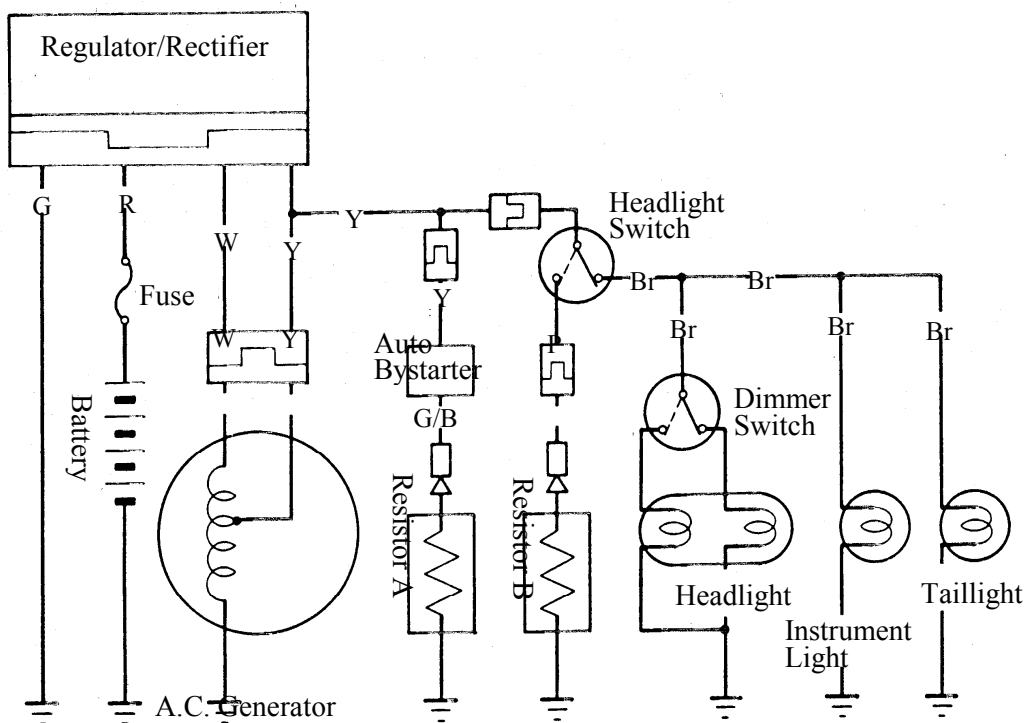
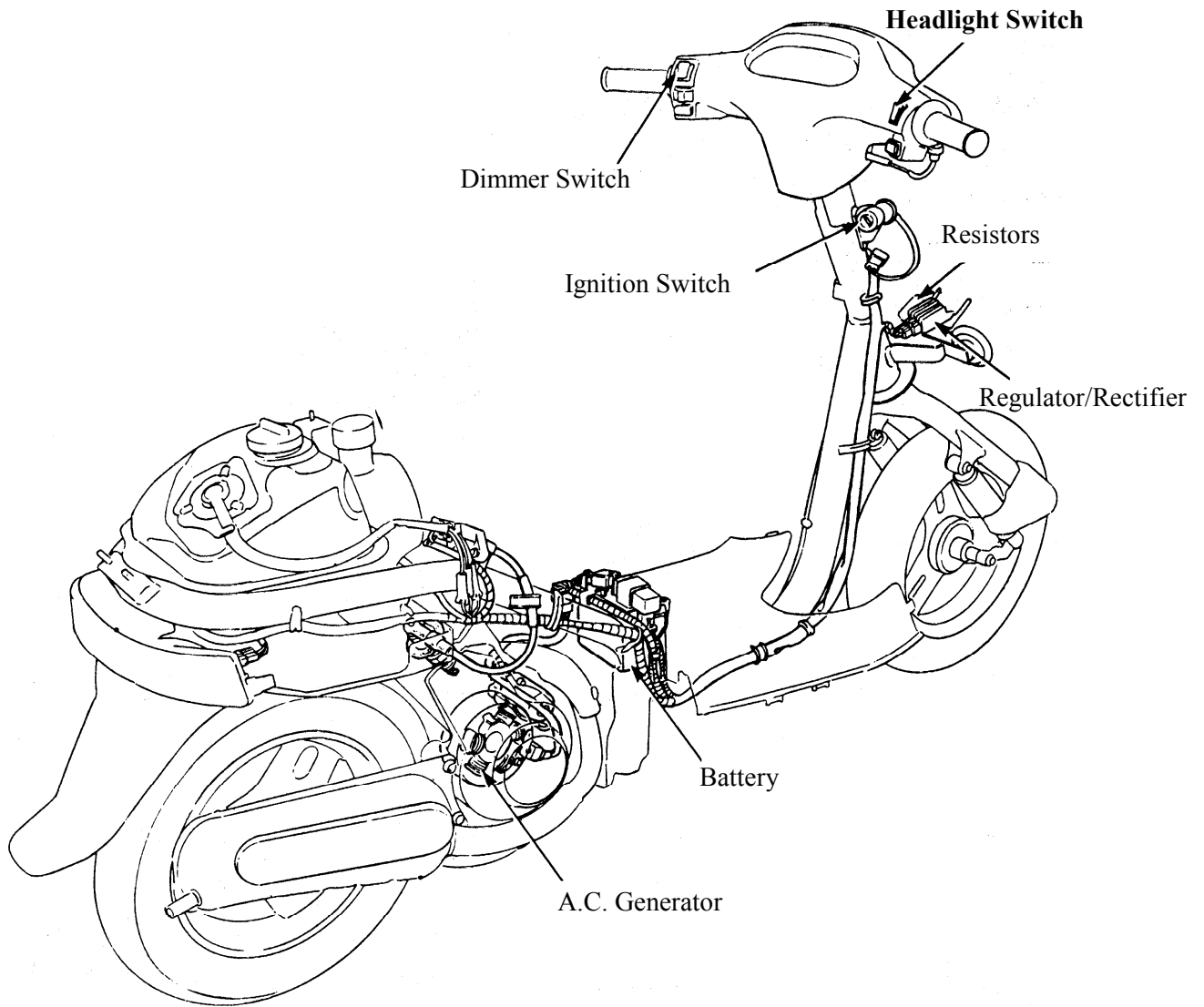


