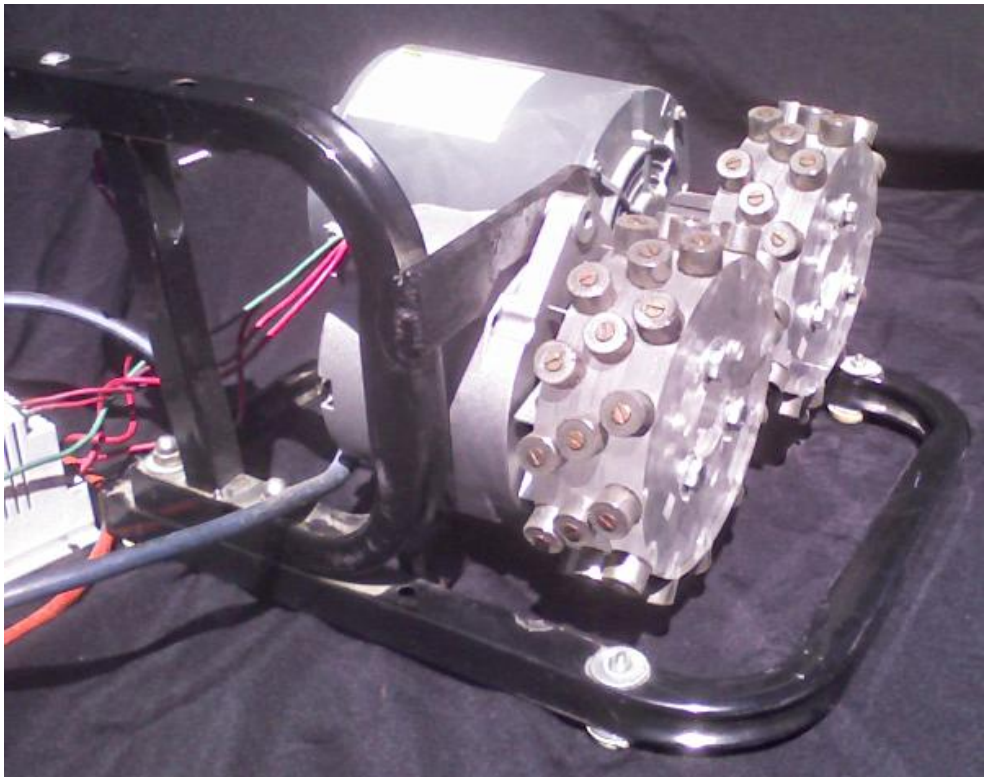
Free-Electricity MAGNETIC COGGING DEVICE You Can Make

For Fun and Profit!



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FOREWORD

Important Note: Any book is basically a communication from the author to the reader. If the book is written in a language the reader does not understand, then the communication will not be received. By the same token, if the reader goes by a word he/she does not know, or only partially understands, then the communication that the author intended will not be fully duplicated. Be sure while reading this book that you do not go past any word you do not fully understand. A glossary is included in the back of this book with some technical definitions, but if you aren't sure of any other words, please use a dictionary you feel comfortable with to get the word fully defined.

WARNING!! This technology is experimental. Do no attempt to build this device unless you are qualified to do so and are willing to take full responsibility for your own actions and assume all the risks. Electricity is dangerous and can kill! This book is an explanation of what I learned while working on my device. I am not recommending anyone build one of these.

INTRODUCTION

WHAT IS MAGNETIC COGGING?

When magnets are mounted on the perimeter of two rotors, and the edges of the two rotors are brought near each other, magnetic fields of pairing magnets will mesh. If one rotor is spun the other rotor will also turn, similar to the action of teeth (cogs) on gears wheels.

This book explains and describes magnetic-cogging as it can be utilized to create electricity. I am in no way trying to limit the possible applications of this technology. It is a method of creating rotary motion that requires less energy than typical pulleys and gears, so it could be used to make winches more efficient, bicycles easier to pedal, automotive transmissions more powerful, extend the range of electric cars, etc. The possible uses for this technology are limitless.

This system was originally developed and patented in France by Raoul Hatem in 2006. He is a retired clockmaker and is currently in his 80's. His understanding of electricity was reportedly not fantastic and so he only took this technology so far.

MY OBSERVATIONS

The following is my theory only. It is based on my own observations and those of my colleagues. We have also noticed in experimenting with this system that harmonics show up depending on the size and RPM of the rotors, number, spacing and strength of the magnets, etc. Anti-gravity and perpetual motion phenomenon have also been seen at higher RPMs that have not been fully explored.

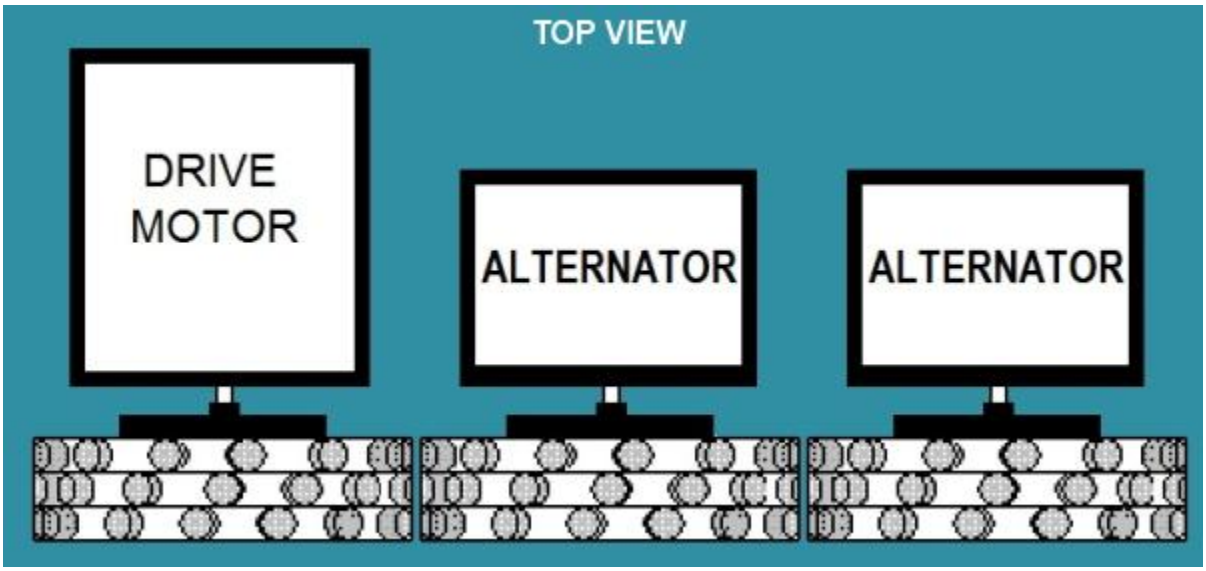
The theories that follow are meant as a starting point and you may, in your own experiments, discover things that confirm or conflict with this book, and so I welcome you to expand on my theories or formulate your own. We will all benefit from the sharing of different viewpoints.

Before getting too critical though, be sure your arguments are based on your own actual observations of the physical universe and not just texts you've read, as I've discovered many texts are wrong especially when it comes to free energy, and are not meant to educate, but only to further a hidden, suppressive agenda.

