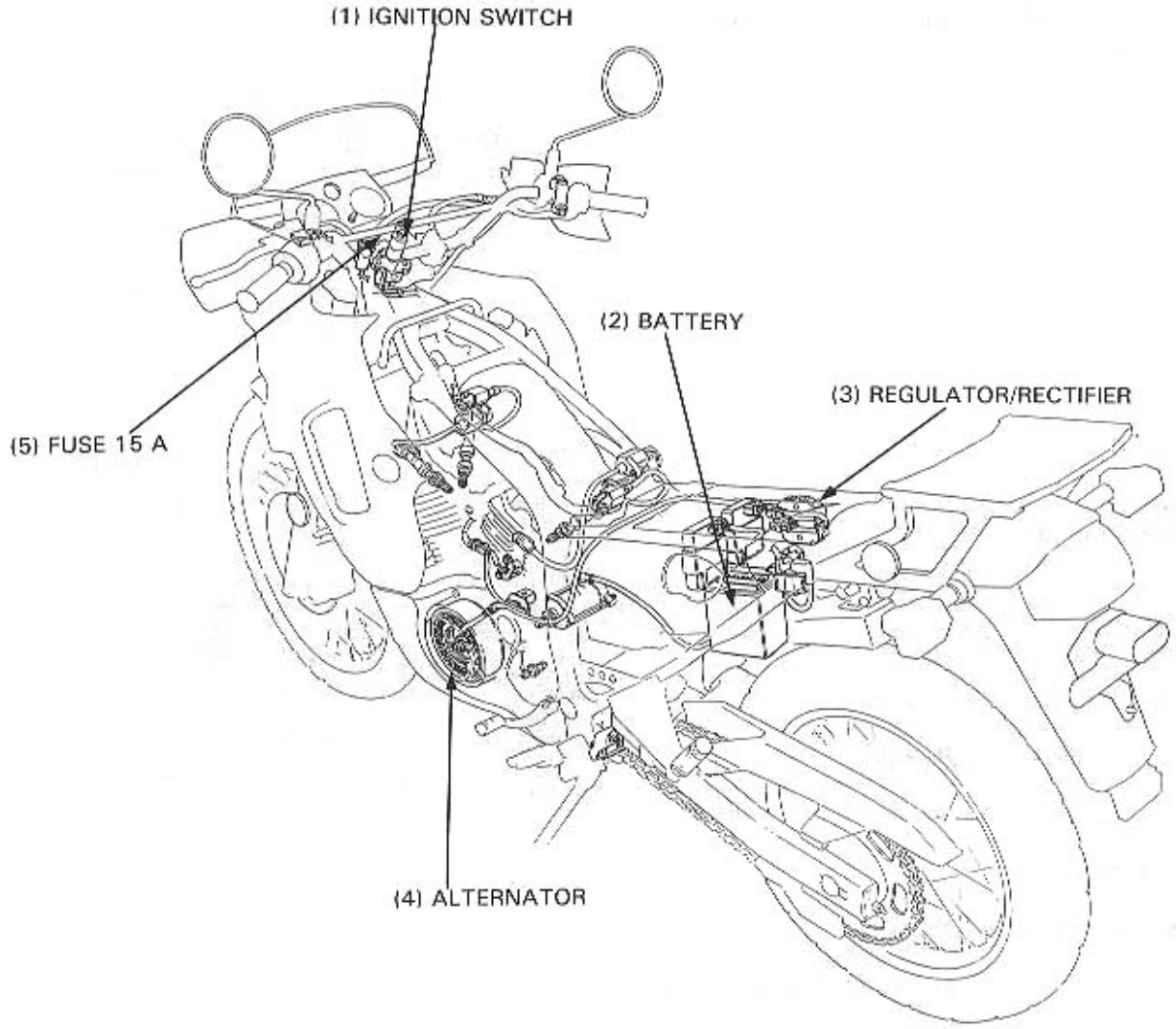
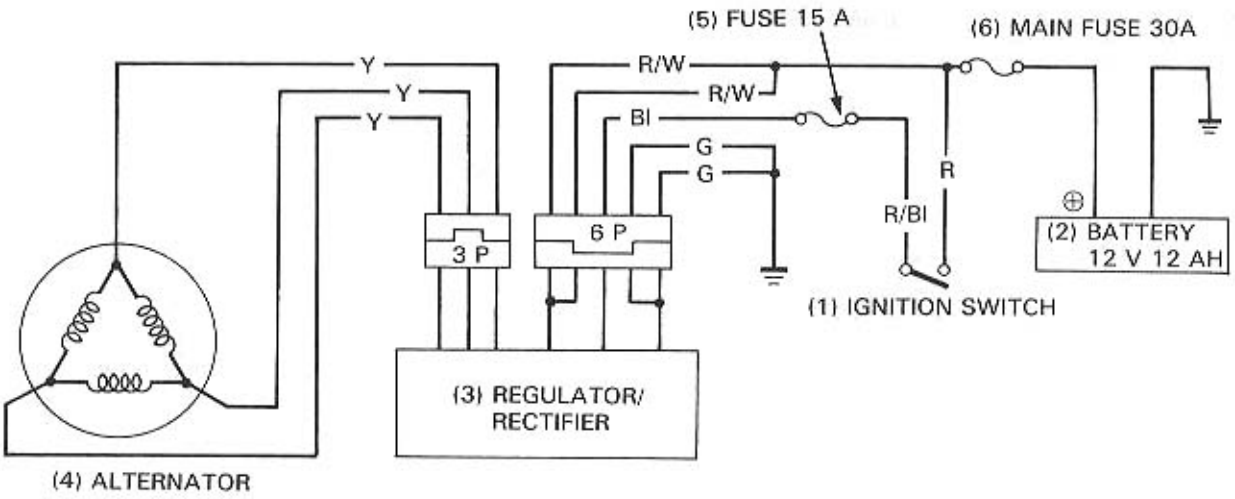

