

## 17. IGNITION SYSTEM

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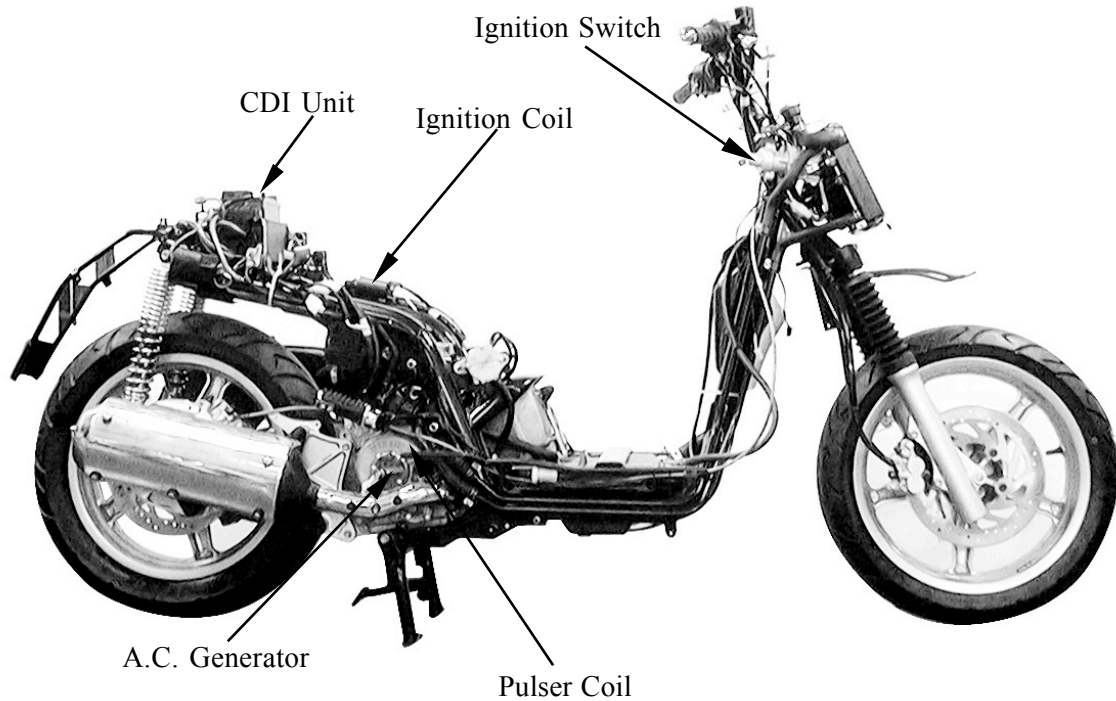
### IGNITION SYSTEM