14. BATTERY/CHARGING SYSTEM



14. BATTERY/CHARGING SYSTEM/

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SERVICE INFORMATION

GENERAL INSTRUCTIONS

- The battery used in this model is a MF battery. It is not necessary to check the battery electrolyte or fill with distilled water.
- Remove the battery from the motorcycle for charging. Do not remove the electrolyte cap.
- Do not quick charge the battery. Quick charging should only be done in an emergency.
- Charge the battery according to the charging current and time specified on the battery.
- When charging, check the voltage (open voltage) with an electric tester.
- When replacing the battery, do not use a traditional battery.

SPECIFICATIONS

Item		Standard	
Battery	Capacity	12V 3AH	
	Voltage (Fully charged)	13.0 13.2V (20)	
	Charging current/ Charging time	Standard	0.4A/5hr
		Quick	4.0A/0.5hr
Regulator/Rectifier	Type	Single-phase half-wave SCR	
	Limit voltage	Lighting system	12.1 13.6V
		Charging system	13.5 15.0V
A.C. Generator Coil Resistance (20)	Lighting coil	0.1 0.8Ω	
	Charging coil	0.2 1.0Ω	
Resistor Resistance (20)	Resistor A (5Ω5W)	4.7 5.3Ω	
	Resistor B (5.9Ω30W)	5.6 6.2Ω	

TROUBLESHOOTING

No power

- Dead battery
- Disconnected battery cable
- Fuse burned out
- Faulty ignition switch

Low power

- Weak battery
- Loose battery connection
- Charging system failure
- Faulty regulator/rectifier

Intermittent power

- Loose battery cable connection
- Loose charging system connection
- Loose connection or short circuit in ignition system

Charging system failure

- Loose, broken or shorted wire or connector
- Faulty regulator/rectifier
- Faulty A.C. generator

14. BATTERY/CHARGING SYSTEM

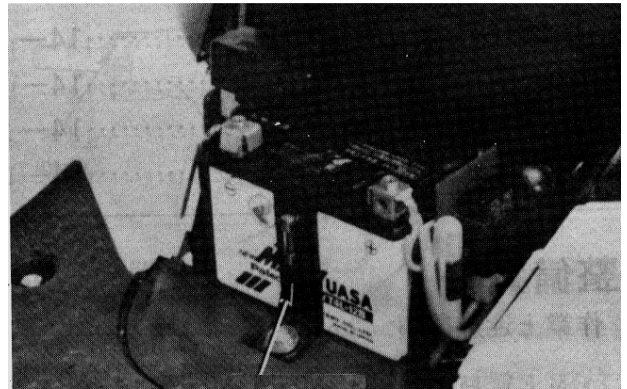
BATTERY

REMOVAL

Remove the frame center cover. (⇒11-2)
Disconnect the battery cables.

First disconnect the negative (-) cable and then the positive (+) cable.

Remove the bolt and battery bracket.
Remove the battery.
The installation sequence is the reverse of removal.



Battery Bracket

BATTERY VOLTAGE (OPEN CIRCUIT VOLTAGE) INSPECTION

Remove the frame center cover and disconnect the battery cables.
Measure the voltage between the battery terminals.

Fully charged : 13.0 13.2V

Undercharged: 12.3V max.

