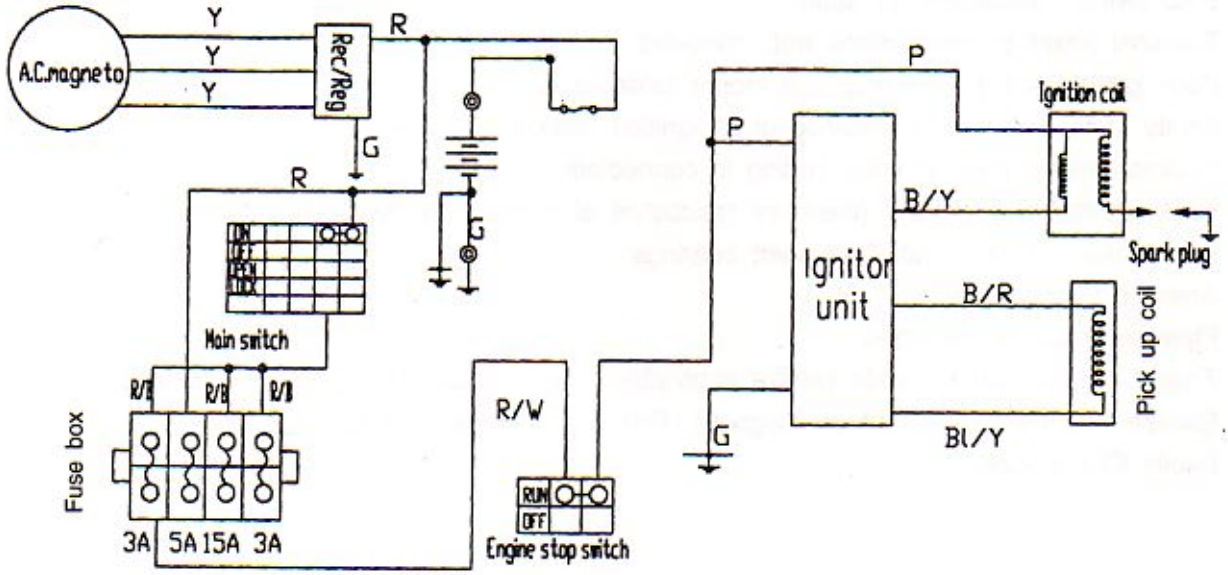
IGNITION SYSTEM TROUBLESHOOTING

No Spark, Weak or Intermittent Spark

- Spark plug gap incorrect
- Fouled spark plug
- Faulty spark plug cap or poor connection to high tension lead
- Related wiring loose, disconnected, shorted, or corroded
- Engine Stop switch or ignition switch faulty
- ETC switch misadjusted or faulty
- Terminal board or connections wet, corroded
- Poor ignition coil ground (e.g. coil mount loose or corroded)
- Faulty stator (measure resistance of all ignition related windings)
- Incorrect wiring (inspect color coding in connectors etc)
- Faulty ignition coil winding (measure resistance of primary and secondary)
- Worn magneto (RH) end Crankshaft bearings
- Sheared flywheel key
- Flywheel loose or damaged
- Trigger coil air gap too wide (where applicable) – should be .016–.030" (.4–.75 mm)
- Excessive crankshaft runout on magneto (RH) end – should not exceed .005"
- Faulty CDI module

IGNITION SYSTEM

CIRCUIT DIAGRAM



TROUBLESHOOTING

IF THE IGNITION SYSTEM FAILS TO OPERATE. (NO SPARK OR INTERMITTENT SPARK)

Procedure

Check:

1. Fuse (Main)
2. Battery
3. Spark plug
4. Ignition spark gap
5. Spark plug cap resistance
6. Ignition coil
7. Pickup coil resistance
8. Main switch
9. Engine stop switch
10. Sidestand switch
11. Wiring connection (entire ignition system)

NOTE:

- Remove the following parts before troubleshooting.
  1) Not on ATV
  2) Cowling body
- Use the special tools specified in the trouble shooting section.

Ignition checker
Pocket tester:

1.Fuse

Refer to "CHECKING SWITCHES" section in CHAPTER 8.

NO CONTINUITY → Replace the fuse.

CONITINUTY ↓

2.Battery

- Check the battery condition. Refer to "BATTERY INSPECTION" section in CHAPTER 3.

INCORRECT → - Clean battery terminals. - Recharge or replace the battery.

CORRECT ↓

3.Spark plug

- Check the spark plug condition.
- Check the spark plug type.
- Check the spark plug gap.

Refer to "SPARK PLUG INSPECTION" section in CHAPTER 3.

Standard spark plug: DR8EA/NGK

OUT OF SPECIFICATION → Repair or replace the spark plug

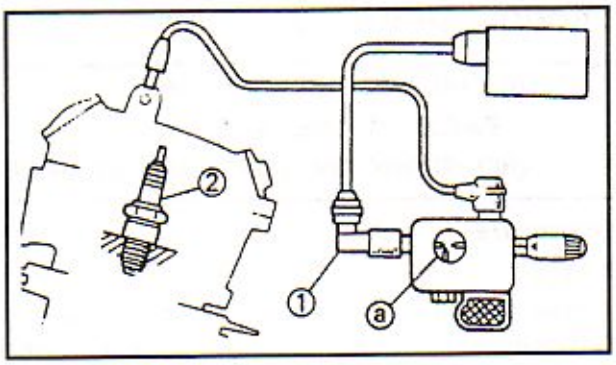
Spark plug gap: 0.6–0.7mm

*

4.Ignition spark gap

- Disconnect the spark plug cap from the spark plug.
- Connect the ignition tester ① as shown.
② Spark plug
- Turn the main switch to "ON".
- Check the ignition spark gap ⓐ.
- Check the spark by pushing the starter switch, and increase the spark gap until a misfire occurs.

