

# 17. IGNITION SYSTEM

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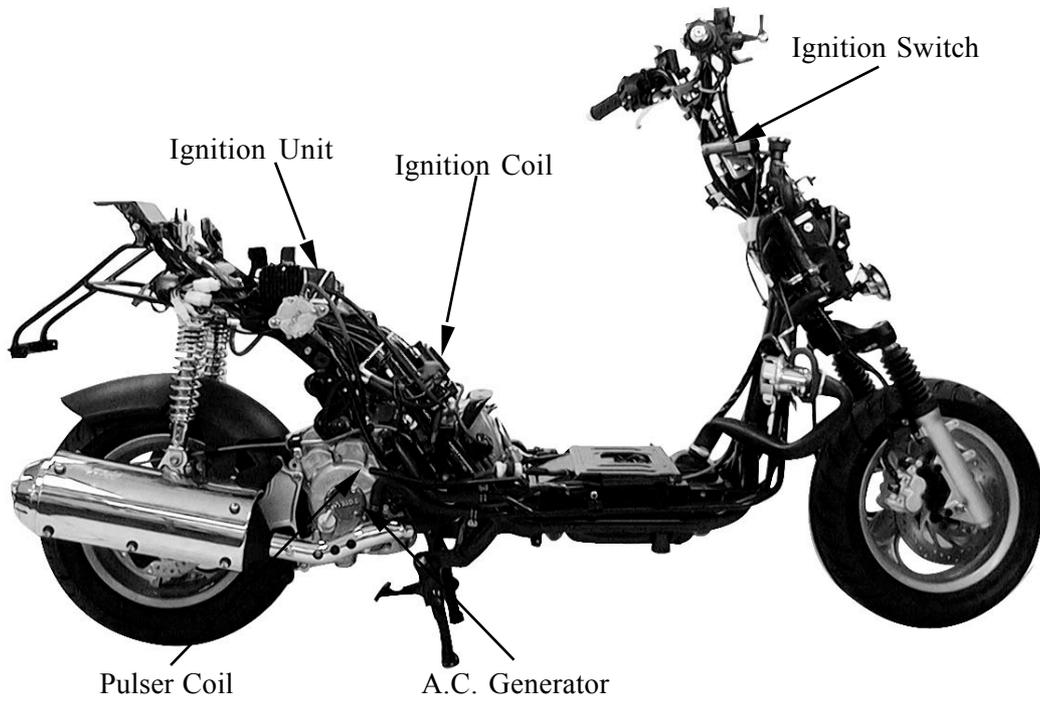
## IGNITION SYSTEM

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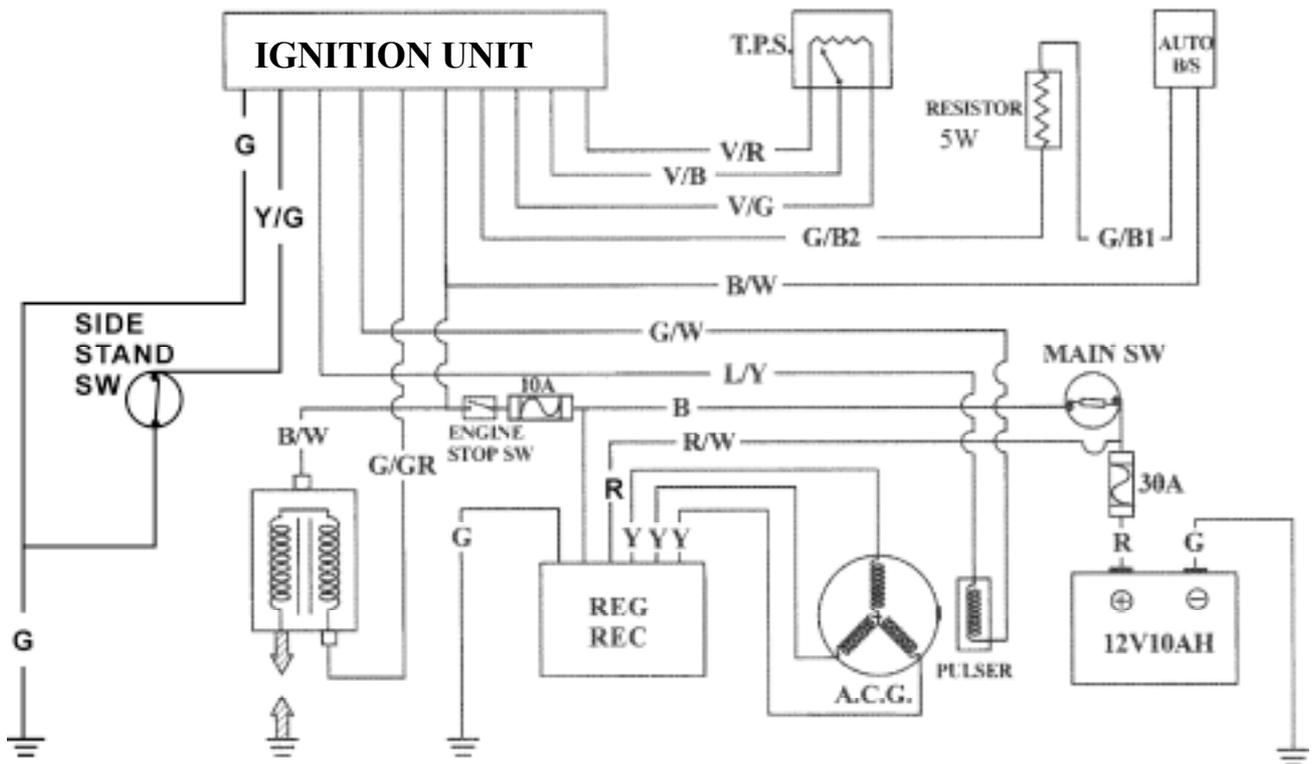
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# 17. IGNITION SYSTEM

