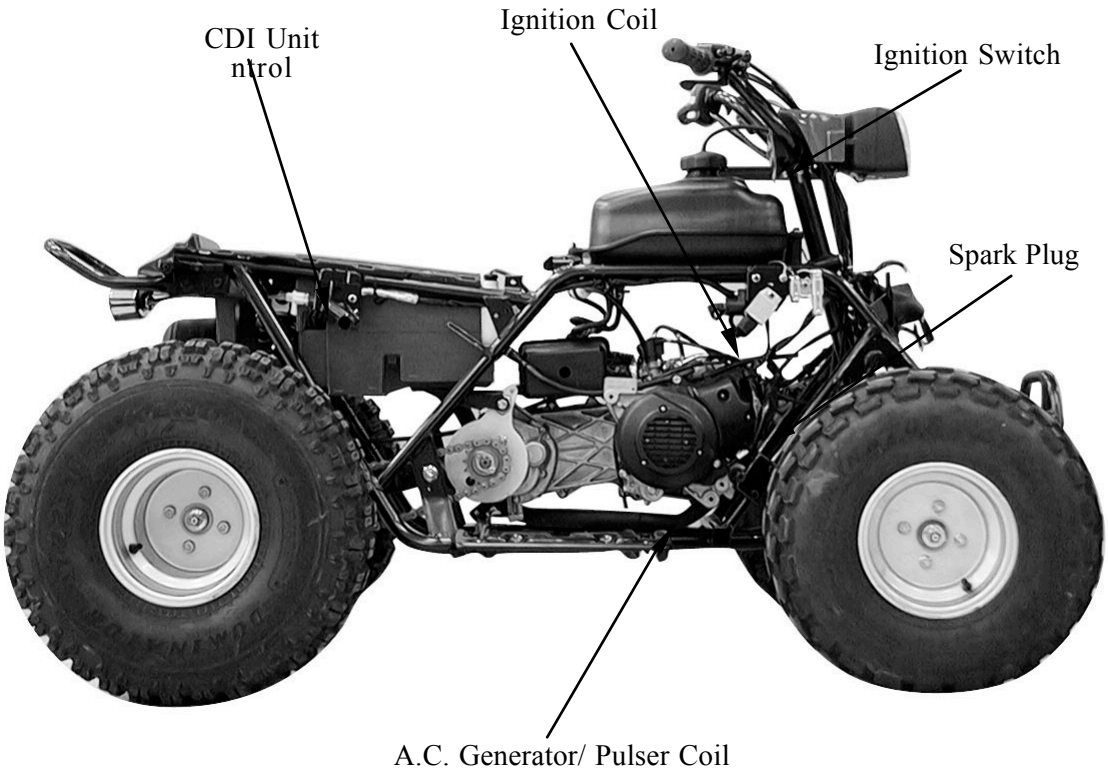
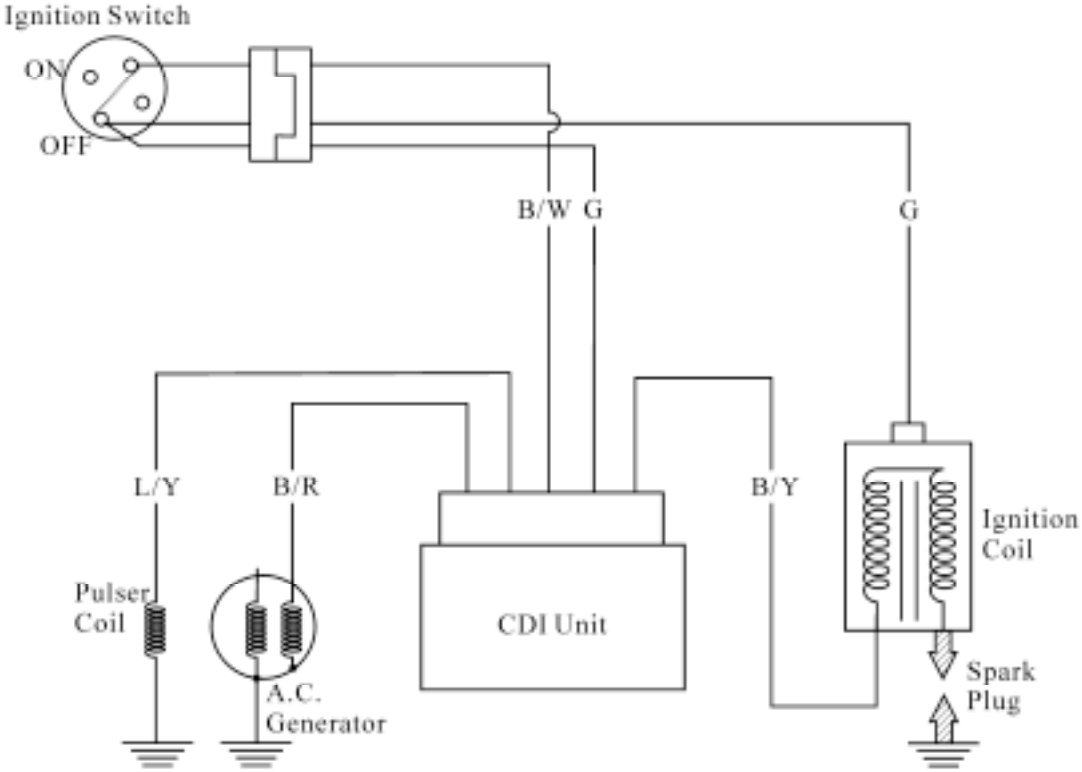
15

