

# 17. IGNITION SYSTEM

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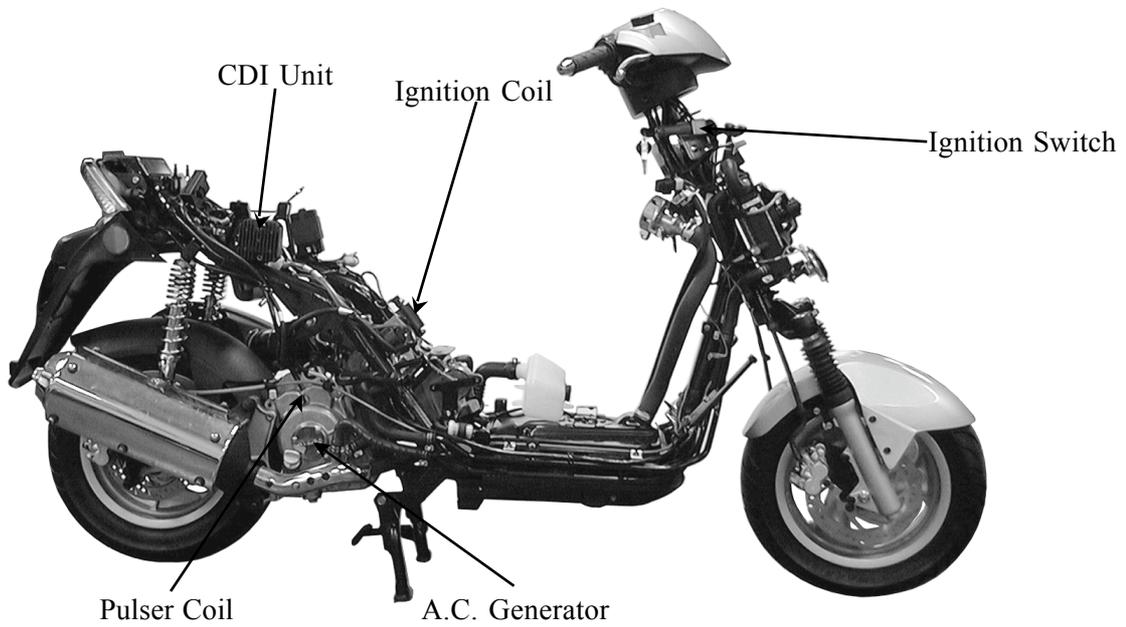
## IGNITION SYSTEM

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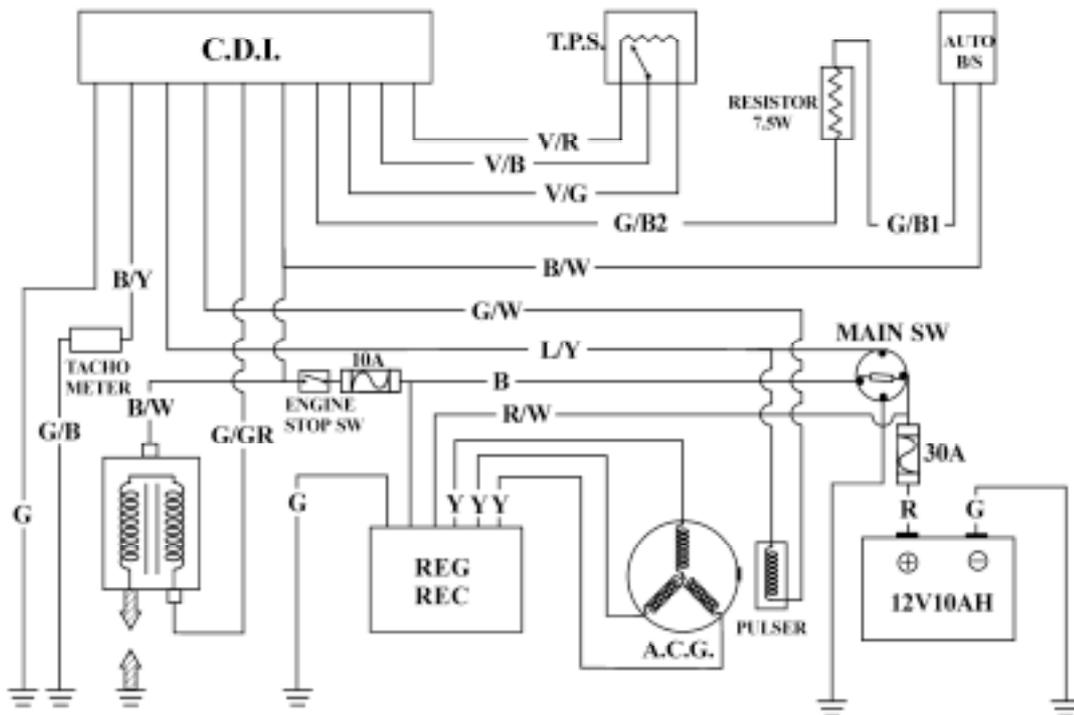
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# 17. IGNITION SYSTEM