Battery charging inspection must be performed with an electric tester.

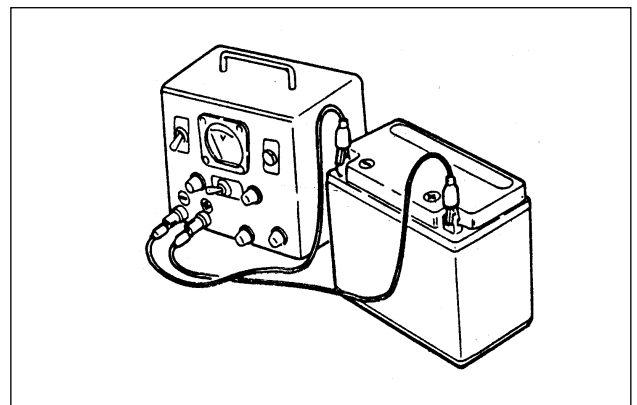


CHARGING

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

- Keep flames and sparks away from a charging battery.
- Turn power ON/OFF at the charger, not at the battery terminals to prevent sparks near the battery to avoid explosion.
- Charge the battery according to the current specified on the battery.

- Quick charging should only be done in an emergency.
- Measure the voltage 30 minutes after the battery is charged.



Charging current: Standard : 0.4A

Quick : 4A

Charging time : Standard : 5 10 hours

Quick : 30 minutes

After charging: Open circuit voltage: 12.8V min.

14. BATTERY/CHARGING SYSTEM/

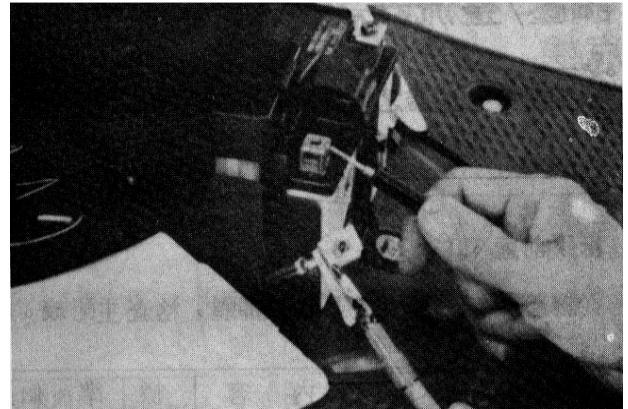
CHARGING SYSTEM

SHORT CIRCUIT TEST

Disconnect the ground wire from the battery and connect an electric tester across the battery negative (-) terminal and the ground wire. Turn the ignition switch OFF and check for short circuit.

Connect the electric tester positive (+) probe to the ground wire and tester negative (-) probe to battery negative (-) terminal.

If any abnormality is found, check the ignition switch and wire harness for short circuit.



LIMIT VOLTAGE TEST

This inspection must be performed with an electric tester when the battery is fully charged.

Remove the frame center cover. (⇒11-2)

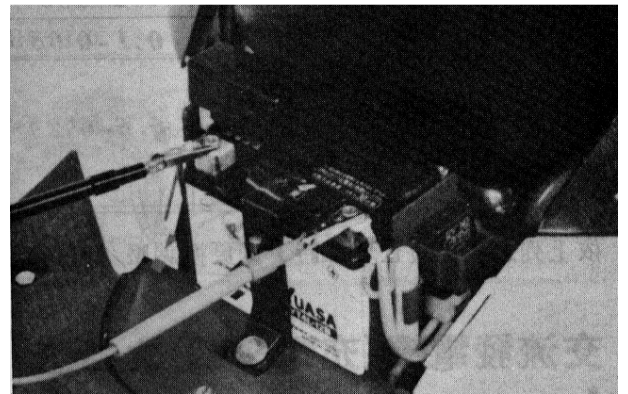
Warm up the engine for inspection.

Connect the electric tester across the battery terminals.

Start the engine and gradually increase the engine speed to measure the limit voltage. Make sure that the electric tester is not short circuited.

Limit Voltage: 13.5 - 15V/5000rpm

If the limit voltage is not within the specified range, check the regulator/rectifier. (⇒14-4)



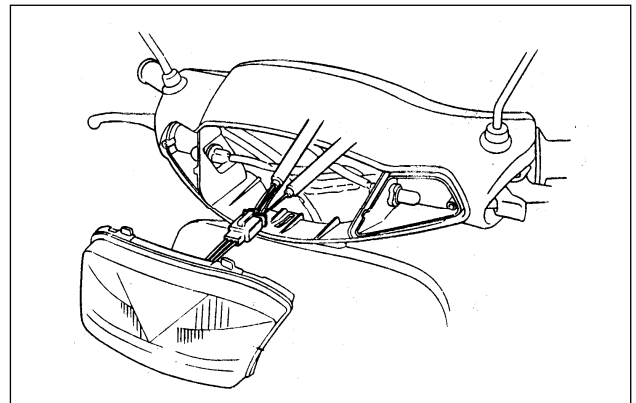
LIGHTING SYSTEM LIMIT VOLTAGE INSPECTION

Remove the headlight. (⇒17-6)

Check the headlight wire for proper connection.

