

15. IGNITION SYSTEM

IGNITION SYSTEM

SERVICE INFORMATION.....

15-2

TROUBLESHOOTING.....

15-3

CDI UNIT INSPECTION

15-4

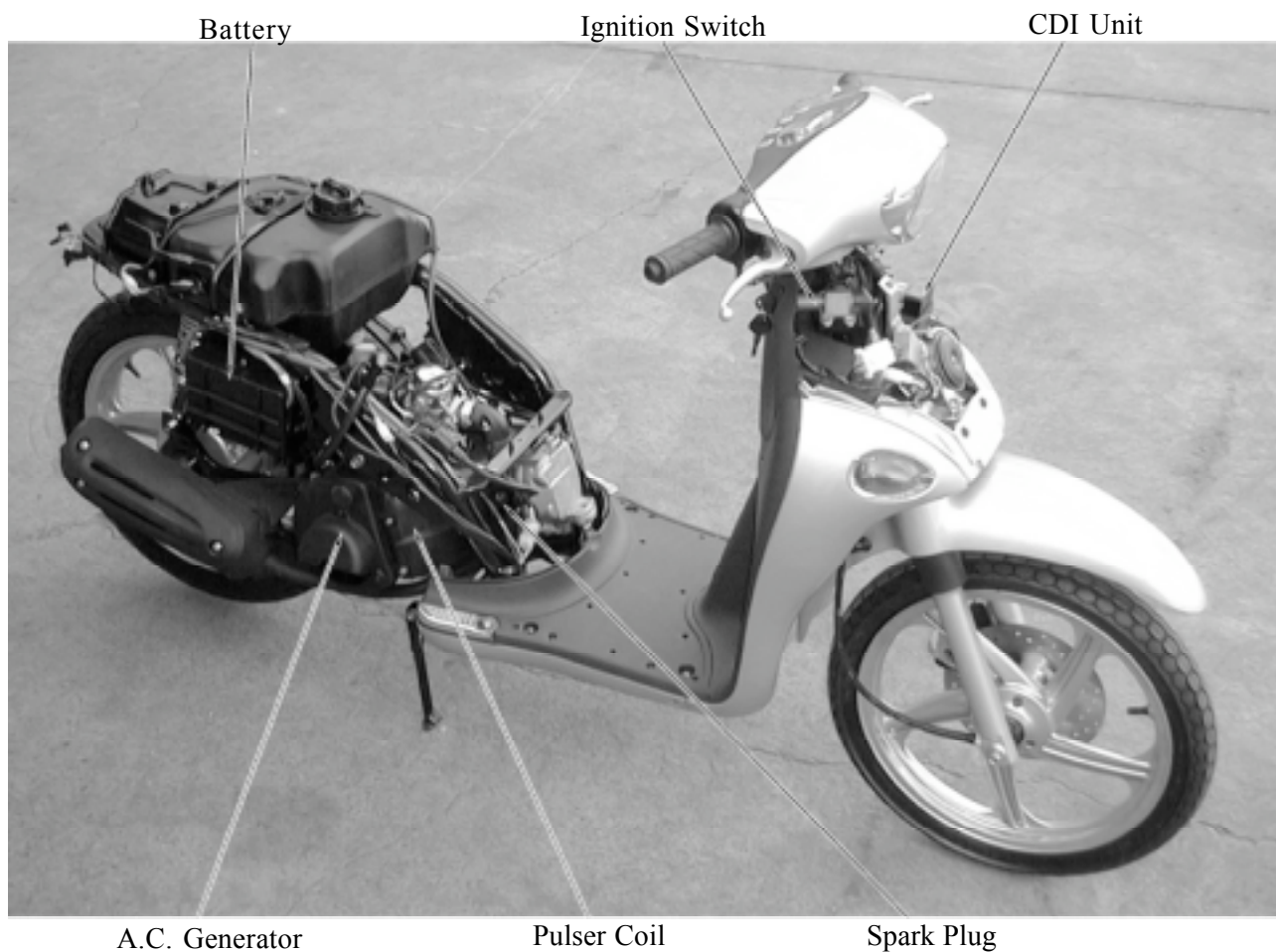
IGNITION COIL

15-5

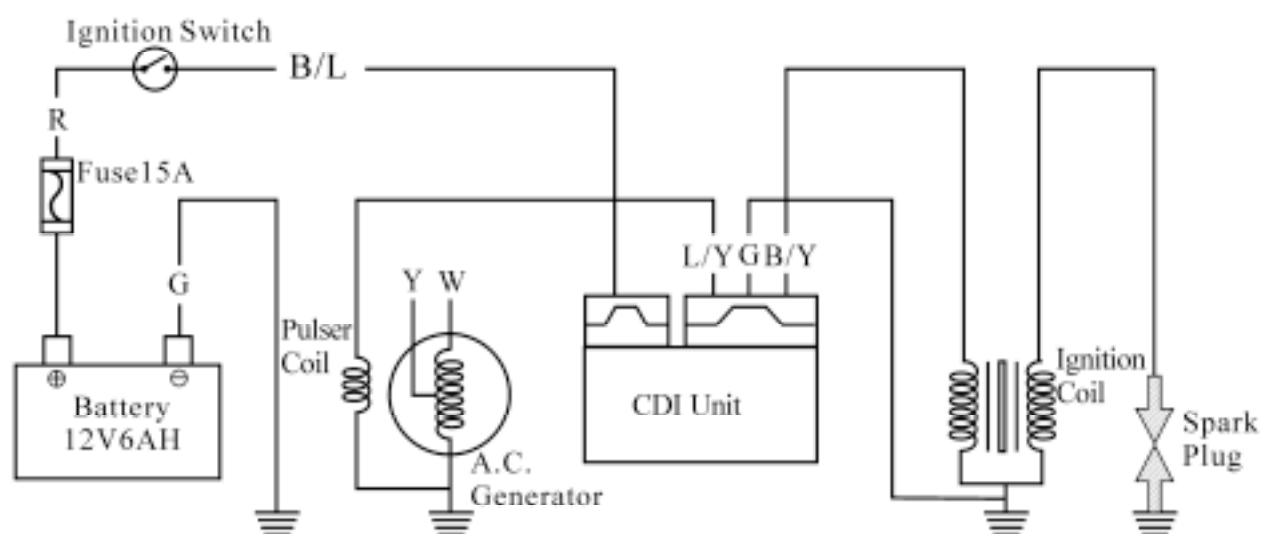
PULSER COIL

15-6

15. IGNITION SYSTEM



IGNITION CIRCUIT



15. IGNITION SYSTEM

SERVICE INFORMATION

GENERAL INSTRUCTIONS

- Check the ignition system according to the sequence specified in the Troubleshooting. (⇒ 15)
- The ignition system adopts CDI unit and the ignition timing cannot be adjusted.
- If the timing is incorrect, inspect the CDI unit and A.C. generator and replace any faulty parts.
- Loose connector and poor wire connection are the main causes of faulty ignition system. Check each connector before operation.
- Use of spark plug with improper heat range is the main cause of poor engine performance.
- The inspections in this section are focused on maximum voltage. The inspection of ignition coil resistance is also described in this section.
- Inspect the ignition switch according to the continuity table specified in page 17-4.
- Inspect the spark plug referring to Section 3.
- Remove the A.C. generator and pulser coil referring to Section 14.

SPECIFICATIONS

Item			Standard
