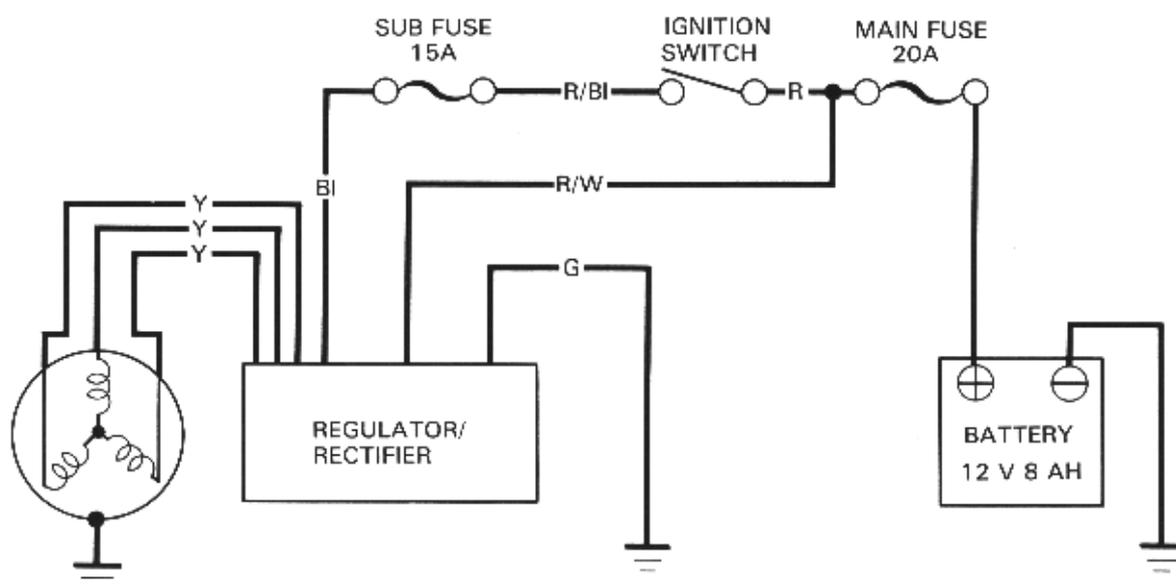
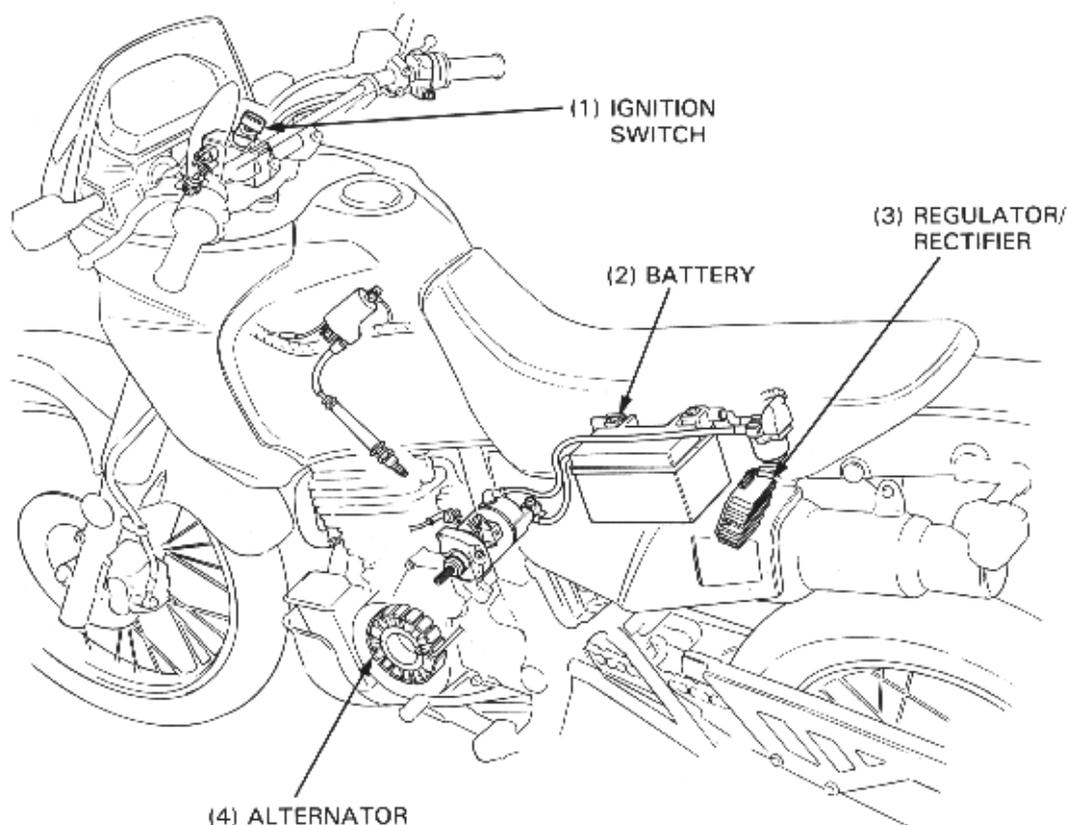


