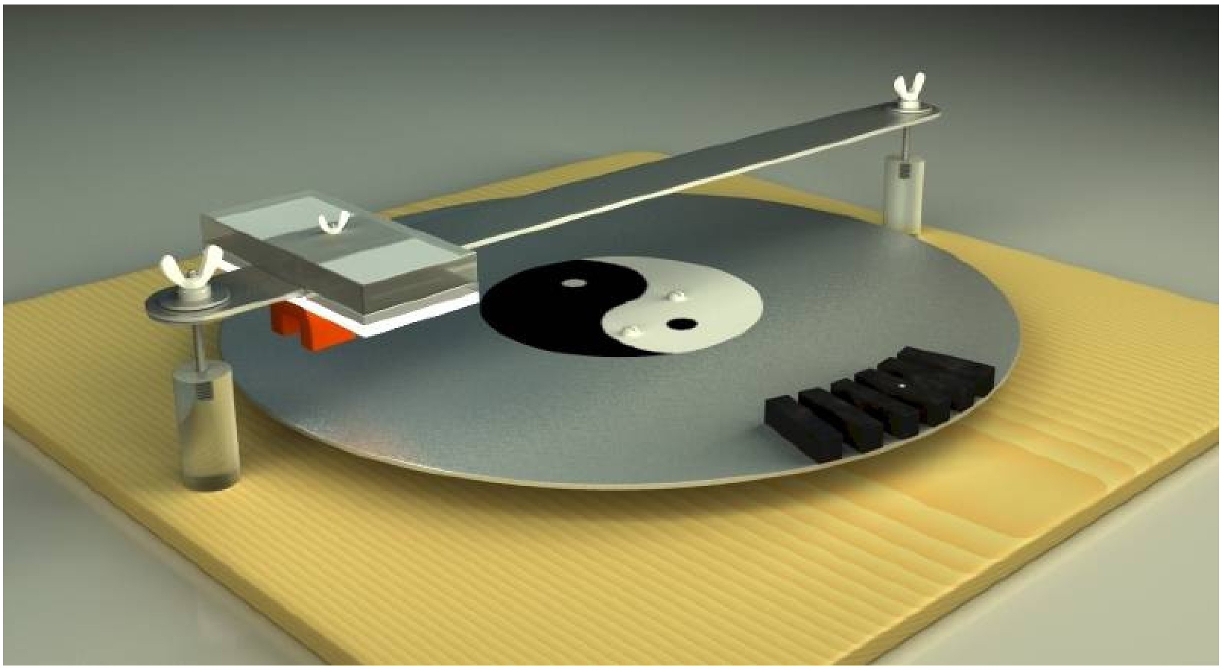
Meyer Magnet Motor Plans



Meyer Magnet Motor Plans
Version 2.1

A concise and clear set of instructions how to build (hopefully) a working all-magnet, bar-magnet motor as described by "Meyer", using presently-available magnets.

On March 17, 2009, in an ongoing video series he was posting about his Howard Johnson all-magnet motor ("Stonehenge" model) replication attempt, Meyer posted a video showing his motor accelerating then reaching an equilibrium speed – something that modern physics would say is impossible. He said he was showing the world how to do this, encouraging others to replicate and improve on what he had done.

That version, which we presented Version 1.1, has proven to be more difficult to replicate than one would think, given the seemingly simplicity of the design. Getting the spacing between magnets and the spacing to the stator magnet apparently takes an intuitive gift to find (until Physics catches up and provides the equations by which these things can be calculated and engineered.)

After much controversy and skepticism, on the evening of April 29, Meyer once again astonished us with yet another video, this one being composed of bar magnets rather than channel magnets around the rotor disc. This one appears to have more power. The next day he showed it running in reverse. Then on May 3 he displaide it running on a glass table. And the videos keep coming.