This is a photo of the device I've built to test the concept of magnetic cogging.

As you can see in the schematic below, the system basically consists of a Drive Motor that spins alternators, or multiple rotors and a single generator. You can even wind your own coils and mount them around the perimeter of the magnetic rotors to pick up energy that way.

In the test model that I've built, the Drive Motor consumed **134 Watts** of power and produced **184 Watts** with a net gain of 50 Watts of free energy.



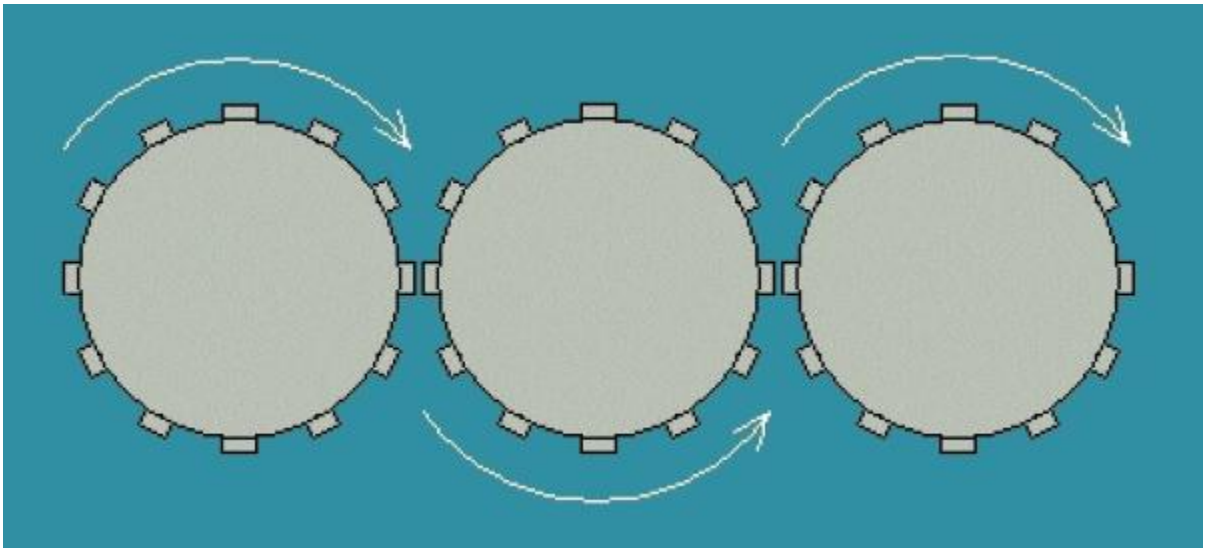
Let's take a closer look at this system and see how this was made possible.

Below you see a front view of the previous plan. The Drive Motor and each of the Alternators (Alternators) have rare earth magnets mounted on their perimeters. These magnets mesh magnetically, not physically, as the Drive Motor turns. Two, three, four or more Alternators can be added to the series.

If we call the load put on the Drive Motor to spin the first rotor "A" then the force necessary to spin a second rotor would be split between the Drive Motor and the first Alternator, and so the increase in load put on the Drive Motor would be 0.5A

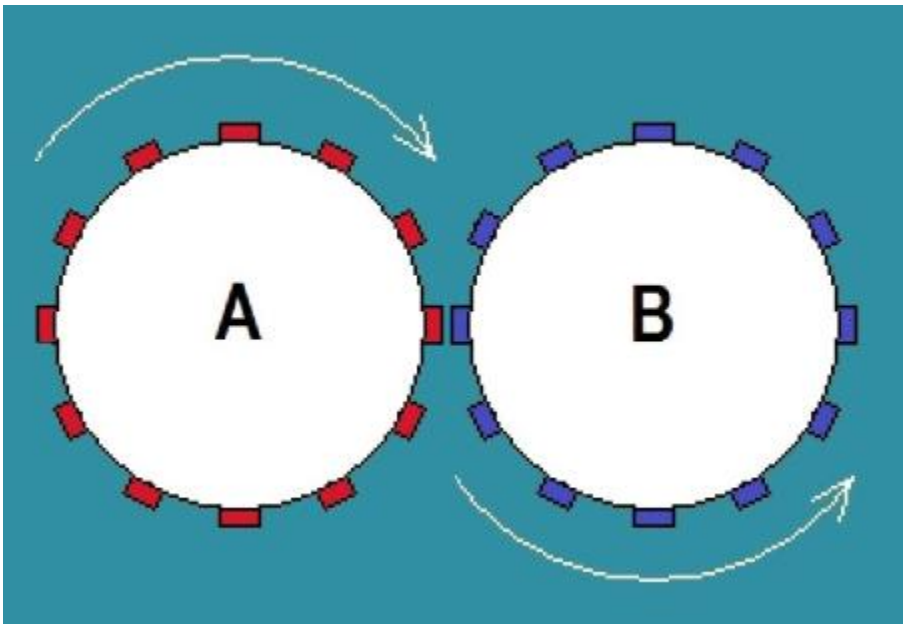
A third Alternator would increase the Drive Motor load by 0.33A and so on as opposed to the use of gears or pulleys and belts in which case the load would increase 2A and 3A respectively since gears and pulleys only transfer motion contribute nothing to the force needed to drive all the rotors.

More Alternators could be added to the series until the maximum output of the Drive Motor was reached.



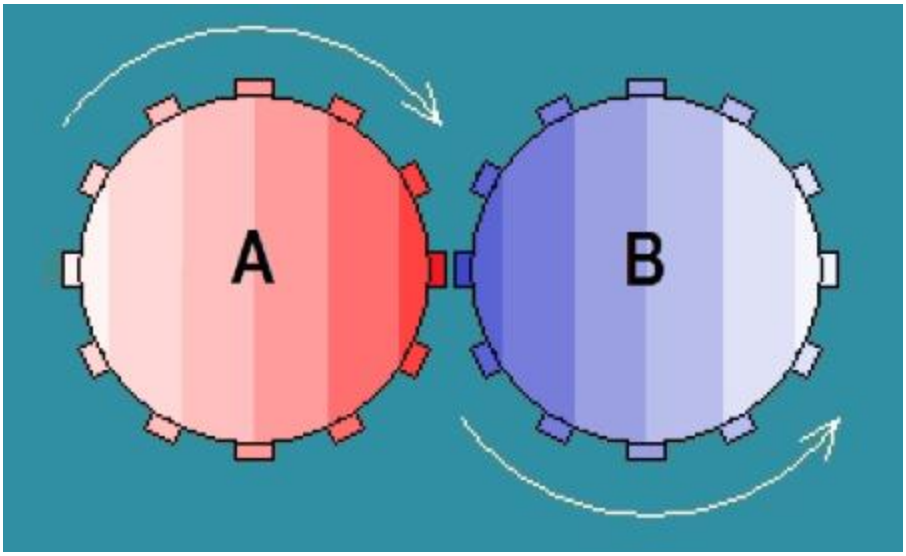
DRIVE MOTOR ALTERNATOR ALTERNATOR

The magnets are always placed so that the poles on adjacent rotors are opposed and thereby are always attracting the magnets they magnetically mesh with.



