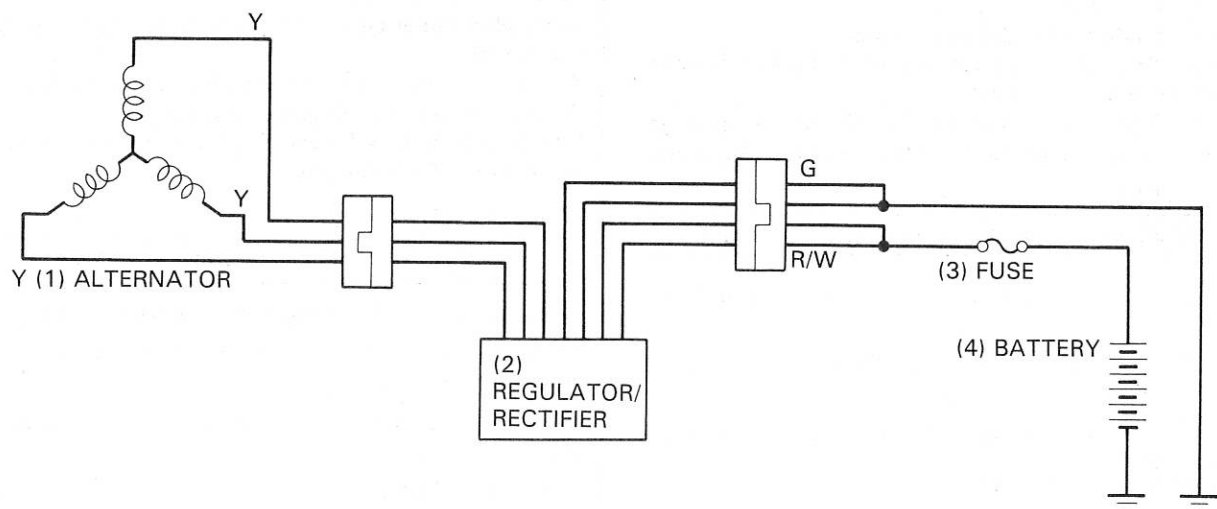


BATTERY/CHARGING SYSTEM



SYSTEM DIAGRAM



16. BATTERY/CHARGING SYSTEM

16. BATTERIE/CIRCUIT DE CHARGE

16. BATTERIA/CIRCUITO DI RICARICA

- (1) COMMUTATEUR D'ALLUMAGE
- (2) BATTERIE
- (3) REGULATEUR/REDRESSEUR
- (4) ALTERNATEUR

DIAGRAMME DE SYSTEME

- (1) ALTERNATEUR
- (2) REGULATEUR/REDRESSEUR
- (3) FUSIBLE
- (4) BATTERIE

- (1) INTERRUTTORE D'ACCENSIONE
- (2) BATTERIA
- (3) REGOLATORE/RADDRIZZATORE
- (4) ALTERNATORE

DIAGRAMMA DEL CIRCUITO

- (1) ALTERNATORE
- (2) REGOLATORE/RADDRIZZATORE
- (3) FUSIBILE
- (4) BATTERIA

SERVICE INFORMATION	16-1	BATTERY	16-3
TROUBLESHOOTING	16-2	CHARGING SYSTEM	16-4

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 flames or sparks are brought near.*

- All charging system components can be tested on the motorcycle.
- Alternator removal is in Section 8.

SPECIFICATIONS

ITEM		STANDARD	
Battery	Capacity	12V 12 AH	
	Specific gravity	1.280/20°C (68°F)	
	Charging rate	1.2 amperes maximum	
Alternator capacity		1,000 min ⁻¹ (rpm)	5,000 min ⁻¹ (rpm)
		6.0 A min. (No. load)	24.7 A min. (No. load)
Voltage regulator		Transistorized non-adjustable regulator	
		14.0–15.0 V at 5,000 min ⁻¹ (rpm)	
Charging coil resistance		0.5–10 kΩ/20°C (68°F)	

TOOL

Circuit tester (SANWA)	07308–0020000
or	
Circuit tester (KOWA)	TH–5H–1 or TH–5H–2

TROUBLESHOOTING

No power-key turned on:

- Dead battery
 - Low fluid level
 - Low specific gravity
 - Charging system failure
- Disconnected battery cable
- Failed main fuse
- Faulty ignition switch

Low power-key turned on:

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

Low power-engine running:

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

Intermittent power:

- Loose battery connection
- Loose charging system connection
- Loose starting system connection
- Loose connection or short circuit in ignition system
- Loose connection or short circuit in lighting system

Charging system failure:

- Loose, broken or shorted wire or connection
- Faulty voltage regulator/rectifier
- Faulty alternator