On May 9, Meyer received from us a set of magnets that are readily available in today's market, as well as a rotor-stator assembly with known dimensions and specifications. Then on May 12 he told me that he got that motor running with just six magnets on the rotor. He posted a video of this on May 13. ***The present instruction manual describes how to make that motor.***

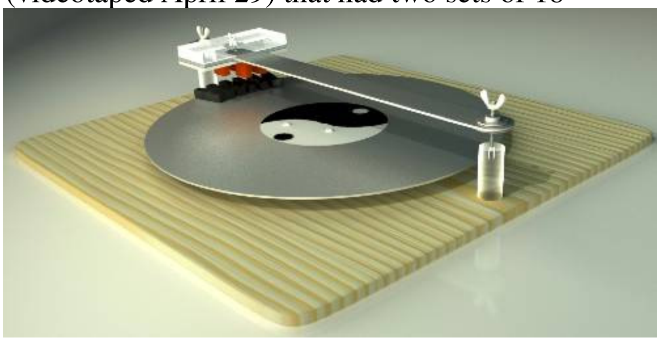
This manual draws from information Meyer has conveyed to us through a series of videos, emails, and phone conversations; as well as information gleaned from a few individuals who have already begun to seek to replicate Meyer's magnet motor.

We expect that magnet motors, could provide **non-polluting, 24/7/365 continuous output** with no fuel requirement; can be made portable, and can be made governable. In short, they could eventually replace every motor and engine application presently on the market at a price point that is much cheaper than existing technologies.

We hope to accelerate the emergence of this disruptive technology into the marketplace in the myriad of sizes and applications. This could create millions of jobs and make energy affordable and available to every corner of the earth: land, sea and sky. We do ask for a 3% loyalty on all commercial developments for the administration and promulgation of this technology.

I. Overview

The Meyer Magnet Motor version 2.1 consists of an aluminum **rotor** disc lined around the circumference with bar magnets arranged like railroad ties. The rotor magnets are nominally evenly spaced, but M recommends staying away from exact measurements. Think chaos theory and the variance of nature. In the motor he videotaped on May 13, there was just one set of 6 magnets, compared to an earlier version (videotaped April 29) that had two sets of 18 magnets. He said he also built one earlier with magnets all the way around except for one spot, which is necessary for the flux effect to work. The polarity of these magnets is through the thickness, not the length; and N is up.



The second key ingredient for this motor is a set of two offset **stator** (stationary) magnets, which are suspended by an aluminum stator assembly. These are polarized N-S across the two legs.

The stator magnets are **arranged** such that they point down to the rotor magnets, with one polarity leading and the other trailing. The polarity of the two off-set stator magnets have N on the same side, and S on the other side, and that they are not N-S; S-N in their relationship.
Meyer has not yet confirmed that the motor will spin in the opposite direction if he switches direction of the stator magnets, or if he switches the polarity of the rotor magnets to S up.

The **speed** of operation apparently is proportional to the magnet strength and perhaps to the distance between the stator and the rotor magnets (though the latter may be more a matter of going in/out of sync). If you are going to use stronger magnets, you'll need to build your assembly more sturdy than what Meyer used in his demonstration.

Meyer **attached** his magnets to the aluminum with Crazy Glue, to make it easy to adjust things in the process of finding an optimal arrangement. They will come unglued fairly easy, whether from banging into something, or from the centripetal force of high rotation speeds, or from being pulled into the stator magnet.

The **horizontal width** of the two offset stator magnets, including the gap between them (positioned pointing down at the rotor bar magnets) is approximately the same as the horizontal length of the rotor bar magnets, in his later videos, Meyer has the bottom of his stator magnet positioned level with the bottom of the top lip of the rotor magnet. In his earlier videos, the rotor magnet was down nearly level with the rotor magnet. The higher elevation apparently works better.

While we will give the **dimensions** of the materials used by Meyer, bear in mind that based on Meyer's various videos and reports, there appears to be a fairly wide window of operation, but that finding the right spacing of magnets is not easy at all. What does appear to be needed is a gift with magnets, and it appears so far that this gift is extremely rare. Even if you space your magnets just as Meyer has them, not all magnets are the same, so that doesn't We invite you to report your successes and failures for the benefit of others in the project.

II. Cautions

Generally speaking, one should always wear **safety goggles** when using strong magnets.

Because the stator and rotor assembly are positioned by hand in this set-up, it will be fairly easy to accidentally cause the rotating rotor magnets to **collide** with the stationary stator magnet, causing things to come unglued and to bunch together.

This early version doesn't really have any significant dangers. The speed is low and the magnetism is low. If you happen to chose stronger magnets, be aware of the likelihood of **pinching** your skin with the magnets. If you modify this design and end up with a device that has higher rotation speed, you will need to guard/protect against rotor magnets becoming detached and flying off.