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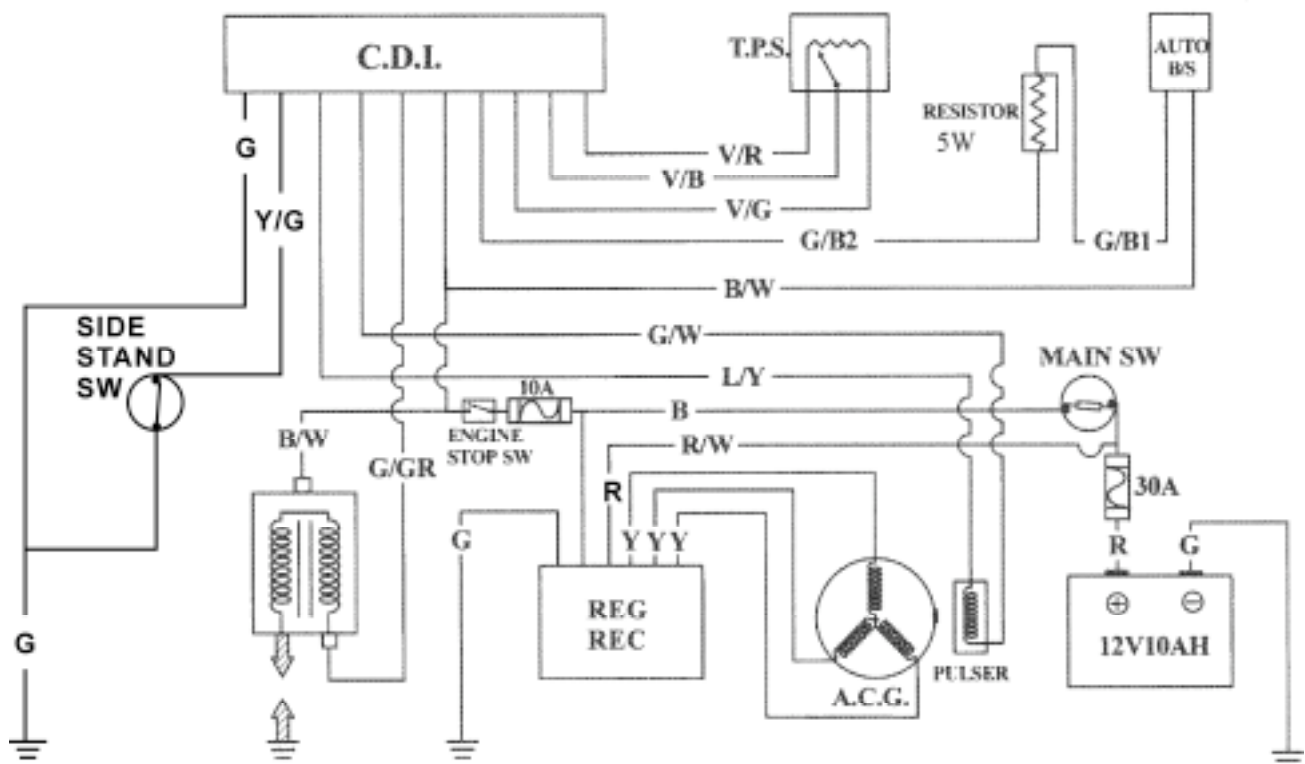
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# 17. IGNITION SYSTEM

## IGNITION SYSTEM LAYOUT



## IGNITION CIRCUIT



# 17. IGNITION SYSTEM

## 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 19-3.
- 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		NGK DPR7EA9
Spark plug gap			0.7mm
Ignition timing	“F” mark Full advance		repeatedly
Ignition coil resistance (20℃ )	Primary coil		3.6_ 4.1□
	Secondary coil	without plug cap	14K□
		with plug cap	19K□
Pulser coil resistance (20℃ )			105_ 110□
Exciter coil resistance (20℃ )			1.8_ 2.1□
Ignition coil primary side max. voltage			14V
Pulser coil max. voltage			1.6V
Exciter coil max. voltage			14V

### TESTING INSTRUMENT

Electric tester: YF-3501

### TROUBLESHOOTING

#### No spark at plug

- Faulty spark plug
- Poorly connected, broken or shorted wire
- Faulty ignition switch
- Faulty ignition coil
- Faulty CDI unit
- Faulty A.C. generator

#### Engine starts but turns poorly

- Ignition primary circuit
  - Faulty ignition coil
  - Poorly connected wire or connector
  - Poorly contacted ignition switch
- Ignition secondary circuit
  - Faulty ignition coil
  - Faulty spark plug
  - Faulty high-tension wire
  - Poorly insulated plug cap
- Improper ignition timing
  - Faulty A.C. generator
  - Stator not installed properly
  - Faulty CDI unit

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### SPARK PLUG

For spark plug inspection and adjustment, refer to page 3-5.

### IGNITION COIL INSPECTION

Remove the seat and met-in box. (⇒ 2-6)  
Remove the ignition coil

### IGNITION COIL CONTINUITY TEST

Inspect the continuity of the ignition coil, primary coil and secondary coil.

