

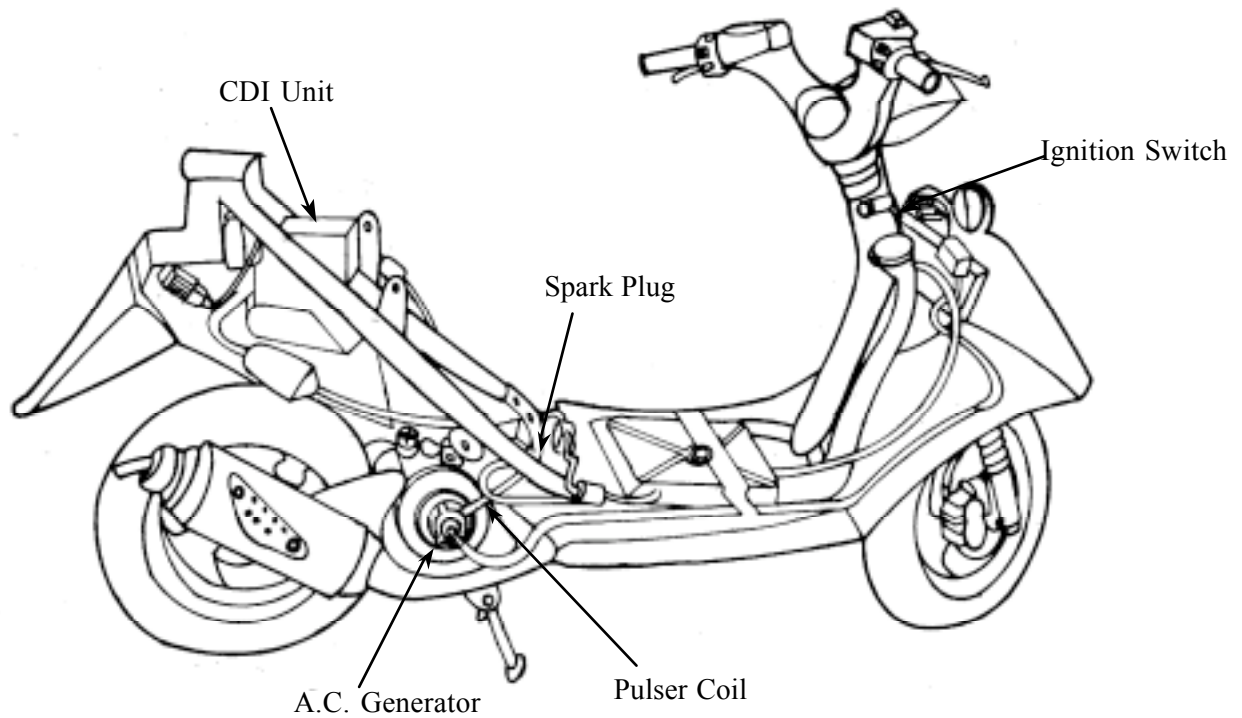
17. IGNITION SYSTEM

IGNITION SYSTEM

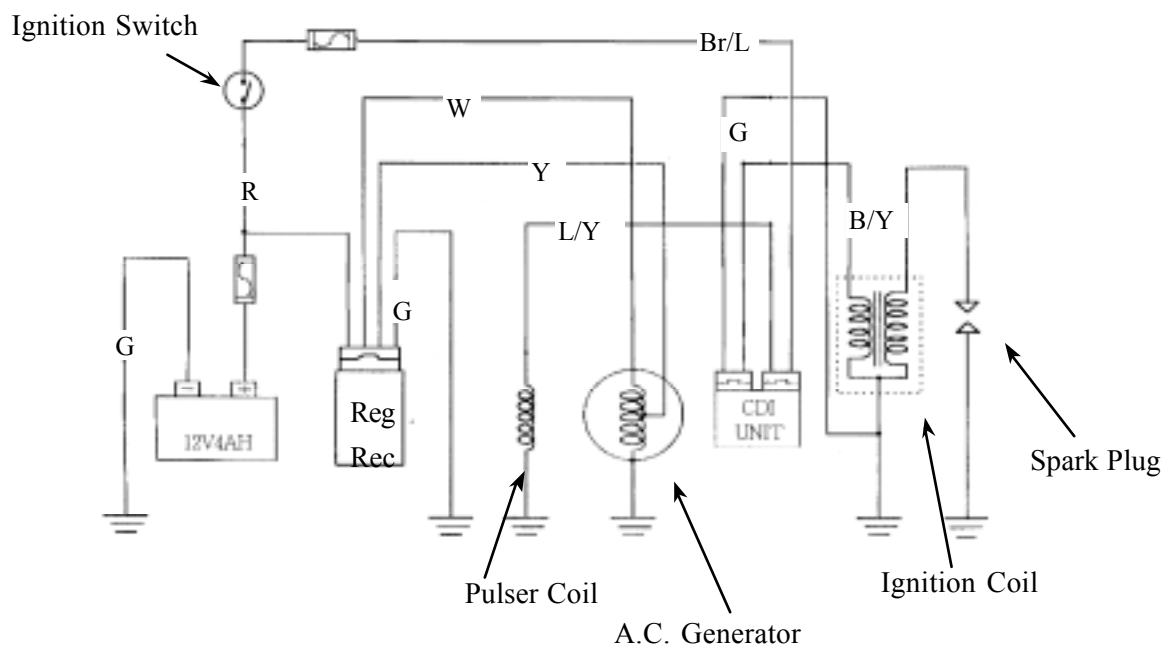
| | |
|---------------------------------|------|
| IGNITION SYSTEM LAYOUT ----- | 17-1 |
| SERVICE INFORMATION ----- | 17-2 |
| TROUBLESHOOTING ----- | 17-2 |
| SPARK PLUG ----- | 17-3 |
| IGNITION COIL INSPECTION ----- | 17-3 |
| A.C. GENERATOR INSPECTION ----- | 17-4 |
| CDI UNIT INSPECTION----- | 17-4 |