## 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		0.8_ 1.0mm	
Ignition timing	“F” mark Full advance	repeatedly	
Ignition coil resistance (20°C )	Primary coil	1.5_ 3.5Ω	
	Secondary coil	without plug cap	12_ 16KΩ
		with plug cap	17_ 21KΩ
Pulser coil resistance (20°C )		50_ 170Ω	
Exciter coil resistance (20°C )		50_ 350Ω	
Ignition coil primary side max. voltage		244V	
Pulser coil max. voltage		10.5V	
Exciter coil max. voltage		244V	

### TESTING INSTRUMENT

Electric tester

### 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

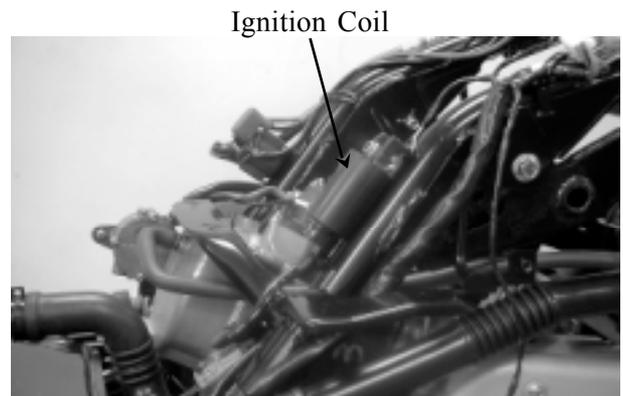
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## SPARK PLUG

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

## IGNITION COIL INSPECTION

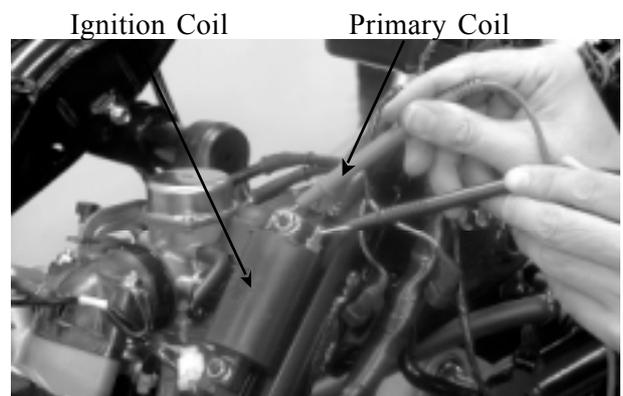
Remove the seat and met-in box. (⇒2-3)  
Remove the ignition coil



