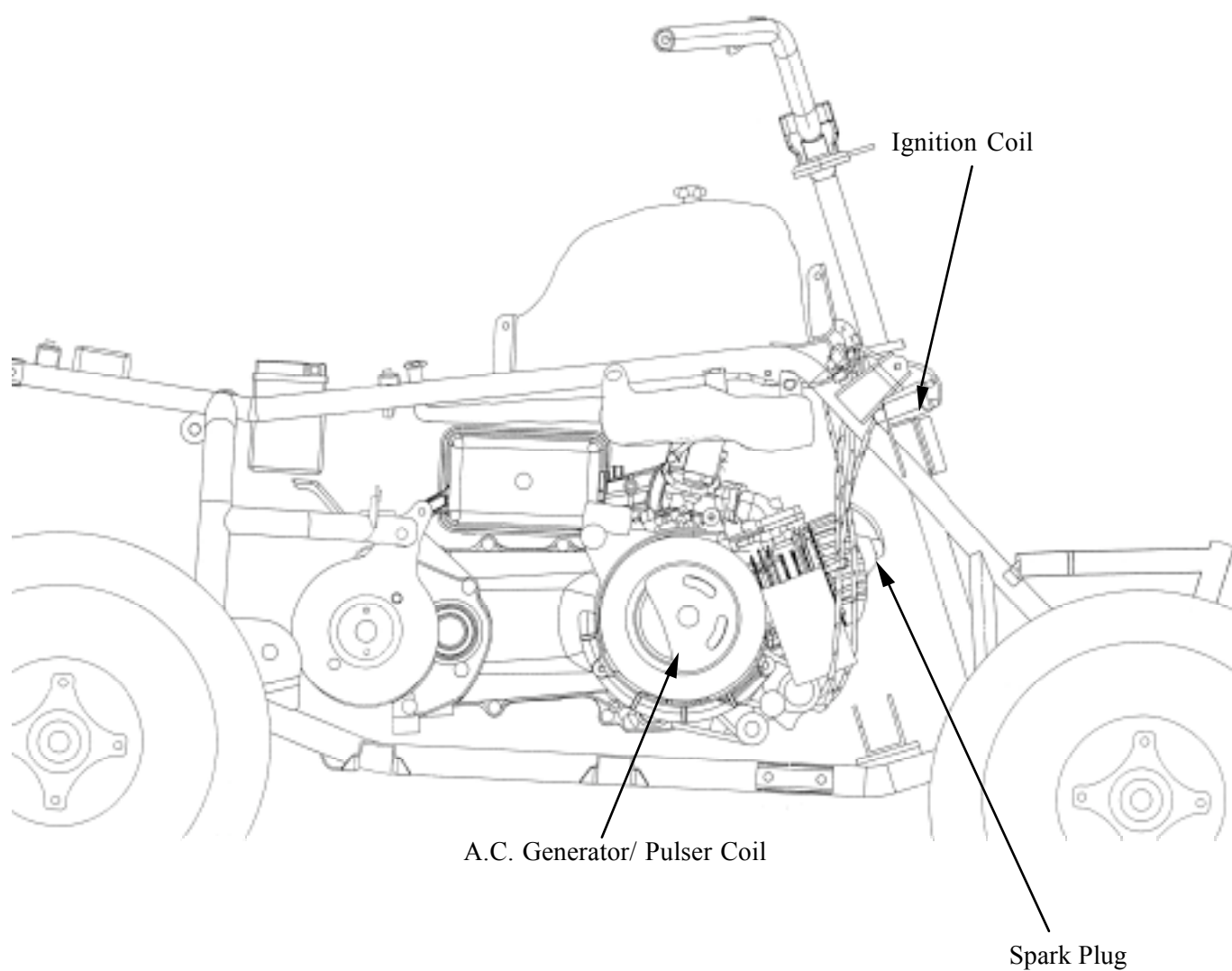


## IGNITION SYSTEM

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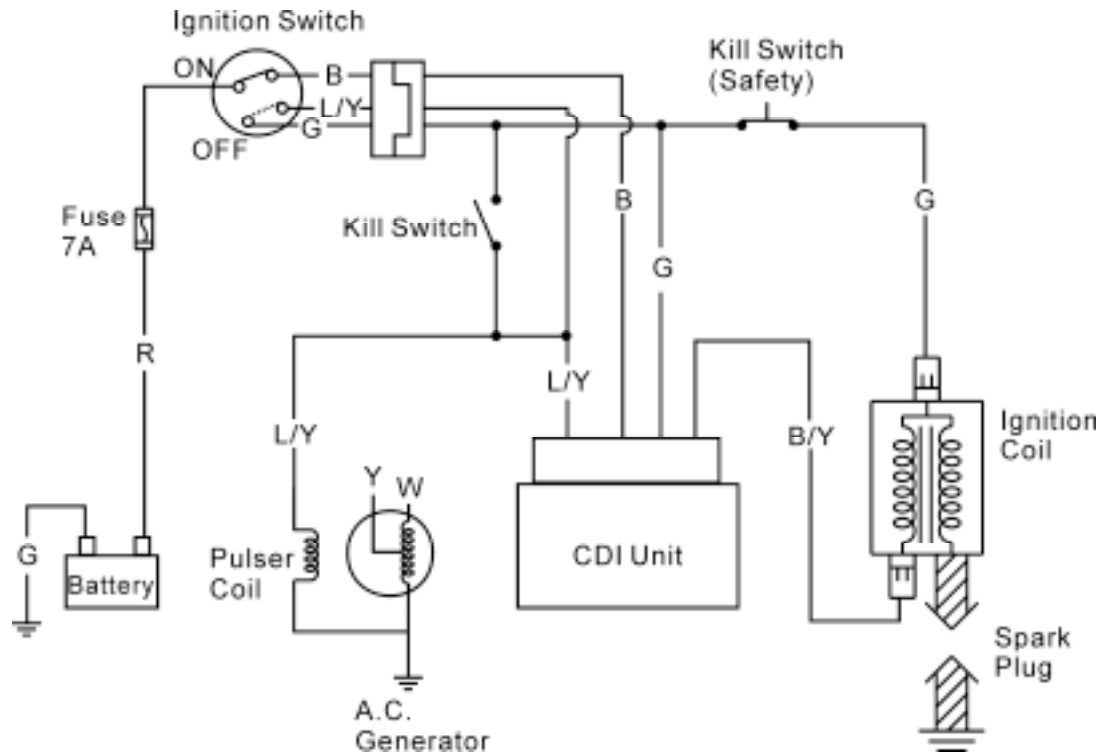