Another interesting factor, is that there is evidence to indicate that when a magnet is properly placed in the vicinity of a free-wheeling motor that has spinning magnets mounted to it, the load on the motor is lessened and it pulls fewer Amps. Perhaps the increased momentum from the attracting magnets is a factor here.

Another factor to take into account when analyzing the effects rotating magnets have on one another in this sort of arrangement, is that the closer magnets get to each other the stronger the repulsion/attraction is.

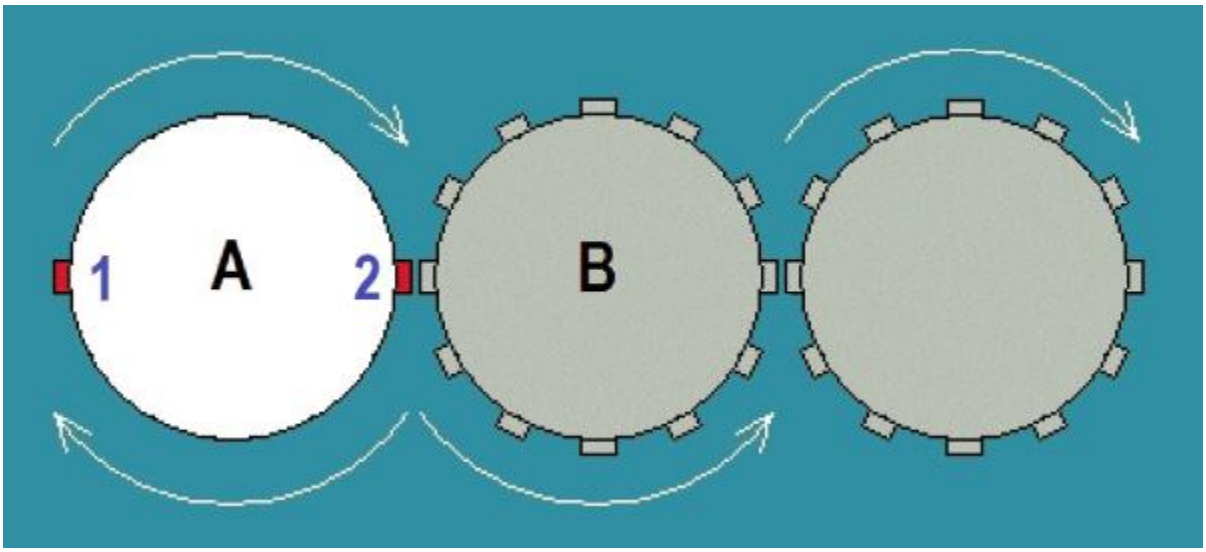


So in the following explanation of this Magnetic Cogging Device, we will pay more attention to the magnets when they are closer to each other than when they are farther apart. Let's analyze more closely, the travel of a single magnet on each rotor to get a better idea of exactly what's going on.

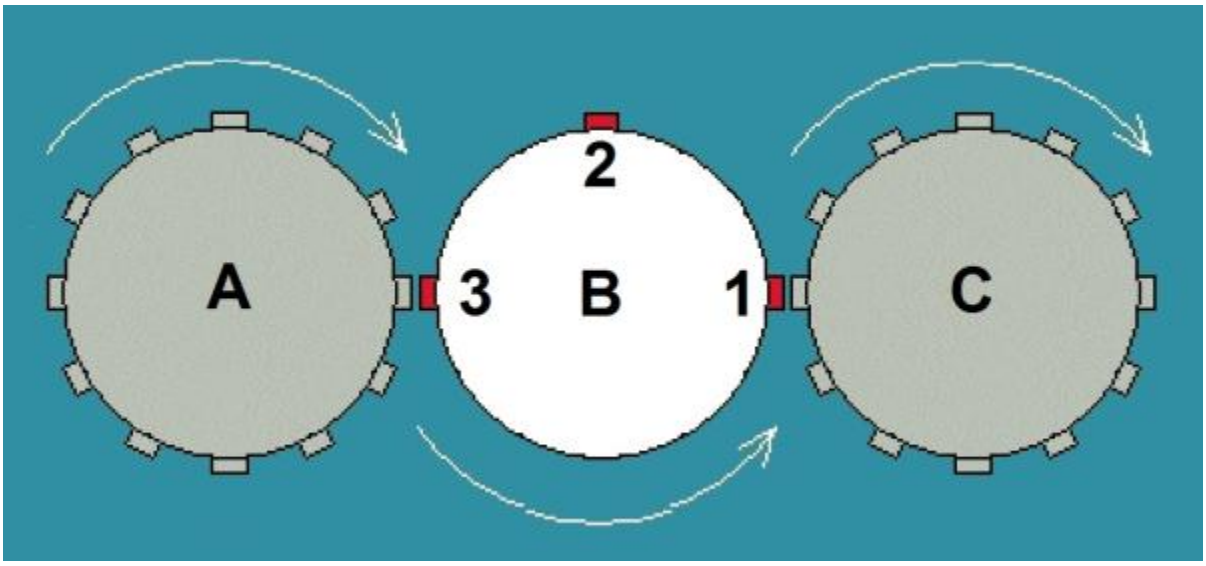
As we trace the path of a single, clockwise rotating magnet on Drive Rotor "A", we see that as the magnet shifts from position #1 to position #2, the magnet is attracted by the magnets on the rotor of Alternator "B" and thus its travel is being assisted and strengthened.

However, as the magnet completes its cycle shifting now from position #2 back to position #1 still in a clockwise direction, its travel is being hindered, again because of the attractive force exerted on it by the magnets on Alternator "B".

As for whether or not these strengthening and hindering forces are equal, by actual test, they are not.



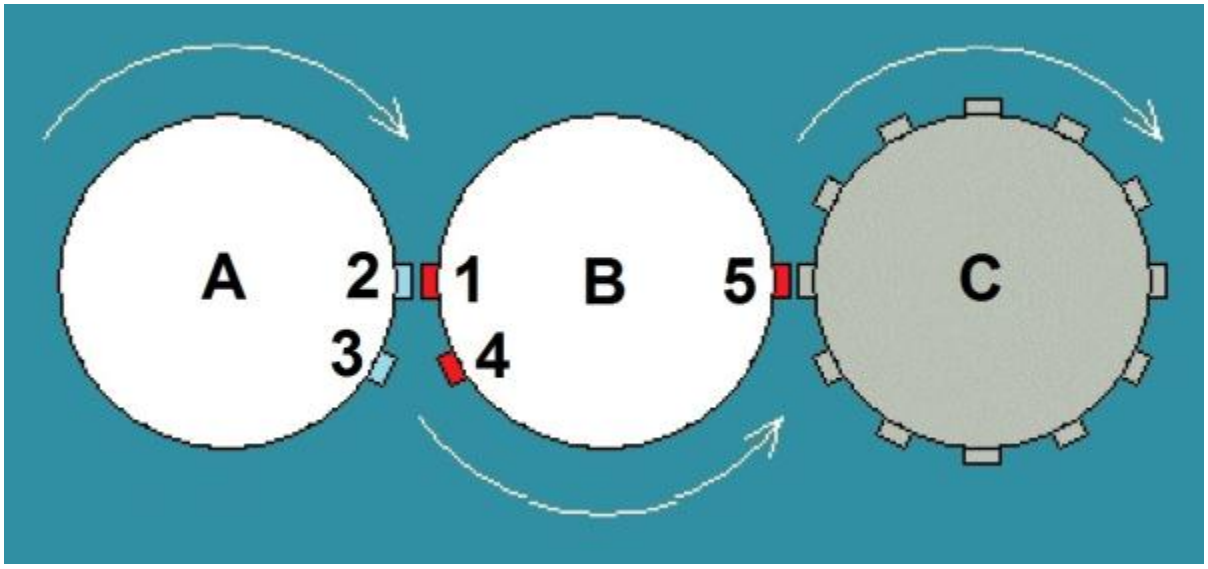
Now let's analyze the path of a single magnet on Alternator "B". We see as the magnet shifts from position #1 to position #2, that the magnet is travelling in an area of motion-hindrance as it fights its attraction for the magnets on Alternator "C".