Minimum spark gap: 6mm (0.24 in)



MEETS SPECIFICATION

The ignition system is not faulty.

OUT ☒ OF SPECIFICATION OR NO SPARK

5.Spark plug cap resistance

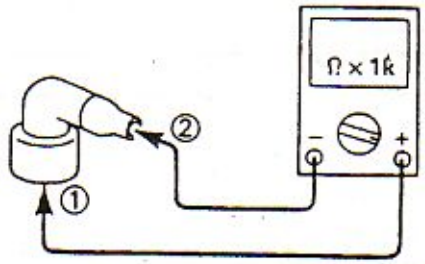
- Remove the spark plug cap.
- Connect the pocket tester (Ω×1k) to the spark plug cap.

NOTE:

- When removing the spark plug cap, do not pull the spark plug cap from high tension cord.
- Remove → Turning counterclockwise.
- Connect → Turning clockwise.
- Check the high tension cord when connecting the spark plug cap.
- When connecting the spark plug cap, cut the high tension cord about 5mm.

Spark plug cap resistance: 5KΩ(20°C)

Tester (+) lead →
Spark plug side ①
Tester (–) lead →
High tension cord side ②



OUT OF SPECIFICATION

Replace the spark plug cap.

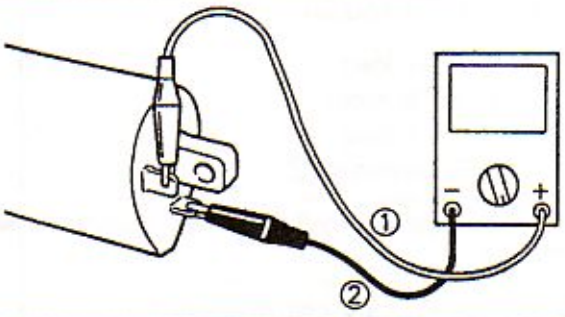
* CORRECT

6. Ignition coil resistance

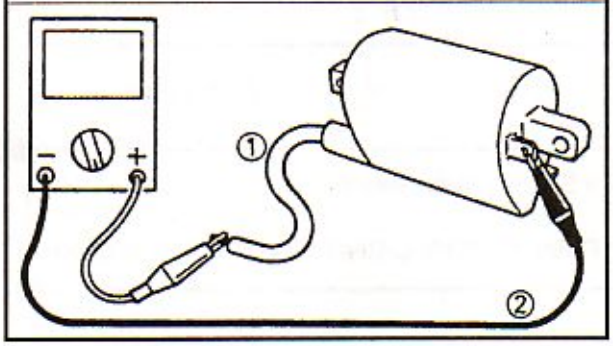
·Disconnect the ignition coil connector from the wireharness.
·Connect the pocket tester (Ω×1) to the ignition coil.
·Check if the primary coil has the specified resistance.

Primary coil resistance:
3.6–4.8Ω(20℃)

Tester (+) lead →
Pink Terminal ①
Tester (–) lead →
B/Y Terminal ②



Tester (+) lead →
Spark plug lead ①
Tester (–) lead →
Pink Terminall ②



·Connect the pocket tester (Ω×1k) to the ignition coil.
·Check the secondary has the specified resistance.

Secondary coil resistance:
0.7–14.5kΩ(20℃)

OUT OF SPECIFICATION

Replace the ignition coil.

BOTH MEET SPECIFICATION

*

*

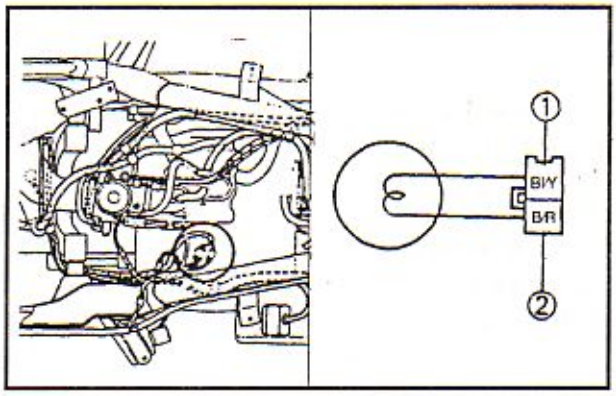
7. Pickup coil resistance

- Disconnect the pickup coil coupler from the wireharness.
- Connect the pocket tester (Ω×100) to the pickup coil coupler.

Tester (+) lead → BI/Y Terminal ①
Tester (–) lead → B/R Terminall ②

- Check the pickup coil has the specified resistance.

Primary coil resistance: 3.6–4.8Ω(20℃)



OUT OF SPECIFICATION → Replace the pickup coil.

MEETS SPECIFICATION ⇩

8.Main switch

Refer to "CHECKING SWITCHES" section in the CHAPTER 8.

NO CONTINUITY → Replace the main switch.

CONTINUITY ⇩

9.Engine stop switch

Refer to "CHECKING SWITCHES" section

NO CONTINUITY → Replace the right handlebar switch.

CONTINUITY ⇩

10.Sidestand switch

Refer to "CHECKING SWITCHES" section

NO CONTINUITY → Replace the sidestand switch.

CORRECT ⇩

11.Wiring connection

- Check the connection of the entire ignition system
  Refer to "CIRCUIT DIAGRAM".

POOR CONNECTIONS → Correct.

CORRECT ⇩

Replace the ignitor unit.