

Checking a KH400 stator/generator coil assembly.

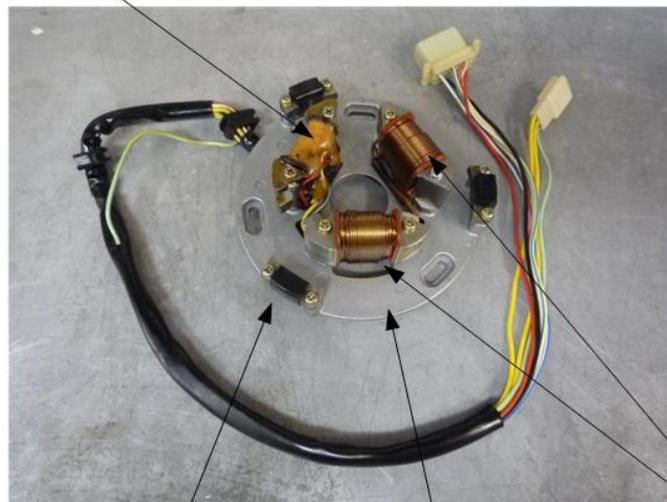
You will need:-

- A good LCD digital multimeter.
- A set of good test leads, one with crocodile clip.

These notes assume the stator has been taken off the bike but much of the checking can be done with the stator in situ.

The stator has six coils to be checked. Three small trigger coils, a pair of charging coils, a LO speed CDI coil and a HI speed CDI coil.

CDI coils, LO fat
one near stator
plate, HI thin one
on top



Trigger coil

Stator plate

Generator coils
(2) to charge
battery

Identify your coils visually. Inspect the LO speed coil. If it has black burnt varnish or enamel coming out of it, it has been running very hot for a long time, and if it checks out OK, may not last long in a second life!

If the stator is on the bike, pull off the 6 way and the three way connectors from the stator going into the loom. Check all the female crimped connectors are in good order. Push a male blade in and check it meets resistance and makes good contact as it slides in. Not a sloppy fit. If you replace crimp connectors, re-crimp them with a proper crimp tool. That's how the manufactures do it. Don't use plier type crimp tools. They are shit. All military and aircraft connector pins are crimped not soldered.

The coils are inductors and the primary unit of inductance is the Henry. However, many meters do not measure this and a good health check is to measure the resistance. This will not detect shorted turns which will cripple an inductor. The inductance is given in Henrys or milliHenrys as required.

Short the meter leads together. Set the meter to ohms. Check for a reading of 0.1 ohms or less. If it doesn't do this, get a better meter or leads!

The three small trigger coils.

Clip one meter lead to the stator body. Check the white/red, white/blue, and white green connector crimps. The reading should be 68 ohms, +/- 10%. Apply finger pressure to the point where the wire leaves the selected trigger coil. It is a blobbed over solder joint. Move it around a bit and check the meter stays spot on the reading you get. If it changes, you need a new trigger coil or to remake the connection. If your meter has inductance check for 16 to 24mH on each coil.

The pair of generator coils.

There are two big gauge wire coils, in series, to provide power for the battery. Connect the meter between the two yellow wires, any way round. The reading should be 0.2 to 0.3 ohms. Then check from stator body to any one of the yellow leads. It should read open circuit, at least a MegOhm. If your meter has inductance check for 2.5 to 3.5mH across the yellow leads.

The HI speed coil.

This is the smaller of the CDI generator coils and does not appear to go faulty. Connect the meter between the red and white wires. The reading should be 27 to 33 ohms. If your meter has inductance check for 50mH +/-20% across the wires.

The LO speed coil.

This is the bigger/fatter of the CDI generator coils and burns out due to internal heating. The enamel insulation melts, and turns short, and the resistance goes down. Bikes often start with poor coil at cold, the heat gets into the coil, and the bike won't restart until cooled down. Connect the meter between the black and white wires. The reading should be between 180 and 210 ohms. If your meter has inductance check for 50mH +/-20% across the wires. If your meter has inductance check for 1.35Henrys +/-20% across the wires. This last measurement was taken on a rewind coil as I have never had the opportunity to measure a working Kawasaki OEM part.

Wiring checks.

The PVC wires go hard due to heat and oil, so any part of the stator loom can go hard and brittle. Check the insulation is not cracked, or cracked and segments broken off around the back of the stator. The PVC goes like glass! Replace any wiring that needs it. Either replace wires whole, or splice in by soldering, laying wires side by side with a good 10mm long solder joint. Sleeve with heat shrink sleeve (put on first!). Do not use insulating tape on wiring for electrical purposes. It's a bodge. It's OK to use on building and repairing looms if you can't use the proper loom tape.

Rebuild.

Gently heat PVC wiring to soften it and mould it into place. This really helps. Be gentle. A hair drier is safer than a heat gun. It will take several minutes to heat through gently. The older wire is, the more this is helpful, but take care!

If you have had a LO speed coil rewind, check the polarity when refitting. You can do this with a couple of 1.5V cells and a compass. Put -ve to stator, +ve to white. Note what way a compass needle points to coil laminations of fat LO speed coil. Put -ve to white, +ve to red. Check the compass needle points the same way on the thin HI speed coil. Do not use your bike 12V battery! Turning a coil 'over' will not reverse the magnetic polarity. You have to just swap the connections over.

Any problems contact martin on the triples forum.

Enjoy, Martin