

Restoration Diary: Boston & Maine Coach 1246

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A good story should be told to a conclusion. My [article last year](#) detailing efforts to that time to rebuild ex-B&M 1246, a 1907 Pullman coach, left the reader hanging in mid-project. Nothing looms gloomier than an unfinished project, and last year's reader might wonder whether any more work went on, or whether I was satisfied to call it a day. The answer is easy enough: 1999 saw a lot of work, although most of it was interior and thus not observable to the passers-by.

Last winter, when I wrote the last chapter, I had just received the builder's photos of Pullman lot 3512 from the Smithsonian. At the same time, I had requested the [Illinois Railway Museum](#), keeper of the Pullman archives, to see if they had any documentation from that lot. My letter received no reply and over the course of the summer, I forgot about it.

Winter hinders work in a wooden coach with plywooded windows something fierce. I have experimented with both gas and electric heat and prefer electric for most purposes. A railroad coach is notoriously hard to heat because of its long, narrow and high interior. If you have been in a coach heated by a stove in one end, then you understand. Sit next to the stove and you roast, anywhere else and you freeze. Add to this the fact that heat rises up into the clerestory and you can see the problem (unless you want to work in the clerestory, and then you roast). On the very coldest days, there is no other way to go than to just fire up the gas heater and go ahead. On days that are not so cold, a radiant electric heater that can focus the heat on the area you're working on does better.

Last winter was a good time to begin stripping the paint from the upper deck area around the clerestory windows. By placing an interior scaffold on wheels under the area to be stripped, I could climb up with my heat gun and putty knives and go to work. A heat gun works very nicely on thick paint. Mine has two speeds and I use the lower. There is no danger of fire as with propane. The work is slow and an ugly film of paint and old varnish remains to be cleaned off later. I could do a pair of windows in an afternoon. There are nineteen windows on a side. The job is slower when there are moldings and there are moldings above and below the windows. Like most jobs on the car, it seemed an endless series of little, fussy steps. At the end of the winter, the paint was off, but there was a smeary mess just waiting for round two.





The veneered panel over one of the wide piers at the end of the car. It is in the best condition of all the original veneering. Also shown is the original wainscoting and original wide board over the windows. Note the damage to the wainscoting (former location of a stove) and board (where parcel rack attached).

Round two had to wait for a while, since it was now warm enough to work without gloves and there was a bit of fancy routing to do. The area below the windows was horizontally sheathed in mahogany boards. Not only were they tongue and groove, but with a flute and a small groove on each edge. I had done about half the job the previous fall, but now the rest had to come next. It is no great trick to do tongue and groove. There are router bits made just for this application. The trick is to deal with twelve foot boards, the correct length to span four windows. Rarely are the boards in this length completely flat or with a completely straight edge. I had to build extensions for my router table to handle the extra length and use a feather board to assure that the work wouldn't rise as I was pushing it through. The tongue and groove part was successful, but trouble lay ahead with the flute and groove. No company made a bit that would do both in one pass. Each pass exposes the work to error. The slightest wiggle or flinch reveals itself in the final product. The tongue or groove was one pass. The flute the next and the groove a third. Three chances to screw up instead of one. Add to this that on a router table for the flute and groove the work would have to be on edge, not flat. The originals were undoubtedly made either with a molding plane or a mechanical cutter of some kind where the work was firmly clamped so there would be no chance to move and the work could be done in one pass. All I had was a

medium powered router and a home made table with extensions. Working slowly and with two featherboards, I was able to produce enough of the wainscoting to finish the side.

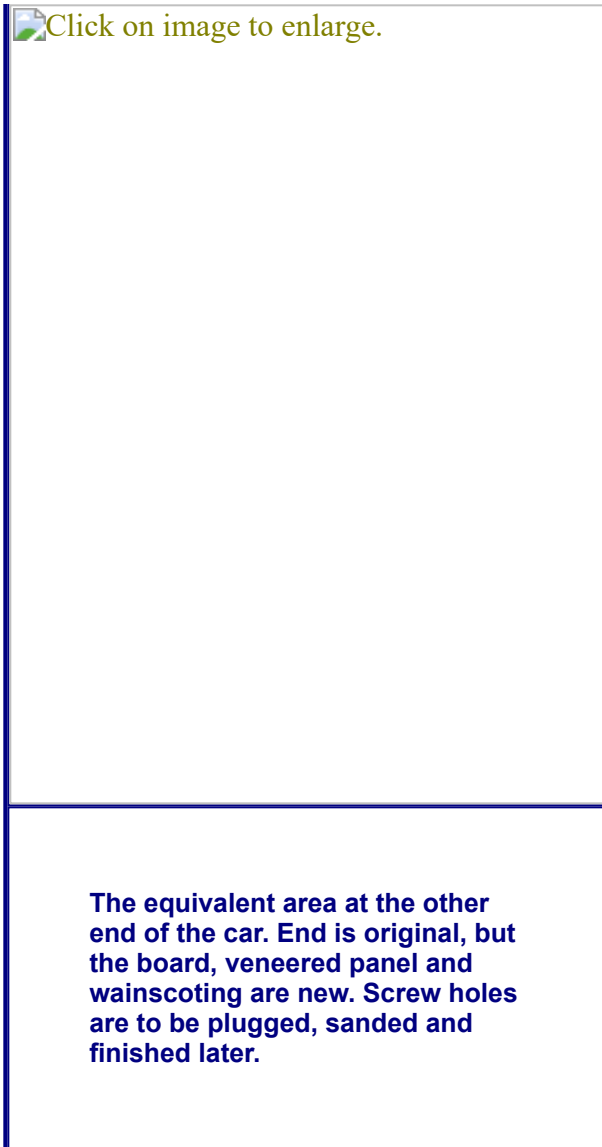


Original wainscoting and base board patched with plaster of Paris, evidently a Steamtown fix. Reasonably effective under paint, but not acceptable with a clear finish.

The obvious question was why didn't I go to a molding shop and have them cut me the correct profile? The just as obvious answer is cost. No molding shop carries the exact profile that I wanted, not even as correct as what I could cobble together from several different router bits. The saw sharpening outfit that I deal with would make me a set of knives, but only for a shaper, not a router and at a high price. I would have to find a molding shop that would agree to take my knives, set up a machine and run a very limited amount of stock at a high price. I felt that as long as I could do a passable job myself, that I should do it. The results were passable, but not exceptional.

Next I had to finish up the mahogany boards above the windows. They were unusually wide and not easy to buy at my hardwood supplier. Nor, once tongued and grooved, were they easy to hang single handedly. Each one was about twelve feet long, with the exception of one at fourteen feet. Add to this the fact that they had to form a straight line visually as you squinted down the car and you can see that it wasn't a simple task. Once they were in place, there was a molding that ran the length of the car along the bottom edge of the boards and another that ran along the top edge at the roofline. They are visible in the builder's photo in the first article. These moldings were fussy to clean on the good side and even harder to replicate on the bad. I was able to produce a good set of the lower moldings using my table saw and two passes with the router as long as I didn't try to do too much all at once. Between the saw and the router, it took five passes for a piece that measures only 1 1/4" x 1 1/2".





Before tackling the upper molding, I took a break by doing the window sills on one side. These are continuous pieces that run the length of the car forming window sills where there are windows and a thin trim over the piers. The thickness is only 1/2". You can't buy stock that thin so you have to buy it 3/4" and have it planed essentially wasting a third of the material and paying for the planing too. This leaves the work fragile especially where it is cut out to go around the pier. It is a nice juggling act to get it into place without breaking it. When you break mahogany, you fix it as best you can.





View down the length of the car showing the all new "bad" side and the original "good" side.

After doing the window sills, it was time to do the panels covering the piers. Piers are the uprights that in a house would be called studs. The piers in this car alternate between narrow (2 1/2") and wide (10") with even wider piers at each end. The narrow piers were covered with a simple mahogany board, but the wide ones had an inlaid plywood veneer. Fortunately the inlay is a simple black and white band outlining the panel. I had never worked with inlay before, but it wasn't hard to see how it went together. Just glue a piece of 1/8" white wood to a piece of 1/16" black and slice thinly. For the white, I chose maple, but holly might be preferred, and for the black, I chose what the catalogue called "ebonized" wood. I joined them with a contact cement and it worked well. I was able to get thin slices with my table saw with a fine toothed blade.



 Click on image to enlarge.

Same end of the car as in 1&2, but showing damage to the window trim patched with plaster of Paris. Patches at the top of the picture are an epoxy compound.