(1) IGNITION SWITCH
(2) BATTERY
(3) REGULATOR/RECTIFIER
(5) FUSE 15 A
(4) ALTERNATOR


(5) FUSE 15 A
(6) MAIN FUSE 30A
Y
Y
Y
R/W
R/W
Bl
G
G
R
R/Bl
3 P
6 P
(2) BATTERY
12 V 12 AH
(1) IGNITION SWITCH
(3) REGULATOR/
RECTIFIER
(4) ALTERNATOR

16. BATTERY/CHARGING SYSTEM

SERVICE INFORMATION

GENERAL

⚠ WARNING

- *The battery gives off explosive gases; keep sparks, flames and cigarettes away. Provide adequate ventilation when charging.*
- *The battery contains sulfuric acid (electrolyte). Contact with skin or eyes may cause severe burns.*
  — If electrolyte gets on your skin, flush with water.
  — If electrolyte gets in your eyes, flush with water for at least 15 minutes and call a physician.
- *Electrolyte is poisonous.*
  — If swallowed, drink large quantities of water or milk and follow with milk magnesia or vegetable oil and call a physician.
- *If the engine must be running to do some work, make sure the area is well-ventilated. Never run the engine in an enclosed area. The exhaust contains posisonous carbon monoxide gas that can cause loss of consciousness and may lead to death.*

- Refer to Service Letter #48 and Operation Manual for the Honda Battery Tester and the Christie Battery Charger for:
  — Preparation of new batteries
  — Battery testing
  — Battery charging
- The following color codes are used throughout the electrical sections.

Bu = Blue	G = Green	Lg = Light Green	R = Red
Bl = Black	Gr = Gray	O = Orange	W = White
Br = Brown	Lb = Light Blue	P = Pink	Y = Yellow

- The 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.
- When inspecting the charging system, check the system components and lines step-by-step according to the trouble-shooting on next page.
- All charging system components can be tested on the motorcycle.
- Alternator removal is given in Section 8.

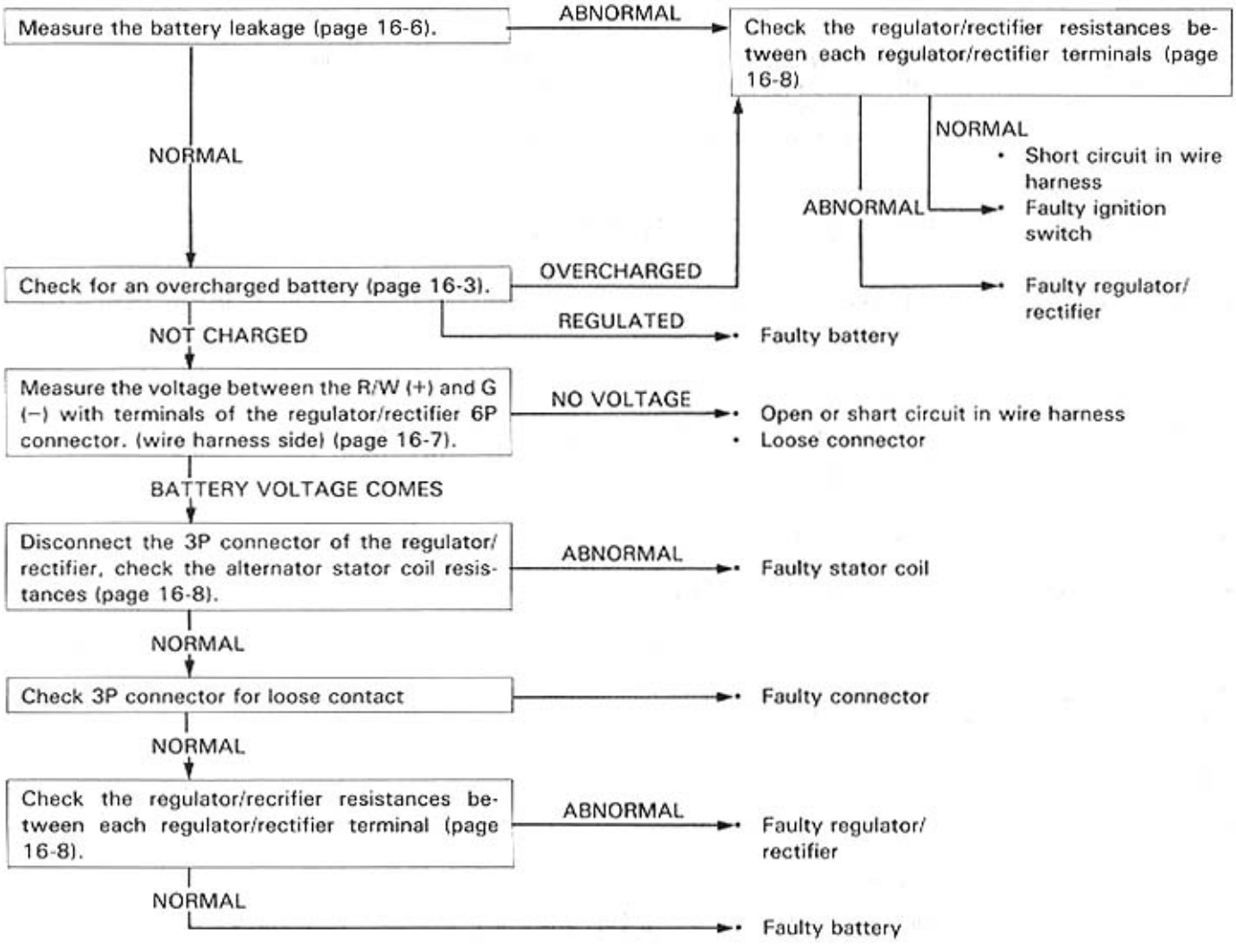
SPECIFICATIONS

ITEM			STANDARD (20°C/68°F)
Battery	Capacity		12V—12AH
	Specific gravity	Fully charged	1.270—1.290
		Needs charging	Below 1.260
	Charging current		1.2 A max.
	Leakage ampere		Less than or equal to 1 mA
Alternator	Capacity		0.31 kW/5,000 rpm
	Charging coil resistance		0.1—1.0 Ω
	Charging start		1,000 rpm
Regulator/rectifier	Type		Transistorized non-adjustable
	Regulated voltage		13.5—15.5 V at 5,000 rpm

TOOLS

Circuit tester (SANWA)	07308—0020000 or
Circuit tester (KOWA)	TH-5H or
Digital multi-tester (KOWA)	07411—0020000 or KS-AHM-32-003 (U.S.A. only)
Honda battery tester	07GMJ—0010000
Christie battery charger	MC 1012/2 (U.S.A. only)

TROUBLESHOOTING



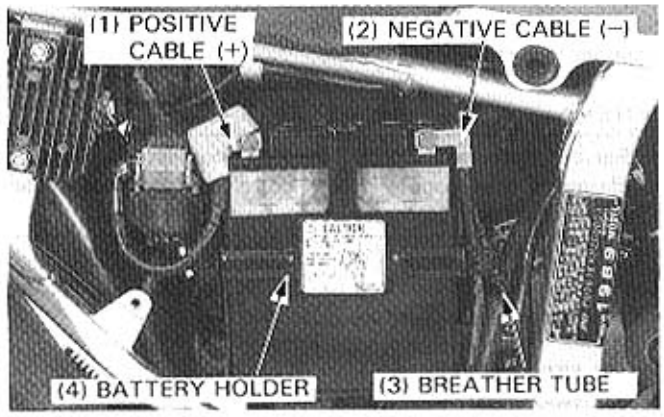
BATTERY

⚠WARNING

- *The battery gives off explosive gases; keep sparks, flames and cigarettes away. Provide adequate ventilation when charging.*
- *The battery contains sulfuric acid (electrolyte). Contact with skin or eyes may cause severe burns. Wear protective clothing and a face shield.*
  - *— If electrolyte gets on your skin, flush with water*
  - *— If electrolyte gets in your eyes, flush with water for at least 15 minutes and call a physician.*
- *Electrolyte is poisonous.*
  - *— If swallowed, drink large quantities of water or milk and follow with milk of magnesia or vegetable oil and call a physician.*