The methods for removing magnets and glue can be hazardous: razor blades, acetone, etc.

III. Why I Believe This is Real

- I've long believed in the possibility of an all-magnet motor being able to provide base-load power. It is not perpetual motion. It is harnessing some new aspect of magnetism that hasn't yet been appreciated by science, but will.

- Meyer's design is very close to Howard Johnson's Stonehenge model.

- The myriad of videos Meyer posted are very convincing, showing acceleration followed by maintenance of an equilibrium speed, accompanied by very gradual slowing due to magnet depletion. Though not skeptic proof, the videos do reveal a lot and correlate with what Meyer has been telling us verbally.

- The movement of the motor as shown in Meyer's videos is consistent with what I would expect from a magnet motor.

- The partial replications that I've seen and personally experimented with exhibit similar (though not complete [yet]) movement to what is shown in Meyer's videos.

- The level of skill required to pull off a hoax are far beyond what Meyer possesses, whether it be embedding hidden motors or induction or video editing or other means of giving the appearance that shows up in his videos. The background, between the lines, things that I've been able to pick up while talking to Meyer by phone have been consistent with what he has been telling me. He lives in an apartment, drives truck hauling things around Chicago, works near his residence, has a wife and twin brother, etc. These are not aspects that would be present if he had the level of skill required to fake all of this. And what would be his motive? He's not ever asked for money.

- The magnets deplete (I'm hopeful that a configuration can be found that doesn't result in depletion, e.g. neodymium magnets in a plastic assembly)

- The stator magnet gets cold, which is what others have predicted and observed in related modeling.

- History often shows that the weak and simple confound the mighty. New wine can't be put into old bottles. The establishment is too stick on themselves. The recent MIB incident is part of this transition phenomenon -- the old guard fighting the new thing that will make them obsolete.

- With the old guard in the middle of tearing down the economy to establish their world dictatorship, the timing is right for the emergence of a revolutionary, empowering technology like this.

I think that is a very good list of reasons to believe in Meyer's claims and support the open sourcing of this design, and prepare some clear plans for those who want things distilled better than what is available for free on our site.

IV. Materials List

Magnets in general

Care should be taken when handling alnico material (HS811N) since it is brittle and can chip or break if dropped on a hard surface. Also, because it has a low resistance to demagnetization, it will lose power if it is stored improperly (poles repelling each other). For best results, store magnetized alnico so that pieces are attracting each other, or with a steel keeper.

Magnet Ratios

Apparently, one of the crucial aspects is the relationship between the size of the rotor magnets and the size of the stator magnets. Meyer seems to suggest the following ratio.

R + R + S = T, where:
(R) is the width of the stator magnet (as viewed from the top, parallel to the stator bar
(S) is the small gap between the two stator magnets (~1/2 the width of the rotor magnet)

(T) is the length of the rotor magnet.

Stator Magnet

Meyer is using the HS811N from AllMagnetics.com (ask for Felix and use promotion code: "PES" for a discount; also known as 07270 from MagnetSource.com)

Rotor Magnets

On May 13, Mayer showed a video with just 6 magnets in the rotor position, and the motor appears to accelerate with just that many magnets. He plans to fully populate the rotor. I recommend that you get around 60 magnets to give you that flexibility. Technically, these are "block" magnets, with the polarity through the thickness.

These are CB-65 magnets from http://AllMagnetics.com - Ceramic Blocks 3/8" x 3/8" x 1 7/8" (2 pcs). More accurately: 0.393" t, 0.400" w, 1.875" l. Ask for Felix and mention promotion code "PES". Same as item H at http://www.magnetsource.com (Part No. 07043). These magnets are also available from Home Depot (SKU# 902262).

I recommend getting 60 of these so you have the option to fully populate (minus one spot) the rotor disc, and to have some left over in case some are damaged or have the rounded edge along the length.