I had never done veneer either. I thought of veneered plywood, but chose instead medium density fibreboard (MDF) and paper backed veneer. It went together well. It was then time to mate the veneer to the inlay. After cutting the veneered MDF to the correct size for the particular pier, I cut a 3/16" groove with my router for the inlay and set them in with contact cement with mitered corners. It worked fine, but I won't know for sure until the veneer has gone through a season of cold and damp without delaminating. While dry, the interior is unheated and subject to swings in temperature and humidity which will test the veneer, MDF and cement. The next step will be to test on a sample just how much sanding the veneer can take. Heavy sanding will go right through the veneer, but without any preparation, the surface isn't ready for finish. Another question is that of staining and filling. The builder's photo, albeit black and white, shows a rather dark finish, but a close look at what is under the paint makes me suspect that the finish was the natural tone of the mahogany darkened with age and varnish. Mahogany is an open grained wood, like oak or ash, so to get a smooth finish, it is necessary to apply a filler either with or without stain. This filler is not the kind used to repair damaged wood but rather a product usually used on floors which will receive a high gloss finish. It is an old fashioned item that most sellers outside of a specialty paint shop wouldn't carry. It isn't clear whether the interior received this treatment or not. I will have to work on samples to see how to best reproduce what appears under the paint. Unfortunately, what appears when the paint is stripped is lighter than the original varnished finish so some guess work and compromise will be in order.



New veneered panel with inlay.

Toward the end of the season, the replacement of the upper molding came to the top of the list. It is like a crown molding in that it is the transition from the vertical of the side to the curve of the roof. It forms the surface against which the lower edge of the curved ceiling panels rest so that it's backside forms an approximately forty-five degree angle and the front side is a complex of coves, grooves and a large ogee. Since I had had acceptable results before, I tried a mock up in poplar with the table saw and router. The results were not encouraging, but were not so far out of line that I was ready to give up. This molding being bigger than the others and calling for more passes was very hard to keep under control. I actually made some out of mahogany, but finally realized that I never would be satisfied with the results. Fortunately I can cut the duds down and reuse them, so they won't be a total waste.





There was just no other answer than to go to the saw center with a sample and have them make the cutters. They were able to do this with out any problem and they were able to recommend a local shop which might consider running a small (for them) amount of it. I contacted the shop and they did reluctantly agree if I bought the stock and paid a set-up fee as well as paid per linear foot. It was expensive, but worth it because it came out perfect, making my earlier efforts with the wainscoting and lower molding look a little pale by comparison. It went up nicely and looks good.

As of the end of the year, I'm at the point where I can identify the remaining projects. They are: to build the two saloons with complex curved opaque glass ceilings; to construct forty two-piece windows with glazing and paint; to construct twenty clerestory windows with ditto; to install them with the exterior ash and interior mahogany stops and to lay the finished floor and then to finish the entire interior.





End area at the roof line. Elliptical panel is hinged at the bottom and originally let down to give access to the Pintsch lamp over the platform. It has been nailed shut since electrification in the twenties. To try and open it now would cause unnecessary damage. Note the remains of the saloon ceiling to the lower left. That curve will be hard to replicate accurately.

The biggest challenge will be the saloons because the originals were totally ripped out so there is no evidence to go by now as to their construction. Again luck has stepped in in the form of ex-B&M 1244 an identical car from the same lot preserved by the National Park Service in Lowell, Mass. That car was made into a wreck tender in 1946 and is well restored in that configuration to-day. Both saloons are still in it. (Men's and Women's are not identical. Men's had a space for wreck tools and the women's carried the water cooler.) Personnel at the park have been very cooperative in giving me access for photos and measurements. I thank them.

At the very end of the season, I received an order form from the Illinois Railway Museum indicating that they had the specifications for lot 3512 and some drawings. I ordered and received the specifications and was gratified to find that based on the specs, I hadn't made any serious errors in the rebuild. The car itself gave enough clues that an observant person really didn't need the specifications, but it was fun to have and to check against. I will probably take all winter finishing up the paint stripping along the upper deck and will tackle the rest in when the weather warms up. When the final paint stripping is done, there is always the task of stripping glass and hardware from the rotted and broken window frames that came with the car.

People are always asking when I plan to finish and what I plan to do with it. My best guess about completion is two more years at the present pace. As far as what I plan for the car, I'm sure someone will come along who will want it on terms I can live with. I don't plan to keep it as a 1.) diner, 2.) spa, 3.) bowling alley or 4.) cathouse (all suggestions). I do have to have a party in it when all is said and done. I'll let you know.

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