



Seamless Aluminum Backdrops Revisited

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When we designed our layout as an island-style rather than around the walls, we immediately realized that some compromises would have to be made. One compromise was in the curve radii: they would need to be tighter. We also quickly discovered that the same was true with the backdrop. As shown in Figure 1, the layout is divided for its entire length – about 125 feet – by a backdrop so that it has two distinct sides. To allow for widened areas where industries or other scenic elements needed extra room, the width of the layout bench work was not



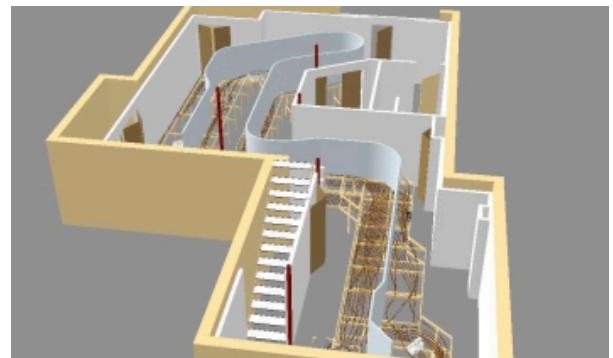
divided evenly or consistently (see Figure 2). This meant that we needed a much more flexible backdrop than standard tempered hardboard or other commonly used backdrop materials could yield.

Knowing that eventually we would need to solve this problem, an article from the October, 2006 *Scale Rails* by Ken Chick called “Seamless Aluminum Backdrop” was originally saved and now utilized. This seemed to be the perfect solution. In his article, Ken described hanging aluminum

trim coil, readily available from the hardware store, from a vinyl J-channel to use as a backdrop. Since the aluminum was thin, it essentially curves as tightly as you wish. His article certainly gives all the details for doing this work, so it will not be duplicated here. The main focus in this article will be to share how we adapted his method to our railroad and possibly provide a bit more detail in the construction steps.

Backdrop supports

One of our goals was not to consume valuable layout space with the backdrop. It needed to be double-sided, with the supports somewhere around the middle of the bench work. We initially planned to use 2 x 4's, but we worried about giving up the real estate. Since the aluminum backdrop was not to be used for supporting any scenery material, the structure only needed to support itself. We began by screwing 1 inch x 3



inch uprights into the layout bench work to support the J-channel. Being short on carpentry skills, the uprights were positioned so that simple wooden blocks or framing members would supply the needed spacing if the upright was not near a bench work joist (Figure 3).

Using a level, each upright was positioned vertically then screwed into the bench work frame with a minimum of 2 drywall screws for stability. The height was set at 25 inches – 24 inches for the backdrop trim coil and an additional inch to raise the backdrop above the ½ inch plywood / 1.2 inch Homasote® sandwich for flat areas.



J-channel Installation

J-channel is used to support the upper edge of the aluminum. This vinyl building material is available in some big -box home improvement centers, but we had to special order because it was the middle of winter and none was in stock. This also allowed us to order it in a blue color. It doesn't match our final sky blue color, but is better than a stark white. Being vinyl, the J-channel bends to a certain degree. What we had not counted on were two issues caused by the bending: 1) the tighter you bend the J-channel, the tighter (thinner) the slot used to insert the aluminum becomes and 2) bending the J-channel increases sideways pressure on the support uprights. Were we to do this a second time, we would use 2 x 4's to combat issue #2. The result is shown in Figure 4.



Since the backdrop was curved in so many places and the supports were rectangular, this caused a real problem when mounting the channel. Following the advice of a long -time model

railroad buddy, we utilized wood dowels as extra support to help in areas where a smooth, rounded edge was required. Where the backdrop crosses a bench work joist at an angle, the dowel replaces a 1" x 3" and allows attachments at other than 90 degree angles (Figures 5 and 6).



In curved areas where the rectangular nature of the upright would not allow the J-channel to be screwed securely, we also utilized dowels as spacers. See Figure 7.



Installing the Aluminum Trim Coil

The aluminum backdrop material started life as a standard building material called trim coil (Figure 8). It can be found in both aluminum and steel, painted and unpainted. It is also sold

in varying lengths and heights up to 50 feet long and 2 feet high. We chose 50 x 2 since this allowed a reasonable height and resulted in only 4 joints for a 250 foot run!



We began the installation by using special pliers that punched the top of the metal and created a locking tab. We purchased a Malco SL5 Vinyl and Aluminum Snap Lock Punch from Amazon for \$18.24 (see Figure 9). Caution: when dealing with the very sharp metal, gloves (Figure 10) are a must!



The tab locks the trim coil securely into the J-channel. Note that because the coil is not screwed into the support, this allows the aluminum to move slightly, helping with expansion and contraction issues. We punched each roll at about 6 – 8 inch intervals prior to installation (Figure 11).



When rolling out and installing the trim coil, care must be taken to keep the aluminum from kinking. Two people are a must! Unroll the coil to allow it to straighten and then insert the tabs into the J-channel slot. This part goes very quickly (Figure 12). The hardest part is the curves. When the J-channel is curved, the slot is compressed. This makes it harder to push the punched sheet metal up and into its interlocked position. We used a putty knife to catch the bottom edge of the tabs and then work it up and into the slot. Be careful not to scratch the primer from the metal. If you keep the material rolled, there is much less tendency to kink the metal as you can play it out evenly as you progress.

Bending around sharp corners is not extremely difficult, but take care to bend the metal evenly. It helps to use a rounded surface (dowel or pipe) on sharp, rounded corners. We did not do this, and the rounded corner was not as even as it could have been. Refer to Figure 16 for where the aluminum is wrapped around a very small radius. To secure the bottom, we needed something to allow movement of the backdrop similar to the top. We chose to use a fitting for holding screens or mirrors securely (Figure 13). This works well and will be eventually hidden by scenery. Since the bottom clips are not used for support, these can be spaced out at intervals as wide as 2 feet. We could have also used a screw with a washer for this fastening.



Make sure to start and end each section of trim coil over top of a support. Since the ends will

need to be secured with staples or screws. I overlapped the ends slightly and then stapled them together and to the upright support board. Prior to painting, we used the time-honored tradition of taping the joints and spackling them with vinyl-based compound to minimize cracking (Figure 14). A good friend helped in the spackling and sanding process and created joints that were invisible.

Finished Backdrop

As Figures 15 and 16 show, this method allowed us to design a free-flowing backdrop using simple materials and little cutting and joining. We painted the backdrop with a sky-blue latex paint, using a retarder to keep it from drying too quickly. While the blue was still wet, we used a brush to blend ceiling white paint from the bottom of the backdrop up to $\frac{1}{3}$ to $\frac{1}{2}$ of its height. This established a lighter horizon. The effect is subtle and doesn't show extremely well in these pictures, but it looks great in person! The effect on the overall look of the layout is astonishing. Standing in one spot, you can no longer see the entire layout. It feels much bigger and more isolated than prior to the backdrop construction.