SYSTEM DIAGRAM



BI	.....	BLACK	Br	.....	BROWN
Y	.....	YELLOW	O	.....	ORANGE
Bu	.....	BLUE	Lb	.....	LIGHT BLUE
G	.....	GREEN	Lg	.....	LIGHT GREEN
R	.....	RED	P	.....	PINK
W	.....	WHITE	Gr	.....	GRAY

# 16. BATTERY/CHARGING SYSTEM

SYSTEM DIAGRAM	16-0	CHARGING SYSTEM	16-5
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BATTERY	16-3		

## 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.

#### CAUTION

- For battery charging, do not exceed the charging current and time specified on the battery (and shown below). Use of excessive current or charging time may damage the battery.

- 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 system.

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

- Slow charge the battery whenever possible, quick charging should be an emergency procedure only.
- Remove the battery from the motorcycle for charging.
- The battery on this motorcycle is a sealed type. Do not try to remove the filler hole caps even during charging. Do not use a non-sealed battery as a replacement.
- All charging system components can be checked on the motorcycle.
- When inspect the charging system, check the system components and lines step-by-step according to the troubleshooting on next page.
- Alternator removal is given in Section 9.

### SPECIFICATIONS

ITEM		STANDARD	
Battery	Capacity	12 V – 8 AH	
	Voltage at 20°C (68°F)	Fully charged	13.0 – 13.2 V
		Needs charging	12.3 V
	Charging current	0.9 amperes	
	Charging time	5 Hr.	
Regulator/rectifier	Type	Three-phase/full-wave rectified	
	Regulated voltage	13.5 – 15.5 V/5000 rpm	
Alternator	Charging coil resistance at 20°C (68°F)	0.1 – 1.0 Ω	
	Output	0.182 kw/5.000 rpm	
	Charging start rpm	1,000 ± 100 rpm.	

## BATTERY/CHARGING SYSTEM

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### TOOLS

Circuit tester (SANWA)  
Circuit tester (KOWA)  
Digital multimeter (KOWA)  
Honda battery tester  
Christie battery charger