REMOVAL

Remove the right side cover (page 12-4).
Disconnect the negative terminal first, then positive terminal at the battery.
Remove the bolts and battery holder.
Disconnect the battery breather tube.
Pull the battery out of the battery case, and remove the battery.



TESTING SPECIFIC GRAVITY

Test each cell with a hydrometer.

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

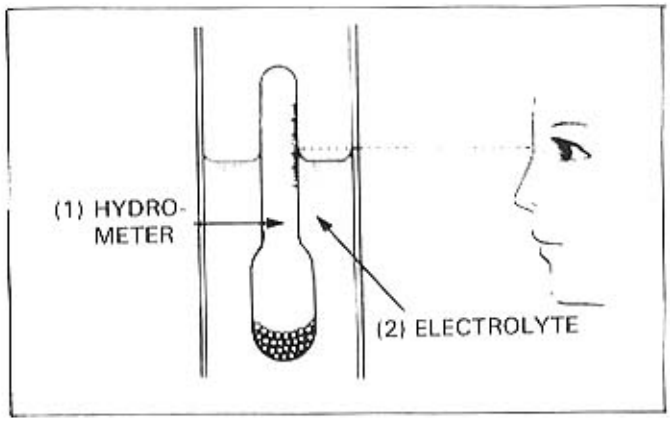
1.270–1.290	Fully charged
Below 1.260	Undercharged

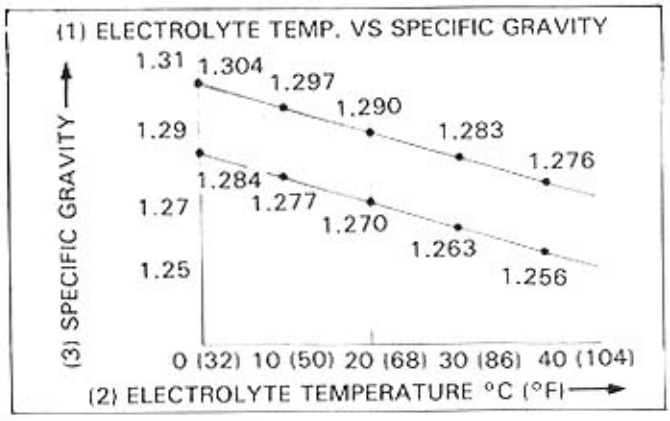
NOTE

- 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.





TESTING

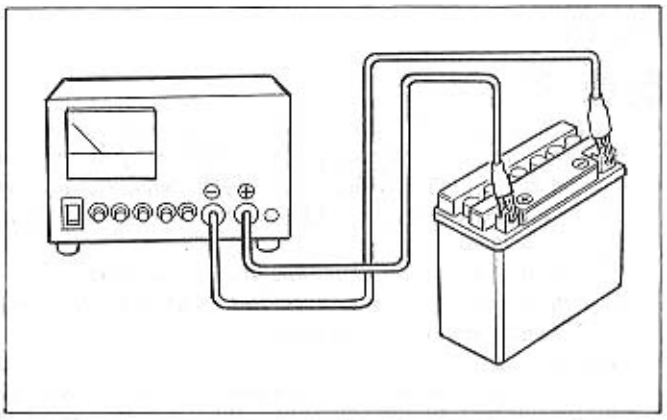
NOTE

- Refer to the Service Letter #48 and the Operation Manual for the Honda Battery Tester and the Christie battery Charger for battery Testing Procedure.

NOTE

- Use the Honda battery Tester (07GMJ—0010000) to test the battery.

Remove the battery.