IGNITION SYSTEM

15. IGNITION SYSTEM



IGNITION CIRCUIT



SERVICE INFORMATION

GENERAL INSTRUCTIONS

- Check the ignition system according to the sequence specified in the Troubleshooting.
- The ignition system adopts CDI unit , change gear control and the ignition timing cannot be adjusted.
- If the timing is incorrect, inspect the CDI unit, A.C. generator, change gear control 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 17-5.
- Inspect the spark plug referring to Section 3.

SPECIFICATIONS

Item			Standard
Spark plug	Standard type		BR8HAS
	Hot type		
	Cold type		
Spark plug gap			0.6_ 0.7mm
Ignition timing	"F" mark Full advance		22ºBTDC/2000±100rpm
Ignition coil resistance (20¢J)	Primary coil		0.2_ 0.3Ω
	Secondary coil	with plug cap	8.0_ 9.3KΩ
		without plug cap	3.0_ 4.2KΩ
Pulser coil resistance (20¢J)			50_ 200Ω
Exciter coil resistance (20¢J)			400_ 700Ω

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 or incorrect ignition timing
- Faulty change gear control unit
- 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

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 (20¢J): 0.2_ 0.3Ω

Measure the secondary coil resistance between the spark plug cap and the primary coil terminal as Figure A shown.

Resistance (20¢J) (with plug cap): 8.0_ 9.3KΩ

Figure A

Measure the secondary coil resistance between the ignition coil terminal and the primary coil terminal as Figure B shown.

Resistance (20¢J) (without plug cap): 3.0_ 4.2KΩ

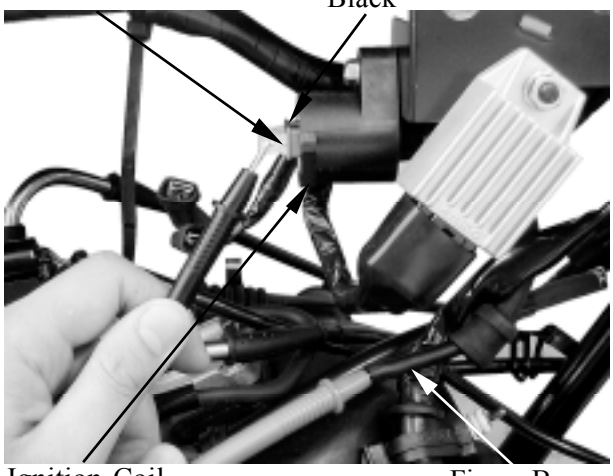
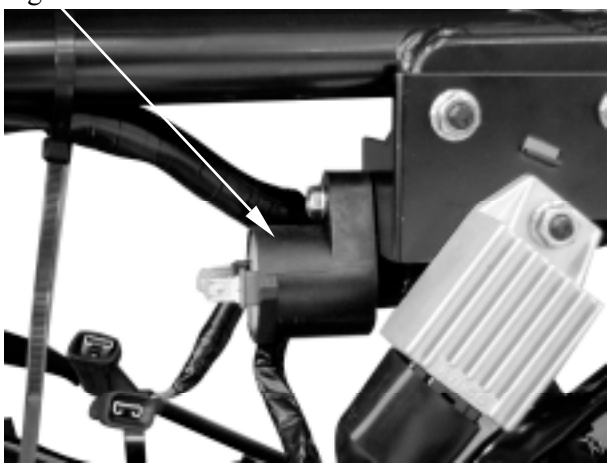


Figure B

Performance Test

Remove the ignition coil.