## **15. IGNITION SYSTEM**

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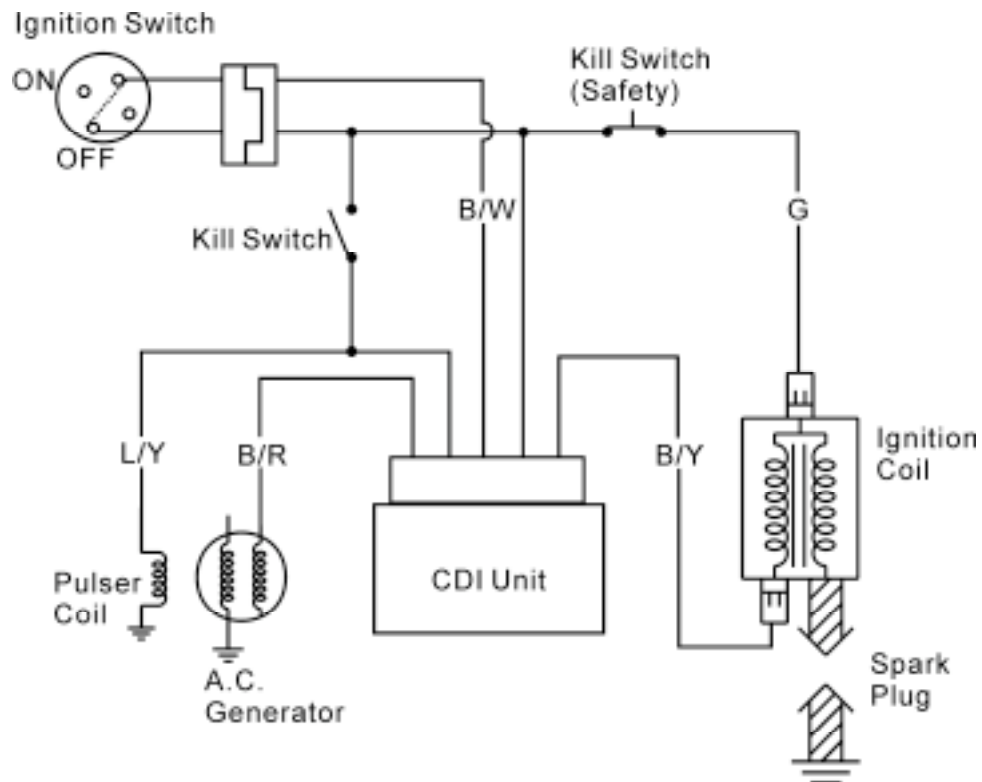


