Removable Roofs for Bethlehem Car Works Passenger Car Kits

Several years ago I built three BCW Reading Company passenger car kits with removable roofs to access the lighting and interior details. Recently I decided to add a few more RDG passenger cars to my roster and thought I would document the steps followed in making the removable roofs. Additionally one of the PBn coach kits had some very warped car sides. At first I thought I'd have to scrap the kit but then came up with a way of straightening the car sides and still making the removable roof. Here's the story.

Figure 1 is RDG#1290, the PBn coach kit that was completed quite a few years ago.

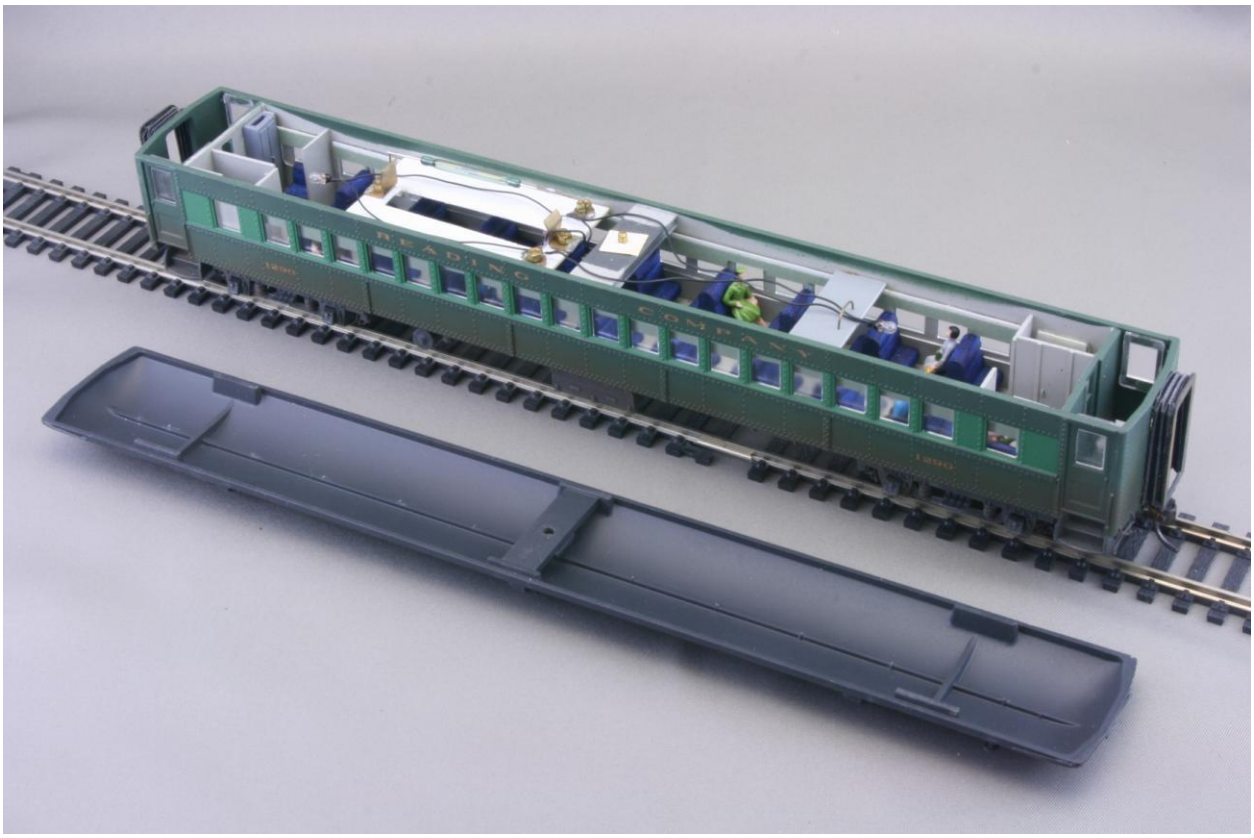

Figure 2 shows the same car with the roof removed displaying the interior and lighting. The latter operates with a reed switch and uses a AAA battery which has been removed for storage. Looking closely, one can see that the roof attaches to the carbody with a single 2-56 screw and 5/16' Plastruct channels that are cemented in the middle of both the roof and the carbody.