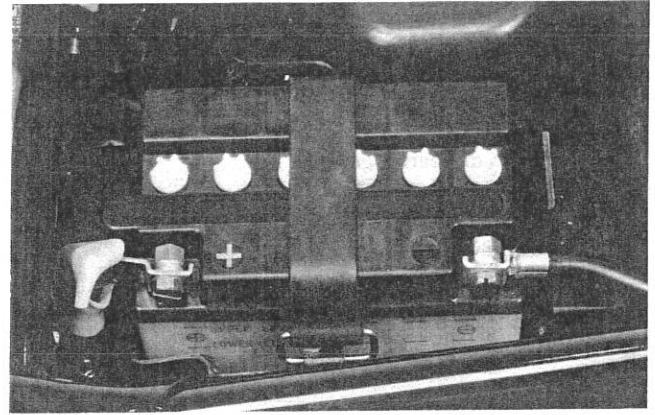
BATTERY

REMOVAL

Remove the seats.

Disconnect the ground cable at the battery terminal then disconnect the positive cable.

Remove the battery holder band and the battery.

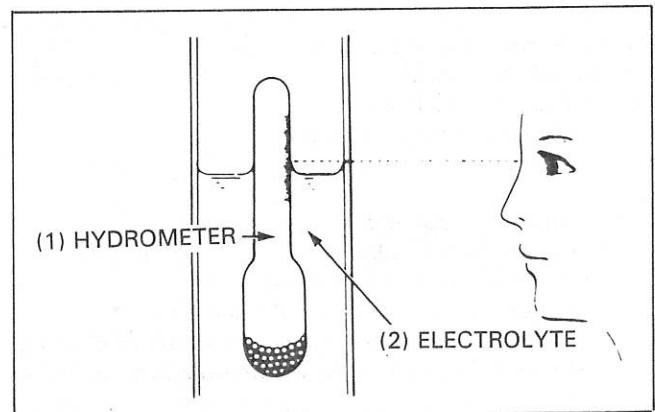


TESTING SPECIFIC GRAVITY

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

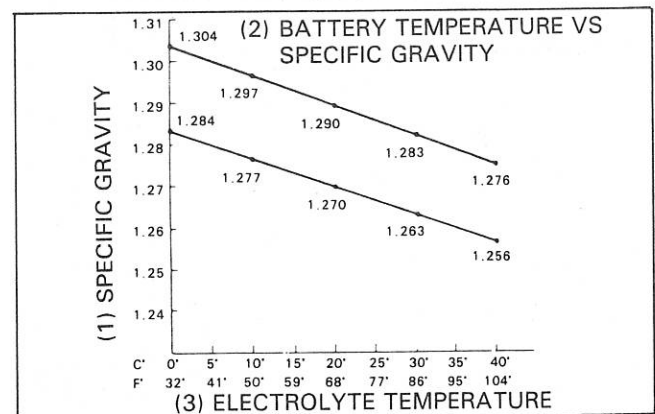


NOTE

- 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.



CHARGING

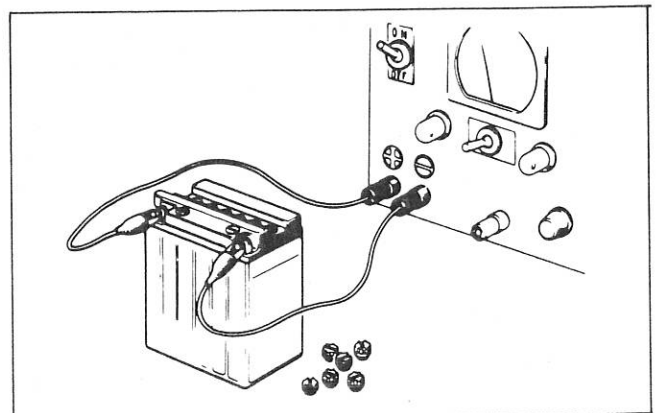
Remove the battery cell caps. Fill the battery cells with distilled water to the upper level line, if necessary.

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



BATTERY/CHARGING SYSTEM

WARNING

- Before charging a battery, remove the cap from each cell.
- Keep flames and sparks away from a charging battery.
- Make sure the charger is OFF, when connecting or disconnecting the battery.
- 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.
- Route the breather tube as shown on the battery caution label.

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

CHARGING SYSTEM

VOLTAGE LEAK TEST

Turn the ignition switch off and disconnect the negative cable from the battery.

Measure the voltage between the battery negative terminal and negative (ground) cable.

There should be no voltage with the ignition switch off.

If there is voltage, check the wire harnesses, couplers and connectors for a short circuit and the ignition switch for proper function.

CHARGING VOLTAGE INSPECTION

NOTE

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

Warm up the engine.

Connect a voltmeter across the battery terminals.

