B.D.K. RACE ENGINEERING.

Kawasaki Er-6 / Ninja 650 2008+ Race Generator Fitting Info

Contents:

1 x Stator assembly
3 x Machined M6 x 10 button head screws
6 x M5 x 25 button head screws
3 x M8 x 10 button head screws
1 x Rotor assembly
1 x Regulator/rectifier

Fitting:

1) Remove the original generator cover, taking care not to tear the gasket if possible, and remove the original flywheel assembly and remove the original stator clutch from it.

2) Fit the old stator clutch to the new rotor assembly using the M8 x 10 bolts provided. Then fit the whole assembly to the crankshaft using the original washer and thread lock on the cleaned threads, torque to 22/25ftlbs (30/33Nm), do not torque to manufacturers original setting.

3) Undo the three bolts retaining the stator in the cover and the screw holding the wire clamp in place, then remove the assembly from the cover.

4) Remove the original reg/rec. It is a good idea to put the original rotor, stator and reg/rec in a box and take them with you to race meets / track days so that you have a spare system in the event of damage.

5) Ensure the threads in the generator cover are clean and dry. With the wires and silicone sheath passing through the mounting plate place the mounting plate so that the hole for the wires lines up with the exit point for the wires in the generator cover. Bolt the mounting plate to the generator cover using the 3 x machined M6x10 button head screws with plenty of thread lock on the threads.

6) Fit the stator cup to the mounting plate with the 6 x M5x35 button head screws gently and evenly in several passes until the heads bite into the stator core material and also using plenty of thread lock on the threads. Refit the wire clamp again using thread lock.

7) Fit the regulator / rectifier in the position you desire (ideally in some airflow with the back touching some metal part along its length to provide good heat transfer), and bolt it down at least at one end, the other end can be tie-wrapped in place. Attach the black and red wires direct to the battery – ensure that the 35A fuse is fitted in the in-line fuse holder on the positive wire.

8) Attach the blue wire from the reg/rec to a switched 12V positive feed, such as immediately after the ignition switch.

9) Fit the cover back onto the casing according to the manual. Ensure that the dowels are in place and that the cover goes fully home, flush with the gasket face before tightening. Make sure the gasket is good or use a fresh gasket and tighten to the cover bolts to the manufacturer's spec.

10) Plug the stator to the reg/rec ensuring that the block is secure and installation is complete!

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Please Note: Never run the bike with the battery or regulator/rectifier disconnected from the battery as this will cause damage to the generator. Please also be aware that as the system is designed for race use it only starts charging the system at approx 4Krpm depending on load, if left running for long periods of time below this it will eventually flatten the battery. Do not run with standard reg/rec as this will cause damage to the generator. Ensure that the battery is fully charged prior to use. The generator requires at least 12V at the battery to function.

The LED should start to glimmer at about 12.5V and be glowing bright green at 13.8V. If it starts to glow yellow shut down the engine and call for advice.

If for any reason you have to remove the stator assembly from the generator cover we recommend using fresh M5 x 25 Holo-krome button head screws on reassembly.

If the rotor needs to be removed there is an extractor available from us part number EX2PC. Remove the main rotor bolt and washer, carefully remove the large, thin section aluminium nut from the rotor with a good quality 6-point socket and engage the large part of the extractor to the uncovered threads – do not tighten, just ensure there is good engagement on the threads. Now tighten the inner part until the rotor becomes loose. Threads on the rotor and nut must be clean, dry and have a fresh coating of thread-lock on before refitting.

Any doubts or questions please ask – we are happy to help

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Testing your race generator if a fault is suspected:

1) Check that there is a 30 or 35A fuse in the reg/rec positive lead and that it is not blown.

2) Ensure that there is at least 12V DC at the blue wire feed with the ignition on and that the connection is secure.

3) Connect the reg/rec to the stator and with the battery terminals and blue wire fixed if your battery has 13+V you should see a very dim light from the reg/rec LED (you may need to shield out the light to see this).

4) Check that the three pins in both the stator side and reg/rec side connectors are firmly fixed by giving them a gentle tug each in turn.

5) Unplug the stator from the reg/rec and check continuity between the stator pins – you should have continuity between any two of them, but no continuity between any of them and earth.

6) With the stator unplugged from the reg/rec and whilst the engine is running at a fixed speed measure the voltage in AC across the pins out of the stator in turn (three different ways).
It is important that your meter is set to AC before doing this, and you should be getting the same voltage between any two pins. You should be getting somewhere between 3V & 4V per 1krpm, ie 9-12V for 3krpm.

7) Reconnect the stator to the reg/rec. Fire the bike up, set your multi-meter to DC and measure the voltage across the battery terminals. You should be seeing between 13V and 14.1V across the terminals at around 5k rpm. The generator will not fire below around 3krpm. The green LED on the reg/rec should be brightly lit – this indicates over 13.5V.

8) If all the above have been checked and yet the desired charging is not happening get in touch with us for further instruction and advice before sending the unit back.

Warranty and Liability Disclaimer

Due to the high stress environment of high performance riding, competition riding and especially from previous or future crash damage, in common with other racing parts no warranty, guarantee or liability is expressed or implied whatsoever in terms of but not limited to the item itself and any consequential damage. It is imperative that customers understand and recognise that they are purchasing racing equipment which has been designed with performance in mind over longevity and that they are solely responsible for their own skill and judgment when selecting and installing these products.

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