## 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 ignition unit and the ignition timing cannot be adjusted.
- If the timing is incorrect, inspect the ignition unit and A.C. generator and replace any faulty parts. Inspect the ignition unit with a ignition unit 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°C )	Primary coil	3.6_ 4.1□	
	Secondary coil	without plug cap	14.45K□
		with plug cap	19.8K□
Pulser coil resistance (20°C )		105_ 110□	
Exciter coil resistance (20°C )		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 ignition 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 ignition unit

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## SPARK PLUG

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

## IGNITION COIL INSPECTION

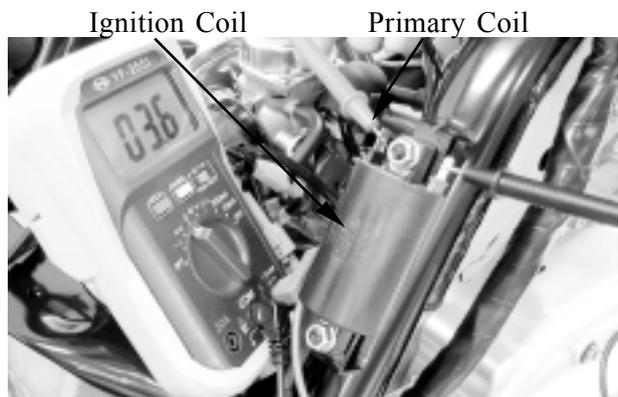
- Remove the met-in box. (⇒2-6)
- Remove the center cover. (⇒2-7)
- Remove the ignition coil



## IGNITION COIL CONTINUITY TEST

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

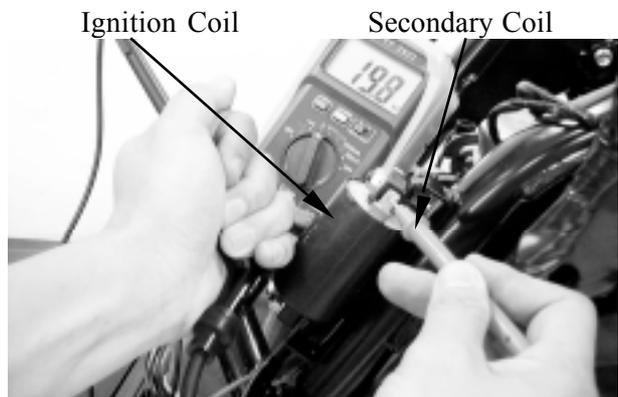
\* This is a general test. Accurate ignition coil test must be performed with a ignition unit tester.



Measure the ignition coil resistances at 20°C .