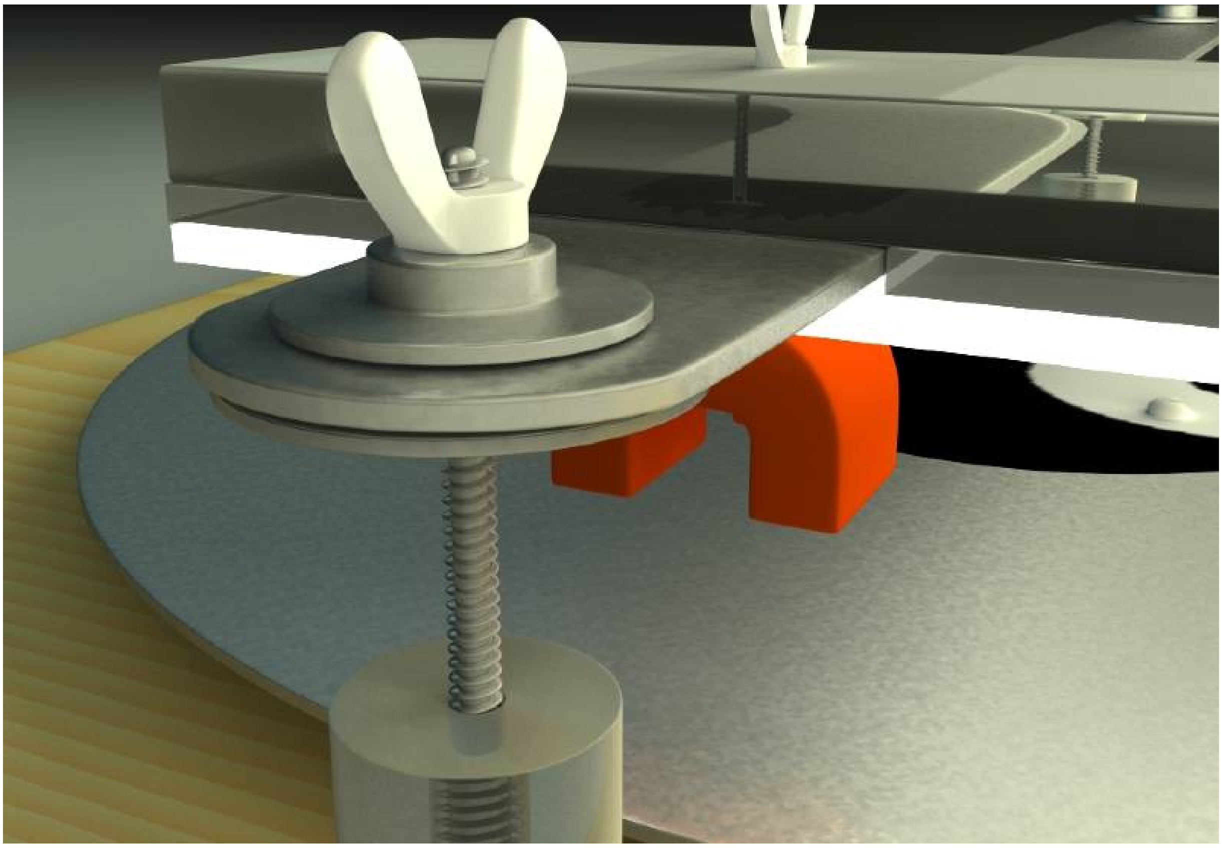
Memo on Magnet Polarity

In physics, all magnets have two poles that are distinguished by the direction of the magnetic flux. In principle these poles could be labeled in any way; for example, as "+" and "-", or "A" and "B". However, based on the early use of magnets in compasses they were named the "north pole" (or more explicitly "north-seeking pole"), "N", and the "south pole" (or "south-seeking pole"), "S", with the north pole being the pole that pointed north (i.e. the one attracted to the Earth's North Magnetic Pole). Because opposite poles attract, the Earth's North Magnetic Pole is therefore, by this definition, physically a magnetic field south pole. Conversely, the Earth's South Magnetic Pole is physically a magnetic field north pole. (Wikipedia)

Hence, if the "N"-pointing end of a compass points to a magnetic pole, then you know that pole is "S". And if the "S"-pointing end of a compass points to a magnetic pole, then you know that pole is "N".

Bob's Rotor/Stator Parts and Suppliers

Since May 9, Meyer has been using the rotor/stator made by "Bob" of Utah County. Bob provided a list of specifications, supplies and supplier used to build the Meyer instructional rig.



1. **Aluminum Disc.**
   a. Diameter. 452mm (Cut from a 18 x 18 aluminum plate from the local sheet metal shop.)
   b. Thickness. 3.2mm
   c. Grade unknown. We assume it is 1100 or 3003 These are the most common grades and are available anywhere.