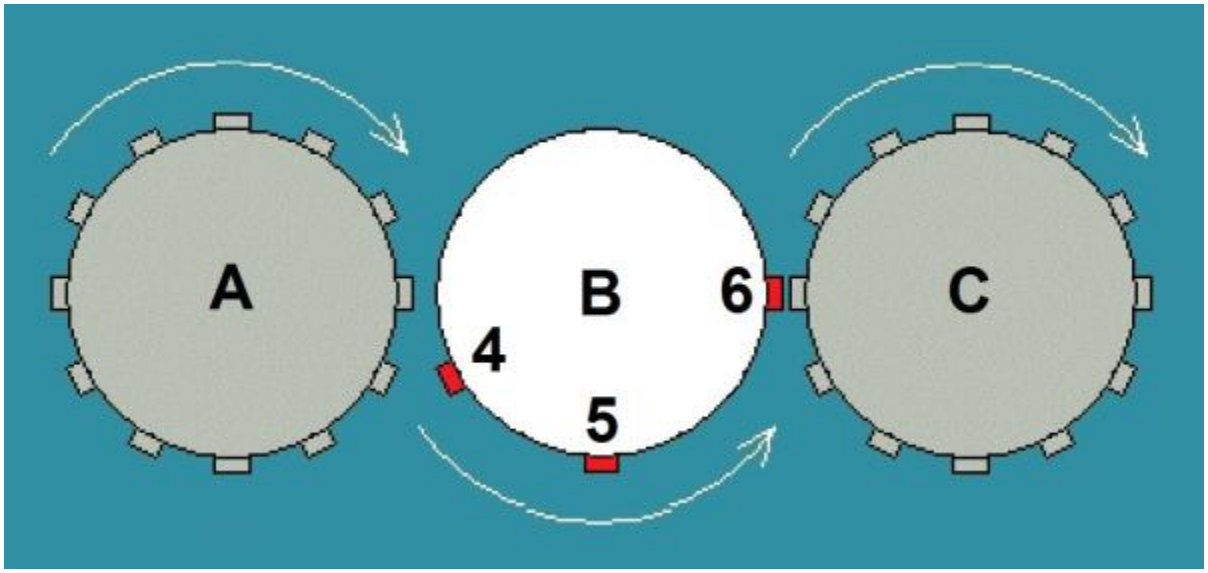
This flips, however; once it progresses past position #2, the attraction for the magnets on Drive Motor "A" overcomes the attraction for Alternator "C" and it moves into a mostly motion-assisted zone until it reaches position #3.

Magnets increase in their strength of attraction, the closer they get to each other.

As we continue to analyze the path of a single magnet on Alternator "B", we see that it progresses further beyond position #1 to position #4 because it is being pulled by the magnet on Drive Motor "A" as they move under power from position #2 to position #3. Since Alternator "B" is not under power, it relies totally on Drive Motor "A" for motion. The resistance imparted to rotor "A" as it moves from position #2 to #3 increases as each new rotor is added to the series.

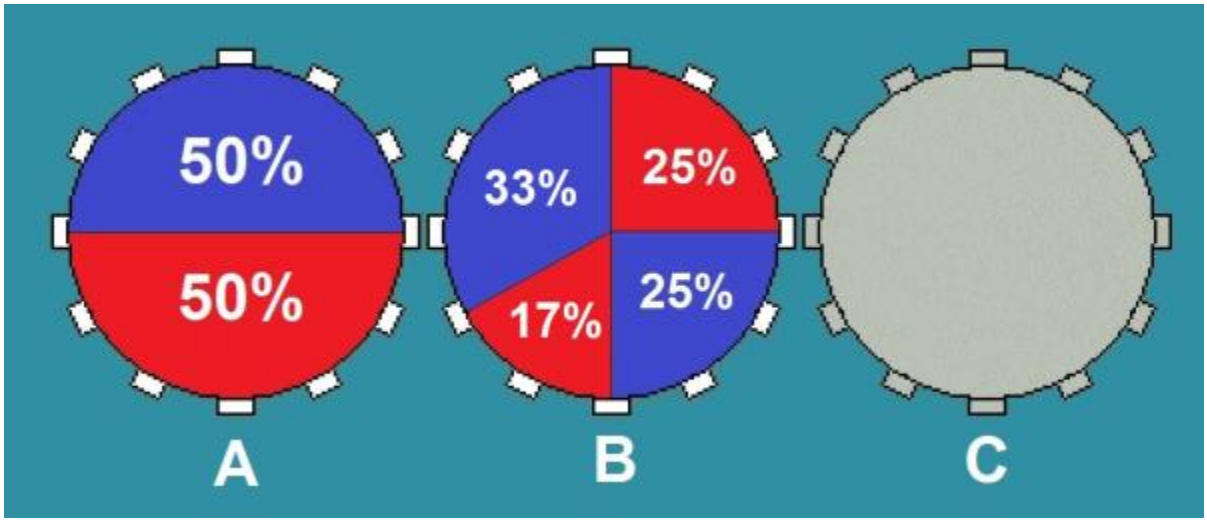


As we further trace the motion of a single magnet on Alternator "B" we see it progresses from a hindrance of its motion because of its attraction to the magnets on Drive Motor "A" as it moves away from position #4, to a point at position #5 where it flips again and moves into a zone of mostly motion-assistance because of the attraction and closer proximity to the magnets on Alternator "C" thus helping it achieve a full cycle back to position #6 where we started.



So, what are the overall effects exchanged between Drive Motor "A" and Alternator "B"? The blue areas in the picture represent areas of motion-assistance and the red areas represent areas of motion-hindrance.