Spark plug	Standard type		C7HSA(NGK)
	Hot type		C6HSA(NGK)
	Cold type		C8HSA(NGK)
Spark plug gap			0.6_ 0.7mm
Ignition timing	“F” mark Full advance		13 ° BTDC/1,700±100rpm 27 ° BTDC/5,000±100rpm
Ignition coil resistance (20℃)	Primary coil		0.1_ 1.0Ω
	Secondary coil	with plug cap	7_ 12KΩ
		without plug cap	2_ 4KΩ
Pulser coil resistance (20℃)			70_ 130Ω
Ignition coil primary side max. voltage			12V min.
Pulser coil max. voltage			2.1V min.

TESTING INSTRUMENT

Kowa Electric Tester

15. IGNITION SYSTEM

TROUBLESHOOTING

High voltage too low

- Weak battery or low engine speed
- Loose ignition system connection
- Faulty CDI unit
- Faulty ignition coil
- Faulty pulser coil

Normal high voltage but no spark at plug

- Faulty spark plug
- Electric leakage in ignition secondary circuit
- Faulty ignition coil

Good spark at plug but engine would not start

- Faulty CDI unit or incorrect ignition timing
- Improperly tightened A.C. generator flywheel

No high voltage

- Faulty ignition switch
- Faulty CDI unit
- Poorly connected or broken CDI ground wire
- Dead battery or faulty regulator/rectifier
- Faulty ignition coil connector
- Faulty pulser coil

15. IGNITION SYSTEM

CDI UNIT INSPECTION

Remove the front cover screws.