2. **Bearing Assembly.**
   a. Polycarbonate disc 9.5mm x 127mm dia. Drilled to receive a Nylon sleeve (Cut from a 12 inch square sheet of 9.5mm polycarbonate from US Plastic)
   b Nylon sleeve. 12.6mm OD, 9.4mm ID A bearing is inserted in each end of sleeve. (Local hardware store)
   c. Bearings. 2 Flange ball bearing. 9.4mm OD 6.5mm ID 3.2mm thick. (Hobby town)
   d. Polycarbonate plate holding the bearings is bolted to Aluminum Disc.
   e. Another identical Poly disc is drilled to receive the shaft.
   f. Shaft is 6.5mm brass rod, 28mm long. (Hobby town)
   g. Poly plate holding the shaft is bolted to the base.
   h. a dozen 1/4 inch nylon or aluminum bolts. (Home Depot)

3. **Base.** A slab of anything large enough to accommodate the rotor with a little extra to hold the stator supports.

4. **Stator Assembly**.
   a. Two inch x 2 feet aluminum bar drilled on each end to allow a 1/4 inch bolt to slip into it.
   b. 1.375 Dia. cast acrylic rod. (US Plastic) drilled and threaded on both ends to receive 2 inch by 1/4 inch threaded Nylon or aluminum bolt. Bolted to the base. (Cut off the head of the top bolts to allow the bar to be attached.)
   c. Two 1/4 inch wing nuts. (Home Depot)
   d. Vertically adjustable Stator Mechanism was built to slide along the bar using trimmings from the aluminum rotor.

There is more to building this than just having the parts, but this should be most everything needed and where to get it. -- "Bob"

Magnet Adjustment

You will need some way to adjust the stator magnet spacing both relative to the circumference of the rotor, as well as the gap between the magnets perpendicular to tangent. There needs to be a space between these. Meyer says that the gap between the two stator magnets should be greater than the largest gap between adjoining rotor magnets at the perimeter of the disc.

Notice that there is an overlap between the two stator magnets as relative to the circumference of the rotor disc. It looks like the trailing lip of one is ahead of the trailing lip of the other.

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The N-S orientation of the two stator magnets will be the same, relative to the circumference of the rotor disc. One direction will yield rotation in direction. Swapping them 180-degrees will yield rotation in the opposite direction.

Screws

All screws in the assembly should be non-magnetic. You will need 3 to fasten bearing assembly to rotor disc; and 4-10 to fasten stator assembly.

Glue

According to Meyer, an important principle here is that the magnets should touch the aluminum if possible. Hence the use of hot glue is probably not a good idea as it creates too much of an insulating factor between the magnets and the aluminum.

Crazy Glue for gluing the magnets to the aluminum.

Super Glue for gluing the rubber feet to the bearing base and the stator assembly feet.

Razor Blades

You will need something like a razor blade to scrape off the Crazy Glue when you remove magnets to adjust them, or when they fall off for some reason.

V. Assembly Instructions

(Your set-up may vary.)

1. Assemble the **stator apparatus**.
    a. See Bob's dimensions above.
    b. The gap (horizontal parallel to the stator support bar) between the two stator magnets in Meyer's apparatus is around 7.35 mm (~0.290 inches).
2. Assemble the **rotor bearing** apparatus.
    a. See Bob's dimensions above.
3. **Attach the bearing apparatus to the rotor disc**.
    a. Test the rotation of the disc without any magnets attached. It should spin freely.
    b. **Glue the rotor magnets in place**, N up, using Crazy Glue (so they are easy to remove and adjust if necessary). This is the crucial aspect of getting the motor to work. See memo below regarding "Magnet Spacing Principles".

Memo: Magnet Spacing Principles:

On May 16, Meyer gave the following instructions.

No two magnets are the same. Each magnet needs to be individually treated.

It isn't really plausible to post a template and follow it.

First, he glues one bar magnet down. He runs it under the stator to get its feel (I didn't quite understand what is accomplished in this step).

Then he takes the second magnet. He holds it in place next to the first one with his thumb. He then runs them under the stator to feel how much it cogs (cog = resistance). He then moves the magnet one direction just a little bit, then he runs it by the stator again to see if the cog increases or decreases. He keeps doing this until he finds that place where the cog goes away.