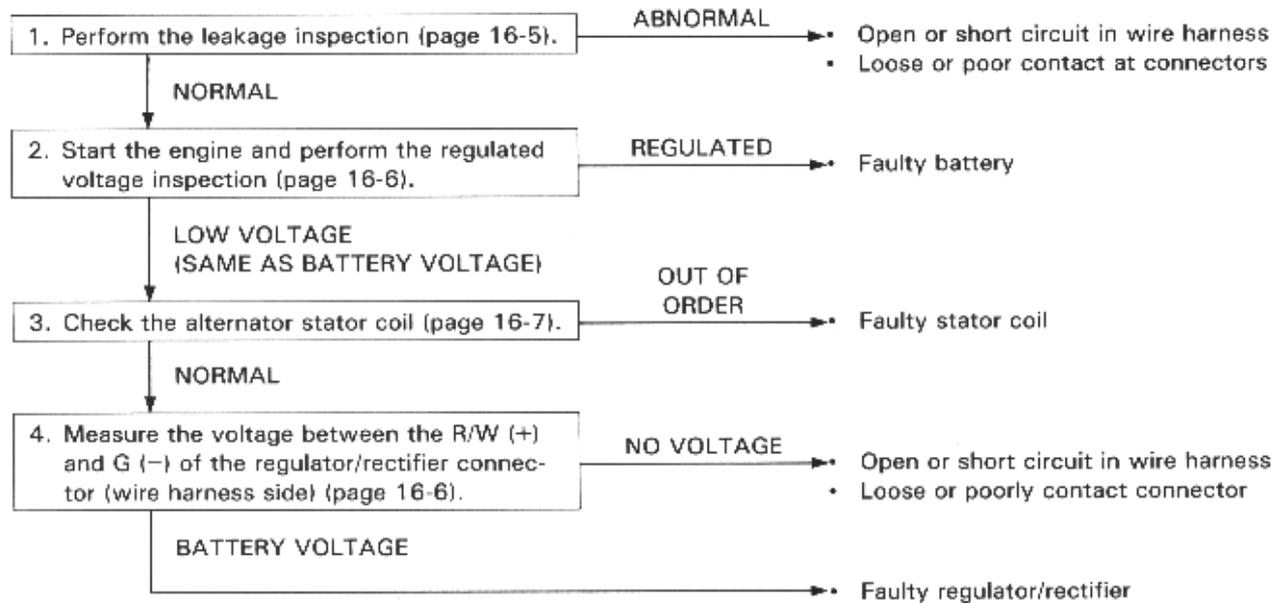
07308-0020000 or  
TH-5H or  
07411-0020000 or KS-AHM-32-003 (U.S.A. only)  
07GMJ-0010000  
MC 1012/2

## TROUBLESHOOTING

### NOTE

- If the battery would be overcharged, replace the regulator/rectifier.
- 

#### Battery undercharged



## 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 15-2). Disconnect the battery negative (-) cable first, then the positive (+) cable from the battery. Remove the battery holder and battery.

### 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 (BM-210) 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.

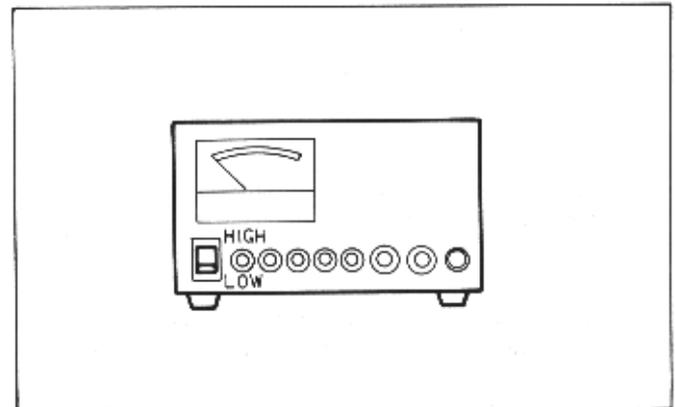
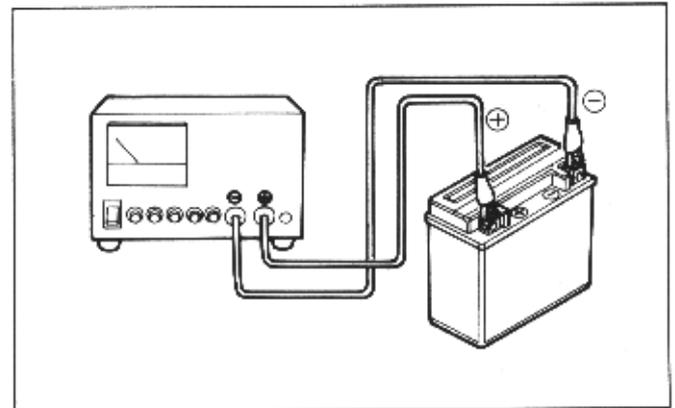
**HIGH: 15°C (60°F) or higher**

**LOW: 15°C (60°F) or lower**

Push in the "5.5 Ah-9 Ah" 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.