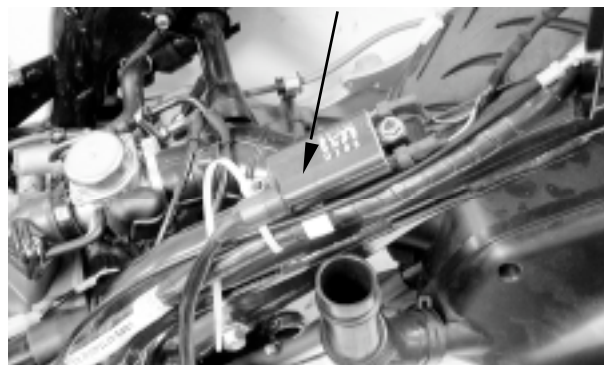
\* This is a general test. Accurate ignition coil test must be performed with a CDI tester.

Measure the ignition coil resistances at 20°C .

Primary coil	3.6_ 4.1Ω
Secondary coil without plug cap	14KΩ
Secondary coil with plug cap	19KΩ

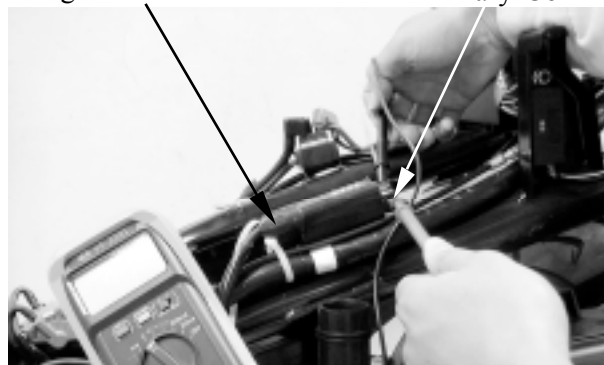
Electric tester: YF-3501

Ignition Coil



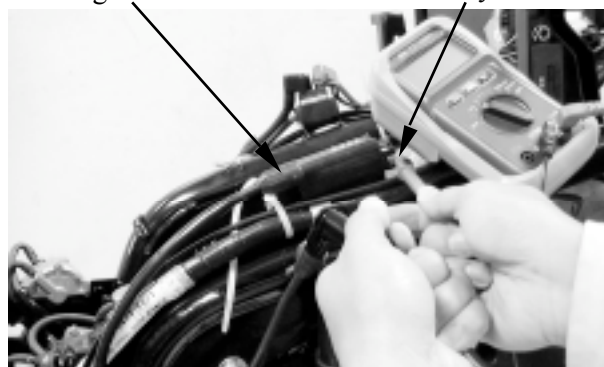
Ignition Coil

Primary Coil



Ignition Coil

Secondary Coil



## 17. IGNITION SYSTEM

### A.C. GENERATOR INSPECTION

#### EXCITER COIL/PULSER COIL INSPECTION

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

Remove the seat and met-in box. (⇒ 2-6)  
Disconnect the A.C. generator connector.  
Measure the exciter coil resistance between the black/white wire terminal and ground.

Black/white_	Ground	8.1M $\Omega$
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- \* Measure the resistance in the X $\Omega$  range.

Electric tester: YF-3501

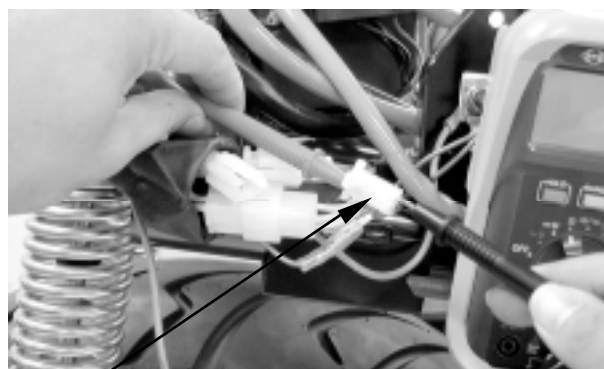
For A.C. generator removal/installation, refer to pages 10-3 and 10-6.  
Disconnect the pulser coil wire coupler.  
Measure the pulser coil resistance between the blue/white and green/white wire terminals.