Ignition Coil



Inspect the ignition coil with an ignition coil tester.

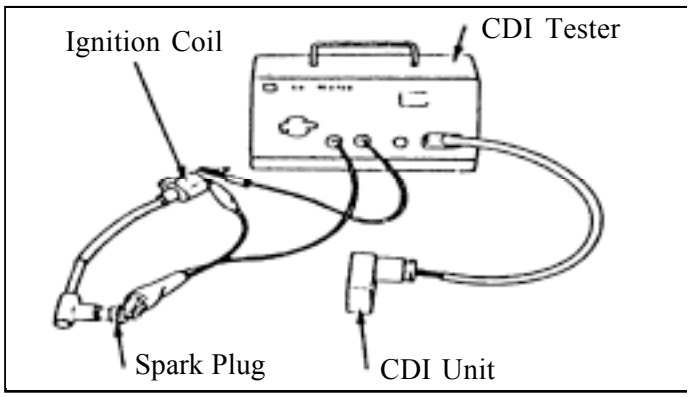
°Ç Follow the ignition coil tester manufacturer's instructions.

1. Turn the changeover switch to 12V and connect the ignition coil to the tester.
2. Turn the power switch ON and check the spark from the watch window.

_Good : Normal and continuous spark

Faulty : Weak or intermittent spark

°Ç The test is performed at both conditions that the ignition coil is cold and hot.



A.C. GENERATOR

Exciter Coil/Pulser Coil Inspection

°Ç This test is performed with the stator installed in the engine.

Disconnect the A.C. generator wire connector.

Measure the exciter coil resistance between the black/red wire and ground.

Resistance (20¢J): 400_ 700Ω

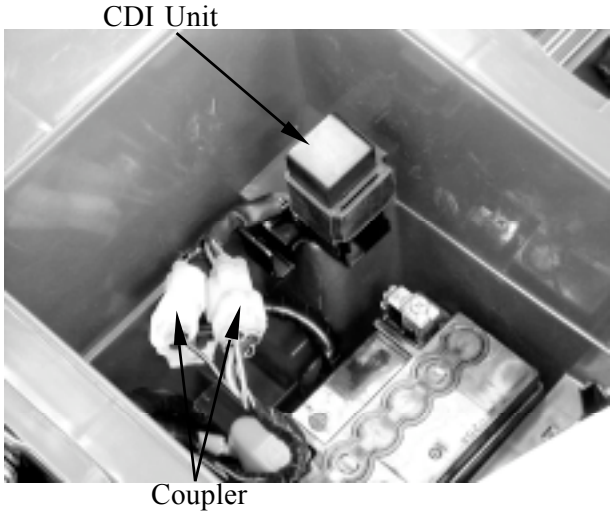
Measure the pulser coil resistance between the blue/yellow wire and ground.

Resistance (20¢J): 50_ 200Ω

Blue/Yellow

CDI UNIT INSPECTION

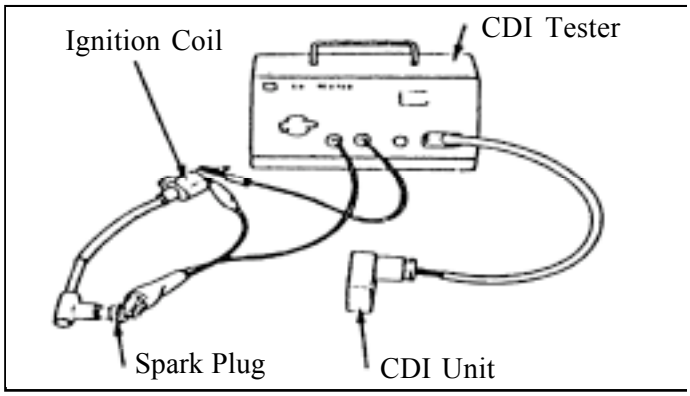
Remove the seat and battery cover.
Disconnect the CDI coupler and remove the CDI unit.



CDI CIRCUIT 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 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 "° " unless the condenser is discharged.



Use the x K range for the Sanwa Tester.
Use the x 100 range for the Kowa Tester.

Unit: K

Probe⊕ / (-)Probe	Black/ Yellow	Black/ Red	Black/ White	Blue/ Yellow	Green
Black/ Yellow		°	°	°	°
Black/ Red	°		4-6	°	°
Black/ White	°	°		°	°
Blue/ Yellow	°	25-45	80-100		15-25
Green	°	4-6	10-20	°