THE B&O MODELER

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AN INVITATION TO JOIN THE B&O RAILROAD HISTORICAL SOCIETY

The Baltimore and Ohio Railroad Historical Society is an independent non-profit educational corporation. The Society's purpose is to foster interest, research, preservation, and the distribution of information concerning the B&O. Its membership is spread throughout the United States and numerous foreign countries, and its scope includes all facets of the B&O's history. Currently the Society has over 1600 registered members.

Members regularly receive a variety of publications offering news, comments, technical information, and in-depth coverage of the B&O and its related companies. Since 1979, the Society has published a quarterly magazine, *The Sentinel*, dedicated to the publication of articles and news items of historical significance. Other Society publications include monographs, calendars, equipment rosters, and reprints of original B&O source material. Their purpose is to make otherwise unobtainable data available to the membership at reasonable cost.

Membership in the Society is a vote of support and makes all the Society's work possible. It provides those interested in the B&O with a legitimate, respected voice in the railroad and historical communities. By working together, B&O fans can accomplish much more than by individual efforts. No matter how diverse your interests or how arcane your specialty, others share your fascination with America's most historic railroad. We invite your participation. Review membership options on the Society website , print and complete the membership information and mail to:

B&ORRHS
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P. O. Box 1608
Sykesville, MD 21784-1608

(On the cover:Fran Giacoma 's H12-44)

FROM THE EDITOR
DAVID MURVIHILL

Welcome to another issue of the B&O Modeler Magazine. I'd hoped to get this edition out in April but, well…I didn't. I'm going to blame it on the fact that I stopped taking allergy medication because I heard that if you take it too long you will develop immunity to it. The doctor told me last week you could just switch to a different over-the-counter brand and that should have the same effect. I switched to a different brand and perked right up (or maybe allergy season ended). Anyway, that's my excuse and I'm sticking to it.

The first three cars of the 1935 Royal Blue project are finished! I checked back and it seems this has been ongoing for four years now; time flies… I'm putting an interior in a chair car now, with another chair car and the diner/lunch car awaiting decals. Fingers crossed, I can get the project done and move on with my life.

I must admit a love of foobies, having just picked up two IHC Moguls, both with B&O on the side. One is a camelback so I know it isn't right. Also, the pilot broke into a million pieces in the mail so a new cow catcher is half-fitted, waiting me to finish this magazine.

Anyway, if any of you have any projects you'd like to share with an admiring group of B&O fans, let me know and I'll put you in print…

Feel free to contact me via e-mail (Davidmurvihill@gmail.com) or by phone (314-939-9028).

WHAT IS NEW AND WHAT IS NEWS

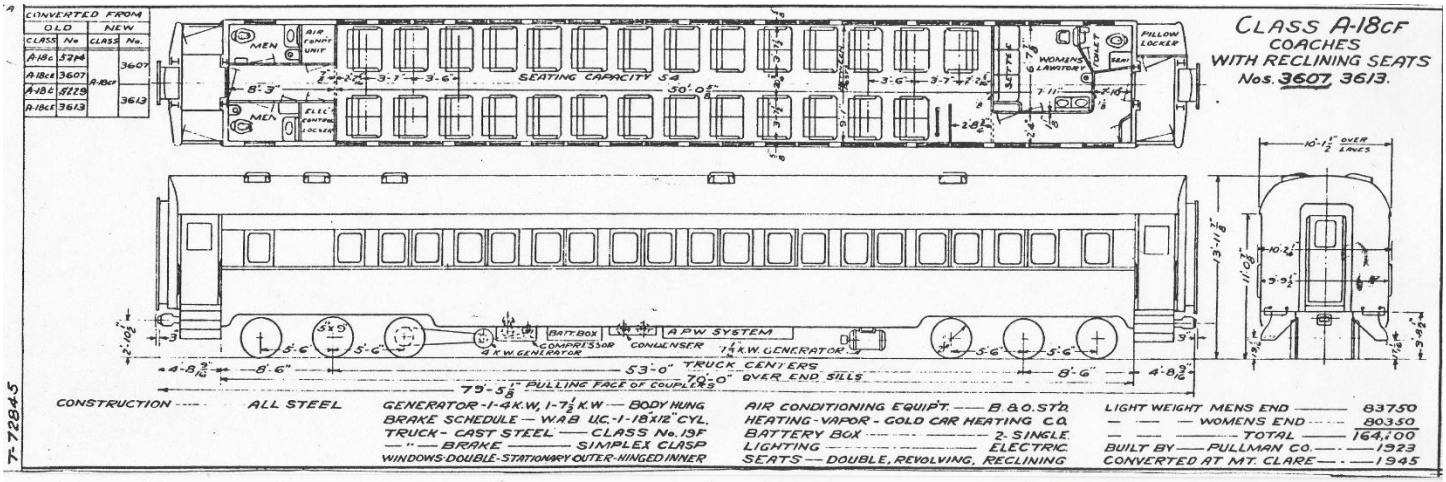
- Henry Freeman reports (on May 10): "Bill Hanley, an enthusiastic follower of the Baltimore & Ohio whose work appeared in the B&O Modeler, passed away Thursday. Bill, a good friend for over 20 years, will be missed. Many of us first met him at train shows where he sold under the name Wildwood Station. Here is a link to his obituary. https://rfhr.com/obituaries/william-john-hanley/ "

A-18CF COACH #3507

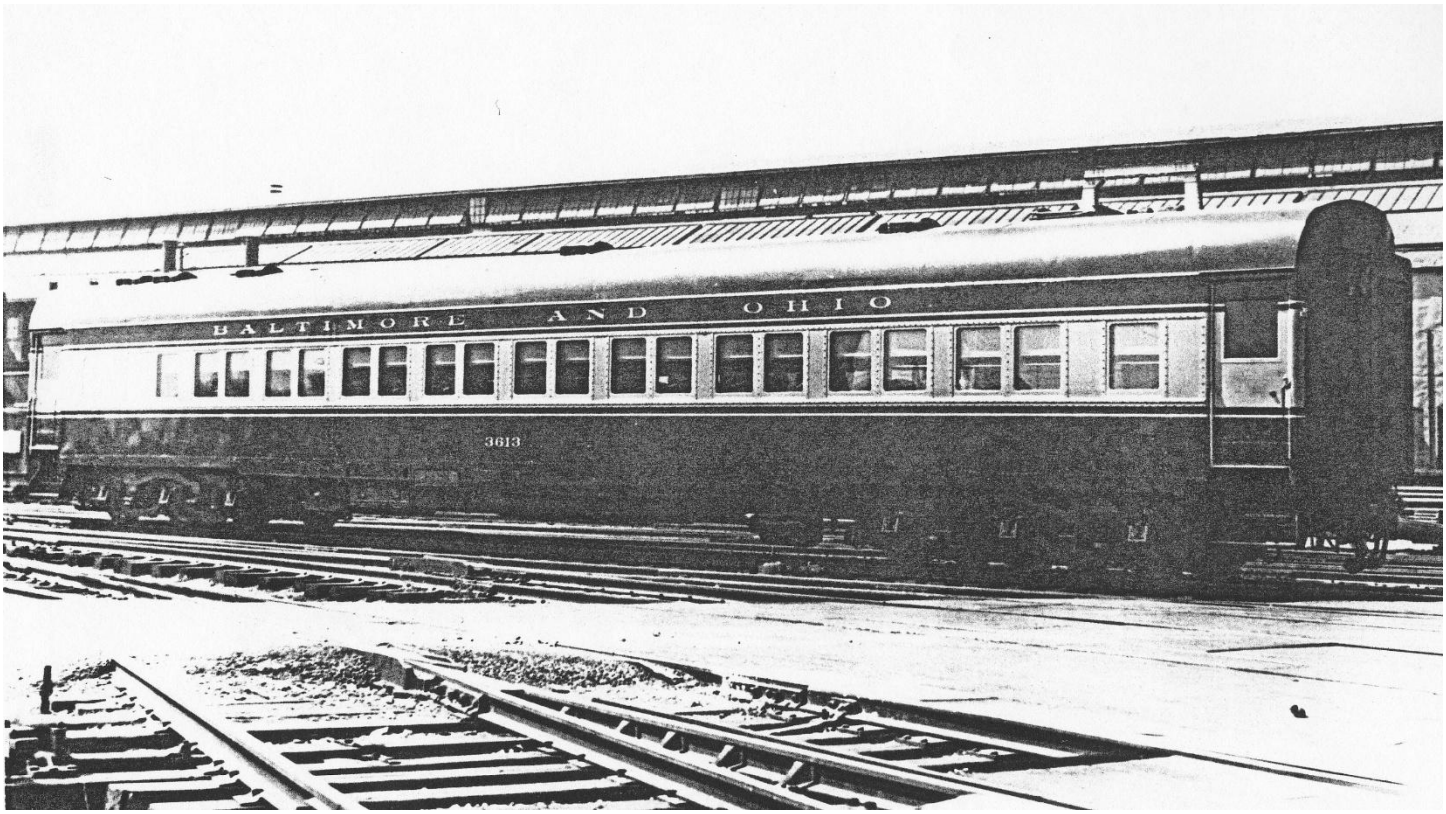
BY BRUCE ELLIOTT

WHAT IS AN A-18CF?

This coach was built in 1923 as an A-18c and modernized in August 1945 at the Mt. Clare shops, coming out as an A-18cf. When finished, it now had seating for 54 people in revolving and reclining seats. Though modernized, some things remained the same. One thing, the windows were sealed but were not the traditional paired Thermopane windows with the rounded corners associated with post war modernized cars. Another abnormality was the retention of the as built stationary vestibule steps. This car did however have a betterment roof. The roof vents were still of the prewar design that sat slightly above the roof line.



By 1947 when the Cincinnatian came out vents were flush with the roof. The betterment roof is a stream style carryover from the Art Deco modernized style of the late 30's. Its aero dynamics were minimal, but its visual appeal helped the railroads bring back passengers that had been lost to more convenient forms of transportation. The men's and women's facilities were changed somewhat. For the men, there was a toilet and wash basin on both sides of the "B" end along with the A/C unit and electric control locker, while on the other end for the women there was a lavatory that had seating for three, a desk and chair, and two wash basins, with a separate toilet. One of the vestibule doors on this same end and side was blocked off and was made into a pillow locker.



By the early '50s the car had received the more traditional blue and gray paint scheme, and the full-width diaphragms and full skirting between the trucks were removed due to the excessive labor required to maintain them. This car was retired in 1969.

THE MODEL

(The Bachmann coach, a good starting point! However, several things had to go; the roof, windows, lighting, PRR water tanks, vestibule walls, lettering and diaphragms. However, do not be so quick to discard that roof until you remove those roof vents. You may find them necessary on a future project.)

I started with a Bachmann model from at least 30 years ago. Yes, I could have gone with a Walthers car or an NKP model, but they are getting pricy these days, and I have worked with several Bachmann cars in the past. The shades of blue and gray are quite satisfactory with me and an easy blend/match. The model had several aspects that I no longer needed. First was the roof. Once removed it also removed my windows. Next item to come out was the interior seating. No loss here, the seating arrangement in the Bachmann car was designed for 80 people. This rebuild had seating for 54 people in revolving and reclining seats. Window shades would hide seats that were no longer in their correct location. When the roof came off, so did my lighting. No problem because I do not care for lighting. Bachmann's car is based on a PRR design meaning that the pressurized water tanks had to be replaced. The rubber vestibule doors and diaphragms were removed. Now to start reassembly!

ASSEMBLY

The betterment roof is the signature part of the car. It is the first thing you notice with the raised roof vents. My roof came from the Bud Stringham collection. The raised roof vents are from Bethlehem Car Works. Once fitted the next step was to fill in the necessary old windows using .005 Evergreen sheet styrene. .010 material was used to blank out the one vestibule door for the pillow locker. Well now that I had blanked out one vestibule door, I no longer needed the stationary steps below. The step was cut out and a .060-piece of plastic 2x3' was cut out to fill the void and a Precision Scale stirrup step was added below.

Having removed the rubber vestibule doors and diaphragms, that left me with a void in the vestibules. This was filled with New England Rail Service (NERS) vestibule walls and Bethlehem Car Works diaphragms. The vestibule walls were designed for Rivarossi cars, not for a Bachmann car (strike one) with a wooden roof (strike two). It was necessary to cut off about a foot from the bottom of the door for them to fit.

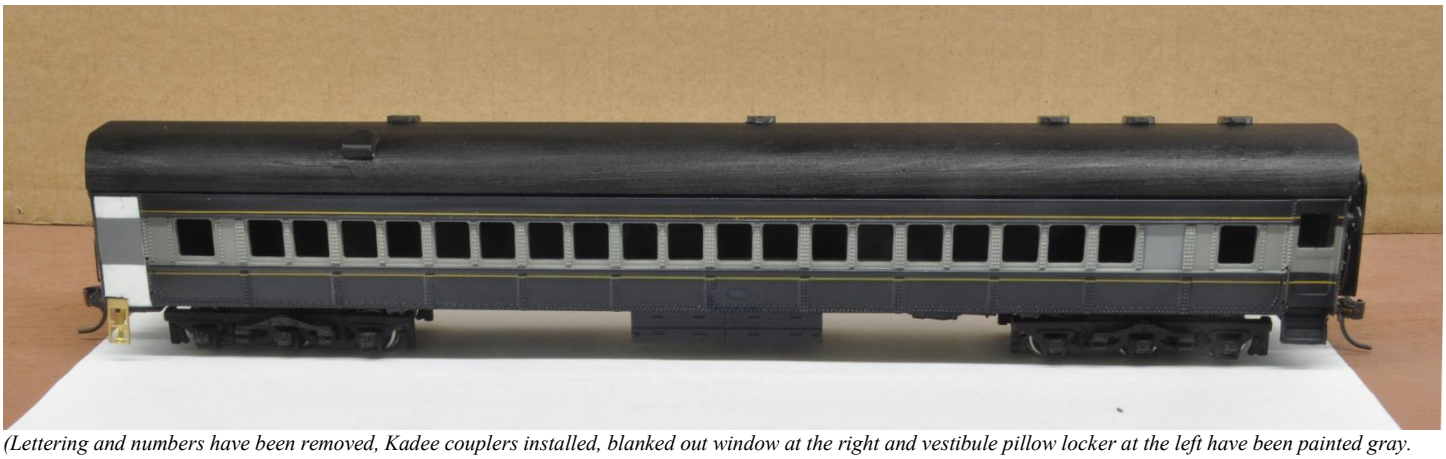
Bachmann created their version of a Talgo truck/coupler arrangement which had to go. The original coupler boxes were retained and glued stationary in place with Kadee couplers. The only underframe change was removing the PRR water tanks and installing a Pullman 145 gal. tank from New England Rail Service. Sadly, this manufacturer has been out of business for a number of years. Their parts are top notch and still highly desirable when you can find them. White Rose Hobbies recently acquired Bethlehem Car works which may be a current source for former Branchline tanks.

(A new betterment roof, no rubber diaphragms and the PRR water tanks are gone as are the couplers. Even in this state the car looks 100% better.)

(A window is blanked out for an electrical compartment.)

(At the left, a vestibule door has been blanked out and this half of the vestibule is now a pillow locker. A stirrup step replaces the stationary vestibule steps. The blanked-out window at the right is the A/C compartment.)

(BCW roof vents have been added and the roof painted. The NERS Pullman 145-gal water tank has been assembled, painted and installed, and blanked out window has been painted gray).



(Lettering and numbers have been removed, Kadee couplers installed, blanked out window at the right and vestibule pillow locker at the left have been painted gray. One diaphragm at the right has been installed. The other diaphragm will be installed after the enclosed vestibule door receives a coat of blue paint. A note: only the blanked-out panels were masked and painted. That is how closely the Floquil color matched the Bachmann model.)

(The vestibule door panel has been painted and the diaphragm installed on the left end.)

PAINTING

It was no mistake that I chose the Bachmann car in B&O colors to start with. Their paint was so close to the Floquil colors that small little blends would hardly be noticeable. The roof is wooden, and it was necessary to seal the wood prior to adding the roof vents. Two coats of spray lacquer did the trick, and this was rubbed down with a fine grade of steel wool. The roof vents were located from photos, then a grimy black color from True Color was applied to the roof, diaphragms and pressurized water tank. I am now having to gradually move away from Floquil, and I have chosen True Color Paint, with an acetone-based paint. I find it far easier to clean out an air brush. Matching factory color all too often can be a nightmare. In this case Floquil reefer gray and Floquil dark blue are exact matches.

DECALS

When the Bachmann heavyweight cars came out, the first and obvious Boo Boo was the lettering on the letter board. It was just way too short for the B&G paint scheme. A little research on my part revealed that the length of the lettering on the letter board is correct for the green paint scheme, but not the B&G. I had an opportunity to talk with Lee Reiley who was at that time their PR man. He swore that it was done right even though to this day, I have yet to see a photo to substantiate his claim. Isopropyl alcohol and a Q tip will remove the lettering and the car numbers. I was initially a little apprehensive about whether the alcohol would also remove the striping as it is in close proximity but though the color of the striping and lettering is the same, the striping remained. So, the car retained all the original striping, but when the vestibule door was plated over and painted with Floquil, it was necessary to add a semi-gloss clear coat for the purpose of giving the surface a finish that a decal could adhere to. I use Mt. Clare Shops decals and numbers. Microscale is a good available alternative.

AFTER THOUGHTS

Windows, curtains and railings. The windows that came with the model went away with the roof and lighting. Acetate window material was cut in long strips and applied with ACC to the inside wall. Most modelers these days like to go to great lengths to replicate an interior and lighting. It works for them, and that is great. I choose to save time and money by adding window curtains that if they added this detail to their models would hide at least 80% of all their work and time. Curtains were made from beige colored masking tape and cut to different lengths to simulate curtains at various heights varying from wide open to drawn. For the frosted windows in the bathrooms, I use window glazing from Walthers from the ‘60s. A handrail was necessary in the hall across from the women’s lavatory. This is a detail that is often overlooked by both manufacturers and modelers.

Except for the Pullman pressurized water tank, I made no other changes to an otherwise bland undercarriage. Myself, I see no advantage to spending time on a part of the car that you cannot really see as the train is traversing the layout.

(This side left to right, women's toilet, women's lavatory, coach seating, A/C unit and men's toilet.)

(This side left to right, men's toilet and coach seating.)

PARTS

Bachmann:
- Heavyweight coach

New England Rail Service:
- Vestibule walls
- 145 gal. Pullman water tanks

Bethlehem Car Works (kit bits):
- Roof vents
- Diaphragms

Kadee: #5 couplers

Evergreen styrene:
- #9010 .010 sheet styrene - door panel
- #9106 .060 Sheet styrene - stirrup step plate
- #9009 .005 sheet styrene - window coverings

Floquil:
- dark blue
- reefer gray

True Color:
- Grimy black

Precision Scale:
- Stirrup step

Decals:
- Mt. Clare Shops

Window glass;
- Sheet Acetate material

Walthers;
- Toilet windows

Kit Bash a B&O D-14ab Baggage Dorm Coffee Shoppe Lounge Car

BY BILL HUTCHISON
(All photos by author unless otherwise specified.)

(Image 1: The B&O's D-14ab baggage dorm coffee shoppe lounge car was a mainstay.)

A WORD ABOUT THE WALTHERS COACHES

The basis for this article is the standard heavyweight Walthers coach. Fortunately for us, this car and the Walthers modernized heavyweight coach are based on B&O prototypes. Both can be used for this and other B&O cars. The D-14ab baggage dorm coffee shoppe cars ran on the Shenandoah, Diplomat and other secondary trains. The car in this article had standard windows, but others had thermopane windows as well.