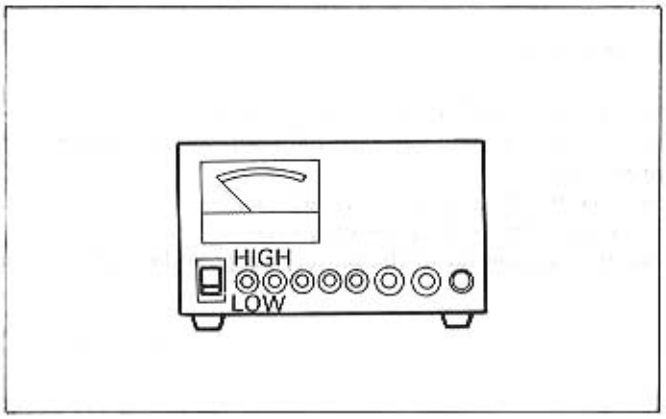
Securely connect the tester's positive (+) cable first, then connect the negative (−) cable.

NOTE

- For accurate test results, be sure the tester's cables and clamps are in good working condition and that a secure connection can be made at the battery.

Set the temperature switch to "HIGH" or "LOW" depending on the ambient temperature.

HIGH: 15°C (60°F) or higher
LOW: 15°C (60°F) or lower



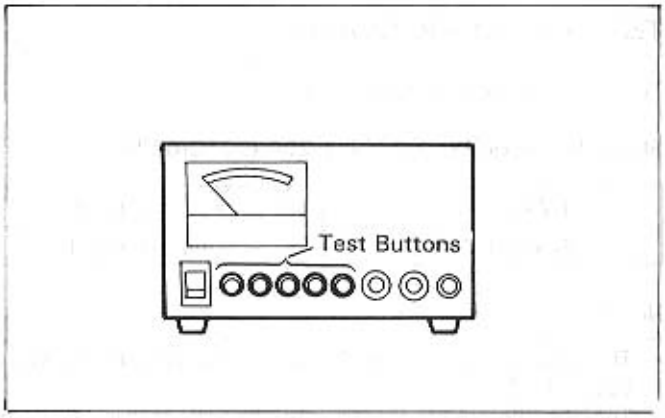
Push in the "9.5Ah-16Ah" test button for three seconds and read the condition of the battery on the meter.

NOTE

- Be sure to push the correct test button.
  For the first check. DO NOT charge the battery before testing.

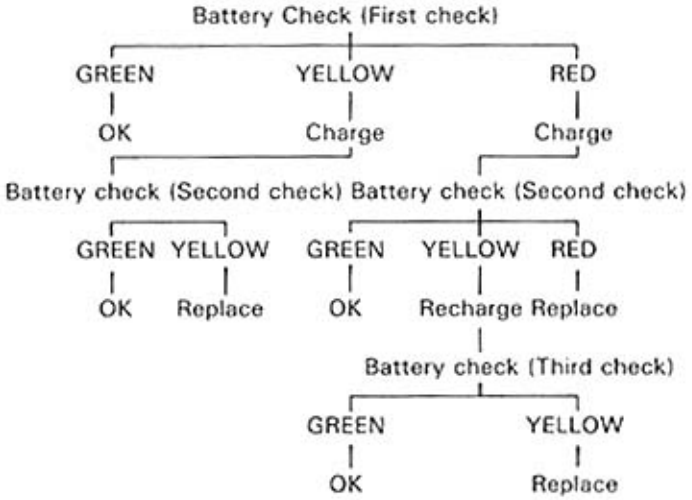
CAUTION

- *Tester damage can result from overheating when:*
  — *the test button is pushed in for more than three seconds.*
  — *testing more than one battery and the tester is not allowed to cool for at least one minute between tests.*
  — *more than ten tests are performed consecutively without allowing at least a 30-minute cool-down period.*



The battery is OK if the meter reading registers in the GREEN zone.

If the meter reading registers in the YELLOW or RED zone, charge the battery, and re-test and judge it in accordance with the chart below.



CHARGING

NOTE

- Use the CHRISTIE Battery Charger (MC 1012/2) to charge the battery.

Before operating the charger:

- Be sure the area around the charger is well ventilated and clear of flammable materials, heat, humidity, water and dust.
- Clean the battery terminals and position the battery as far away from the charger as the leads will permit.
- Do not place the battery below the charger; gases from the battery may corrode and damage the charger.
- Do not place the battery on top of the charger. Be sure the air vents are not blocked.

⚠WARNING

- ***During operation, the charger will generate heat. To avoid causing a fire, always clear the work area of flammable materials such as gasoline, brake fluid, electrolyte, or cloth towels.***

Turn the Power Switch to the OFF position.

Set the Battery Amp. Hr. Selector Switch to the "9.5 to 16" position.