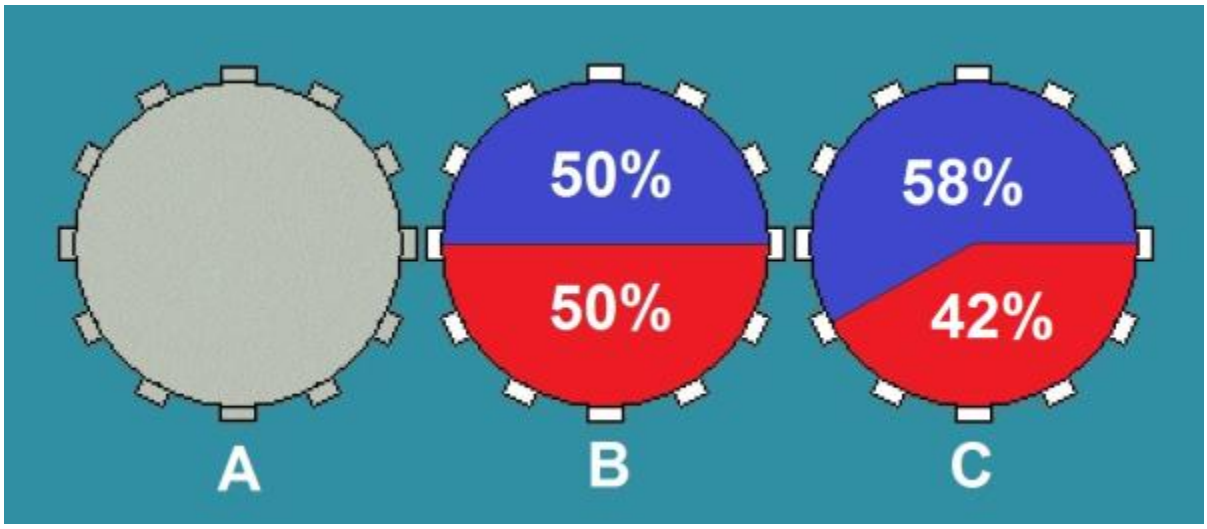
As you remember, Drive Motor "A" experiences increasing load as it drags the matched magnets on rotor "B" through the initial area of hindrance.



Alternator "B," on the other hand, experiences a 42% hindrance of motion, which is overcome by a 58% assistance in motion, resulting in rotation and free energy production.

If we analyze the overall effects created between Alternators "B" and "C" we see that "B" now becomes the "Drive Motor" for "C" and the force necessary to turn "C" is split equally between rotors "A" and "B". The Drive Motor should be sized as large as possible and as many Alternators added to the series as possible to create the maximum amount of power.

No more than one Alternator should be in direct magnetic contact with the Drive Motor's rotor, because by keeping additional Alternators in a line, each additional rotor is partially driven by the earlier rotors in the series with the least amount of additional load being added to the Drive Motor as possible.



An interesting experiment would be to put all the rotors in a circle so that the Alternators eventually came back to the Drive Motor's rotor on the other side to see what affect this would have.

CONSTRUCTION GUIDE FOR A MAGNETIC-COGGING DEVICE

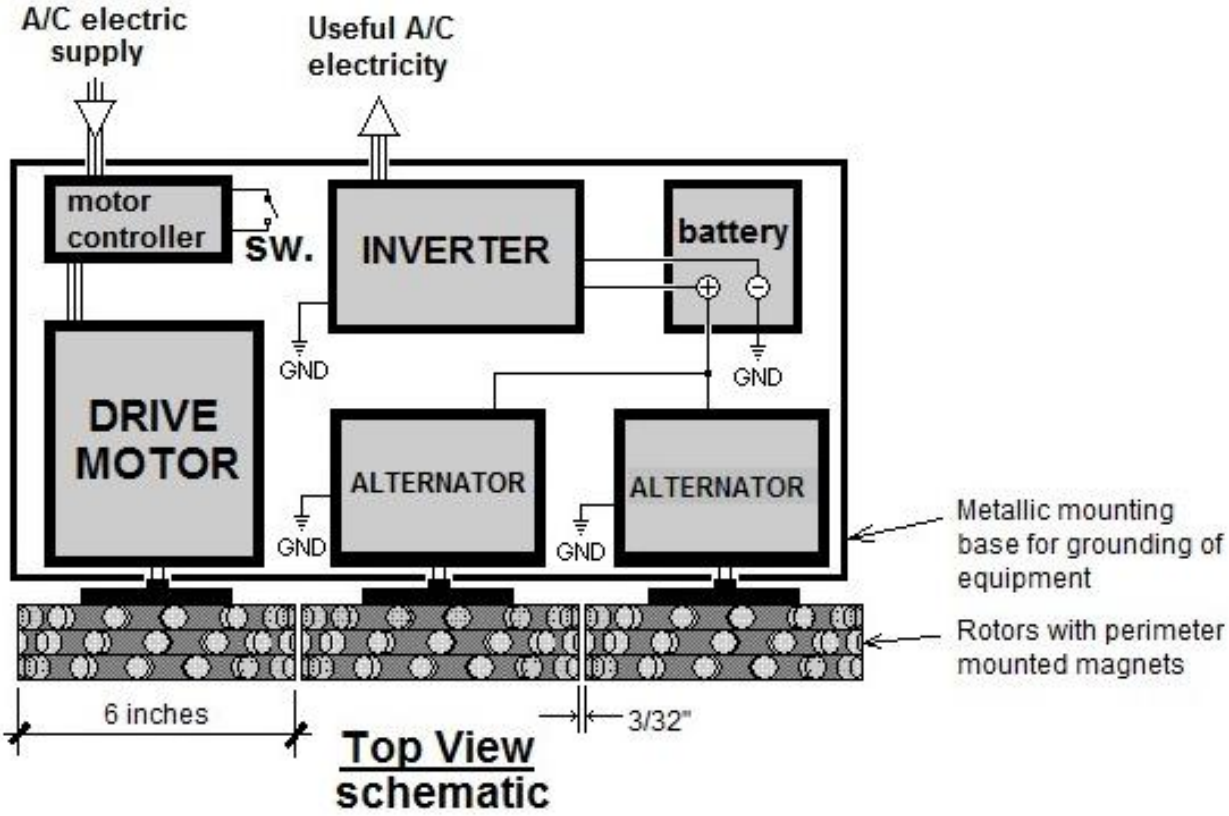
CONSTRUCTION OVERVIEW

I call this section a "Guide" for construction instead of "Plans" because I am not going to explain every detail to build this system as I don't know exactly what you are trying to accomplish. I also do not know your budget, skill level or the materials available in your part of the world.

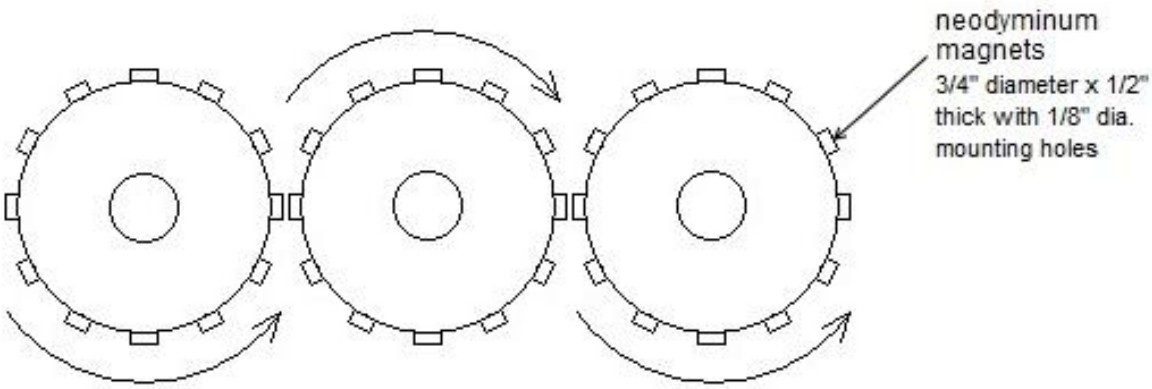
Not everyone can afford to just hand a set of plans to a contractor and say: "Build this." I want anyone who is handy to be able to construct one.