I should note how versatile these Walthers coaches are for bashing prototypical B&O cars. Virtually *all* classes of combines, coaches and even a couple of heavyweight observation cars are based on the A-18 coach body.

OTHER WALTHERS HEAVYWEIGHT CARS

Sleepers are also fairly easy to kitbash: just add skirts and an arch roof and you have the streamlined rebuilds used on many B&O trains. These are the 12-1, 10-1-2, 8-1-2, 14 section sleepers and the solarium observation. Even odd cars such as the 8-1-3, 8-4 or 8-5 sleepers can be built with styrene sides from Union Station. The exception is the Walthers heavyweight diner, which is more difficult since the windows must be replaced. Maybe Union Station could be induced to make sides? After all, the brass F-4bm sides by NKP Car Co are close to the same length as the Walthers diner.

At any rate, a modeler could build a fair representation of what ran on the B&O with these conversions. As it is, the D-14ab was never produced in plastic and was only available as a now out of production kit with brass sides by the NKP Car Company These are very pricey if they can be found at all. I've included a link to a B&O Modeler article by Bob Chapman for reference (see below). In it, he builds a D-14ab kit by NKP Car Co. and has a lot of information which was a big help when it came to detailing this car. I recommend reading it before building your car and that it's pulled up on a laptop or printed out while you work.

(Image 2: Stock Walthers B&O standard heavyweight coach)
(Image courtesy of Walthers)

GETTING STARTED

Background**:** Making a coach into a D-14ab is simple: We just chop off one of the vestibules to get a car that is close to the proper length. Even the trucks are in the correct position. Some time ago, I noticed that the D-14 combine was just the same as the coach once one of the vestibules was removed and after some trepidation, I built a streamlined D-14aa for the National Limited. This process can be repeated for many B&O combines.

Prep the car**:** The first step is to remove all unneeded components. I recommend putting them in a plastic bag for reuse later. Label the bag. Then, remove the roof by twisting the car body slightly and pop it off with an X-acto knife. You will probably lose a few tabs, but this is not an issue. Remove the interior (except for one lavatory at the lounge end opposite the blanked door – see image 1), glazing, trucks, couplers, steps and handrails. Bag and save these for later. Remove the tan upper body reinforcing strip on the inside on both sides of the car and cut off the vestibule end of the car body at the end opposite the underbody generator, including the doors. Use a razor saw, taking care to get a true, square cut. Sand and file off any burrs or rough spots.

Next, cut out unneeded windows (refer to image below). I simply chopped out the posts between the double windowpanes and whittled down the stub and then whittled or put the X-acto knife blade on edge and planed off the excess material. Square the corners with the X-acto knife as well. I also used a small file to dress up the openings.The removed area should include that between the bottom of the letter board and the top of the belt rail. Take care to get the opening square and smooth. This will help fitting in new styrene to blank the areas where the windows were.

It's important that you take your time when doing this. Work in short bursts instead of a marathon. You may get a gouge or two, but don't worry too much since they can be filled in with body putty. At this point, the car, work area and your hands will be dirty with dust, so wash the car and your hands and clean up the work area. Some modelers might also wish to strip old paint off the car body at this point. I did not do this, since there was little that would show after spraying the body with primer. If this is your first time at this, don't worry. You'll become more proficient as you go. I had some absolute disasters when I started! The key is to keep at it and don't worry about small imperfections, unless you are planning to win a contest.

(Image 3 – Completed D-14ab, corridor side.)

(Image 4 – Completed D-14ab, galley/dorm side.)

BAGGAGE END OF CAR

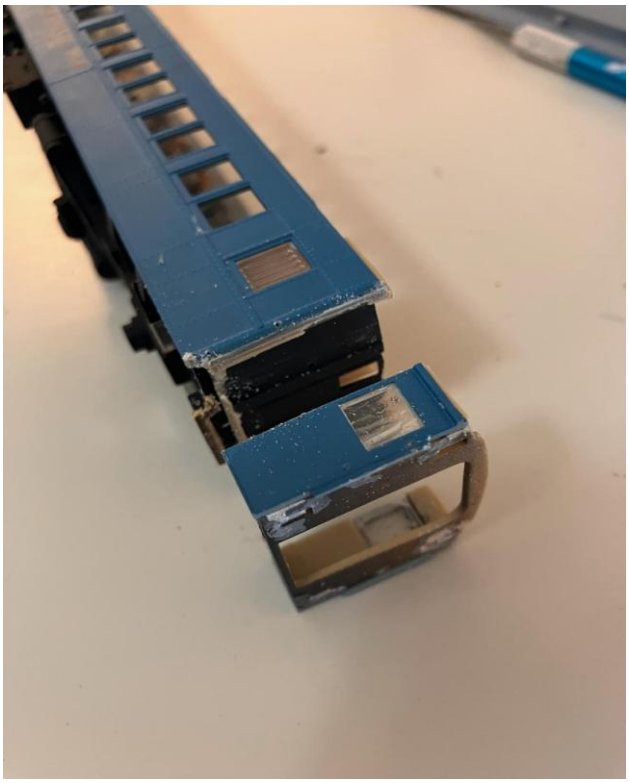
Remove excess material, add new end:

After cutting off the vestibule at the end opposite the underbody generator, remove the two lavatories inside the baggage end of the car.

