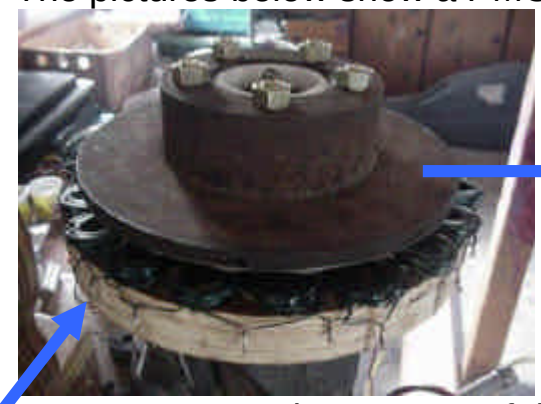
THE PMG DESIGN BASICS

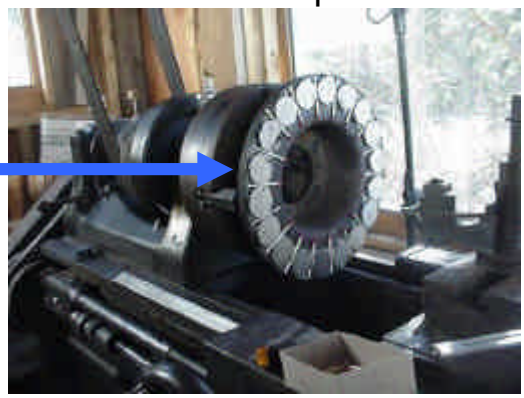
After a short search on the internet I came across a site call www.otherpower.com which had a large collection of proven 'home built' wind turbine generators.

I have chosen a PMG design called a 'flat horizontal axial flux PMG'. This design has proven it's self time and time again in real life wind turbine installations. The next section below is about a PMG from otherpower.coms website.

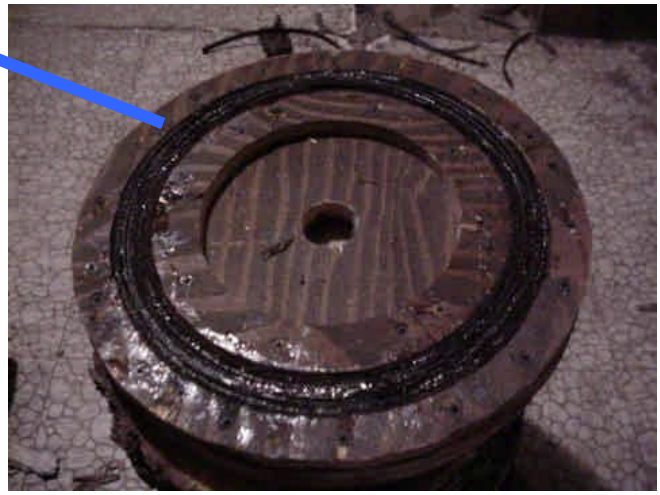
I will be using a car hub and bearings from a ford fiesta as they are very cheap and easy to get from a scrap yard, for the PMG to spin on.

The pictures below show a PMG from the site otherpower.com:





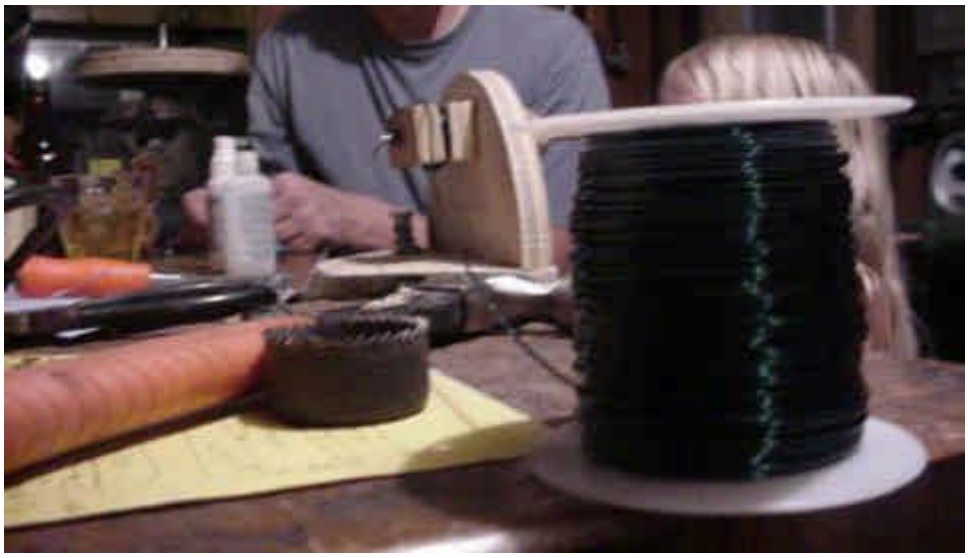
As you can see the top part of the PMG is made from a car disk brake which is machined on a lathe to take the Neo magnets which are the strongest magnets that are made.