## BATTERY/CHARGING SYSTEM

### 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.

#### First check:

Green : OK  
Yellow, Red : Charge

#### Second check:

##### First check Yellow:

Green : OK  
Yellow : Replace

##### First check Red:

Green : OK  
Yellow : Recharge  
Red : Replace

#### Third check:

Green : OK  
Yellow : Replace

## 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.

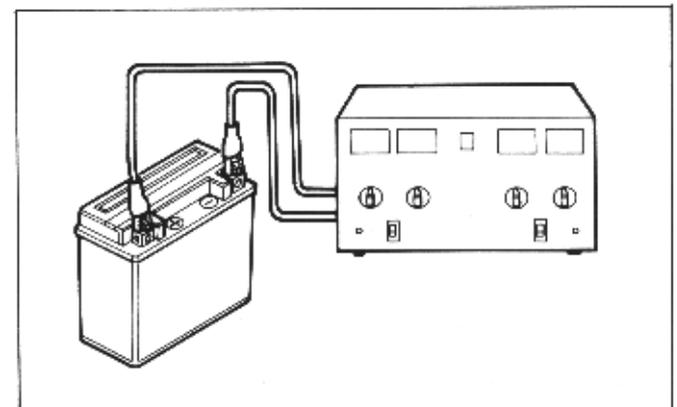
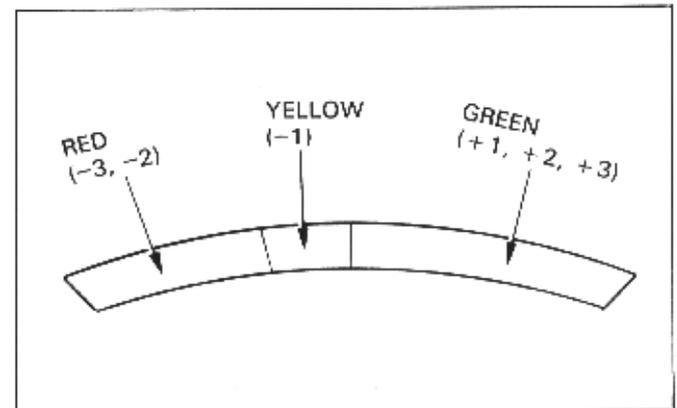
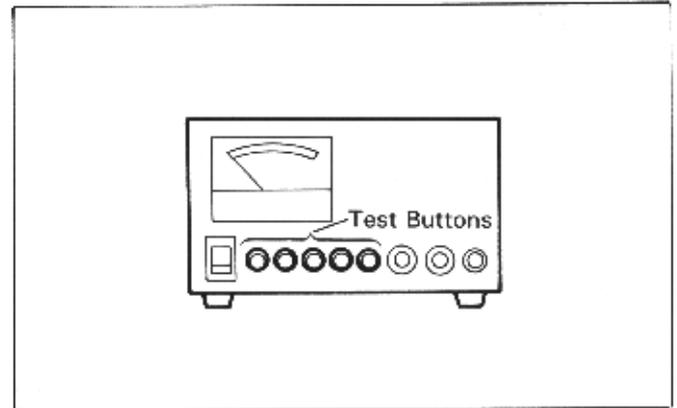
Do not place the battery on top of the charger. Be sure the air vents are not blocked.

### ▲ 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 "5.5 to 9.0" 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.

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 onto the air cleaner case and secure it with the battery holder and bolts.

Connect the positive (+) cable first, then connect the negative (-) cable and cover the negative (-) cable with the rubber cover.

Install the right side cover (page 15-2).

**CHARGING SYSTEM**

**NOTE**

- With large capacity circuits that exceed the rating of the fuse contained in the tester, measuring errors can be dangerous.
- Before starting each test, set the tester at the high capacity range first, and it to small capacity range in order that you have the correct range.