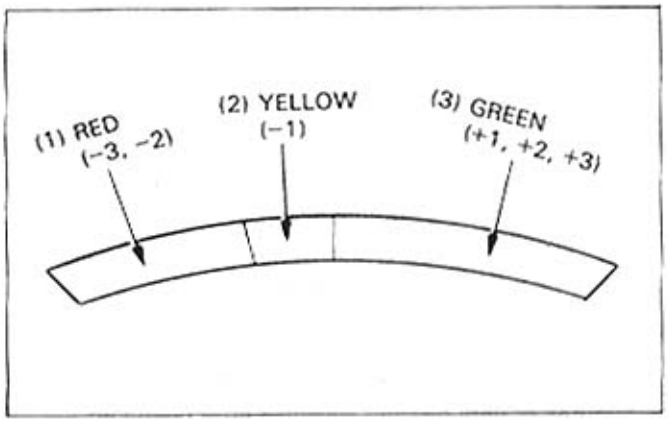
Set the Timer to the position indicated by the Honda Battery Tester: RED—3, RED—2, or YELLOW—1. If you are charging a new battery, set the switch to the NEW BATT position.

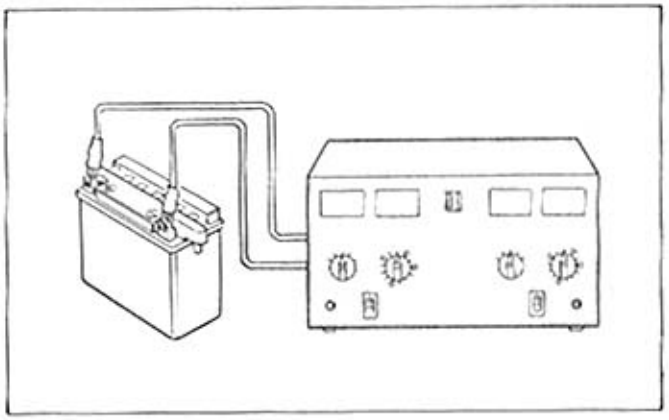
Attach the clamps to the battery terminals; RED to Positive, BLACK to Negative.

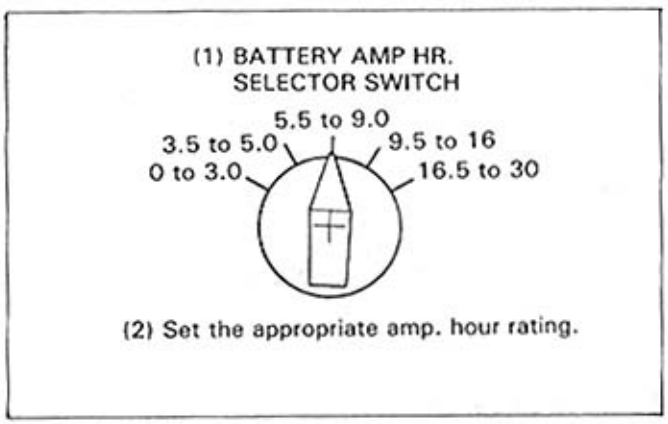
CAUTION

- *Connect the battery cables only when the Power Switch is OFF.*

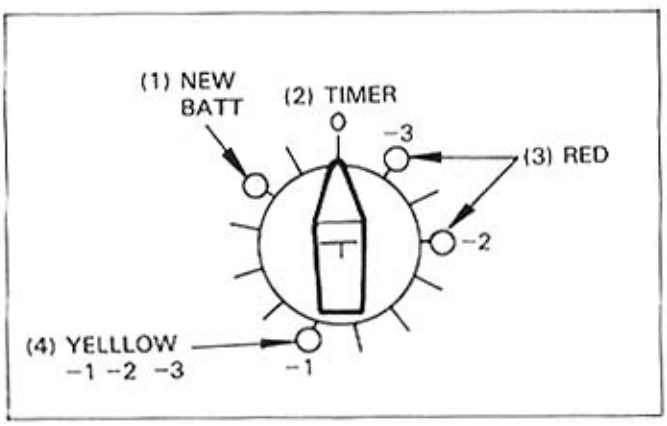
Turn the Power Switch to the ON position.







(2) Set the appropriate amp. hour rating.



When the timer reaches the "Trickle" position, the charging cycle is complete. Turn the Power Switch OFF and disconnect the clamps.

NOTE

- The charger will automatically switch to the Trickle mode after the set charging time has elapsed.

Re-test the battery using the Honda Battery Tester and re-charge if necessary using the above steps.

NOTE

- For accurate test results, let the battery cool for at least ten minutes or until gassing subsides after charging.

