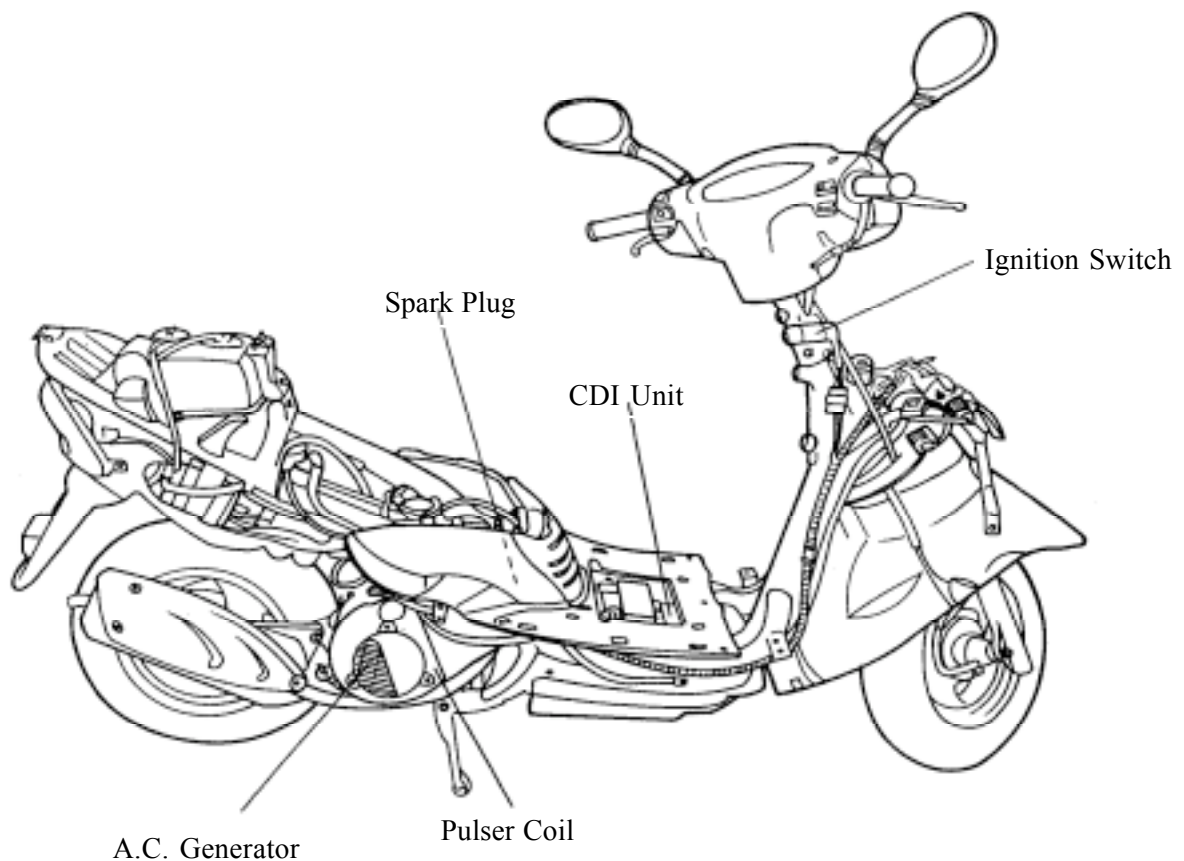
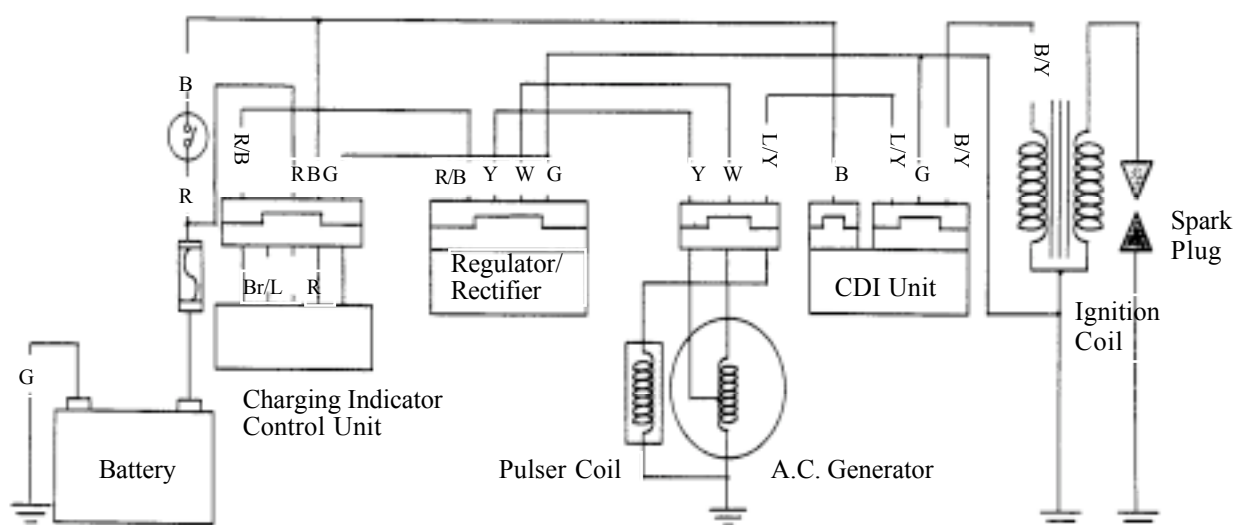


## 15. IGNITION SYSTEM



### IGNITION CIRCUIT



# 15. IGNITION SYSTEM

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## SERVICE INFORMATION

### GENERAL INSTRUCTIONS

- Check the ignition system according to the sequence specified in the Troubleshooting. (⇒1-28)
- 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. Inspect the CDI unit with a CDI tester
- 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 20-3.
- Inspect the spark plug referring to Section 3.
- Remove the A.C. generator and pulser coil referring to Section 10.