# 15. IGNITION SYSTEM

## IGNITION CIRCUIT (Mongoose/KXR 90)



## IGNITION CIRCUIT (Mongoose/KXR 50)



# 15. IGNITION SYSTEM

## SERVICE INFORMATION

### GENERAL INSTRUCTIONS

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

### SPECIFICATIONS (Mongoose/KXR 90)

Item			Standard
Spark plug	Standard type		NGK-C7HSA
Spark plug gap			0.6_ 0.7mm
Ignition timing	“F” mark Full advance		28°±1°BTDC/4000RPM
Ignition coil resistance (20℃J)	Primary coil		2.2_ 2.6Ω
	Secondary coil	without plug cap	3.14KΩ
		with plug cap	8.39KΩ
Pulser coil resistance (20℃J)			121.1Ω

### SPECIFICATIONS (Mongoose/KXR 50)

Item			Standard
Spark plug	Standard type		BR8HAS
Spark plug gap			0.6_ 0.7mm
Ignition timing	“F” mark Full advance		15°BTDC/1700±100rpm
Ignition coil resistance (20℃J)	Primary coil		3.7_ 15.2Ω
	Secondary coil	without plug cap	3.51KΩ
		with plug cap	8.81KΩ
Pulser coil resistance (20℃J)			80_ 160Ω

## **15. IGNITION SYSTEM**

### **TROUBLESHOOTING**

#### **High voltage too low**

- Weak battery or low engine speed
- Loose ignition system connection
- Faulty ignition 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 ignition unit or incorrect ignition timing
- Faulty change gear control unit
- Improperly tightened A.C. generator flywheel

#### **No high voltage**

- Faulty ignition switch
- Faulty ignition unit
- Poorly connected or broken ignition unit ground wire
- Dead battery or faulty regulator/rectifier
- Faulty ignition coil connector
- Faulty pulser coil

# 15. IGNITION SYSTEM

## CDI UNIT INSPECTION

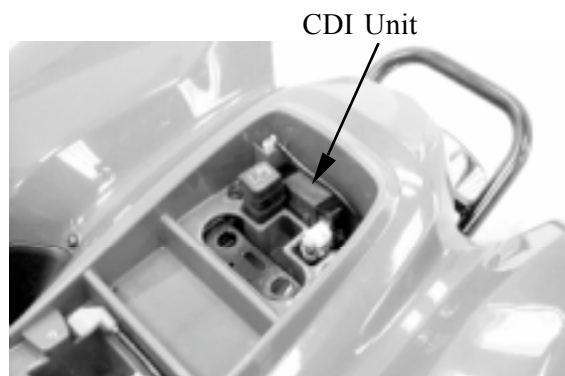
Remove seat. (⇒2-3)

Disconnect the CDI coupler and remove the CDI unit.

Measure the resistance between the terminals using the electric tester.

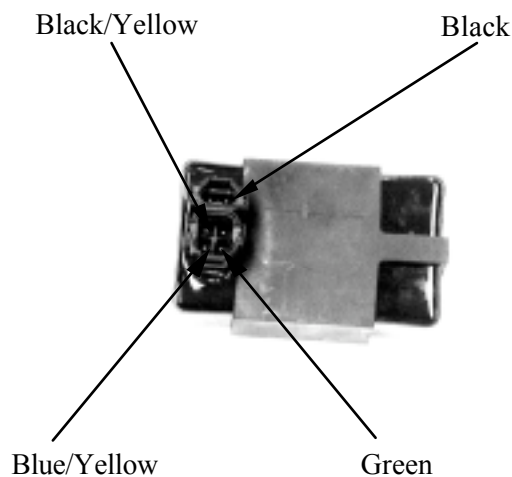
**\***

- 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 YF-3501 Electric Tester.
- 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.



