

3. Measure the resistance between the 2 high-tension leads at the spark plug caps. If the meter indicates an open circuit (no continuity), the igniter is faulty and must be replaced. Refer to Chapter Nine. Refer to Table 2, Table 3 or Table 4 for specifications.

NOTE

The primary side of the coil in the igniter cannot be inspected.

Igniter Internal Resistance Test (650 cc)

The resistance values provided by Kawasaki are based on the use of their Kawasaki Hand Tester (part No. 57001-983). If another ohmmeter is used, the readings obtained may not agree with those specified due to internal resistance of the ohmmeter. When switching between ohmmeter scales, always cross the test leads and zero the needle to assure a correct reading.

1. Remove the igniter unit. See Chapter Nine.
2. Set the Kawasaki Hand Tester on the $R \times 100$ scale.
3. Refer to the following figure for your model for test connections and resistance values. If any

of the meter readings differ from the stated values, replace the igniter as described in Chapter Nine.

- a. **Figure 47:** 1986 JF650X-2.
- b. **Figure 48:** 1987-on JF650X-2 and all JS650SX.
- c. **Figure 49:** JF650TS.
- d. **Figure 50:** JL650SC.
- e. **Figure 51:** JB650TS.

Exciter Coil Resistance Test

1. Remove the engine hood.
- 2A. 300 cc—Perform the following:
 - a. Remove the stator coil cover bolts at the electric box and remove the cover. See **Figure 14** and **Figure 15**.
 - b. Disconnect the 4-pin connector inside the cover.
- 2B. 400 cc, 440 cc, 550 cc—Perform the following:
 - a. Remove the stator coil cover bolts at the electric box and remove the cover. See **Figures 16-19**.
 - b. Disconnect the 5- or 6-pin connector (**Figure 20**).

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IGNITER RESISTANCE TEST (1986 JF650X-2)

Range $\times 1$ kilo-ohms		Meter (+) lead connection		
		Blk red	Blk wht	Blk yel
Meter (-) lead connection	Blk red		1-5 kilo-ohms	500 kilo-ohms ∞
	Blk wht	∞		∞
	Blk yel	1-5 kilo-ohms	5-17 kilo-ohms	

2C. JF650X-2—Perform the following:

- a. 1986: Disconnect the bullet connectors at the front of the engine compartment (Figure 21).
- b. 1987-on: Remove the regulator/rectifier box grommet bolts at the front of the engine compartment (Figure 22) and pull the wires out of the case. Disconnect the bullet connectors.

2D. JS650SX—Perform the following:

- a. Remove the electric case as described in Chapter Nine.
- b. Open the case and disconnect the black/red to black/yellow leads at their bullet connectors (Figure 23).

2E. JF650TS, JL650SC and JB650TS—Perform the following:

- a. Remove the electric case as described in Chapter Nine.
- b. Open the case and disconnect the purple to black/yellow leads at their bullet connectors.

3. Switch an ohmmeter to the correct scale.

4. Connect an ohmmeter between the 2 colored leads specified in Table 1 (300 cc), Table 2 (400 cc & 440 cc), Table 3 (550 cc) or Table 4 (650 cc) listed under exciter coil resistance.

5. Compare the readings to the specifications given in the table for your model. If readings are not within specifications, replace the exciter coil as described in Chapter Nine.

Pulser Coil Resistance Test (400 cc, 440 cc and 550 cc)

NOTE

The pulser coil may also be referred to as a trigger coil.

1. Remove the engine hood.
2. Perform the following:
 - a. Remove the stator coil cover bolts at the electric box and remove the cover. See Figures 16-19.
 - b. Disconnect the 5- or 6-pin connector (Figure 20).

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IGNITER RESISTANCE TEST (JL650SC)

		Meter (+) lead connection			
Meter (-) lead connection	Range × 1KΩ	Black (1)	Purple	White	Black (2)
	Black (1)		2-6	∞	0
	Purple	∞		∞	∞
	White	50-240*	50-240*		50-240*
	Black (2)	0	2-6	∞	

*If measuring resistance twice, wait 30 minutes for capacitor charging.