**LEAKAGE INSPECTION**

**CAUTION**

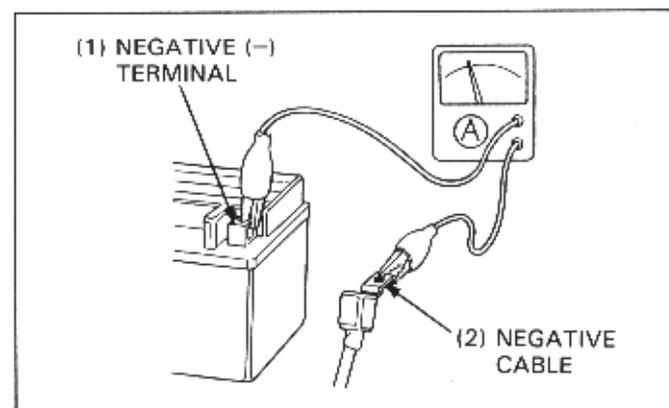
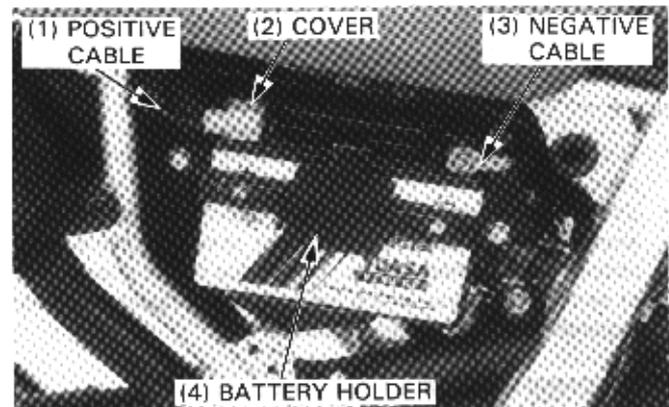
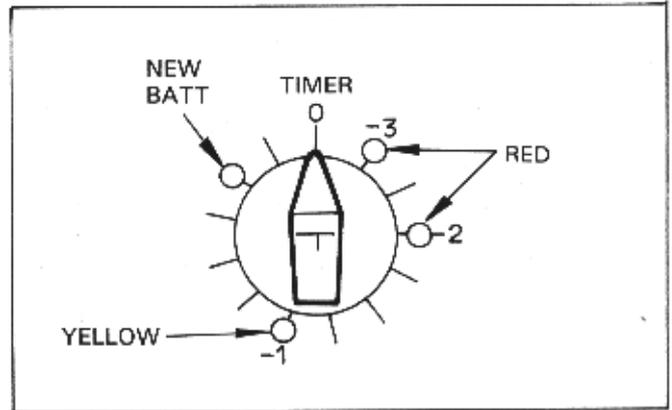
- When measuring small capacity circuits, keep the ignition switch off. If the switch is suddenly turned on during a test, the tester fuse may blow.

Check the battery ampere leakage before making the regulated ampere 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 ampere meter should indicate within 1 mA with the ignition switch OFF.



## BATTERY/CHARGING SYSTEM

### REGULATED VOLTAGE INSPECTION

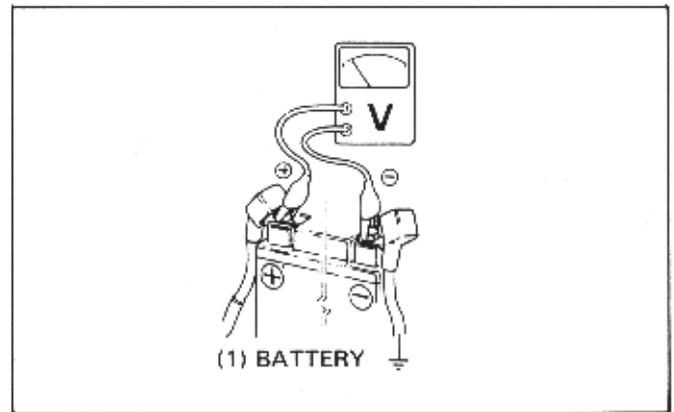
#### NOTE

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

Warm up the engine to normal operating temperature. Stop the engine, and connect the voltmeter as shown. Allow the engine to idle, and increase the engine speed gradually. The voltage should be controlled to 13.5–15.5 V at 5,000 rpm.