Primary coil	3.4_ 3.6Ω
Secondary coil without plug cap	14.45KΩ
Secondary coil with plug cap	19.8KΩ

Electric tester: YF-3501



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## A .C. GENERATOR INSPECTION

### EXCITER COIL/PULSER COIL INSPECTION

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

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

Black/White_ d	Groun	8.1M $\square$
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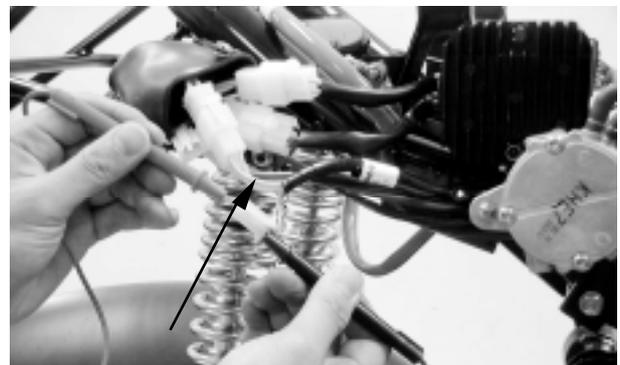
Electric tester: YF-3501

\* Measure the resistance in the X $\square$  range.

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/white_ e	Green/whit	105_ 110 $\square$
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Electric tester: YF-3501

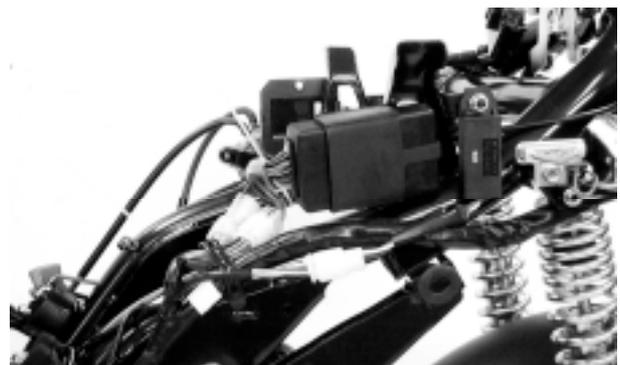


Pulser Coil Wire Coupler

## IGNITION UNIT

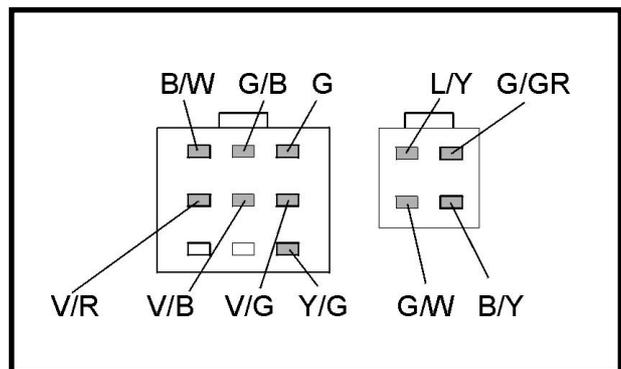
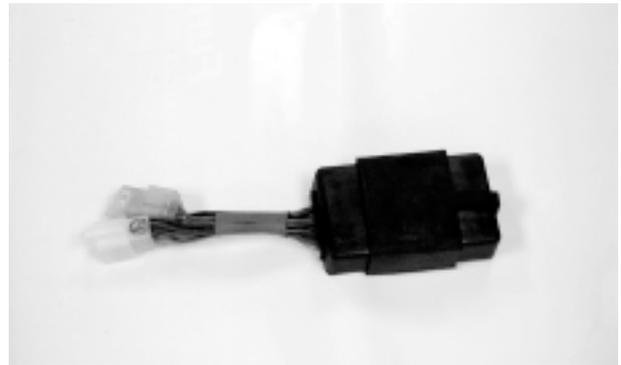
### RESISTANCE INSPECTION

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



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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.
- Use Electric tester: YF-3501.
- 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:  $\square$ 

(+)	(-)	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 $\square$	$\infty$	$\infty$	11M $\square$	11M $\square$	11M $\square$	11M $\square$	$\infty$
G/GR	$\infty$	$\infty$		$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$
G/W	93K $\square$	$\infty$	13M $\square$		$\infty$	$\infty$	$\infty$	50K $\square$	150K $\square$	47K $\square$	47K $\square$	$\infty$
B/W	11M $\square$	984 $\square$	$\infty$	11M $\square$		$\infty$	$\infty$	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 $\square$	$\infty$	$\infty$				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	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	

Electric tester: YF-3501