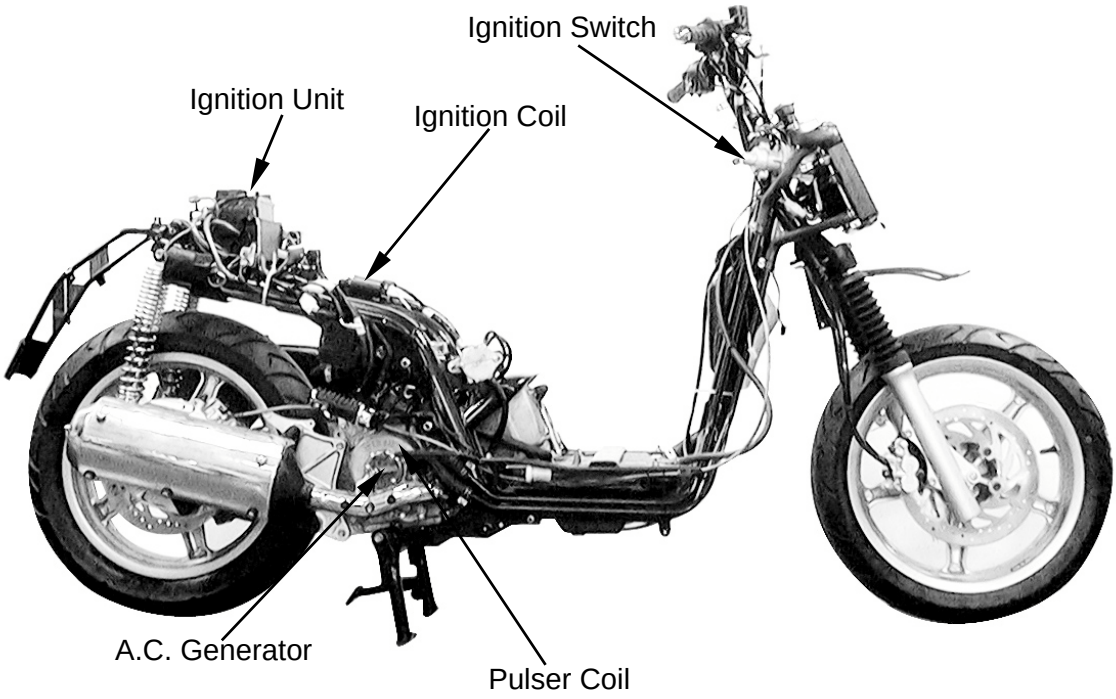
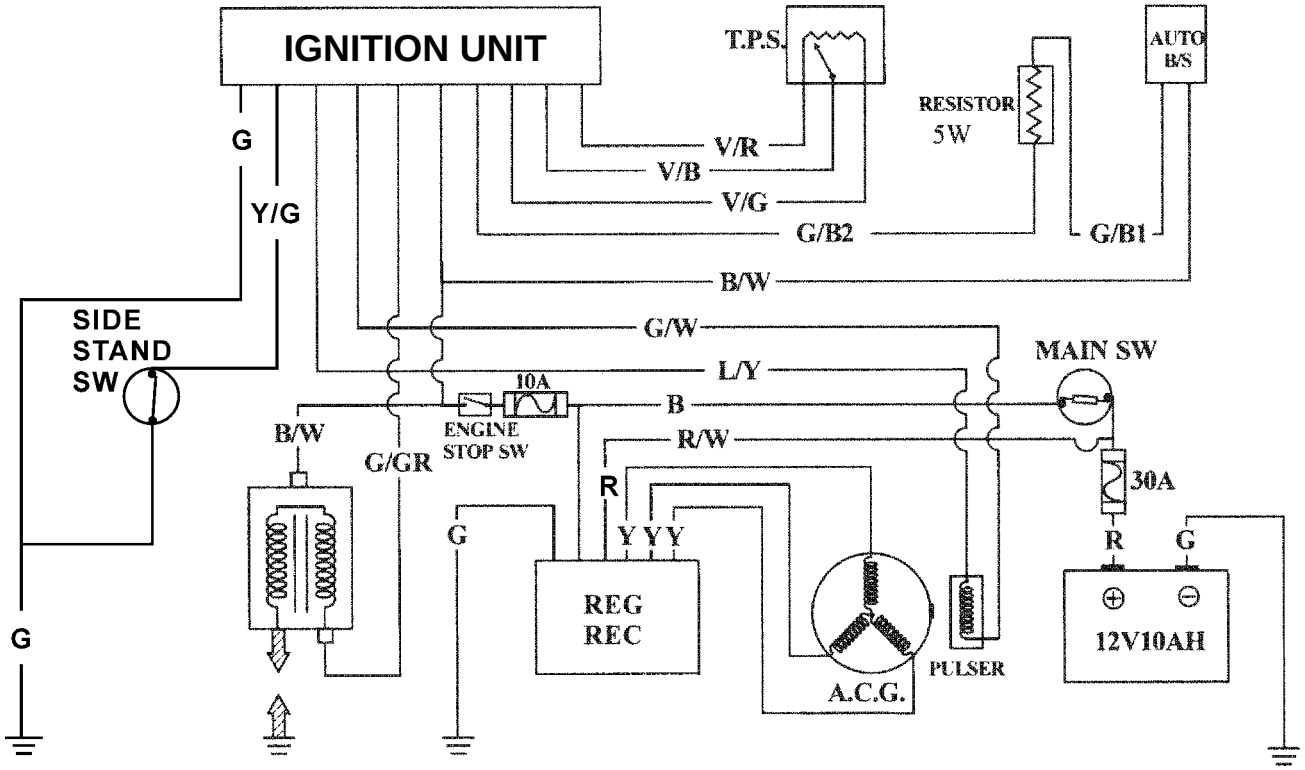
17