### 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		13°BTDC/1,700±100rpm
	Full advance		27°BTDC/5,000±100rpm
Ignition coil resistance	Primary coil		0.1_ 1.0Ω
	Secondary coil	with plug cap	7_ 12KΩ
		without plug cap	3_ 5KΩ
Pulser coil resistance (20°C )			40_ 300Ω
Ignition coil primary side max. voltage			12V min.
Pulser coil max. voltage			2.1V min.

### TESTING INSTRUMENT

Kowa Electric Tester

or commercially available electric tester with resistance over 10MΩ/CDV

# 15. IGNITION SYSTEM

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## 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 won't 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 two battery cover screws.

Disconnect the CDI coupler and remove the CDI unit.

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

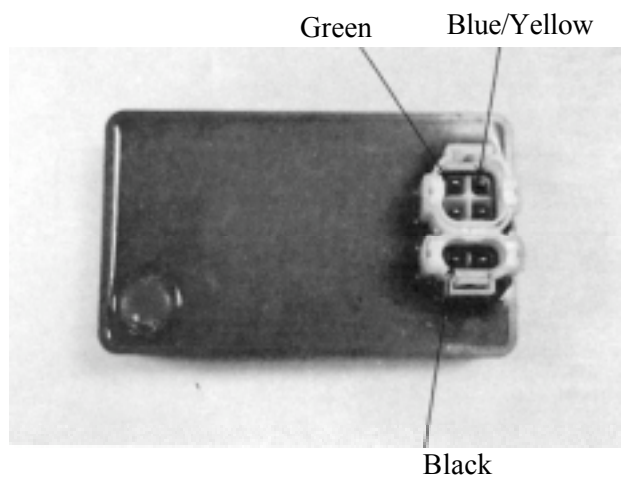
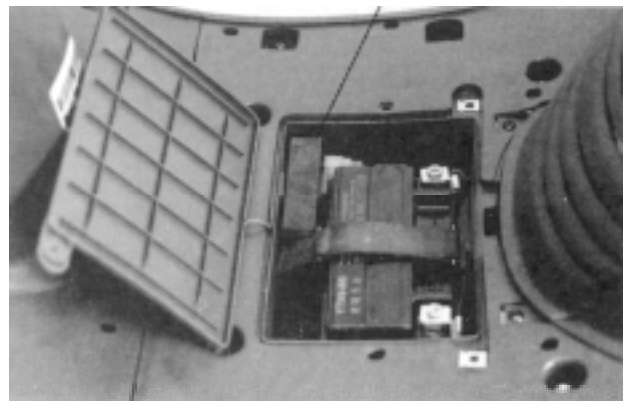
\*

- 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 “ $\infty$ ” unless the condenser is discharged.

Unit: K $\Omega$

Probe $\oplus$ (-)Probe	Black	Black/ Yellow	Blue/ Yellow	Green
Black		$\infty$	1k~	20~60
Black/ Yellow	30~80		150~400	5~15
Blue/ Yellow	100~250	$\infty$		40~90
Green	10~30	$\infty$	60~200	

CDI Unit



# 15. IGNITION SYSTEM

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## IGNITION COIL

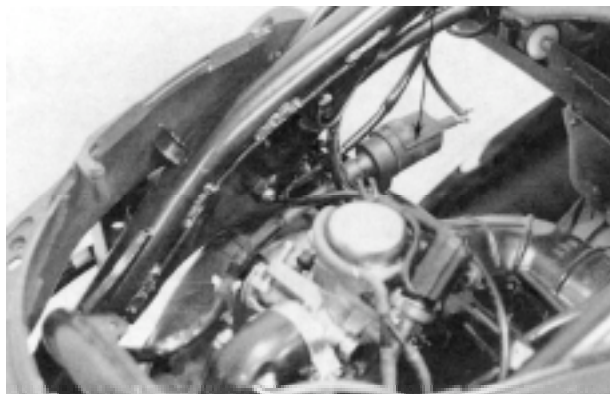
### REMOVAL

Remove the frame body cover. (⇒2-2)

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 $\Omega$ /20°C

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

#### **Resistances:**

(with plug cap): 7\_ 12K $\Omega$ /20°C

(without plug cap): 3\_ 5K $\Omega$ /20°C

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

1. Turn the CDI tester changeover switch to 12V and connect the ignition coil to the tester.
2. Turn the tester power switch ON and check the spark from the watch window.  
\_Good : Normal and continuous spark  
\_Faulty : Weak or intermittent spark

## 15. IGNITION SYSTEM

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### PULSER COIL INSPECTION

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

Remove the frame body cover. (⇒2-2)  
Disconnect the A.C. generator connector.



Measure the pulser coil resistance between the blue/yellow and green wire terminals.

**Resistance:** 40\_ 300 $\Omega$ /20°C

Refer to page 14-6 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

