

Double-stacking your containers: The Magnet Method.

By Joel Frangquist

Hello intermodal modelers... 😊

A few months ago, after a process of trial and error, I arrived at a system for holding together my containers on my double-stack trains, using MAGNETS. I'd like to share it with my fellow intermodal modelers.

When I finally arrived at this method, it felt like a moment of triumph, and before I begin the tutorial, I'd like to just tout the numerous benefits of my system. All these criteria were important to me, and I'm glad I was able to satisfy them all.

This method...

- Holds containers securely as long as your train doesn't wreck.
- Works for the major brands of containers.
- Works for all sizes of containers, including *20 FOOT containers*.
- Easy and fast to install the magnets. No glue! Magnet polarity doesn't matter!
- It's as easy to rearrange your containers in your wellcars as it is to put them in once.
- Installation is temporary, does not modify or damage the containers if you decide one day to resell your collection.
- The price isn't obscene.

Now to begin...

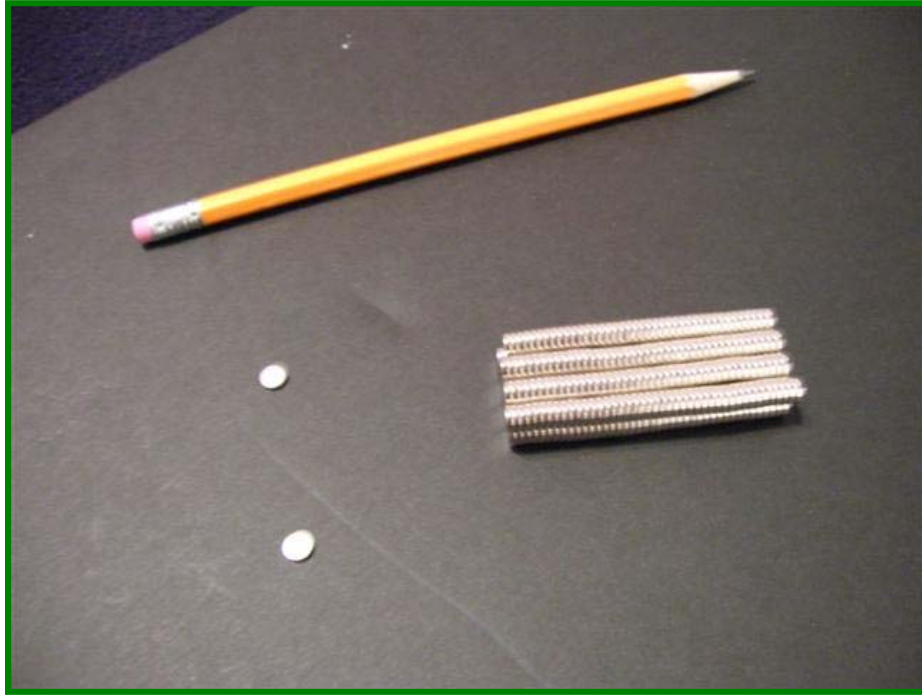
First, let's meet the magnets. These are 6mm in diameter, 1.5mm thick, neodymium magnets, grade N35. These magnets are strong enough to attract each other strongly even through the thick floor and ceiling of Deluxe Innovations containers.

I bought these from KJmagnetics eBay store. Currently they are still offering the same deal <http://cgi.ebay.com/ws/eBayISAPI.dll?em=5668286815> (I don't think K and J has this offer on their own site. <http://www.kjmagnetics.com/>) 1000 magnets for under \$45, or 4.5 cents per magnet, which is cheaper than most offers out there. (For god's sake don't pay \$1 per magnet at RadioShack!) . I will use four magnets per container, thus 18 cents a container, an acceptable price.

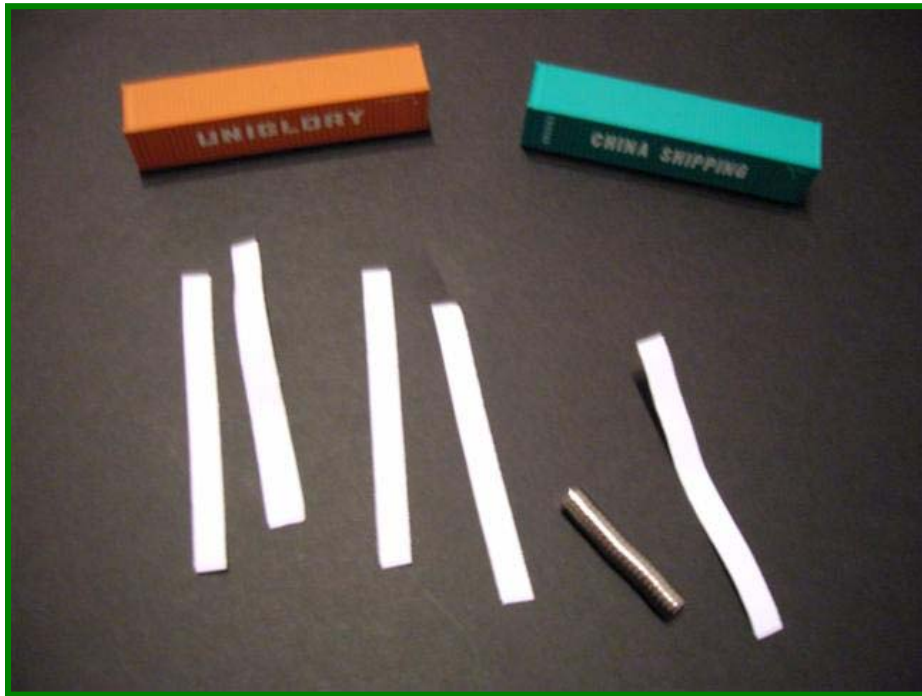
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Here they are with a pencil for size comparison.



Now let's meet the other participants: A couple containers, obviously. And little paper strips, $\frac{1}{4}$ " wide by slightly under 3" long. What's with the paper strips?? Mystified at the moment? Not to worry, all will be explained...

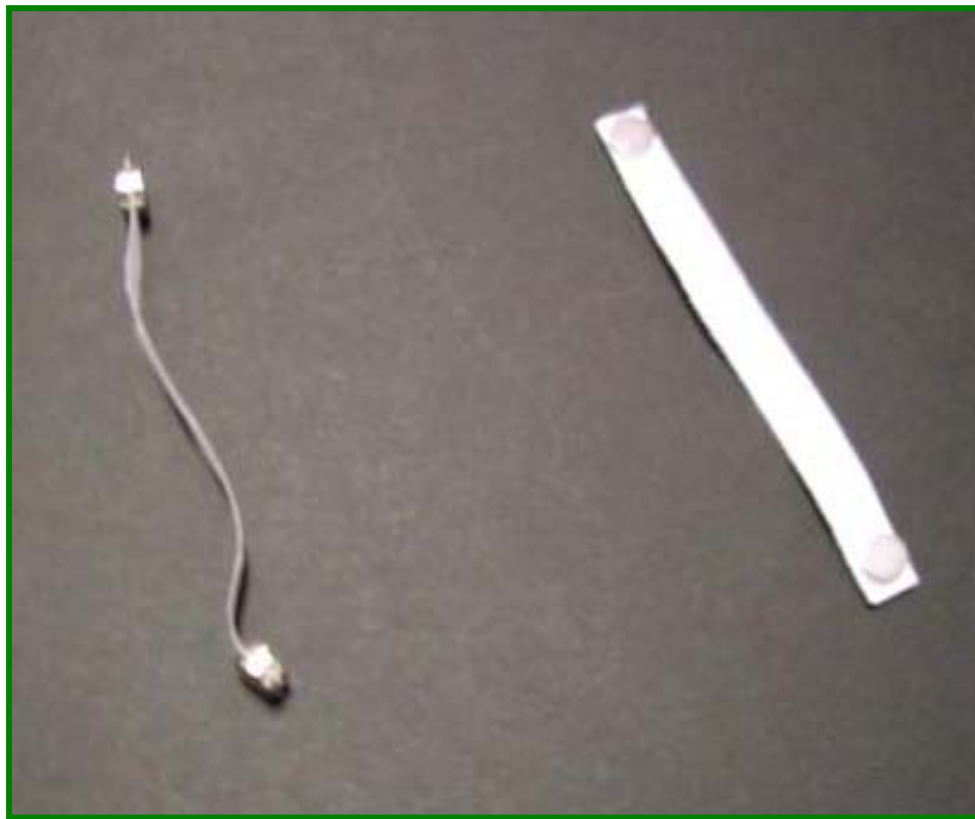


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Let me show now you how the paper strips are used. Two magnets are placed on each end of a paper strip on opposite sides of the paper. The strip will hold the magnets at each end of a container, allowing both ends of a pair of containers to be held securely together, even with containers (i.e. Deluxe) that don't have little pins for placement. This helps insure that all four corners of the container remain lined up, and it's also integral to using 20' containers with this method.

By placing the paper between the pairs of magnets, the magnets hold themselves onto the paper by themselves...no glue necessary. One of these little assemblies will go inside any container 40' or longer. Here's a picture of a pair of strips with the magnets attached, one seen on edge and one flat.



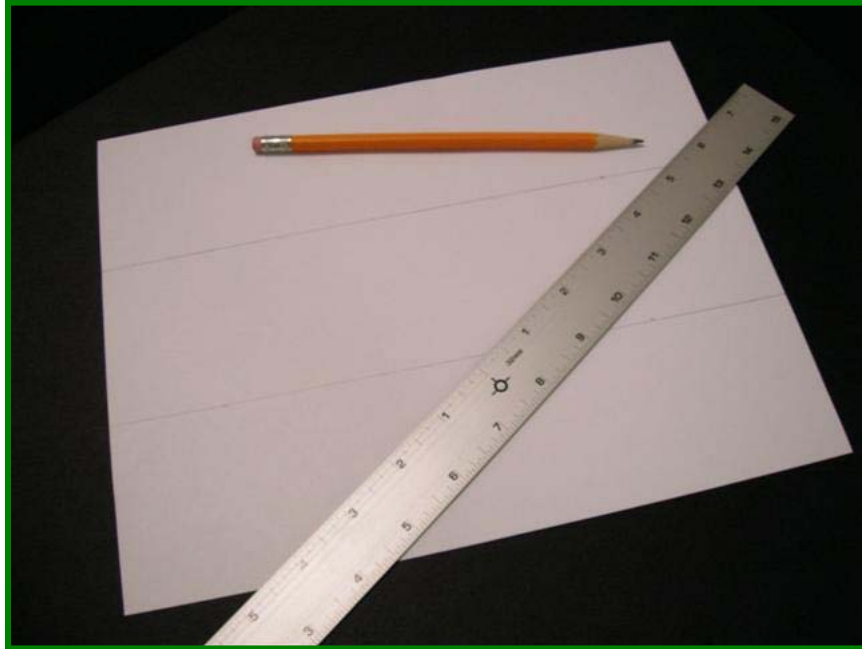
Next I'll show how I cut the strips...But first a word about the paper. I used 24 pound LaserJet paper for my printer; it happened to be lying around, and it happened to be more or less perfect. A thinner paper might not be strong enough to hold the magnets apart, but you don't want to use too thick a cardstock. "Why not?"...you might be asking. Why not strips of plastic or cardboard, something stiffer to keep the magnets from ending up meeting in the middle? First of all, the paper is sufficient, and you're likely to have it lying around. More importantly, however, the paper can twist, and this means that you don't have to worry about the magnets polarity(!). As I'll show you, the paper will twist as it needs to inside a container to match up polarity.

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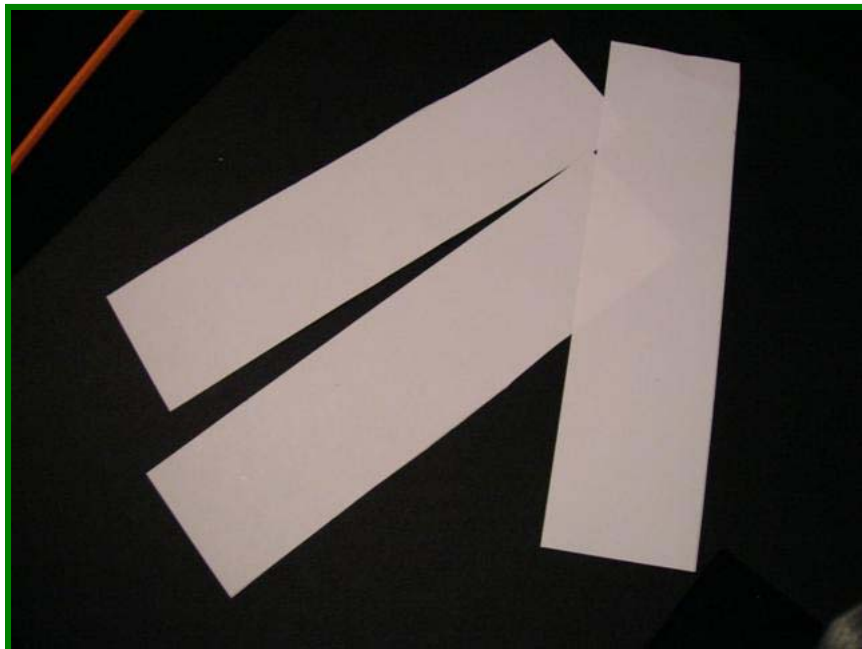
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Now to cut the paper...

A 40' N scale container, if properly to scale, is exactly 3 inches long. This means the inside is slightly less than 3", and that's how long you want your strips. Conveniently, if you measure the 8 1/2" width of standard printer paper in thirds, you get exactly what you need!!! About 2 13/16 inches, that is. Here it is measured...



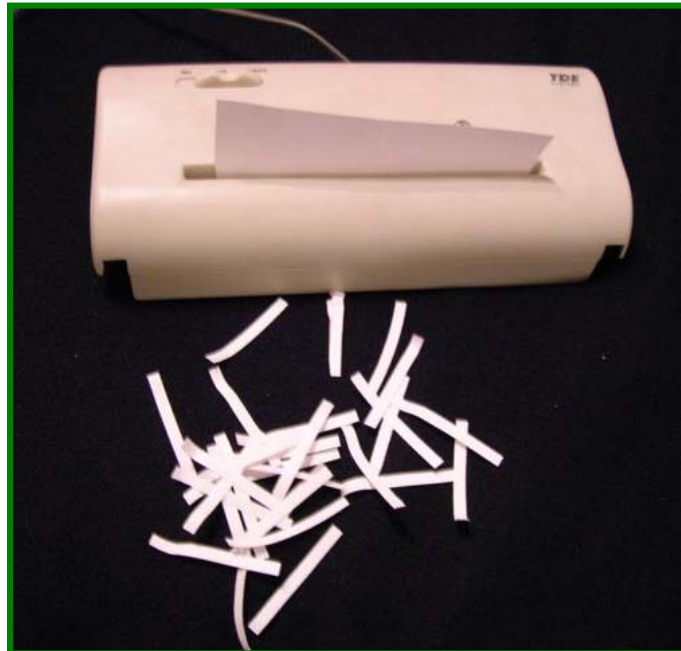
And here it is cut.



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Now, you need to cut it into approximately ¼” strips, the short way. Fortunately for me, my roommate had a simple paper shredder that did it for me in two seconds. Whoopee!!!...(when I discovered she had the shredder I went nuts and she thought I was weird going nuts over a paper shredder.)



If you don't have access to a suitable paper shredder, I suggest a paper cutter or in the worst case scissors, but cut several layers at once, not one at a time.

Okay, now on to the installation! This is as easy as opening up the containers, dropping the strips with magnets inside, and putting the floor (or roof) back on. The strip will rattle around inside...don't abuse it, but don't worry about it.



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Now place one container on top of the other...the strip in the top one will drop to the floor...the strip in the bottom one will rise magnetically to the ceiling...and VOILA!!! Proof it works.



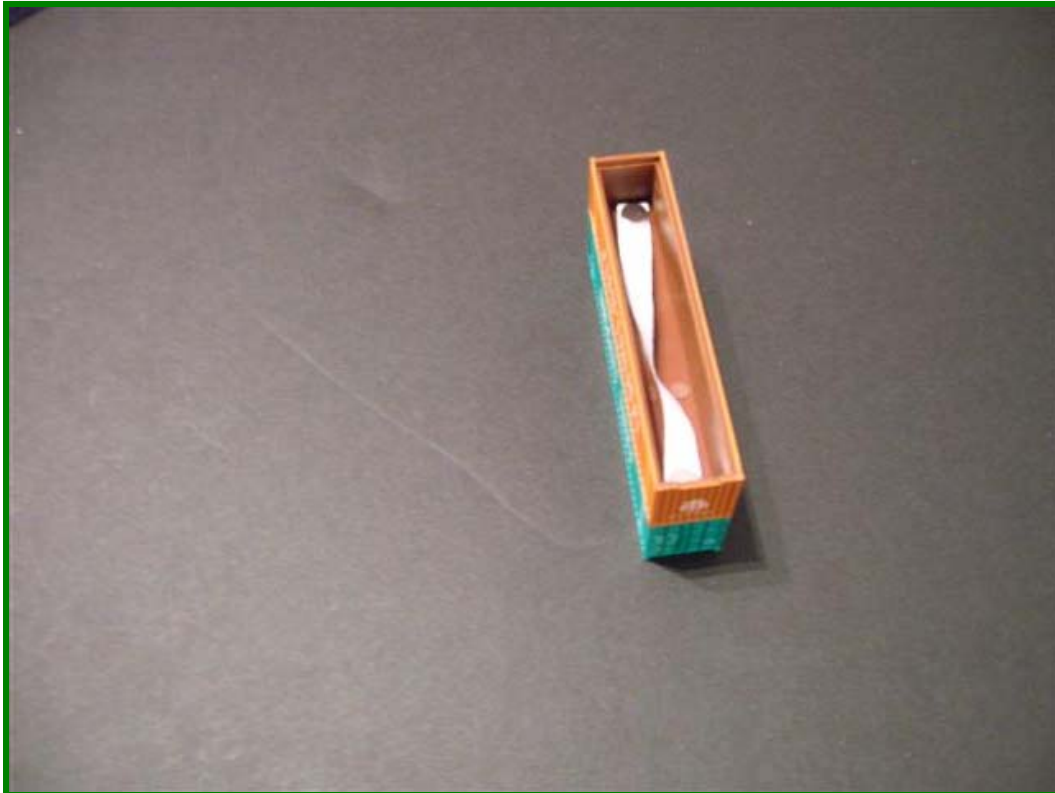
One last note and you'll know the whole method. 20' containers don't need a strip, just a single magnet (or two) inside. (I actually use some slightly bigger stronger magnets that I bought previously.)



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One final picture shows how the paper will twist as it needs to if polarity demands. Keeping track of polarity would be a PITA, thank god you don't need to.



Just one more post to discuss the issue of container weights. Weights are really necessary with some cars. Some of you will be thinking, "I have those Deluxe steel weights in my containers, and the magnets are to going stick to the weights, and be useless!"

Unfortunately your right, but, there are solutions.

- First, I have found that if you stick the containers together first, it's not a problem. Stick your containers together, then take out the floor of the bottom one and install your weight in the middle of your container, then install both in the cars. It works.
- Second, the real solution: use copper weights. I have a few that came with one of my DI Twinstacks. They aren't magnetic!! In the long term, I hope to locate a supply of suitable copper weights, and then weights will present no incompatibility with this method.

I hope you've enjoyed. I hope some of you are saying "wow, there's the solution for my doublestacks," feel free to thank me. 😊

Joel Frangquist

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