IGNITION SYSTEM

IGNITION SYSTEM LAYOUT



IGNITION CIRCUIT



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℃)	Primary coil		3.6～4.1Ω
	Secondary coil	without plug cap	14KΩ
		with plug cap	19KΩ
Pulser coil resistance (20℃)			105～110Ω
Exciter coil resistance (20℃)			1.8～2.1Ω
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

SPARK PLUG

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

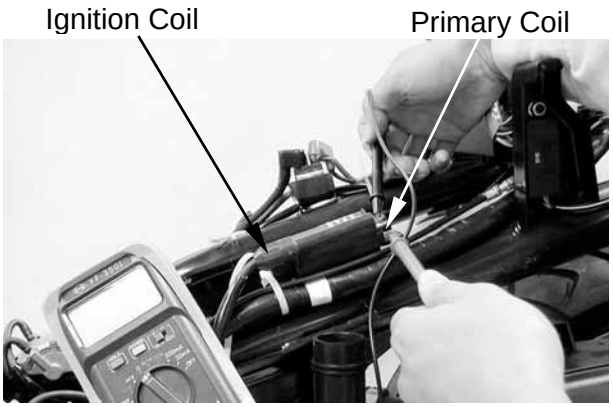
IGNITION COIL INSPECTION

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

IGNITION COIL CONTINUITY TEST

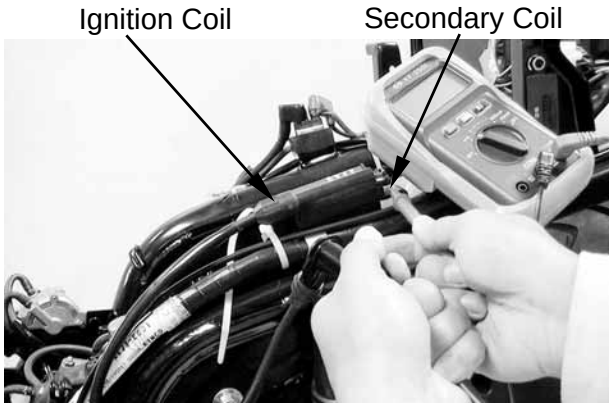
Inspect the continuity of the ignition coil, primary coil and secondary coil.

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



Measure the ignition coil resistances at 20℃.

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



Electric tester: YF-3501

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	8.1MΩ

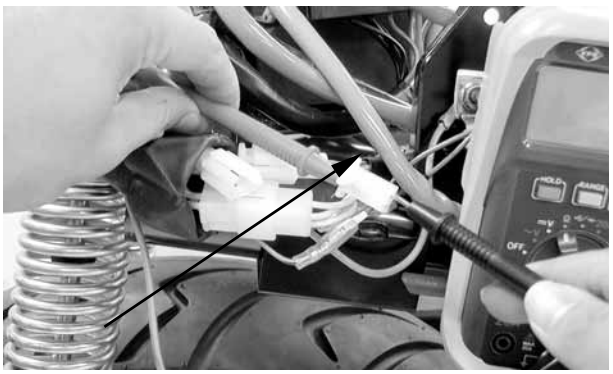
* Measure the resistance in the XΩ range.