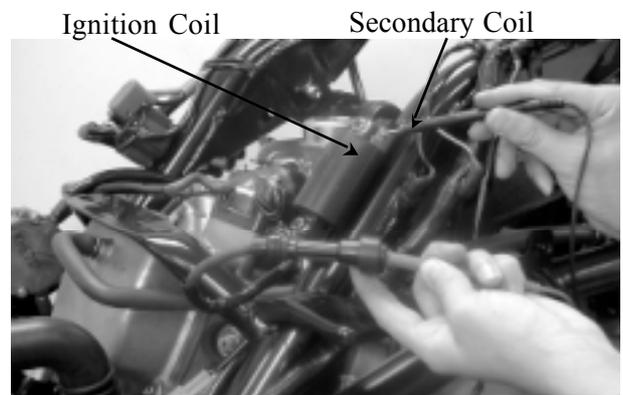
## IGNITION COIL CONTINUITY TEST

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

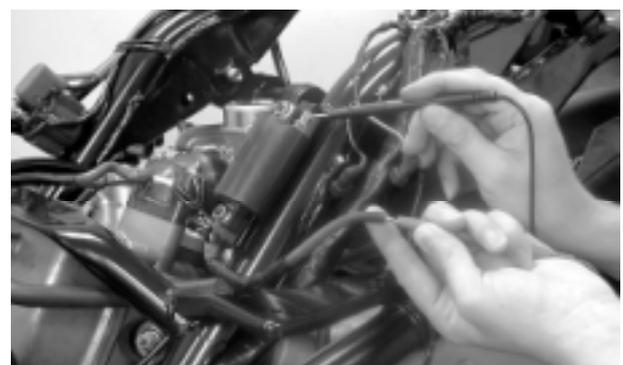
\* This is a general test. Accurate ignition coil test must be performed with a CDI tester.



Measure the ignition coil resistances at 20°C .



Primary coil	1.5_ 3.5Ω
Secondary coil without plug cap	12_ 16KΩ
Secondary coil with plug cap	17_ 21KΩ



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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 frame right cover. (⇒2-4)  
 Disconnect the A.C. generator connector.  
 Measure the exciter coil resistance between the black/red wire terminal and ground.

Black/red_	Ground	50_	250Ω
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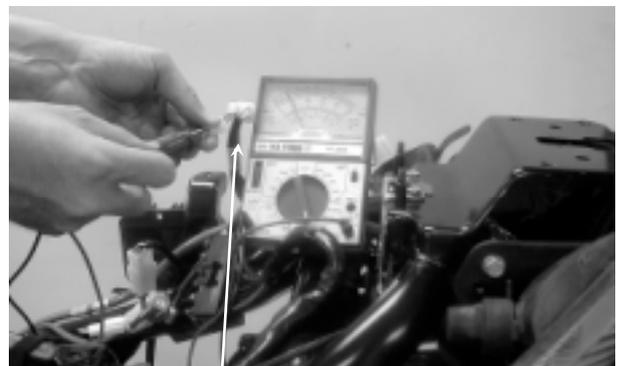
\* Measure the resistance in the XΩ range.

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_	Green/white	50_	170Ω
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A.C. Generator Connector



Pulser Coil Wire Coupler

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## CDI UNIT

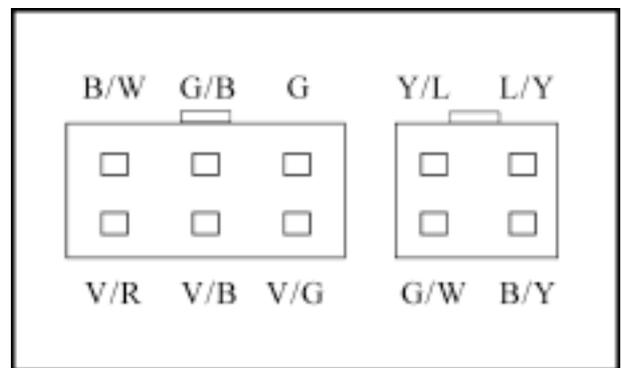
### RESISTANCE INSPECTION

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



\*

- 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 (07308-0020000) or Kowa Electric Tester (TH-5H).
- 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.



Use the x K $\square$  range for the Sanwa Tester.  
Use the x 100 $\square$  range for the Kowa Tester.

Unit: K $\square$

(+) (-)	Y/L	B/Y	L/Y	G/W	B/W	G/B	V/R	V/B	V/G	G
Y/L		$\infty$								
B/Y	8~18		50~70	50~70	0.1~3	$\infty$	13~23	25~35	4~12	4~12
L/Y	45~65	45~65		70~110	45~65	$\infty$	45~65	60~95	30~50	30~50
G/W	40~60	50~70	75~115		50~70	$\infty$	50~70	60~90	35~55	35~55
B/W	6~16	0.1~3	50~70	50~70		$\infty$	0.1~3	20~34	4~12	4~12
G/B	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$		$\infty$	$\infty$	$\infty$	$\infty$
V/R	8~18	0.1~4	50~70	50~70	0.1~3	$\infty$		23~37	4~12	4~12
V/B	20~34	23~37	60~90	60~90	23~37	$\infty$	23~37		15~25	15~25
V/G	1~5	3~9	35~55	35~55	3~9	$\infty$	2~8	12~22		0~0.5
G	1~5	3~9	35~55	35~55	3~9	$\infty$	2~8	12~22	0~0.5	