Meyer thinks getting some kind of non-magnetic clamp would help in this process.

Once he finds that no-cog spot, he then scribes a line with a pencil on the disc to mark the place the magnet goes, and then glues the magnet in place. It is very important that you be able to glue the magnet right at that position, so be sure your markings are such that you will be able to put the magnet back in position.

As a double check, when the positioning is right, you should get that pendulum effect he shows in one of his tutorial videos. And the pendulum effect (rocking back and forth when pushes, like a spring) should take place directly under the stator, not to one side or the other.

He then repeats these steps with the next magnet; then the next.

As no two magnets are the same, no two spacings will be the same.

By the time he gets to the 5th magnet, he says he starts noticing a strange effect. The repulsive effect of the first magnet as the magnets go toward the stator begins to dissipate. The repulsion effect becomes a pull as the 2nd and 3rd magnets pass under the stator.

By the time you add the 6th magnet, if your bearing friction is low enough, you may get the SMOT device effect that he showed on May 13.

He said that by the time he got to the 7th, 8th and 9th magnet, that there was a bu-bump bounciness that began to come into the rotation. By the time he had the 12th magnet down, the bounciness was very pronounced. A cog had come into the middle of the set of magnets.

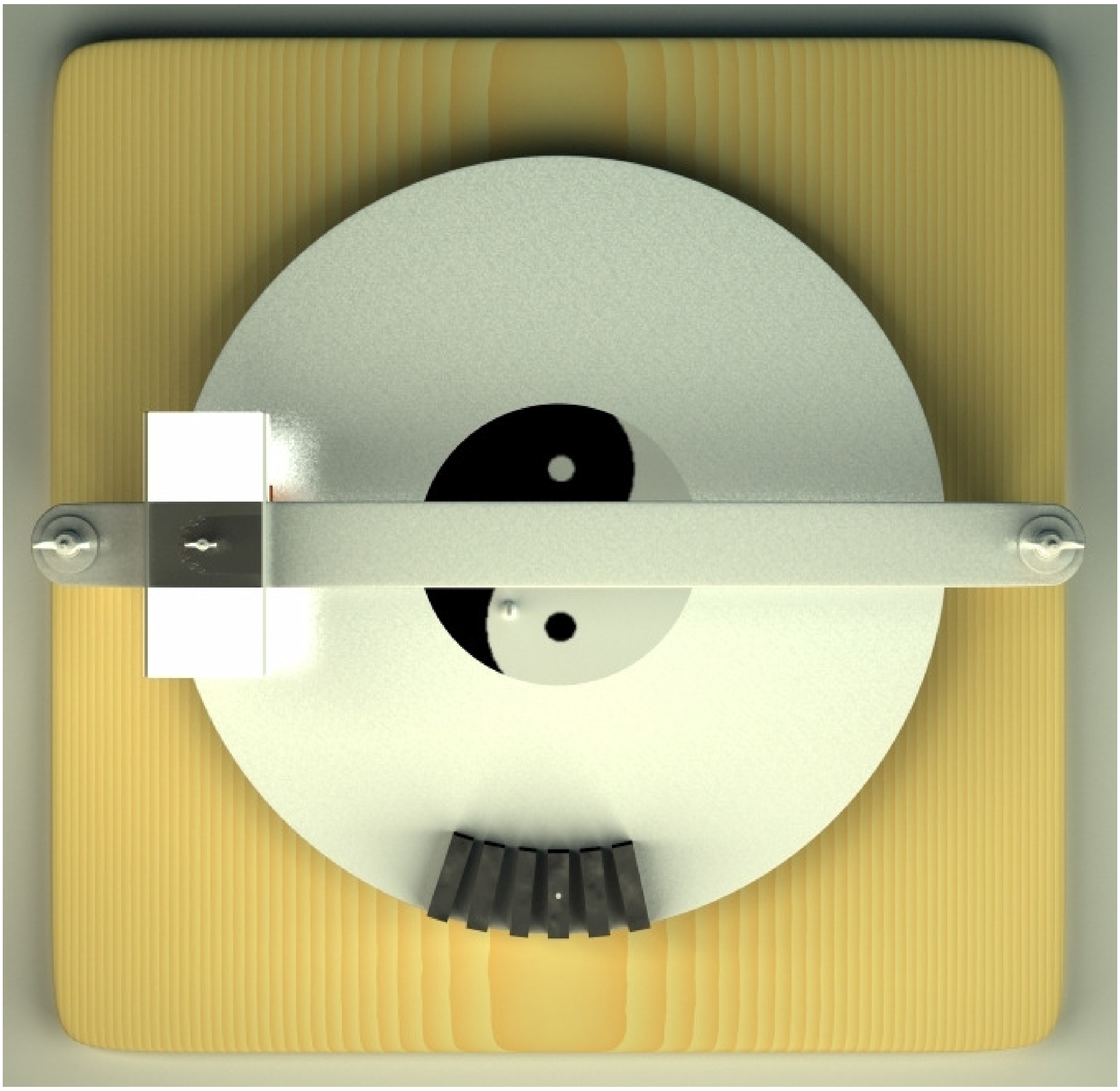
He then glued in the 13th magnet and then removed the middle magnet, so there were now two sets of six magnets, and the rotation became smooth.