CAUTION

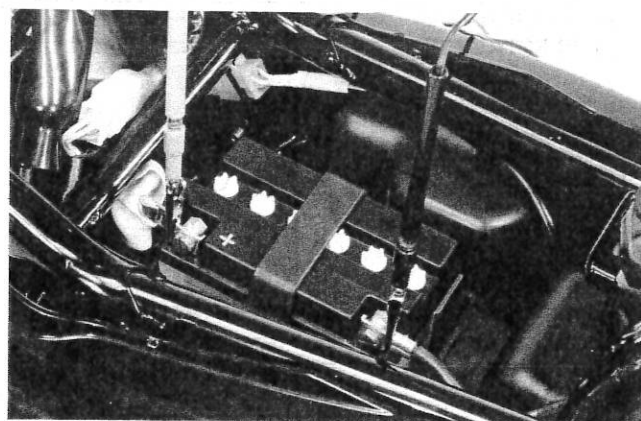
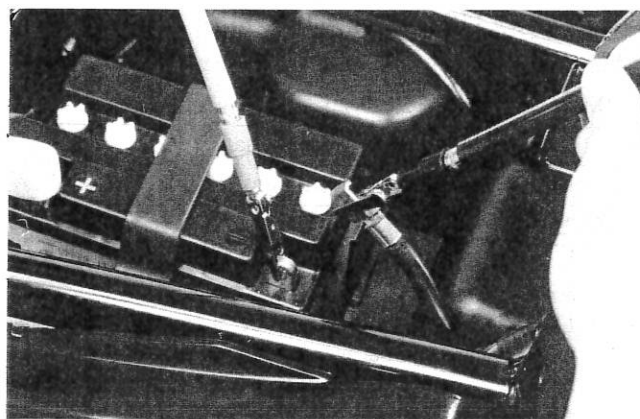
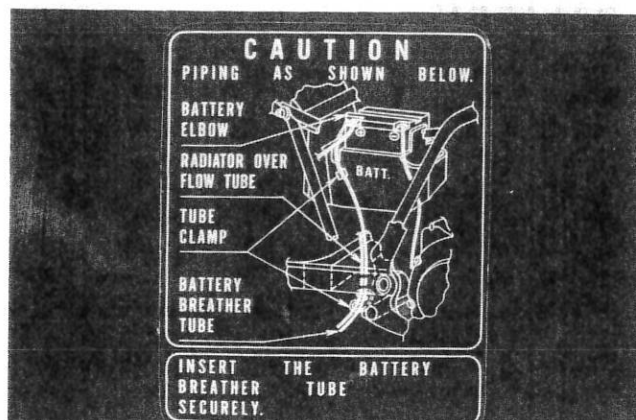
- Be careful not to let the battery positive cable touch the frame while testing.

Start the engine and read the voltmeter.

Gradually increase the engine speed and check that the voltage is regulated.

REGULATED VOLTAGE: 14.0 – 15.0 V at 5,000 min⁻¹ (rpm)

If there is no voltage, or it is over the specification, stop the engine and perform the following inspections (see page 16-5).



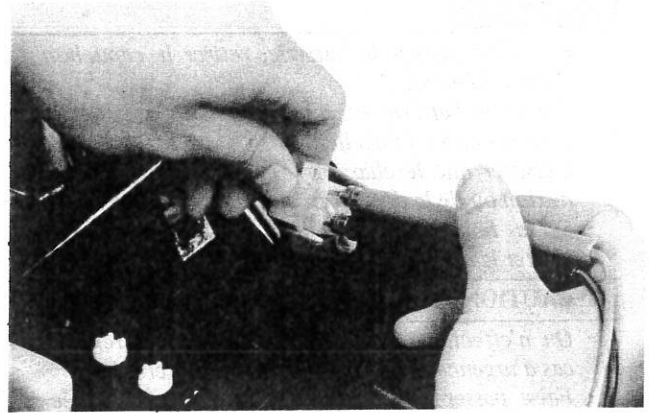
BATTERY/CHARGING SYSTEM

REGULATOR/RECTIFIER INSPECTION

NOTE

- Inspect the alternator, battery and their respective wires for condition before checking regulator/rectifier condition.

Remove the seats and the left side cover.
Disconnect the 4P connector of the regulator/rectifier.
Measure the battery voltage between the Red/White and Green at each terminal of the wire harness side.
There should be battery voltage.



Disconnect the 3P connector of the regulator/rectifier.
Measure the resistance between the each Yellow wire terminal of the wire harness side.

STANDARD: 0.5 — 10 k Ω (20°C/68°F)

If any of the above check are not as specified, first check the related wiring for an open circuit and connector for a loose or poor contact.

Replace the regulator/rectifier if the above items check out alright.