#### CAUTION

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



## REGULATOR/RECTIFIER

### INSPECTION

Remove the fuel tank (page 4-3). Disconnect the 3P connectors of the regulator/rectifier from the holder. Check them for loose contact or corroded terminals. If the regulated voltage reading is out of the specification, check the items between connector terminals (wire harness side and alternator side), following the chart below.

ITEM	TERMINALS	STANDARDS (20°C/68°F)
Battery charging line	Red/White (+) and Green (-)	Battery voltage should come.
Alternator coil line	Yellow and Yellow	0.1 – 1.0 Ω

#### NOTE

- The resistance values will be incorrect if the probes touch your fingers.
- Use one of the following recommended multitesters. Using another manufacture's equipment may not allow you to obtain the specified values. This is due to the characteristic of semiconductors, which have different resistance values depending on the applied voltage.

#### RECOMMENDED 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 Analogue type)

- Select the following range.  
Sanwa: kΩ  
Kowa: x 100 Ω
- An old battery stored in the multimeter could cause inaccurate readings. Check the battery if the multimeter resisters incorrectly.
- When using the KOWA multimeter, remember that all readings should be multiplied by 100.

Replace the regulator/rectifier unit if any one of the resistance values is abnormal.

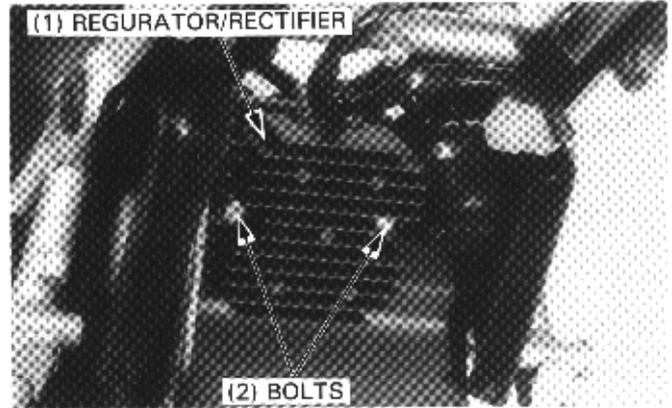
Unit: Ω

Probe ⊕	BI	R/W	Y	Y	Y	G
⊖ Probe						
BI		20 k ~100 k	15 k ~80 k	15 k ~80 k	15 k ~80 k	10 k ~50 k
R/W	∞		∞	∞	∞	∞
Y	∞	500 ~10 k		∞	∞	∞
Y	∞	500 ~10 k	∞		∞	∞
Y	∞	500 ~10 k	∞	∞		∞
G	1 k ~20 k	1 k ~20 k	500 ~10 k	500 ~10 k	500 ~10 k	

**REPLACEMENT**

Remove the rear fender (page 15-5).  
 Disconnect the regurator/rectifier 3P connector, remove the regurator/rectifier.

Install the regurator/rectifier in the reverse order of removal.



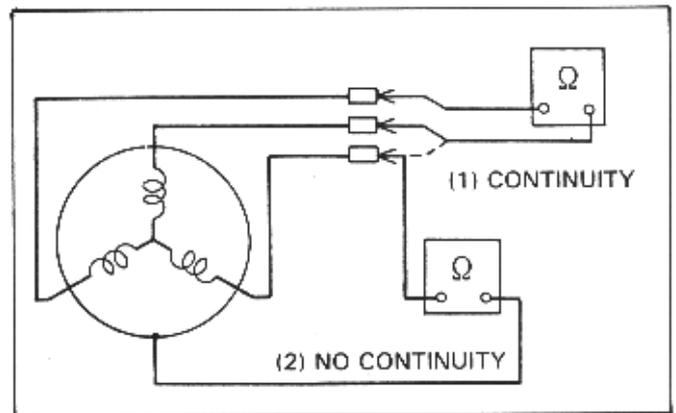
**ALTERNATOR**

**INSPECTION**

**NOTE**

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

Remove the seat and disconnect the alternator 3P connector.



Measure the resistance between the yellow wire terminals and check for no continuity between each terminal and ground.

**STANDARD: 0.1—1.0 Ω (at 20°C/68°F)**

Replace the stator if the resistance is out of specification or if there is continuity between each yellow wire terminal and ground.