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 20-3.
- 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 | SH10BA | | BR8HSA | |
| | SH10AA | | BR6HSA | |
| Spark plug gap | | | 0.8_ | 1.0mm |
| Ignition timing | | | 13.5° ± | 2° BTC/2000rpm |
| Ignition coil resistance (20℃) | Primary coil | | 0.153_ | 0.187Ω |
| | Secondary coil | without plug cap | 3.24_ | 3.96KΩ |
| | | with plug cap | 6.99_ | 10.21KΩ |
| Pulser coil resistance (20℃) | | | 50_ | 170Ω |
| Exciter coil resistance (20℃) | | | 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

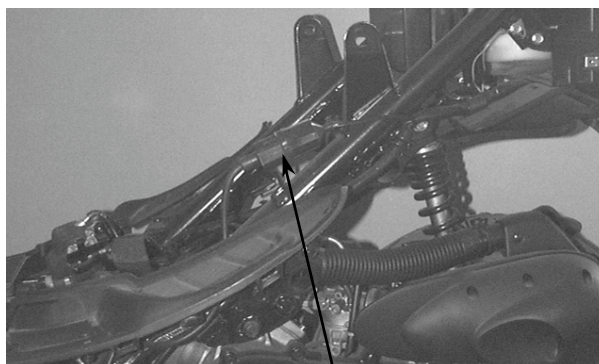
17. IGNITION SYSTEM

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

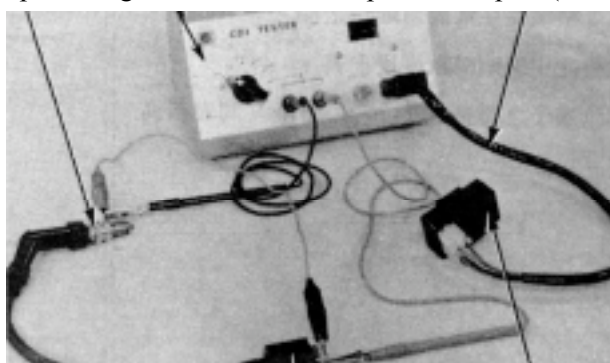
IGNITION COIL PERFORMANCE TEST

Test the ignition coil using a CDI tester.

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

When there is no spark at the spark plug, replace the ignition coil with a new one.

Spark Plug CDI Tester Special Coupler (KB7)

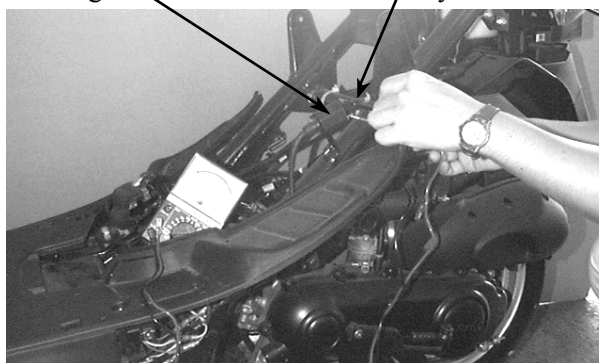


IGNITION COIL CONTINUITY TEST

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.

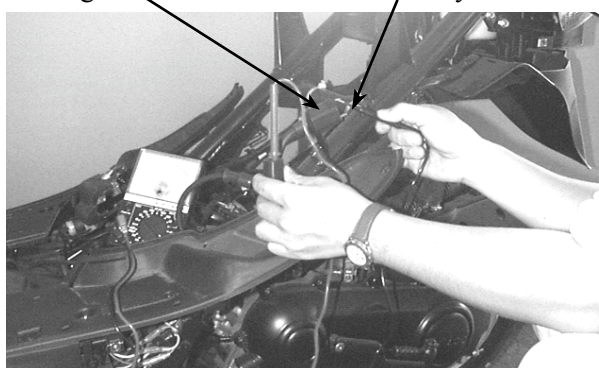
Ignition Coil CDI Unit
Ignition Coil Primary Coil



Measure the ignition coil resistances at 20°C .

| | | |
|---------------------------------|--------|---------|
| Primary coil | 0.153_ | 0.187Ω |
| Secondary coil without plug cap | 3.24_ | 3.96KΩ |
| Secondary coil with plug cap | 6.99_ | 10.21KΩ |

Ignition Coil Secondary Coil



17. IGNITION SYSTEM

A.C. GENERATOR INSPECTION

For A.C. generator removal/installation, refer to pages 9-3 and 9-5.

