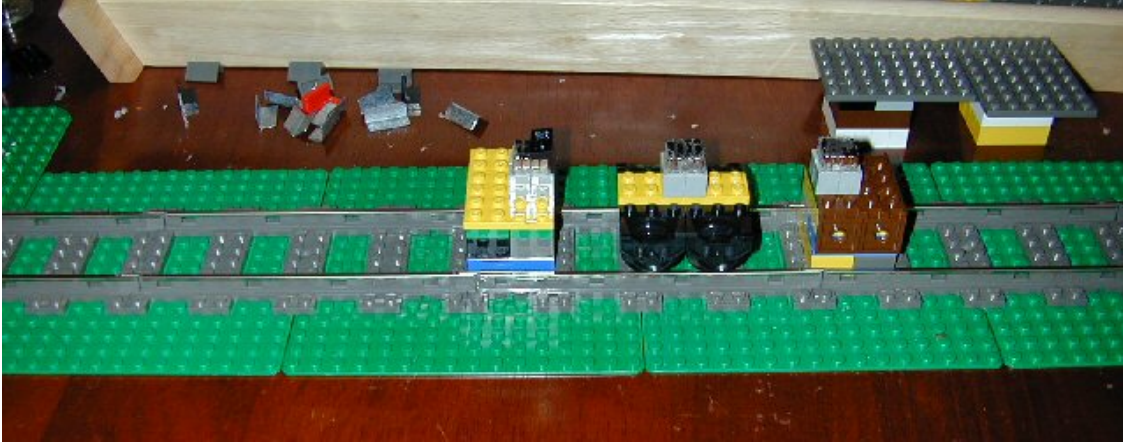


Update of My Recent Testing Efforts

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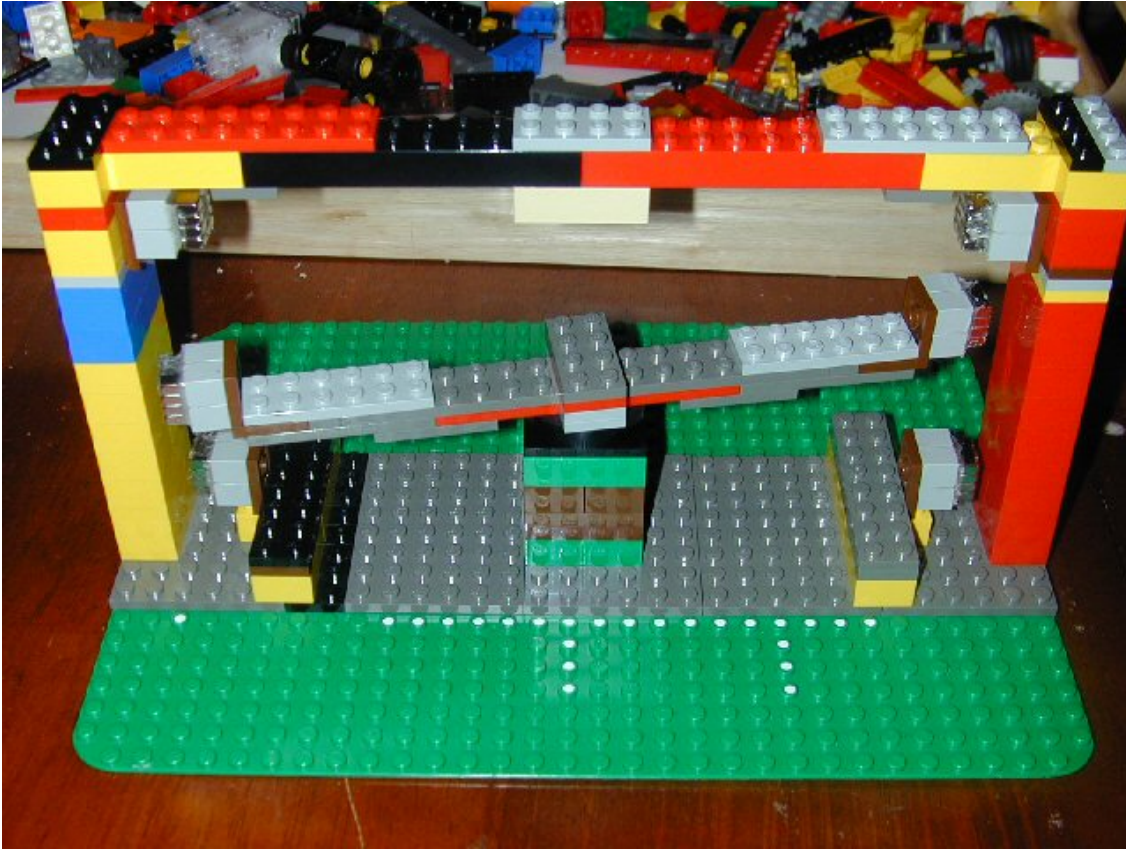
Here is an update on the tests I have been doing so far. Generally while I am running computer simulations I am also conducting some experiments that I setup up with Legos. I find Legos to be sturdy and fairly precise. I can get accurate results even with small forces. I can often conduct a great many number of experiments in a single night by using them. Here are some of the tests I have conducted over the past few days.