Start the engine and turn the headlight switch ON. Turn the dimmer switch to Hi and check the voltage between the blue (+) and green (-) wire terminals.

Measure the voltage with the electric tester in the AC range.



Limit Voltage: 12.1 - 13.6V/5000rpm

If the limit voltage is not within the specified range, check the regulator/rectifier. (⇒14-4)

14. BATTERY/CHARGING SYSTEM

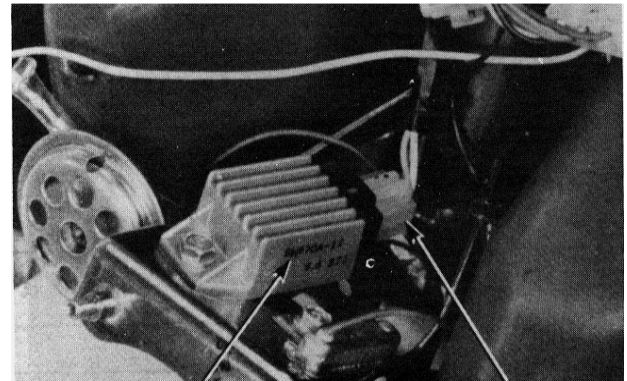
REGULATOR/RECTIFIER INSPECTION

It is difficult to check if the regulator/rectifier is normal or not, so first check if its circuit is good.

Remove the front cover. (⇒11-2)
Remove the regulator/rectifier 4P coupler and check the wire harness.

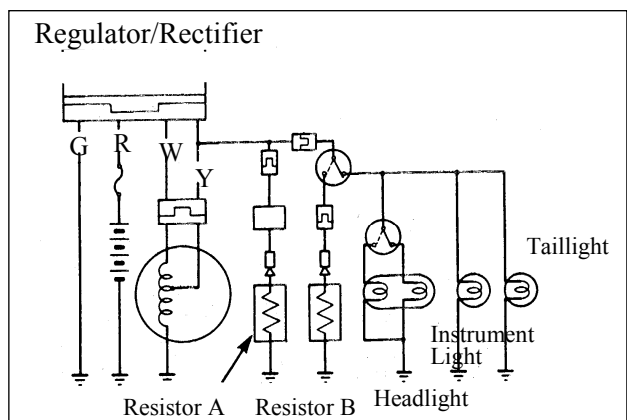
Item	Contents of Test	Standard
Battery	Red (+) Green (-)	Battery voltage
Charging coil	White Ground	0.2 1.0Ω
Lighting coil	Yellow Ground	0.1 0.8Ω
Resistor	Yellow Ground (with A.C. generator connector removed and headlight switch OFF)	5.6 6.2Ω

Replace the regulator/rectifier if the readings are not within the specifications in the table.



Regulator/Rectifier

4P Coupler



Regulator/Rectifier

A.C. GENERATOR (CHARGING COIL) INSPECTION

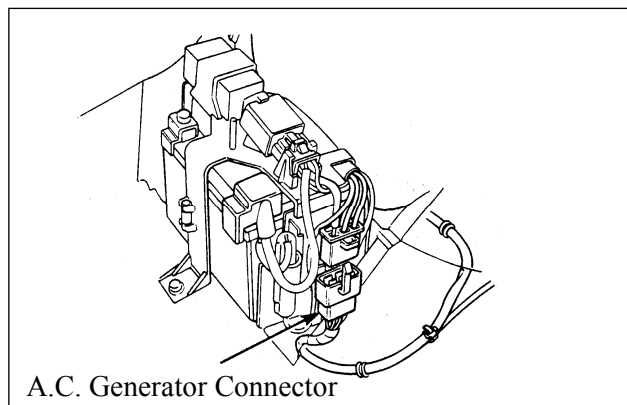
The inspection of A.C. generator charging coil can be made with the engine installed.

Remove the frame center cover. (⇒11-2)
Disconnect the A.C. generator connector.
Measure the resistances between the charging coil terminals (white-green) and lighting coil terminals (yellow-green).

Standard (at 20)

Charging coil : 0.2 1.0Ω

Lighting coil : 0.1 0.8Ω



A.C. Generator Connector

RESISTOR INSPECTION

Remove the front cover. (⇒11-3)
Measure the resistance between the resistor lead and ground.

Resistances:

Resistor A: 4.7 5.3Ω

Resistor B: 5.6 6.2Ω

Faulty resistor is the cause of faulty operation of the auto bystarter.