Blue/Yellow_	Green/White	105_	110
e		$\Omega$	

Electric tester: YF-3501

### CDI UNIT RESISTANCE INSPECTION

Measure the resistance between the terminals.  
Replace the CDI unit if the readings are not within the specifications in the table below.



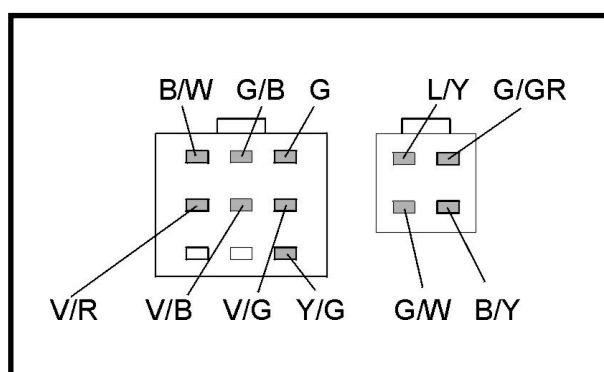
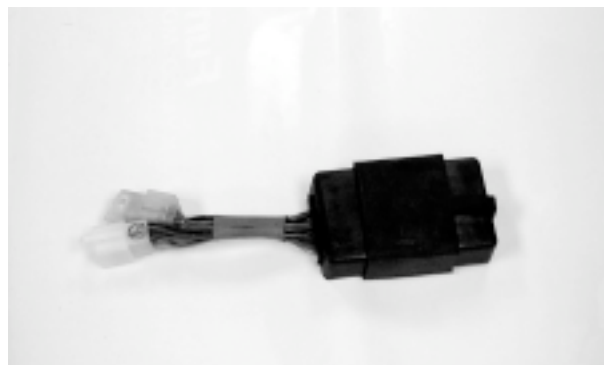
Pulser Coil Wire Coupler



# 17. IGNITION SYSTEM

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- 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.
- 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:  $\square$

(+) (-)	L/Y	B/Y	G/GR	G/W	B/W	G/B	V/R	V/B	V/G	G	Y/G
L/Y		$\infty$	$\infty$	93K $\square$	$\infty$	$\infty$	49.3K $\square$	149K $\square$	46.1K $\square$	46.1K $\square$	$\infty$
B/Y	11M $\square$		$\infty$	11M $\square$	991 $\square$	$\infty$	11M $\square$	11M $\square$	11M $\square$	11M $\square$	$\infty$
G/GR	$\infty$	$\infty$		$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$
G/W	93K $\square$	$\infty$	13M $\square$		$\infty$	$\infty$	50K $\square$	150K $\square$	47K $\square$	47K $\square$	$\infty$
B/W	11M $\square$	984 $\square$	$\infty$	11M $\square$		$\infty$	11M $\square$	11M $\square$	11M $\square$	11M $\square$	18M $\square$
G/B	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$		$\infty$	$\infty$	$\infty$	$\infty$	$\infty$
V/R	50K $\square$	$\infty$	12M $\square$	49K $\square$	$\infty$	$\infty$		99K $\square$	4K $\square$	4K $\square$	$\infty$
V/B	150K $\square$	$\infty$	12M $\square$	150K $\square$	$\infty$	$\infty$	99K $\square$		103K $\square$	103K $\square$	$\infty$
V/G	46K $\square$	$\infty$	12M $\square$	47K $\square$	$\infty$	$\infty$	4K $\square$	103K $\square$		0.5 $\square$	$\infty$
G	46K $\square$	$\infty$	12M $\square$	47K $\square$	$\infty$	$\infty$	4K $\square$	103K $\square$	0.5 $\square$		$\infty$
Y/G	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	

Electric tester: YF-3501