(I presume that during all this time, from the 6th magnet on, he had acceleration if he let it go. He did tell me the other day that he did get acceleration with the 9-magnet configuration.)

He cautions people that when they see this thing working, "It will change you." Make sure you stay humble and dedicated to the benefit of humanity.

- One of the crucial aspects will probably be the relationship between the size of the rotor magnets and the size of the stator magnets
- The elevation of the stator magnet over the rotor magnets does not appear to be nearly as crucial as other variables.

FYI, here is the arrangement of magnets as Meyer had them on his disc May 12, 2009.



The measurements Meyer made with a caliper on May 14, which included three more magnets to the right (a configuration that he said make the running smoother.

Gaps of 9 rotor mags - from Right to Left

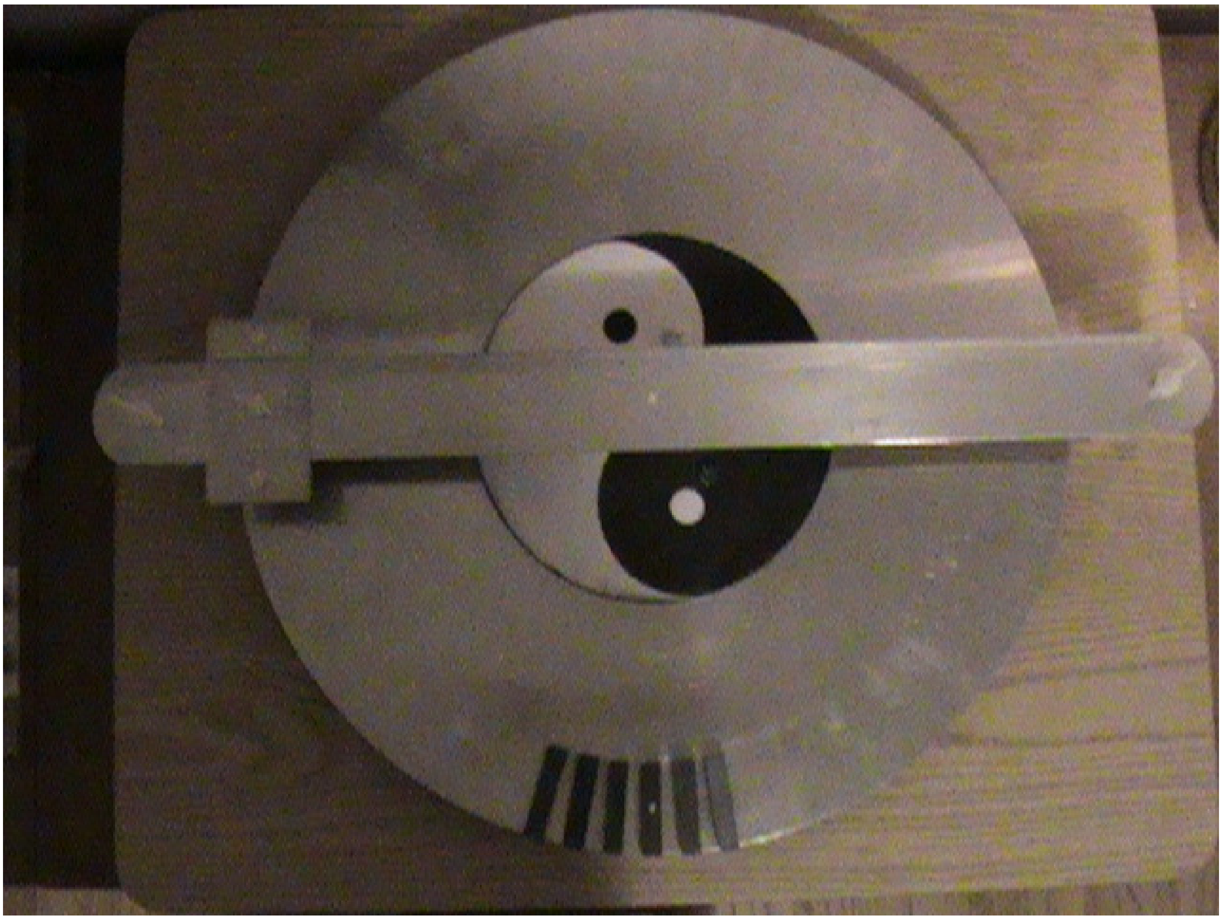
(Note: inner gaps are not exact, he used other side of caliper) mag# outer inner