You could use this to supplement an existing solar/wind system and with a grid-tie inverter run your electric meter backwards or you could run a generator to take your shop or a home off the grid.

I'm also going to concentrate on the basics of the Drive Motor and the Alternator Rotors because the other technologies (batteries, solar panels, inverter, etc.) are all known technologies and you do not need to rely on me for that information. You can hire an electrician or an engineer familiar with solar and wind systems to do that – or buy a book at the bookstore.



Top View schematic

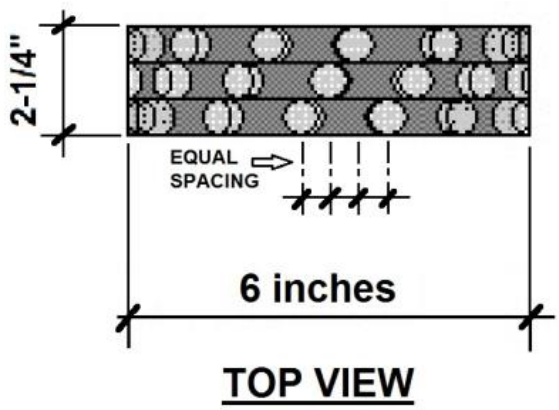


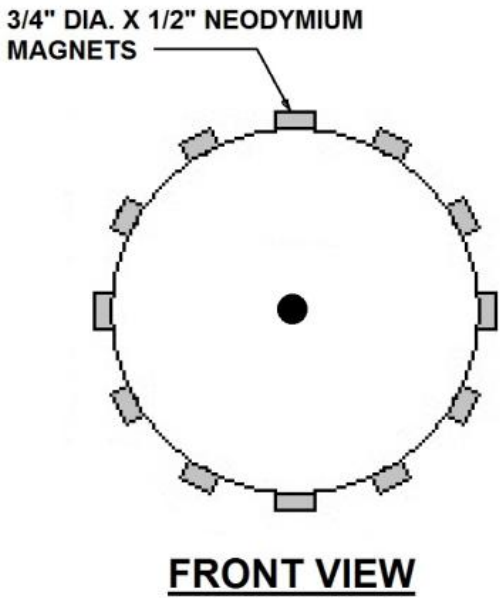
Rotor Section View
not to scale

ROTOR CONSTRUCTION

I built my first rotors out of MDF. This was fine for my test device, because I wanted to be able to make a lot of different rotors very quickly. Then I started to construct my rotors out of 3/4" acrylic plastic because these held up better at higher RPM. For a permanent setup I would recommend brass or aluminum. Brass is easy enough to work with if you have a metal lathe. Aluminum can even be shaped on a wood lathe if that's all you have.

I made my rotors without a lathe at all. I first cut out my 6" dia. disks with a jigsaw and then mounted them onto the motor with a bushing. I bought a Drill Press Vice that moved in two directions, a tool post holder and a 5-bit lathe tool set, all from Harbor Freight Tools www.HarborFreight.com





I turned the motor on and then just machined the rotors as if they were chucked into a lathe. This worked well because I machined the rotors while they were installed on the device they were ultimately going to be mounted on, and so they were perfectly balanced. If they aren't balanced you can get too much vibration during operation which you definitely don't want.

You can probably make larger diameter rotors and I would suggest it, but haven't done it myself and so I am just instructing you in what actually worked for me. If you do go larger, I think you would be wise in adding more magnets and keeping the spacing about the same as I've done here.

MOUNTING MAGNETS

I used 3/4" dia. x ½" thick neodymium magnets that had ¼" holes thru them (Grade: N42). I mounted the magnets with 8-32x1" brass flat head screws. I had to drill holes in the plastic and then install threaded brass inserts before I could screw the magnets to the rotors. For brass and aluminum rotors you wouldn't need threaded inserts as you can just drill and tap the holes directly into the brass/aluminum.

Put a little Loctite screw adhesive on the screw when you install it to reduce the chance of it loosening up. I still checked the screws frequently after the unit was in operation, to ensure everything was tight and nothing would go flying off unexpectedly. I put 12 magnets on each rotor section with a total of 3 sections to each complete rotor. I rotated each rotor section 10 degrees so that there are a total of 36 magnets, one every 10 degrees equally spaced around the completed rotor.

When assembling mating rotor sections you will need to make sure you rotate the rotor sections in opposite directions to its mate so when all the rotors are in operation the magnets match up perfectly on adjacent rotors.

MOUNTING ROTORS

If you have found a bushing that fits the shaft of your motor/generator, then mounting the rotor will be easy. You will probably just have to buy longer mounting bolts because the ones that come with the bushings are usually too short.

With alternators, mounting the rotor is a little more interesting because all of the alternators I've found are used in wind systems and are basically just rebuilt automotive alternators. Their shafts are threaded and come with a nut but are very short. I handle this by drilling a hole the size of the shaft in one of the rotor sections and putting it on the shaft with a nut. Then I bolt the other two rotor sections to the rotor section that I've already mounted on the alternator.

You will have to drill a hole in the other two rotor sections large enough to get a socket into so you can get the shaft nut holding the first rotor section in place.

MOTOR SELECTION

Selecting the right motor is very important, but you do have some choice depending mainly on the power source you have available and what you are trying to drive. I used a 1/3 hp motor to test my initial setup with, which is way too small to be practical. I could only turn one alternator with it and so I'd recommend at least 1hp, or bigger is even better.

I've found up to 3hp /115Vac readily available and you can even go larger if feel comfortable working with 240 volts which is in most American households. If you have access to 3-phase power that's even better. There are even 3-phase motors that come with converters to run them on 115 volts.

If you don't have a way of controlling the RPM on the motor, then you will need to select a motor with a rated RPM that is in the proper range you want the alternators or generator to spin at. Just because a motor is rated for 3400 RPM that doesn't mean it will spin at this RPM once it is under full load, so take that into account.

If you haven't sized the motor large enough, you may be limited in the total number of alternators or in the size generator you can turn.

MOTOR BASE

Most motors come with a base, but not all. If you are ordering the motor new you may have a selection of bases to choose from. You can work with just about any kind of base, but just make sure it has one. If you do have a choice it may be between a weldable base and boltable one. A boltable base will have holes in it for bolts and a weldable one will not. If a base is not available, they are not difficult to make.

MOTOR CONTROLS

Once you've chosen your motor you will need a way of turning it on so that is comes up to speed slowly. If it starts too fast, you will break the magnet "bond" between adjacent rotors. They need to stay in sync as they come up to speed or the system won't work.