Mongoose/KXR 90(OFF ROAD) Unit:  
M□

Probe⊕ (-)Probe	Black	Black/ Yellow	Blue/ Yellow	Green
Black		○	○	○
Black/ Yellow	○		○	○
Blue/ Yellow	○	○		○
Green	4.9~5.5	4.9~5.5	4.9~5.5	



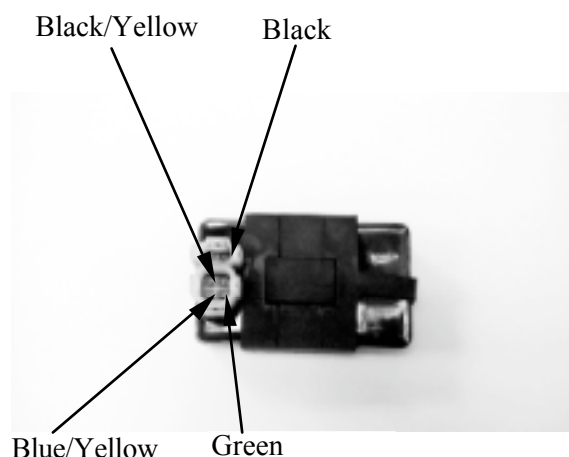
Note: The readings in this table are taken with a YF-3501 Tester.

# 15. IGNITION SYSTEM

KXR 90(ON ROAD) Unit: M $\Omega$

Probe $\oplus$ (-)Probe	Black	Black/ Yellow	Blue/ Yellow	Green
Black		o	o	o
Black/ Yellow	o		o	o
Blue/ Yellow	o	o		o
Green	6.1~6.8	6.1~6.8	6.1~6.8	

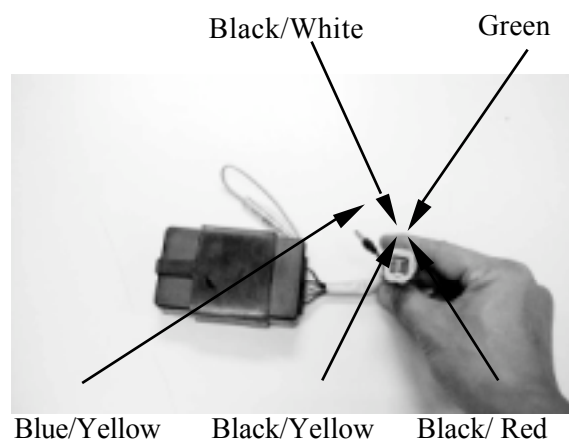
Note: The readings in this table are taken with a YF-3501 Tester.



Mongoose/KXR 50(OFF ROAD) Unit: M $\Omega$

Probe $\oplus$ (-)Probe	Black/ Yellow	Black/ Red	Black/ White	Blue/ Yellow	Green
Black/ Yellow		o	o	o	o
Black/ Red	o		o	15.73	4.63
Black/ White	o	8.52		o	o
Blue/ Yellow	o	o	o		o
Green	o	o	o	8.07	

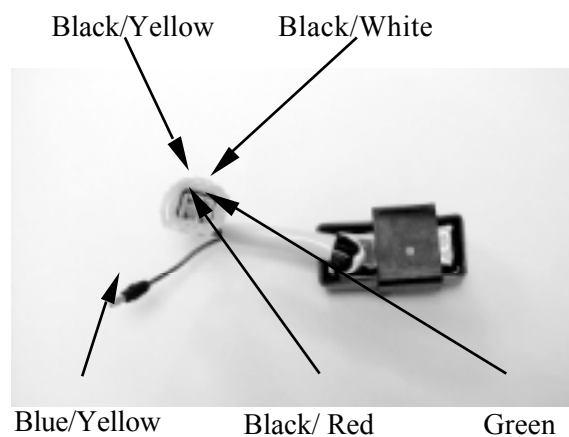
Note: The readings in this table are taken with a YF-3501 Tester.



KXR 50(ON ROAD) Unit: M $\Omega$

Probe $\oplus$ (-)Probe	Black/ Yellow	Black/ Red	Black/ White	Blue/ Yellow	Green
Black/ Yellow		o	o	o	o
Black/ Red	o		o	o	9.98
Black/ White	o	10.2		o	o
Blue/ Yellow	o	o	o		o
Green	o	o	o	6.91	

Note: The readings in this table are taken with a YF-3501 Tester.



# 15. IGNITION SYSTEM

## IGNITION COIL

### REMOVAL

Remove the spark plug cap.  
Disconnect the ignition coil wires and remove the ignition coil bolt and ignition coil.



Ignition Coil

### INSPECTION

#### CONTINUITY TEST

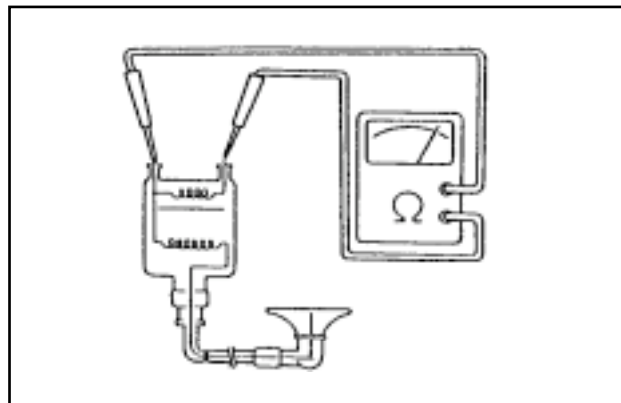
- \* The CDI unit is not adjustable. If the timing is incorrect, inspect the CDI unit, pulser coil and A.C. generator and replace any faulty parts.

Measure the resistance between the ignition coil primary coil terminals.

#### Resistance:

**Mongoose/KXR 90)** : 2.2\_ 2.6 $\Omega$  /20°C

**Mongoose/KXR 50)** : 3.7\_ 15.2 $\Omega$  /20°C



Measure the secondary coil resistances with and without the spark plug cap.

#### Resistances:

##### (Mongoose/KXR 90)

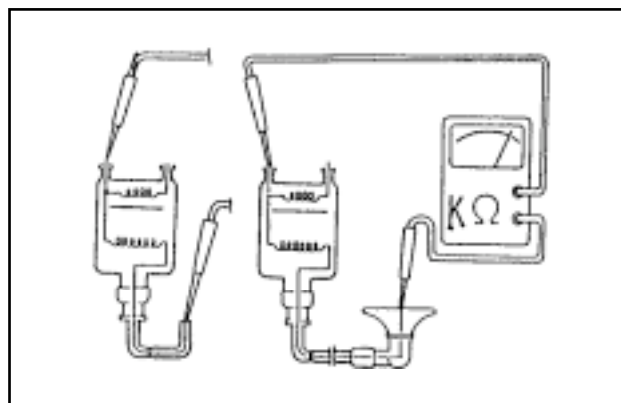
(with plug cap) : 8.39K $\Omega$  /20°C

(without plug cap) : 3.14K $\Omega$  /20°C

##### Mongoose/KXR 50)

(with plug cap) : 8.81K $\Omega$  /20°C

(without plug cap) : 3.51K $\Omega$  /20°C



- \* Correctly operate the tester following the manufacturer's instructions.

Note: The readings in this table are taken with a YF-3501 Tester.



# 15. IGNITION SYSTEM

## PULSER COIL

### INSPECTION

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

Disconnect the A.C. generator connector.

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

#### Resistance:

**Mongoose/KXR 90):** 121.1 $\Omega$  /20°C

**Mongoose/KXR 50):** 80\_ 160 $\Omega$  /20°C

Note: The readings in this table are taken with a YF-3501 Tester.



Pulser Coil Lead

### REMOVAL

Refer to chapter 14 for the A.C. generator removal.



## IGNITION TIMING INSPECTION

- \* The CDI unit is not adjustable. If the ignition timing is incorrect, inspect the CDI unit, pulser coil and A.C. generator and replace any faulty parts.

Remove the fan cover.

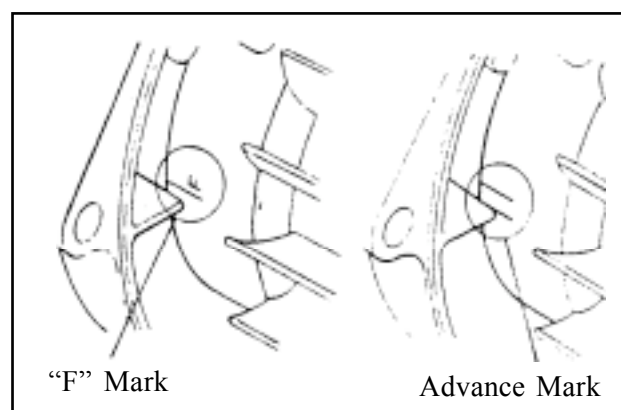
Warm up the engine and check the ignition timing with a timing light.

When the engine is running at the ignition timing is correct if the "F" mark aligns with the index mark within  $\pm 2^\circ$ .

#### Ignition Timing:

**Mongoose/KXR 90):** BTDC28°/4000rpm

**Mongoose/KXR 50):** BTDC15°/1700rpm



"F" Mark

Advance Mark