

Design Phase Next Gen ZFM

Greetings to all the wanderers of the aether,

Having concluded the first phase of the next generation ZFM, one can now go forward to the actual design phase of this project. Please bear in mind that this and the following posts of the project progression are essentially a digital form of documentation. There may be areas that are a bit unclear, but do not expect to have every detail to be fully explained – otherwise, where would the challenge and enjoyment be?

There are multiple options to that could be explored for the next YZFM design phase; however a progressive approach has been selected for the sake of simplicity and continuity. In this approach, the ZFM rotor will be expanded to 6 poles with an alternating N-S Neo arrangement. While this does move away from the Bedini method of similar polarity Neo's 180 degrees apart, however it does retain the empty arc segments, thereby creating a virtual coil between each of the other three coil ends similar to the 4 pole ZFM method.

So this build will utilize three coils equally spaced 120 degrees apart with the desired empty space and utilize the same type of build design and overall dimensions as the prior 2016 motor. The plastic pipe type of build is inexpensive, reliable and easily modified. Adapting it to three coils is very easily accomplished.

The coil dimensions will be designed with the results of the prior posts in mind. A short series of experiments were completed the other day that did verify the N-S rotor polarity arc results from the prior posts; however in this instance both coils were energized with an on/off toggle to minimize any overheating. The results of the rotor arc rotation experiments, with two coils in play, are identical to the single coil experiments. That experiment resolves the single versus two coil question.

The initial step will be to wind a bifilar coil with the desired resistance and coil arc, then retrofit it to the existing YZFM motor/body to verify the shortened coil pole arc value. The bifilar wind is intended to be used for the

parallel mode of operation and as a comparison to the series mode of operation.

At a future and appropriate time other similar and larger ZFM configurations will be explored and discussed.

It will be a bit of time before the next 6 pole coil experiment post...

Happy Fall