Then apply an end from an old Rivarossi or other baggage car, taking care to sand the ends to a fine point before glueing.

Make sure the ends match up with the sides evenly and allow the glue to dry. Then lightly sand the corners and fill any gaps with body putty.

Later, the top of the new end will be filed to match the roof.



CAR BODY

Cut out unneeded windows: Note that the lounge is composed of three double windows and a single window nearest the remaining vestibule end on both sides of the car. The two double windows are on Side A and are for the corridor to the dorm section and baggage room. Refer to prototype photos in the Bob Chapman article to be sure you have the right windows to be cut out if you wish.

(Image 6, side A: (corridor side) Going right to left, cut out the lavatory window nearest the right end and the next four pairs of double windows for the baggage end. Later we will blank two windows and the door with styrene sheet.)

(Image 7, side B: (dorm lavatory side) Going from left to right, cut out the lavatory window nearest the left end of the car, four double windows, plus the nearest single window of the next pair. The remaining window is for the lavatory in the dorm section. Moving further to the right, cut out the next double window and the first pane of the double window beyond. Note again that you should be left with a single window and three double windows for the lounge area. There are no windows to blank on this side.)

RECONSTRUCTING THE CAR

Blank door and two windows: The next steps are to blank the two windows and the door shown in Image 4, side A. Use .020 styrene sheet and cut to approximate size and then sand to fit the openings as accurately as possible. This is a slow process, and the piece should fit snugly into the window or door opening. Glue in place from the inside of the car body and fill any cracks with body putty, using needle nose tube applicator. Gently wipe away any excess with your fingertip and allow it to dry. Lightly sand off any imperfections. Also, file the bottom of the blanked door even with the bottom of the car body. Check for any more imperfections.

Reinforce the body: Apply sections of .040 styrene to the inside of the car body in the baggage and dorm areas, which will give the body support and serve as backing for additional layers of styrene used to blank the window band. Cut two pieces, each 11 ft in length by 4 ft high (inside measurement from back of baggage compartment to the doorway is 11'- 6" and cutting the backing at 11 ft long allows room to mount the baggage doors) and apply to each side, with their bottom resting on the tan inner body of the car. These and others should be stepped back from the door openings and windows to permit application of baggage doors and widow glazing.

For the rest of the reinforcing strips, you can apply as shown in the image below. The baggage doors are 5 ft wide, so make the starting point for these strips 7 ft from the end of the baggage compartment backing. There are three strips:

a) 4'H X 13'-6" L Baggage door to single lavatory window galley/dorm side.

b) 4' H X 11' L Single lavatory window to lounge windows.

c) 4' H X 10'-6" Baggage door to corridor windows (these are two pairs of windows).

Dimensions are approximate. Be sure to leave room at the ends of these strips to allow for windows and shades. There is no need for these strips in the lounge end of the car, which makes it possible to detail the interior of the lounge.

(Image 8 – Showing white reinforcing strips. Pay no heed to the gray plastic door.)

Add blanking: Cut strips of .040 styrene to approximate size to fit the areas where windows were removed and sand until you get an exact fit. I like to make these a wee bit big and sand them down to fit. Make the following pieces:

a) Corridor side 1: For the section between the location of the now removed lavatory window on the corridor side of the car and the door opening, make a section 3' H X 9'-6" L (the overall length is 11'-6" from the end of the side sheet to the baggage door) and be sure the end at the doorway is square. This will be a reference for the location of your doorways. Glue to backing strip.

b) Corridor side 2: Make a strip 3'H X 13' L for the window band between the baggage door and the corridor windows. Make sure you have a five-foot-wide opening for the baggage door as the starting point for this strip and make sure the baggage door end of the strip is square and plumb.

c) Galley/dorm side 1: Same as (a), make a 3' H X 9'-6" L and apply to area from former lavatory window to the baggage doorway. Inside dimension from end of baggage section to the doorway should be 11'-6". Make sure the baggage end is square and plumb.

d) Galley/dorm side 2: Make a 3' H X 16'-6" L strip for the section form the baggage door to the single lavatory window. Make sure you have a five-foot opening for the baggage door, which will serve as the starting point for this strip.

e) Galley/dorm side 3: Make a 3' X 8' section for the area between the lavatory window and the first lounge window.

The .040 blanking is not quite thick enough for the window band, so add a .010 overlay the same size as the .040 window strips. Fill any cracks with body putty and sand. Repeat if necessary. Refer to the diagram below to be sure you have the right location for baggage doors. Again the 11'-6" dimension from the inside of the end of the baggage compartment to the baggage door is important as a starting point. As for me, this is where an error crept in. I thought the dimension was 13'-6", which is two feet too long. Oops. Fortunately, this mistake is not obvious, and it allows clearance between the truck and the baggage door stirrups.