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	105～110Ω

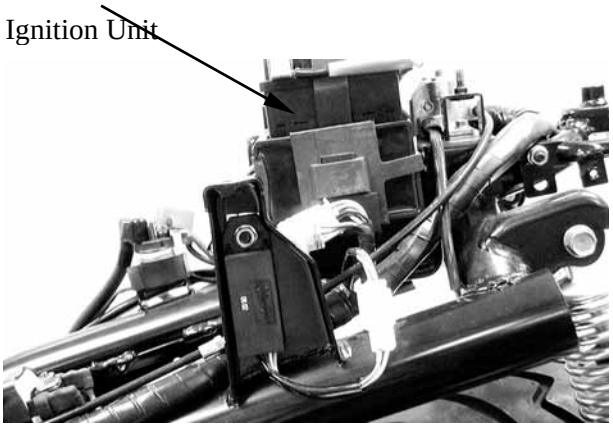
Electric tester: YF-3501



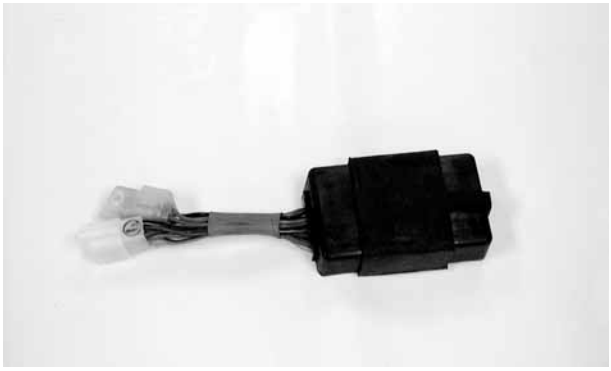
Pulser Coil Wire Coupler

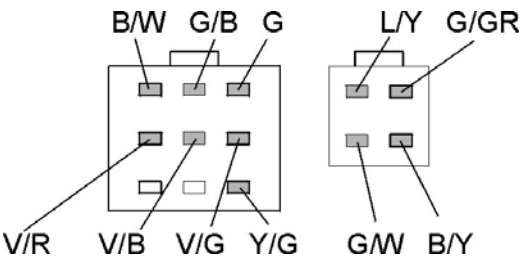
IGNITION UNIT
RESISTANCE INSPECTION

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



* • 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 “∞” unless the condenser is discharged.





Unit: Ω

(+) \ (-)	L/Y	B/Y	G/GR	G/W	B/W	G/B	V/R	V/B	V/G	G	Y/G
L/Y		∞	∞	93KΩ	∞	∞	49.3KΩ	149KΩ	46.1KΩ	46.1KΩ	∞
B/Y	11MΩ		∞	11MΩ	991Ω	∞	11MΩ	11MΩ	11MΩ	11MΩ	∞
G/GR	∞	∞		∞	∞	∞	∞	∞	∞	∞	∞
G/W	93KΩ	∞	13MΩ		∞	∞	50KΩ	150KΩ	47KΩ	47KΩ	∞
B/W	11MΩ	984Ω	∞	11MΩ		∞	11MΩ	11MΩ	11MΩ	11MΩ	18MΩ
G/B	∞	∞	∞	∞	∞		∞	∞	∞	∞	∞
V/R	50KΩ	∞	12MΩ	49KΩ	∞	∞		99KΩ	4KΩ	4KΩ	∞
V/B	150KΩ	∞	12MΩ	150KΩ	∞	∞	99KΩ		103KΩ	103KΩ	∞
V/G	46KΩ	∞	12MΩ	47KΩ	∞	∞	4KΩ	103KΩ		0.5Ω	∞
G	46KΩ	∞	12MΩ	47KΩ	∞	∞	4KΩ	103KΩ	0.5Ω		∞
Y/G	∞	∞	∞	∞	∞	∞	∞	∞	∞	∞	

Electric tester: YF-3501