------- 3 new mags -------
1
10.00mm 4.39mm
2
9.67mm 6.15mm
3
8.71mm 4.87mm
------- original 5 below: -------
4
8.95mm 5.38mm
5
9.39mm 6.48mm
6
9.11mm 6.50mm
7
9.96mm 5.45mm
8
9.43mm 5.90mm
9

Stator Gap: (parallel gap between horseshoe mags)
7.35mm
(7.12 was shown - after some caliper movement...)
(verbally stated off cam originally: 7.39mm & 7.31mm)

Stator Thin Overlap Gap:
(gap between overlap of horseshoe poles)
13.16mm minus thickness of horseshoe pole
(he measured inside of one gap, and then the outside of a horseshoe pole - so that thickness needs to be subtracted)

(minus about 8mm - don't have my digital caliper here)
equals about 5.16mm for Stator Thin Overlap Gap



Bear in mind that all magnets are not made the same, and some of the variance between magnets could be Meyer's gift to sense the differences and adjust the spacing accordingly.

VII. Operation

Once you have completed the assembly steps, you are ready to operate the motor.

1. Position the rotor assembly on a nominally flat surface with at least 6 inches of free space around it. Give yourself plenty of room. Make sure there are not any magnetic objects in the vicinity.
2. Bring the stator assembly into place so that the stator magnets are situated directly over the center of a rotor magnet length.
3. Turn the rotor so it is at the beginning of a row of magnets. The stator should pull the rotor magnets by, with enough flywheel and small enough cog to make it to the next set of magnets, where the effect is repeated, gradually accelerating until an equilibrium speed is reached.

If you have been successful, be sure to scribe a mark on your motor where eachmagnet is so that you can replicate it if the magnets fall off somehow.

4. If this doesn't work, you will need to try different rotor magnet arrangements. It took

Meyer three days to find the arrangement that worked. I recommend this order of priority:
    a. Try changing the distance between individual magnets. Make sure you have some non-symmetry there.
    b. Try changing the numbers of magnets per set.
5. Meyer said that the speed is controlled by the height of the stator magnets above the rotor magnets.
6. To reverse direction of spin, reattach the stator magnets, flipping them 180 degrees. (Note, Meyer said that it doesn't work to run the motor with S upflip all of the rotor magnets so S is up rather than down.

VIII.Principles & Variables

(In addition to what is presented above.)

The **disc diameter** is probably not a highly crucial component, but changing it will require finding the proper spacing of magnets to work with the different circumference. You could try tighter circumferences just by scribing a line on your rotating disc as a reference point.

You should try to go with **weaker magnets** for this replication. Stronger magnets will require better engineering to prevent detachment of the rotor magnets.

Meyer said that you do not want to seek uniformly magnetized magnets for the rotor magnet. Remember, non-symmetry is a key here.

We don't yet know if the **aluminum** material in the rotor is required for operation. The Eddy current phenomenon that arises when magnets are passed in vicinity by aluminum, creating a braking effect, may be part of what makes this design work. Or it could be an impediment, which if removed would take away the equilibrium speed phenomenon, causing the motor to speed to destruction if no load is present. Meyer seems to think it is a requirement.

Once working, adding a **Permeability Plate** could augment the effect.