Cut in the baggage doors: This is probably the trickiest part of the process, since the doorways must be square and plumb and made the correct five-foot width. Using the styrene window band strips as a guide, cut out the sections of the car body above and below. Be sure your cuts are plumb and match the window strips. For the bottom section, cut down to the floor on each side of the opening with an X-acto saw (not a razor saw). Take your time and try not to bend the saw blade.

Once this cut is made, use an X-acto knife to scribe a horizontal cut even with the floor and keep cutting deeper until you can snap off the surplus body section. Repeat this process for the tan inner body and then smooth the new threshold with a small file (*TIP: for sharper corners with 90-degree angles, use an X-acto knife to finish after filing*)

For the upper part of the doorways, cut into the letterboard about halfway up with the saw. Be extremely careful not to break the window band since there is no reinforcement here. As before, scribe a cut horizontally and make successive

deeper cuts until you can snap off the surplus to form the doorway. Again, be very careful. I used a small pair of pliers to pry off the extra material. Use a small file to smooth the opening and check to make sure the opening is square and plumb. To finish, cut and glue a narrow strip of .020 styrene to the vertical surfaces of the doorway and trim with a knife and file. This helps give the doorways a finished look. Putty any gaps and sand lightly.
Final inspection: By now, you should have the body finished, with all unneeded windows removed and replaced with Styrene fillers and baggage doors cut in. Inspect the body for any defects and remedy them. After that, wash the body and allow to thoroughly dry, then apply a coat of primer. Inspect for imperfections and correct them with body putty. The car body should be ready for painting at this point.

(Image 9 - Dorm/lavatory side)

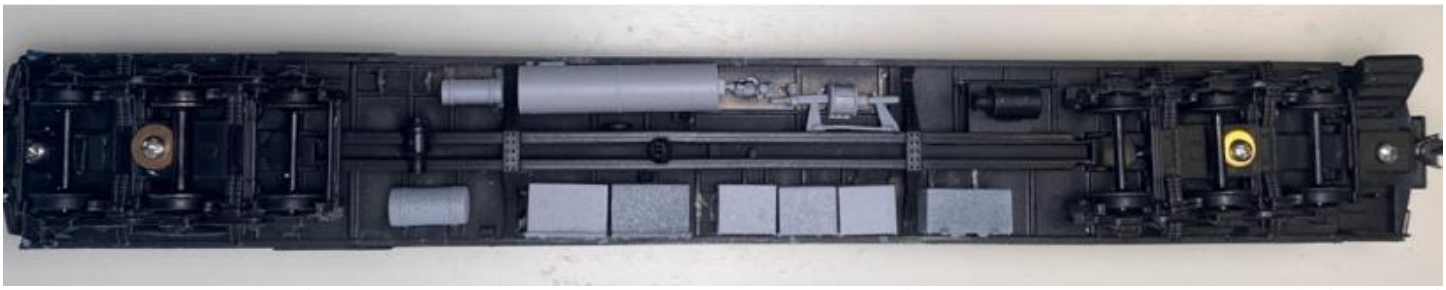
(Image 10 - Corridor side)

UNDERBODY

Because this car does not have streamline skirting, underbody details are exposed and visible. For that reason, I decided to redetail the underbody, even though that meant removing nearly all the parts and reapplying them to the correct locations for the D-14ab. The good thing is that you will reuse most of these parts and will only need one new double battery box:

Remove all underbody details except for large and small generators, using a small screwdriver or X-acto knife to pop the parts loose. Then clean up the underbody to prepare for reinstallation. This should only take a few minutes.

Reapply all parts to their new locations and paint. You may have to do a little trimming. The underbody should be detailed before painting the car. See image below:



(Image 11 - Baggage end to the left, Lounge end and steps to right. The boxes are on the corridor side of the car, water tank and brake cylinder on galley/dorm side of car.)

(Image 12 – Corridor side, showing underbody arrangement. The crooked battery box at right was later straightened.)

PAINTING THE BODY

Because I have had a difficult time finding and applying decal stripes, I chose to apply painted stripes. I found that Microscale decals varied in color and while old Champ decals were better, they were brittle and broke apart as I tried to apply them, even when using liquid decal film or other measures. This is an old method used by pioneers like Mel Thornburgh and later modelers such as Boyd Reyes.

Painted stripes have the advantage of being arrow straight are and not near the hassle of trying to line up decals, a job which should not be eyeballed. If you want to use decals, I suggest Bob Chapman's Stripemaster to help align them (Mar-Apr 2002 Model Railroader magazine). Applying painted strips is also a bit tedious, but either way you have to earn your stripes (joke) if you want to model B&O passenger cars (*TIP: use an old clunker car to perfect your technique and once you are happy with the results, then graduate to your prize project*).

Added note: I searched for paint which would be a close match for Dulux Gold and found it in an Armour Yellow in spray cans through eBay. This is really an automotive paint, but I've used without issue for far. Microscale UP Armour Yellow was my previous choice, but they are out of business. It's as close as I could come.