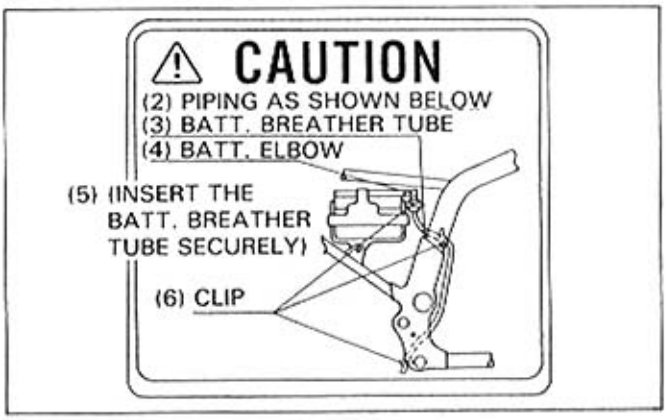
INSTALLATION

Install the battery in the reverse order of the removal.

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

CAUTION

- *Route the breather tube as shown on the battery caution label.*
- *Make sure the breather tube does not bend, after the battery has been installed into the case.*



CHARGING SYSTEM

NOTE

- When inspecting the charging system, check the system components and lines step-by-step according to the troubleshooting on page 16-2.
- With large capacity circuits that exceed the ratings of the fuse contained in the tester, measuring errors can cause damage to testing equipment.
  Before starting each test, set the tester at the high capacity range first, then adjust it to the small capacity circuits range in order that you have the correct range.

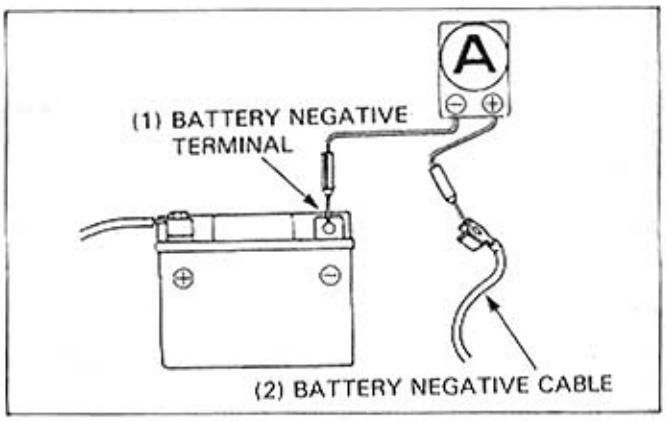
LEAKAGE INSPECTION

CAUTION

- *When measuring small capacity circuits, keep the ignition switch off. If the switch is suddenly turned on during a test, the tester fuse may blow.*

Check the battery ampere leakage before making the regulated voltage inspection.
Turn the ignition switch off and disconnect the battery negative cable from the battery.
Connect the tester between the negative cable and the negative battery terminal.

The tester should indicate within 1 mA with the ignition switch OFF.



REGULATED VOLTAGE INSPECTION

NOTE

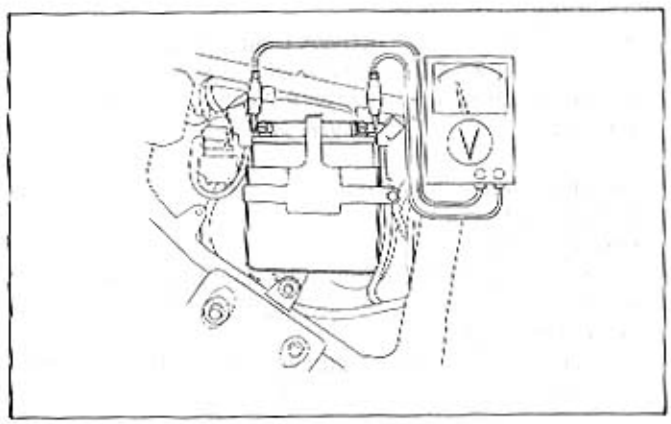
- Be sure the battery is in good condition before performing this test.

Warm up the engine to the normal operating temperature.

⚠WARNING

- ***If the engine must be running to do some work, make sure the area is well-ventilated. Never run the engine in an enclosed area. The exhaust contains poisonous carbon monoxide gas that can cause loss of consciousness and may lead to death.***

Stop the engine.
Remove the right side cover (page 12-4).
Connect the voltmeter as shown.