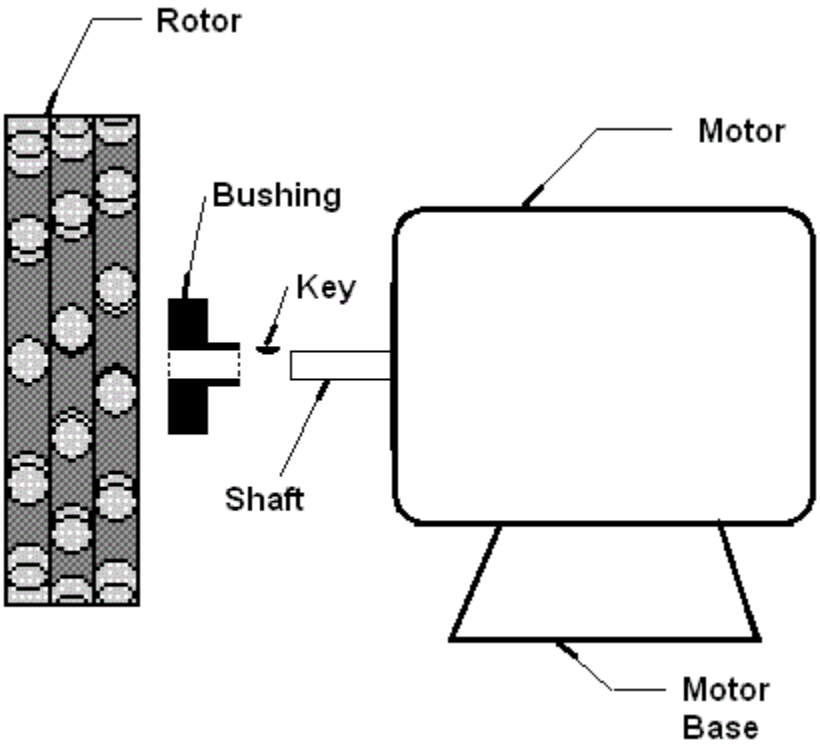
If you haven't chosen a motor that comes with matched motor controls and it is a 115 volt motor, then you can hook up a dimmer switch to it. That can be used to start it slowly, but you could damage the motor if you run it at less than full speed

too long, so don't use a dimmer switch to control the RPM the motor will run at, only use it briefly to start the motor slowly until it comes up to full speed.

BUSHING SELECTION

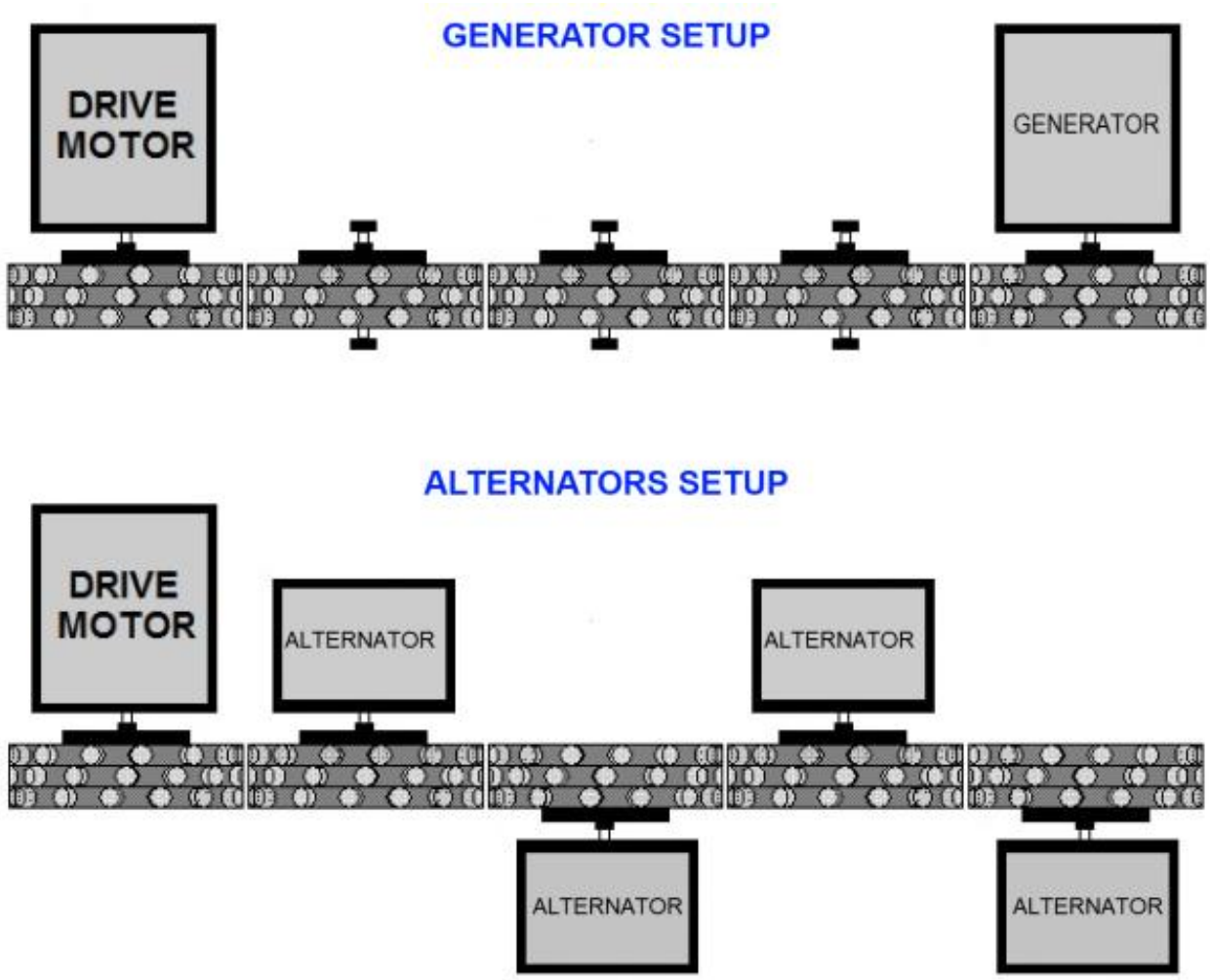
You are going to need to mount your rotor to the shaft of the motor. This is accomplished with a bushing. You can buy these at Grainger www.Grainger.com

You will need to know the diameter of the shaft on your motor and it should have a slot in the shaft for the key to fit into. The key should come with the motor and if it doesn't you can pick one up at the hardware store. The key will shear off if there is ever an obstruction while the motor is running and keep your motor from being damaged. It also keeps the shaft locked to the rotor as it spins.



GENERATOR VS. ALTERNATORS

You can see from the illustration below, driving a generator is handled a little differently than alternators.



I happen to think that alternators offer more versatility in producing power than generators do for a number of reasons:

1) Redundancy, because if one alternator fails you can still produce power.
2) Alternator systems produce DC power which can easily supplement an existing wind or solar system.

3) You can take the DC power from alternators, run it through a grid-tie inverter and run your electric meter backwards.