Above is a picture of the Lego train track I often use to conduct linear experiments. I put rotor magnets on cars of varying sizes depending on the test. Then I place stator magnets along the track. This is the setup I use when I test shielding materials. Both stator magnets are repelling the rotor magnet in this picture. I put the shielding around one stator magnet and see how far the car moves towards that magnet. I found that if I didn't conduct this test before doing other tests with the shielding material I could be wasting my time as the shielding is ineffective.

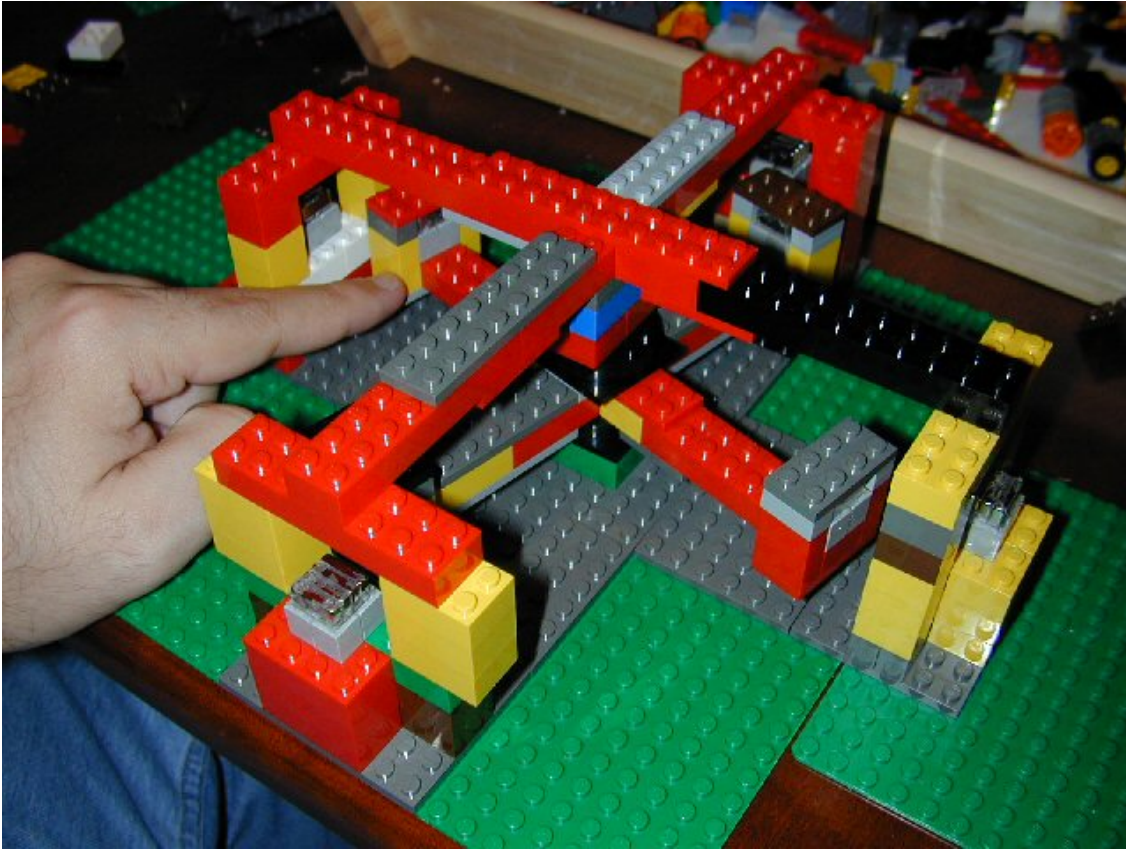
Right now I don't have any shielding effective enough to conduct further shielding experiments. Either they don't absorb enough B or the shape just is not right. Since there is only so much I can do with a Dremel, I am trying to locate a local independently run machine shop so I can get a few pieces of shielding made that should work very well. The shape, size and material of the shielding will be based up some of the simulation results I have conducted thus far. I will use a CAD drawing of the parts to make sure they are accurately fabricated.

Over the past few days I have been exploring possible motor configurations. Next is a picture with one of my motor ideas.



I initially thought this configuration would be a good setup for HJ motor idea that Graham had. I noticed something a bit odd about this setup. Only the left side the stators were set up to repel. On the right side the stators were set up to attract. As can be seen here there is a sticky spot. It is possible that one of the magnets is stronger than the other causing this problem. Also it is possible that the magnets approaching in arc like this creates the sticky spot. My guess is the former. I need to build my own gauss meter to confirm this possibility.

Next I tested a more typical motor configuration.



In this configuration the stator magnets in the 7 and 1 o'clock positions are repelling. The stator magnets in the 4 and 10 o'clock positions are attracting the rotors.

I noticed the exact same sticky and repel spots in this configuration as the previous one. The sticky and repelling spots reversed depending on which rotors were facing different magnets. This leads me to believe that the magnets are indeed imbalanced. I think it is time I go ahead and get a Hal sensor and build my own gauss meter.

Well that is it for now. If anyone else has ideas on what might be going on in the above tests I would like to hear your thoughts the matter.

Thanks,
-Terrence