Disconnect the pulser coil wire coupler.

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

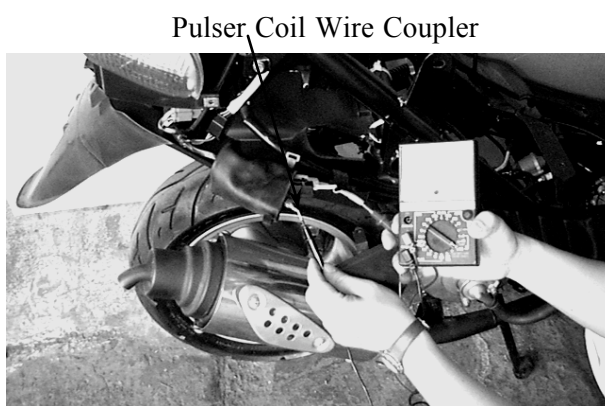


A.C. Generator Connector

Resistance (20°C): 80_ 160Ω

* Measure the resistance in the XΩ range.

For pulser coil replacement, refer to pages 9-3 and 9-5.



Pulser Coil Wire Coupler

CDI UNIT INSPECTION

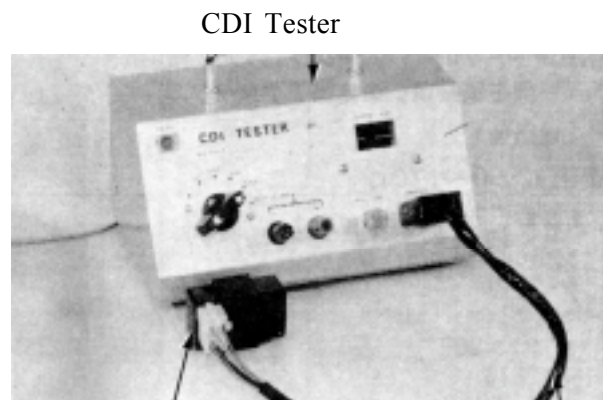
Remove the met-in box. (⇒2-3)

Disconnect the CDI coupler and remove the CDI unit.

Inspect the CDI unit performance using the CDI tester.

* Correctly operate the CDI tester following the manufacturer's instructions.

Connect the CDI unit to the CDI tester special coupler (KB7). Adjust the CDI tester switch range.



CDI Tester

| Switch | Good CDI | Faulty CDI |
|--------|------------|------------|
| 1. OFF | No spark | — |
| 2. P | ↑ | — |
| 3. EXT | ↑ | Good spark |
| 4. ON1 | Good spark | No spark |
| 5. ON2 | Good spark | No spark |

CDI Unit

CDI Tester Special Coupler

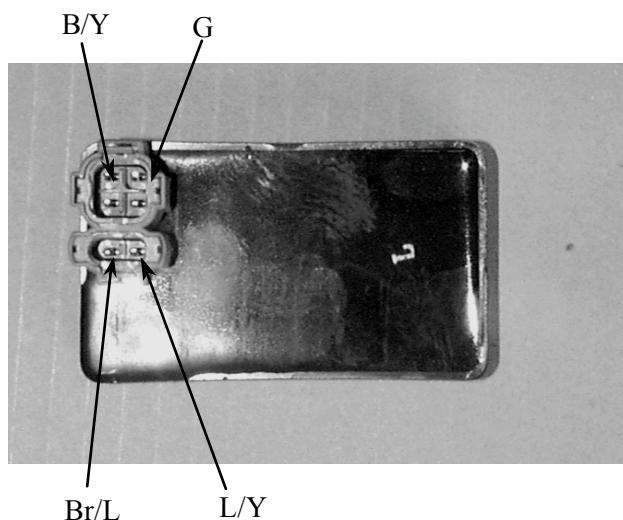
17. IGNITION SYSTEM

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 “ ∞ ” unless the condenser is discharged.



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

Unit: K Ω

| Probe \oplus (-)Probe | Blue / Yellow | Brown/ Blue | Green | Black/ Yellow |
|----------------------------|-------------------|----------------|----------|------------------|
| Blue / Yellow | | ∞ | 1 ~ 100 | ∞ |
| Brown/ Blue | 100 ~ ∞ | | 1 ~ 100 | ∞ |
| Green | 1 ~ ∞ | ∞ | | ∞ |
| Black/ Yellow | 1 ~ 100 | ∞ | 0.1 ~ 50 | |