Now let's look at the model currently under construction. I didn't think to take a photo of the warped car sides, but please take my word, they were very wavy. Cementing them to the car's floor took care of straightening the bottom, but the tops were still way off parallel.

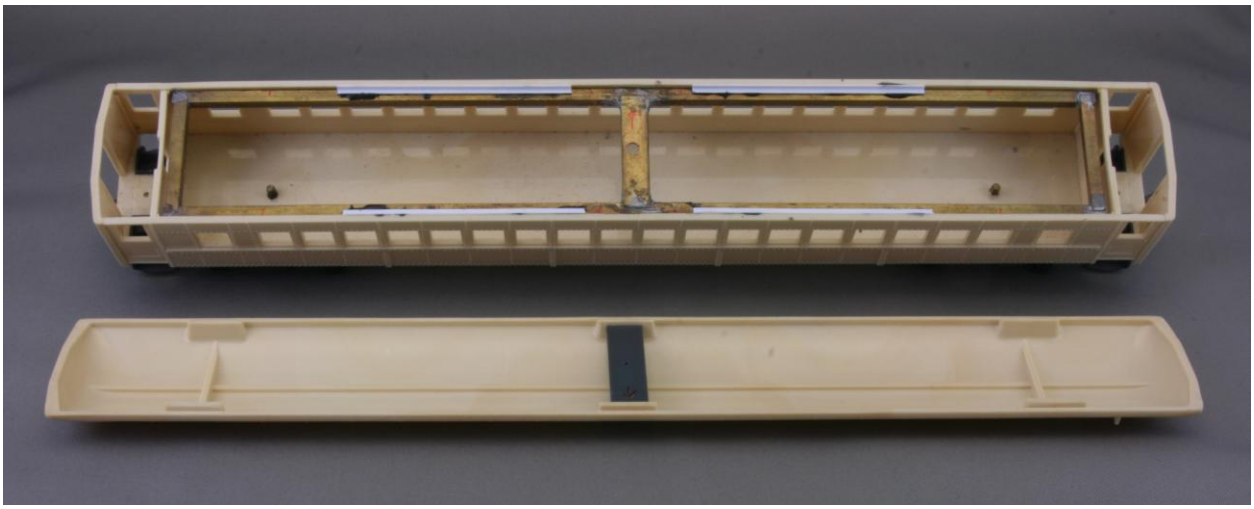

Figure 3 shows my solution to be a soldered rectangular frame of 3/16” square brass tubing; the outside width of the brass frame was based on the inside width of the car sides just above where they were cemented to the floor. A brass channel was soldered to the middle of the frame, and a 7/64” hole was drilled through the center of the channel. The brass frame was epoxied to the car sides, and 1/16” plastic angles were added for additional support (probably overkill). Also the 5/16” Plastruct channel was cemented to the center of the roof.

Figure 4. Next, a 9/64" hole was drilled through the center of the car floor in line with the hole in the brass channel. The roof was hand-held in place, and a 7/64" drill bit was passed through the hole in the floor and the brass channel to mark the center of another 7/64" hole that would be drilled in the Plastruct channel of the roof. As an aside, whenever drilling these larger holes in plastic or metal, once the center is marked, I start with an .020" drill bit and gradually work up to the final size.

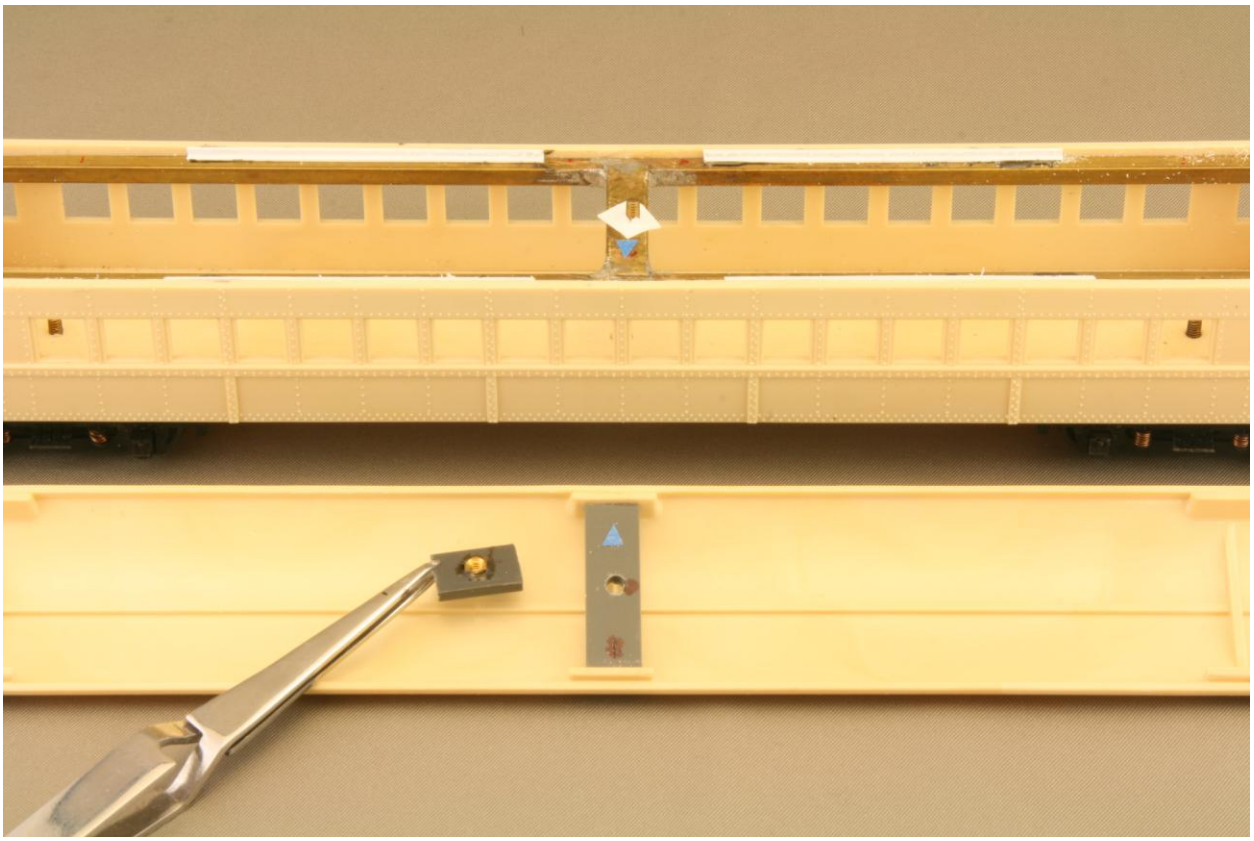

Figure 5 (with apologies for the totally off white balance!!!) The top part of the photo shows a 3/16" 2-56 screw that was placed through the underside of the brass channel; a 3/16" square piece of note card with a small X cut in the middle prevents the screw from falling while still allowing rotation. The blue arrows were added to the channels so that the roof could be oriented to the body in the same way all the time. Also shown in Figure 5 is another short piece of Plastruct 5/16” channel through which a 9/64” hole was drilled in the middle. A 2-56 hex nut was press fit into the hole and epoxied.

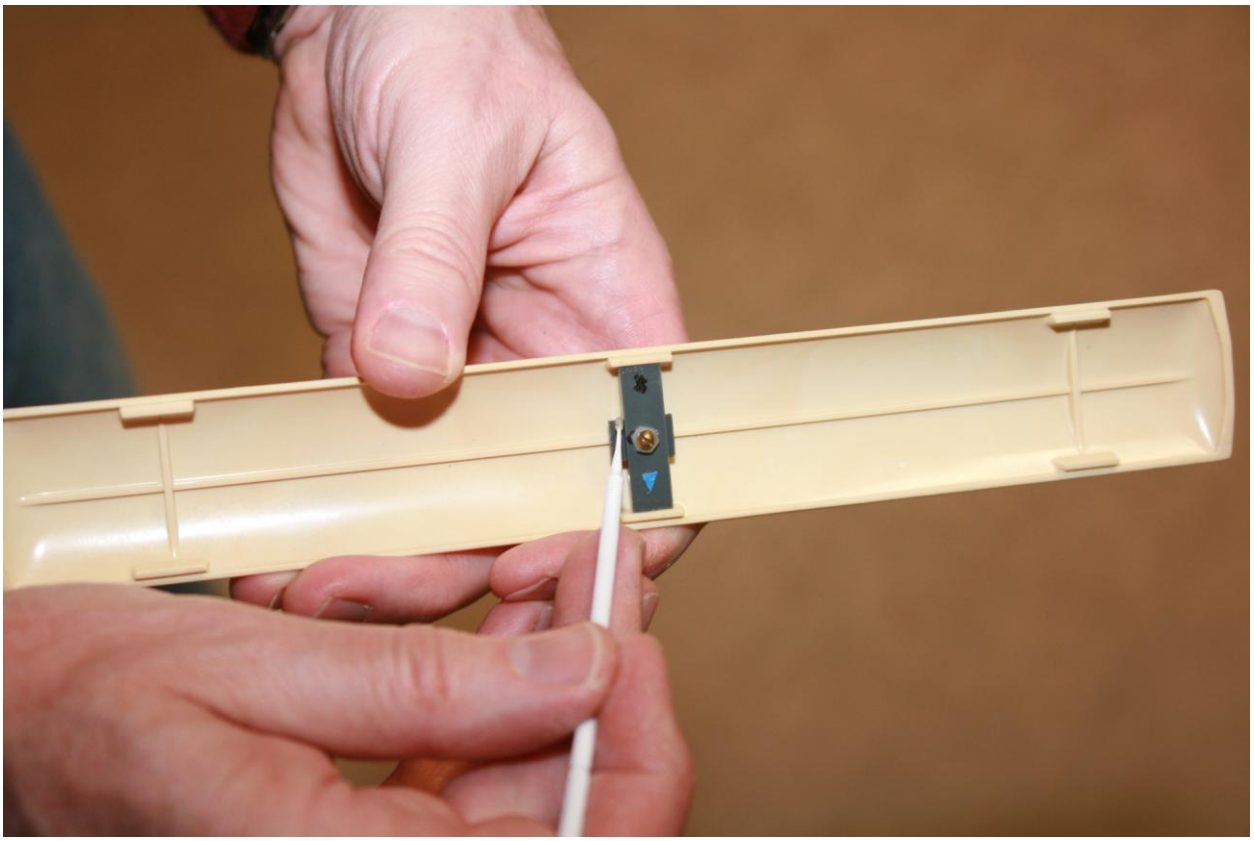

Figure 6 shows the small piece of channel being positioned on the roof channel using a 2-56 screw; a nylon hex nut was used as a spacer so that the screw didn't hit the underside of the roof. The two pieces of channel were then cemented with good old Testors. After the cement had set, the screw was removed.

Figure 7. Finally, the roof and carbody were assembled using a jewelers' screwdriver through that hole in the center of the floor (Figure 4) to access the screw in the brass channel (Figure 5). And yes, those are Central Valley trucks. A few years ago, when

travelling south, I found a bunch in a Memphis hobby shop and bought ‘em out!

The next steps for this model are detailing and painting. This is the only BCW kit that I have on my shelves that had a problem with the plastic warping. I don’t think it was a problem in manufacturing but rather due to prolonged storage in the relatively high heat of an attic; I had gotten this kit second hand at a swap meet for a bargain basement price. Bethlehem Car Works makes some really nice kits for us Reading modelers.