

B.D.K. RACE ENGINEERING.

RVF400 / NC30 / NC35 Race Generator Fitting Info

Thanks for buying a BDK Race Generator. You should soon be enjoying enhanced throttle response, more rapid acceleration and deceleration and increased horsepower as well as reduced overall weight. We have tried to write comprehensive fitting instructions however if in doubt, ask.

Contents:

- 1 x Generator coil assembly
- 1 x Rotor Assembly
- 1 x Generator coil mounting plate
- 6 x M5 x 25mm Allen screws
- 1 x Plastic sheathing long length
- 1 x Silicone braided sheathing (short)
- 3 x Female spade connectors
- 1 x Connector block
- 1 x Regulator / rectifier

Fitting (READ BEFORE ASSEMBLY COMMENCES):

- 1) Remove the original generator cover and the generator windings and ignition pick up from it.
- 2) Cut the 3 wires going to the original generator windings about 40mm from the rubber on the outside of the engine, and remove the rubber grommet for later use.
- 3) Remove the standard flywheel.
- 4) Take the new rotor and fit in place of the original flywheel tightening to 25 ft lbs not the original manufacturer's spec – you must use thread locking compound on clean threads!
- 5) Fit the generator mounting plate to the original casing using thread-lock on the M6 x 10 button head screws supplied.
- 6) Bolt the winding holder onto the mounting plate using the M5 x 30 button head screws supplied. Tighten evenly and in several passes until the screw heads bite into the core material - using thread locking compound.
- 7) Measure how much of the silicone sheathing you will need to go from the windings to the rubber grommet and cut length to suit. Slide over the generator coil wires as far as it will go and feed the generator wires through the original grommet carefully, it helps pass the wires to put a drop or two of washing-up liquid on the grommet holes but be sure to clean any excess off thoroughly afterwards (at least inboard side).
- 8) Measure the length of plastic sheathing required to reach from the stator grommet to the regulator / rectifier plug along the route you intend and cut to suit. Pass the stator wires through the sheathing together (make sure they are straight before passing them through). A drop or two of washing-up liquid helps to pass the wires through.



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- 9) Crimp the connectors to the ends of the wires ensuring the sheathing is crimped by the outer parts and the wire by the inner part and insert into the connector block until you hear a click. You may wish to add a small amount of solder to the wire/crimp area.
- 10) Refit the casing to the engine making sure you line it up as you fit it so you don't damage the generator coils by catching them on the rotor. Ensure that nothing is catching / crushing and that the gasket faces meet flush before tightening the cover. Ensure the faces of the casing and cover are clean prior to assembly, that the dowels are intact and in place and that you use an appropriate gasket and a small amount of sealant on the grommet.
- 11) Fix the regulator / rectifier in place of the old one or ideally fixed to a flat metal surface. The black and red wires go to the battery terminals and the blue wire goes to a switched 12V positive feed (as near after the ignition switch as possible). The regulator need only be bolted down at one end and can be tie-wrapped at the other end. Do not use the standard regulator or you may cause damage to the generator.
- 12) Plug the r/r to the stator and fitting is complete!

Please Note: Never run the bike with the battery or (for extended periods) the regulator/rectifier disconnected as this will cause damage to the alternator. Please also be aware that as the system is designed for race use it only starts charging the system at approx 5000rpm, if left running for long periods of time below this it will eventually flatten the battery.

When the generator starts overcoming losses the green light on the reg/rec will shine brightly.

Always start bike with a fully charged battery & remove fuse from regulator OR isolate the 12V power supply after each use

Always use thread locking compound on clean threads on all fasteners when assembling the generator – failure to do this HAS resulted in FAILURES!

Full spares back-up is available on request.



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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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