3. Switch an ohmmeter to the $R \times 1$ scale.
4. Connect an ohmmeter between the 2 colored leads specified in Table 2 (400 cc & 440 cc) or Table 3 (550 cc) listed under pulser coil resistance. Repeat for each set of wires.
5. Compare the readings to the specifications given in the table for your model. If readings are not within specifications, replace the pulser coil as described in Chapter Nine.

Controller Testing (JS300SX)

A controller unit is mounted inside the electric box and connects to the stop switch relay and the igniter unit.

1. Remove the engine hood.
2. 300 cc—Perform the following:
 - a. Remove the stator coil cover bolts at the electric box and remove the cover. See Figure 14 and Figure 15.

- b. Disconnect the 2 black/white and the black bullet connectors inside the electric case.
3. Switch an ohmmeter to the $R \times 100$ scale.
4. Connect the ohmmeter positive lead (+) to the black/white controller unit connector and the negative lead (-) to the black connector. The correct reading is 3,000-4,000 ohms. Now reverse the 2 ohmmeter leads. The ohmmeter should show infinity.
5. Replace the controller unit (inside electric box) if the test results differ from those in Step 4.

STOP SWITCH RELAY

Some late 1980 and later Jet Skis have a latching relay connected to the stop switch so that the button need only be pressed once and released to ground the CDI unit and break the ignition circuit.

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IGNITER RESISTANCE TEST (JB650TS)

		Meter (+) lead connection				
Meter (-) lead connection	Range $\times 1K\Omega$	Purple	Green	Black (1)	White	Black (2)
	Purple		500* ↓ ∞	500* ↓ ∞	∞	500* ↓ ∞
	Green	500* ↓ ∞		500* ↓ ∞	∞	500* ↓ ∞
	Black (1)	3-4	20-30		∞	0
	White	40-150* ↓ 200-1000	14-22* ↓ 50-150	14-22* ↓ 50-150		14-22* ↓ 50-150
	Black (2)	3-4	20-30	0	∞	

*If measuring resistance twice, wait 30 minutes for capacitor charging.

Table 2 ELECTRICAL SPECIFICATIONS—400 CC AND 440 CC (continued)

Ignition coil (continued)	
Secondary winding	
1976-1980	9.5-11.5K ohms
1981-on	4.5-6.7K ohms
Exciter coil (red to black)	216-324 ohms
Pulser coil	
1976-1980 (red to gray)	52-78 ohms
1981-on (red to gray)	20-30 ohms

Table 3 ELECTRICAL SPECIFICATIONS—550 CC

Battery	12-volt, 16 amp hour
Alternator output	45W @ 6,000 rpm
Charging system	
Charging coil resistance	
Light green to black	1.2-1.8 ohms
Light green to light green	2.4-3.6 ohms
Ignition system	
Ignition coil	
Secondary winding	4.5-6.7K ohms
Exciter coil (red to black)	112-168 ohms
Pulser coil (red to gray)	14.4-21.6 ohms

Table 4 ELECTRICAL SPECIFICATIONS—650 CC

Battery	12-volt 19 amp hour
Alternator output	3.5 amps @ 6,000 rpm
Charging system	
Output voltage	38 volts
Regulator/rectifier output voltage	
Charging coil resistance	
JF650X-2, JF650SX	
Yellow to black	0.7-1.3 ohms
Yellow to yellow	1.5-2.3 ohms
JF650TS, JL650SC	
Brown to brown	0.7-1.3 ohms
Brown to black/yellow	1.5-2.3 ohms
JB650TS	
Brown to brown	0.3-0.6 ohms
Green to black/yellow	13.6-20.5 ohms
Ignition system	
Ignition coil	
Secondary winding	
JL650SC	2.5-3.3K ohms
All other models	2.1-3.1K ohms
Exciter coil	
JF650TS, JL650SC (purple to black/yellow)	250-380 ohms
JB650TS (purple to black/yellow)	1-1.6K ohms
All other models (black/red to black/yellow)	250-380 ohms