Disconnect the CDI coupler and remove the CDI unit.

Measure the resistance between the terminals using the electric tester..

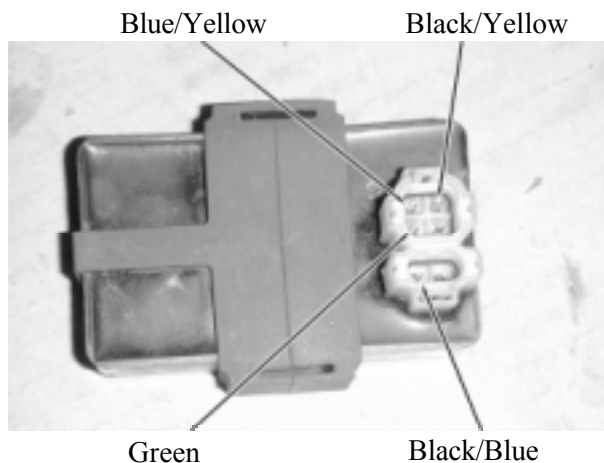
*

- Due to the semiconductor in circuit, it is necessary to use a specified tester for accurate testing. Use of an improper tester in an improper range may give false readings.
- Use a Sanwa Electric Tester or Kowa Electric Tester.
- In this table, "Needle swings then returns" indicates that there is a charging current applied to a condenser. The needle will then remain at " ∞ " unless the condenser is discharged.

Unit: K Ω

Probe \oplus (-)Probe	Black/ Blue	Black/ Yellow	Blue/ Yellow	Green
Black/ Blue		150~280	20~30	∞
Black/ Yellow	75~100		50~70	∞
Blue/ Yellow	7~10	50~70		∞
Green	∞	∞	∞	

CDI Unit



15. IGNITION SYSTEM

IGNITION COIL

REMOVAL

Remove the frame body cover. (⇒2)
Remove the spark plug cap.
Disconnect the ignition coil wires and remove the ignition coil bolt and ignition coil.



Ignition Coil

INSPECTION

CONTINUITY TEST

* This test is to inspect the continuity of ignition coil.

Measure the resistance between the ignition coil primary coil terminals.

Resistance: 0.1_ 1.0 Ω /20°C



Measure the secondary coil resistances with and without the spark plug cap.

Resistances:

(with plug cap): 7_ 12K Ω /20°C

(without plug cap): 2_ 4K Ω /20°C



* Correctly operate the tester following the manufacturer's instructions.



15. IGNITION SYSTEM

PULSER COIL

INSPECTION

- * This test is performed with the stator installed in the engine.

Remove the frame body cover. (⇒2)
Disconnect the A.C. generator connector.
Measure the pulser coil resistance between the blue/yellow and green wire terminals.

Resistance: 70_ 130 Ω /20°C

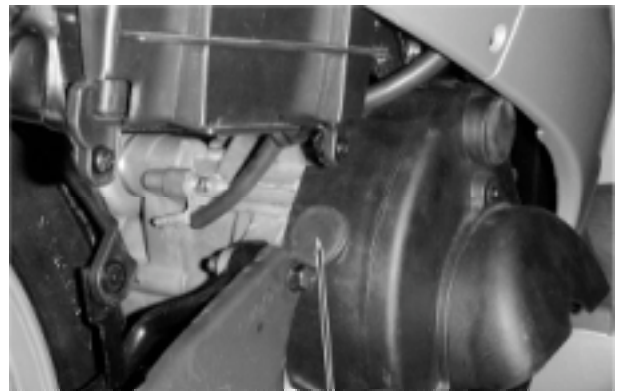
Refer to page 14-7 for the A.C. generator removal.



IGNITION TIMING INSPECTION

- * The CDI unit is not adjustable. If the ignition timing is incorrect, inspect the CDI unit, pulser coil and A.C. generator and replace any faulty parts.

Remove the timing hole cap.



Timing Hole Cap

Warm up the engine and check the ignition timing with a timing light.

When the engine is running at 1700rpm, the ignition timing is correct if the "F" mark aligns with the index mark within $\pm 3^\circ$.

Ignition Timing: 13° BTDC/1700rpm

