16. Ignition system

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Service Information

General Safety

Carry out inspection in sequence based on the troubleshooting table.

If the CDI unit is dropped, or if strong shock is applied thereto, CDI unit malfunction may result. Take due precautions when handling it. Also, if the connector or coupler is connected or disconnected when there is current flowing, overvoltage may occur on the unit leading to circuit damage. Always turn off the main switch prior to servicing.

Ignition timing cannot be adjusted because the ignition system is of CDI type.

Spark plug check. (3 - 5)

Connect the same color cords. Pay particular attention to colors prior to removing wiring. Connect the same color couplers.

The resistance value may slightly differ from the standard values depending on each measuring situation.

Specifications

Item		Standard value	
Ignition coil Resistance value 20 (68)	Primary coil		0.1~0.2
	Cacandany cail	With plug cap	7.3~11k
	Secondary con	Without plug cap	3.6~4.6K
Pulse generator coil resistance value 20 (68)		50~170	
A.C. generator coil resistance value 20 (68)		50~350	

Tools

Measuring instruments Digital circuit tester PVA multi-tester Inspection adapter Spark adapter

Troubleshooting

No spark at plug

- Poorly connected, broken or shorted wires
- Between the A.C. generator and CDI unit
- Between the CDI unit and ignition coil
- Between the CDI unit and main switch
- Between the ignition coil and plug

Faulty main switch

- Faulty ignition coil
- Faulty CDI unit
- Faulty A.C. generator
- Faulty pulse generator

Poor Engine Running

- Primary ignition circuit
- Faulty ignition coil
- Faulty wire connection
- Faulty CDI unit
- Secondary ignition circuit
- Faulty plug
- Faulty high-tension cord
- Faulty pulse generator
- Faulty spark plug cord

Ignition timing

- Faulty A.C. generator
- Faulty CDI unit
- Faulty pulse generator

Ignition System

CDI Unit Inspection

CDI ignition circuit inspection

NOTE

Inspect the ignition system in proper sequence based on the troubleshooting table.

- Remove the luggage box. (4-5)
- Remove the body cover. (4-6)

Remove the coupler from the CDI unit, and check the ignition system circuits from the wiring coupler side.



Inspection item	Terminal	Standard value	
Pulse generator	Blue/yellow and green/white	50-170 20 (68)	
Ignition coil (primary coil)	Black/yellow and earth	3.6-4.6 20 (68)	
A.C. generator	Black/red and earth	50-350 20 (68)	
Main switch	Black/white (+) and earth(-)	No power connection when the main switch is ON	
Wire harness earth	Green and earth	Power connected	

Testing by CDI Tester

Check the CDI unit spark performance by using a CDI tester.

Tool: Inspection adaptor



NOTE

Read tester manual carefully prior to using the tester.

Replace defective CDI unit.

Ignition Coil Inspection

Remove the luggage box. (4-5) Remove the body cover. (4-6) Remove the center cover. (4-4) Remove the primary wire.

NOTE

This test is inaccurate. Conduct the ignition coil performance test with an ignition coil tester.

Measure the primary resistance between the ignition coil terminal and earth. **Standard value: 0.1-0.2** [©]

Remove the spark plug cap from the plug. Measure the secondary resistance between the ignition coil spark plug cap and earth. **Standard value: 7.3-11K** ^Q

If the measured value deviates from the prescribed value, remove the plug cap from the high-tension cord, and measure the secondary resistance.

Standard value: 3.6-4.6K Q







Replacement

Remove the high-tension cord from plugs and clamps. Remove the primary wire from the ignition coil. Loosen 2 bolts to disassemble the ignition coil.

Install in the reverse order of removal.



Performance Test

Remove the ignition coil.

Use a CDI unit to test spark performance of the ignition coil. If there is no spark from the spark cap of the spark adaptor, replace coil.

Tools: Spark adaptor

Inspection adaptor

NOTE

Read the tester manual carefully prior to using the tester.

Pulse Generator Inspection

Remove the luggage box. (4-5)

Disconnect the A.C. generator 4P coupler and the green/white wire connector.

Measure the resistance between the green/white and blue/yellow wire.

Standard value: 50-170 (20°C/68°F) € (20°C/68°F)

NOTE

Even if the resistance value slightly deviates from the standard value, sometimes performance is not affected. In such case, check all related parts to determine if the cause of trouble exists in other areas.

For information on pulse generator change, refer to section 8.

A.C. Generator Inspection

Disconnect the A.C. generator coil wire (black/red).

Measure the resistance between the black/red wire and the earth.

Standard value: 50-350
(20°C/68°F)
€ (20°C/68°F)

NOTE

Even if the resistance value slightly deviates from the standard value, sometimes function is not affected. In such case, check all related pats to determine if the cause of trouble exists in other areas.

Carry out this test with the stator mounted on the engine.

The tester measuring range is 1







Ignition Timing Check

NOTE

As the system uses the CDI unit, the ignition timing need not be adjusted. Check the ignition system if the ignition timing is incorrect.

Start and warm up the engine. Connect the timing light to the high-tension cord.

NOTE

Read the timing light manual prior to using it.

Remove the timing hole cap from the shroud, and start the engine.

Align the "F" mark on the rotor with the index mark on the case when the engine is idling to specified rpm.

Idle speed: 8°BTDC 1,600 rpm.

Gradually increase the engine speed. If the index mark is set within the advanced "F" mark at the engine speed greater than 3,900(rpm), it indicates the advance system is correct.

Side Stand Ignition Cut-off Switch

Inspection

Remove the front cover.(4-3) Remove the headlight.(18-2) Remove the coupler of the side stand switch. Check for continuity between the terminal as shown below ;

ITEM	TERMINAL	SPECIFICATION
ON (side stand is lowered)	BLACK/WHITE AND GREEN	NO CONTINUITY
OFF (side stand is retracted)	BLACK/WHITE AND GREEN	CONTINUITY







Removal

Remove the front cover.(4-3)

Remove the headlight.(18-2)

Remove the coupler of the side stand switch.

Remove the L. side cover.(4-5)

Loosen the side stand switch mounting 2 bolts.

Release the wire clamps and remove the side stand switch.

Installation

Install in the reverse order of removal.





MEMO