Consequently all my research has been done with alternators and not generators. My experience and knowledge of magnetic-cogging systems tells me that it would have to be done as I've pictured, so the power required to run the generator would be distributed over a number of rotors but I can't tell you how many rotors would be needed for your generator; the more the better, but not so many that your Drive Motor is not capable of turning them all.

You will notice that the Alternators Setup has the alternators in a staggered arrangement and that's because alternators require a nut to be tightened on the shaft to keep the rotors in place, and to keep the nut in place the alternator must always be spun **clockwise** or else the nut would spin itself off on every other alternator. You could also drill a hole in the alternator shaft and put a cotter pin in it to keep the rotor nut from loosening up and that way it wouldn't matter which way it rotated.

BASE AND FRAMEWORK

Whether you use a generator or alternators you are going to need to build a base to mount everything on. If you are a skilled metal worker this should come quite easy for you. If you don't know how to weld then you can buy perforated angle iron at Home Depot, hacksaw your pieces to size and bolt everything together like a big erector set.

The main thing is that everything should be mounted securely and the framework sturdy. You need to be aware that if you build the frame out of steel, it is probably best to keep the rotor magnets as far from the frame as possible to lessen the interference between the ferrous metal of the frame and the magnets. You could also use aluminum to minimize interference with the magnets.

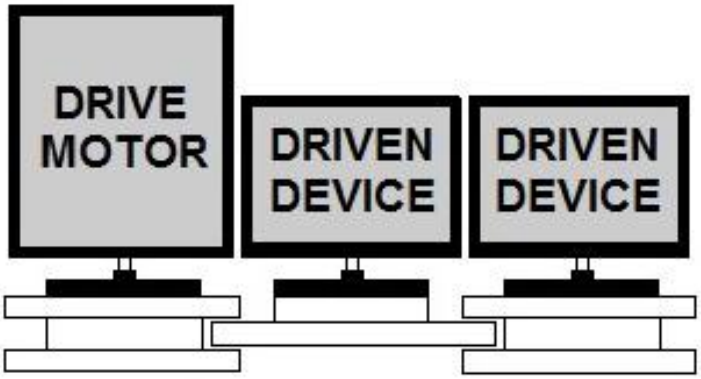
You can't build it out of wood so don't even try. It won't last and you'll have a fire hazard.

Make sure you enclose the rotors so there is no chance of anything getting caught in the spinning rotors or any way for magnets to go flying off and hurting someone. The rotors all need to be mounted in a fashion that allows them to be adjusted because I have gotten the best results when adjacent rotors are mounted as closely as possible without actually touching. Ideally the whole system should be located in a mechanical room where it is protected and yet will still get air so it doesn't overheat.

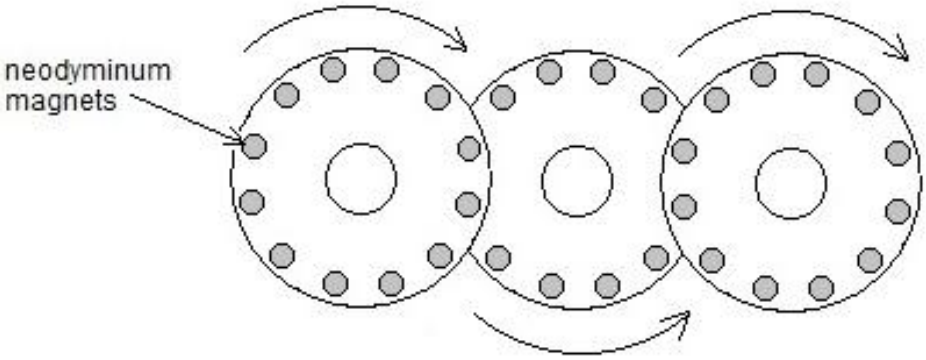
STATE OF THE TECHNOLOGY

My goal when I first started working with this system was to replicate the results the original inventor was claiming. I did this by duplicating his techniques of rotor construction, magnet mounting, etc., the best I could, whether I agreed with his methods or not and within the limits of the materials that were available to me.

I originally bought construction plans off eBay for this device. I was not sent "construction plans" though, and what I wound up receiving was a set of partially translated French patent documents. I wasn't even sure what size Drive Motor to get and so what I wound up choosing was a 1/3 hp, 3 phase motor which was way too small. I could only drive one alternator but that was enough to prove the system worked.



Top View schematic



Rotor Front View
not to scale

I was not ever able to get my system to work in a closed loop feeding itself power, but I believe this may have been because my system was so under-sized. I always find it best to duplicate what was already supposed to have been successful before making any drastic improvements, but now that I have done that I can see where upgrades can be safely made:

1) The rotors should be larger in diameter and made to withstand higher RPM. I would recommend mounting the magnets in the body of the rotors and not on the perimeter. I think brass or aluminum would be a better material to use. You can see in the drawing what I proposed.

2) I don't think it is efficient to use this technology to drive alternators or generators. Since we already have spinning rotors with magnets on them it would make sense to just mount coils around the rotors to produce DC power that way, which would be far cheaper and simpler.

3) I would also mount the Alternators horizontally on levitating magnet bearings to increase the life of the system and lower the maintenance.

4) It would probably be worth experimenting with different grades of magnets. You could also try making the Drive Rotor larger than the Alternators to increase their speed and energy output. If you build two magnetically meshing rotors of different diameters you will have to make sure to keep the spacing of the magnets around the perimeter of the rotors the same on each rotor so they mesh exactly.

I will be continuing to work on this system to make the above improvements and writing up my developments in future books. I wanted to share with you what I've discovered so far as this technology is valid and should be disseminated to the benefit of the whole planet.

Over to you, my friends.

~Mindfreer,
The Author

GLOSSARY OF TERMS

Amperes (Amps): The rate of the flow of an electric current. To use a water analogy – the volume flow rate of water moving through a pipe would be the Amps.

Coil: A device consisting of a straight core of ferrous material wound with magnet wire that produces a DC flow of electricity when place in the vicinity of a pulsing or moving magnetic field.

Magnet wire: Also known as enameled copper wire. It is a copper or aluminum wire covered with thin insulation. Uses very thin enamel insulation to minimize thickness and maximize resistance to heat.

Magnetic Cogging: When magnets are mounted on the perimeter of two rotors, and the edges of the two rotors are brought near each other, magnetic fields of pairing magnets will mesh; if one rotor is spun the other rotor will also turn, similar to the action of teeth (cogs) on gears wheels.

MDF: Medium Density Fiberboard. A type of particle board made of very small pieces of wood fiber glued together in flat panels and used frequently in the construction of cabinetry and millwork.

Voltage (Volts): Does nothing by itself, has potential to do work, appears between two points, and is always there. To use the water analogy – water flows in a pressurized pipe because there is difference in pressure between two points; the amount of pressure would be the "Volts" in an electrical system.

Wattage (Watts): A Watt is an electrical unit of power. This term is commonly used to rate appliances using relatively small amounts of electricity. Wattage is stamped on light bulbs and all appliances. Wattage = Amps x Volts. If you think in terms of water through a hose, Wattage is a measure of how much pressure is required to push the volume of water delivered in a period of time.