CAUTION

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

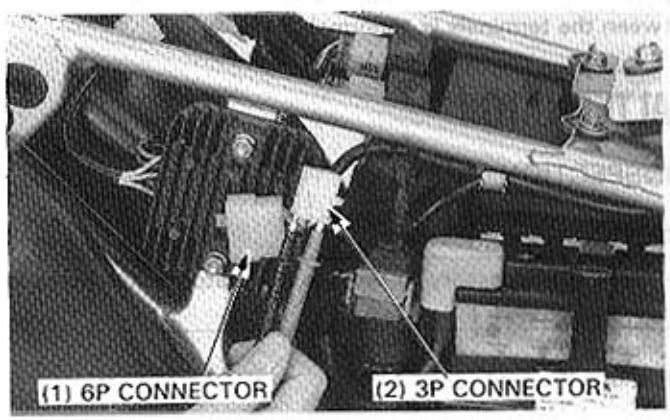
Restart the engine and allow it to idle, then increase the engine speed gradually.
The voltage should be controlled as specified below:

STANDARD: 13.5–15.5 V at 5,000 rpm (20°C/68°F)

REGULATOR/RECTIFIER

INSPECTION

Remove the seat (page 4-3).
Disconnect the 3P and 6P connectors of the regulator/rectifier.
Check them for loose contact or rusting the terminals.
If the regulated voltage reading is not within the specified range, check the items between the connector terminals wire harness side, following the chart below.



ITEM	TERMINALS	STANDARDS (20°C/68°F)
Battery charging line	Red/White (+) and Ground (–)	Battery voltage should come.
Feedback line	Black (+) and Ground (–)	Battery voltage should come with the ignition switch "ON".
Ground line	Green and body ground	There should be continuity.
Alternator coil line	Yellow and Yellow	0.1–1.0 Ω

UNIT INSPECTION

Provided the circuit at the wire harness side are normal and there are no loose connections at the connector, inspect the regulator/rectifier unit by measuring the resistance between the terminals.

NOTE

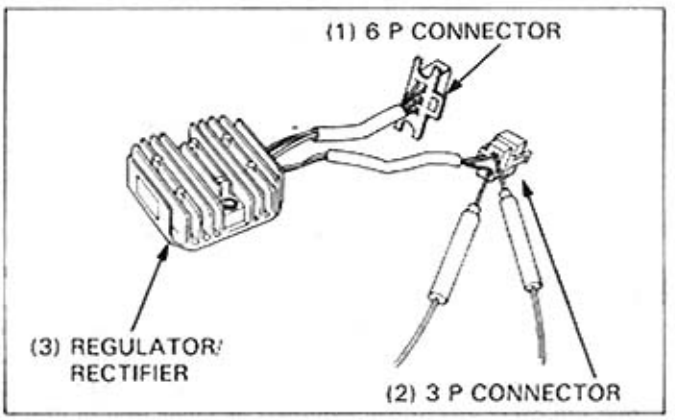
- You'll get false readings if the probes touch your fingers.
- Use the specified multitesters. Using other equipment may not allow you to obtain the correct results.
  This is due to the characteristic of semiconductors, which have different resistance values depending on the applied voltage.

SPECIFIC MULTITESTERS:

- **07411–0020000 (KOWA Digital type)**
- **KS–AHM–32–003 (KOWA Digital type; U.S.A. only)**
- **07308–0020001 (SANWA Analogue type)**
- **TH–5H (KOWA Analoque type)**

- Select the following range:
  SANWA: kΩ
  KOWA: X100
- An old battery stored in the multitester could cause inaccurate readings. Check the battery if the multitester resistance incorrectly.
- When using the KOWA multitester, remember that all readings should be multiplied by 100.

Replace the regulator/rectifier unit if the resistance value between the terminals is abnormal.



Unit: kΩ

⊕ Probe / ⊖ Probe	Black	Red/ White	Yellow	Yellow	Yellow	Green
Black		20–100	15–80	15–80	15–80	10–50
Red/White	∞		∞	∞	∞	∞
Yellow	∞	0.5–10		∞	∞	∞
Yellow	∞	0.5–10	∞		∞	∞
Yellow	∞	0.5–10	∞	∞		∞
Green	1–20	1–20	0.5–10	0.5–10	0.5–10	

ALTERNATOR

INSPECTION

NOTE

- It is not necessary to remove the stator coil to make this test.

Remove the seat (page 4-3).

Disconnect the alternator 3P connector from the regulator/ rectifier.
Measure the resistance between the yellow wire terminals and check for no continuity between each terminal and ground.

STANDARD: 0.1–1.0 Ω (20°C/68°F)

Replace the stator if the resistance is out of specification or if there is continuity between any yellow wire terminal and ground.
For the alternator replacement, see section 8.