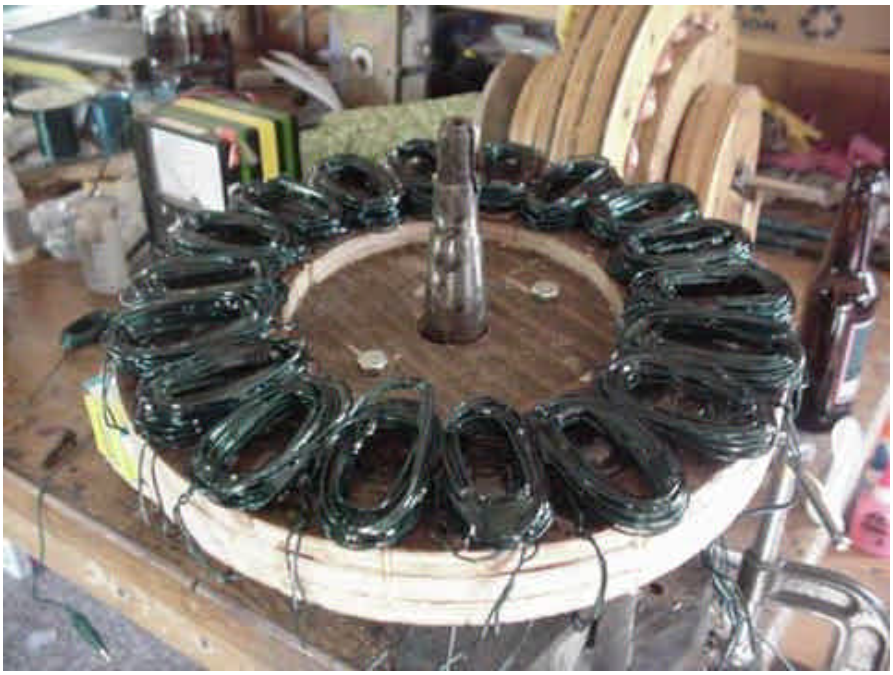
This picture shows what are called the laminates which are just simple strips of metal that are curved to form a circle and then ether placed in a ply wood former or are cast in fibre glass. These help to pull the magnetic power (flux) from the magnets through the coils which are placed on top of them.

The picture blow shows a coil winder which is used to make the coils from enamel copper wire which is called magnetic wire. This wire comes in different sizes and which size I use will depend on

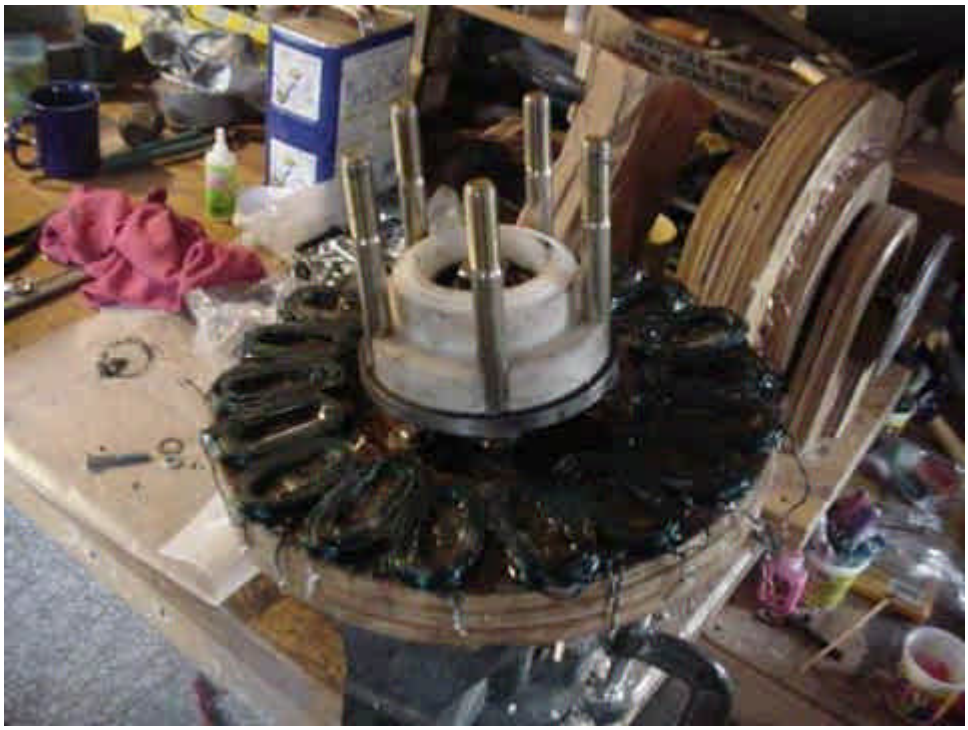
the number of turns I need to get into each coil (see further notes) to fit into a set amount of space on my PMG car disk brake.



These coils are then simple glued onto the laminates or for less maintenance like the laminates they can be cast into fibre glass.



As you can see the original studs from the car wheel are simply extended out to take the newly machined magnetic rotor much in the same way the car hub would have taken the car disk brake.



Once the coils have been wired up and the magnetic rotor is placed on the extended wheel studs then the PMG is completed and ready for testing: