Ben Brown's “O” Scale Magnetic Brake Hoses…

I had the great pleasure of spending an evening with the Maestro, Ben Brown, during the 2008 O Scale National, when it was held in Worcester, MA. Ben had been working on a system to prototypically replicate the brake hoses on “O” scale freight cars. And not just replicate them in appearance, but also in operation.

After much experimenting, he was able to find some high-power neodymium magnets, that would allow the hose ends to automatically couple as the cars neared each other, and then stay coupled as the train operated.

The magnets are disc shaped, 0.060 in diameter, and about 0.030 thick. They are so powerful, that a single magnet can hold a sheet of 8 ½ x 11 printer paper to the side of a refrigerator.

The second obstacle was finding a hose material that was flexible enough to be overcome by the magnetic forces and allow the gland hands to mate easily. He was successful there too.

After seeing Ben's cars operate, I was totally hooked, and wanted to try out his new system. I have six cars equipped with this setup thus far, and have no issues with them operationally. It's such a pleasure to see each of the hose ends actually connected to one another as the train passes by.
Here is a series of images that I took, showing the setup, as well as the actual coupling process.

This car is a Lionel offset twin, converted to 2Rail, painted and lettered as a B&O N-35.

Brass rod is soldered to a PSC angle cock, and then a flexible hose connects the cock to the PSC gland hand, which holds the high-power neodymium magnet.
Second view of the setup. This car has a Duryea under frame (as per B&O practice). Pipe is routed and mounted as seen in prototype images of this car in Karig’s book *Coal Cars, The First 300 Years*. Angle cock is rotated to point toward 7:00, so that the hanging gland hand is roughly aligned with the coupler's centerline and knuckle opening. Note that the trip pin has been removed from the Kadee.
Side view...
Two cars approach each other. Car on the left is another converted Lionel offset twin, detailed, painted and lettered for the D&H.
Cars continue to get closer, and just before couplers touch, the intense strength of the neodymium magnets mounted on each of the glad hands magnetically compels them to mate.
Couplers are fully mated and locked, and so are the glad hands.
A view slightly from above…
Ready to roll…
I do not use those unsightly (in my book) magnetic uncoupling ramps, and do all my uncoupling by the “stick and twist” method. In this view, couplers have been separated, and as cars start to move apart, the magnetically attached glad hands begin to rise and straighten (just like on the prototype). Cars continue to move further apart, and glad hands separate. The only thing that's missing is the rush of air!
My present plan is to equip every car and locomotive in my fleet with this ultra-realistic system.

On those rare occasions that the hoses do not mate automatically, it just gives the yard crew one more activity...making sure that all hoses are connected before performing a brake test, and getting the train underway.

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