If you plan to use decal striping, simply omit the paint striping steps and mask the car starting with Step 4, below.
Steps:

1. When you are done working on the body, wash it to remove any dust, particles or dirt and allow it to dry completely.

2. Tape off the underbody and windows (from the inside). Also tape off the diaphragms. Then spray a primer coat, allow it to dry and check for any imperfections such as cracks. Apply body putty as before and spray primer again.

3. Once you are satisfied with the body, spray a good coat of UP Armour Yellow on the body and allow it to dry thoroughly. Then apply 1/64" tape striping to match other Walthers cars and spray a last coat of UP Armour Yellow to seal the tape (I forgot this step when building my car, leaving some spots with poor coverage, but I'll live with that for now).

4. After the body is completely dry, spray on a coat of Royal Blue (I use old Floquil paint) and allow the body to dry thoroughly once more. Make sure the paint covers the car fully, otherwise the yellow will show.

5. Peel off the stripe tape slowly and hopefully you will see stripes without blue paint bleeding in or missing spots. Next, tape off the body completely, except for the window band, to apply gray paint and paint the underbody (*TIP: use a wooden toothpick to press the tape down the edges to prevent bleeding*) Then spray the gray paint of your choice on for the window band and once dry, mask the window band, leaving the entire body cocooned in tape, except the underbody. Now spray the underbody flat black or other similar color and allow to dry.

6. Once dry, slowly peel off each strip of tape one at a time and the result should be a fully painted body with stripes. Spray Glosscote and apply letter and number decals. At this point, you can apply window glazing, either saved windows removed earlier or new clear sheet. I highly recommend installing window shades as well since they give the car a more finished look.

BAGGAGE DOORS

For these doors I purchased a set of four White Rose Hobbies (Bethlehem) #1431-D Southern brass baggage doors. Two of these doors are a little wider than the door opening, which is perfect. The other two doors are wider and would have to be trimmed to fit. I decided to apply the doors to the body after painting the latter for a better paint job.
First, make sure the lower part of the tan inner body of the car is trimmed away with a chisel blade X-acto knife. This will allow the doors to fit properly.

Next, the bottom of the doors will have to be trimmed off to bring the window down to its proper place. I like the smooth side of the door, so I turned the door upside down and backwards (rivet side facing out) and placed it against the inside of the doorway and scribed the top of the upside-down door with an X-acto knife. After the door is scribed, saw off the excess with a razor saw, using a miter box and file off any burrs or rough edges.

After that, spray a coat of primer and allow it to dry, then apply a coat of UP Armour Yellow and allow it to dry. Then mark off the stripes where the edge of the door meets the body of the car and apply 1/64" tape striping to match the stripes on the car. Apply another coat of UP Armour Yellow to seal the tape and allow the doors to dry. The following day, spray the doors Royal Blue (I use old Floquil paint) and allow the doors to dry. The last steps are to peel off the tape, exposing the stripes and then tape off the window band to apply gray paint. Once dry, peel off the tape and glue the doors in place.

ROOF

Cut the roof to size: Since we chopped off the vestibule at the baggage end of the car, the roof is now too long and must be cut to fit by removing a short section and gluing the ends to form a new roof with the correct length.

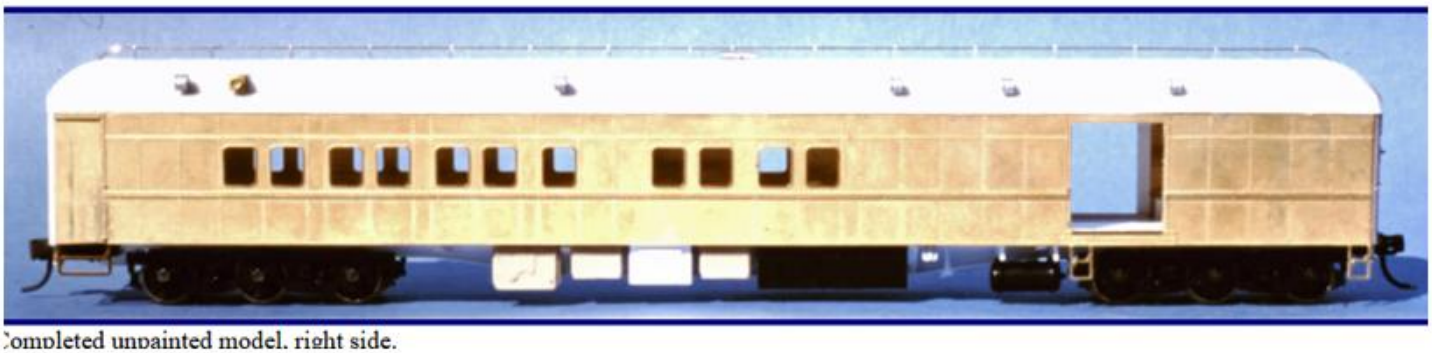
Cut out a three-foot section (or a bit less if you are squeamish about ending up with a too short roof) out and check for fit, File and sand off any burrs and make sure the two sections fit straight and true. Glue the two sections together upside down and on a level surface. It's important to get the roof right because the car will usually be seen from above.

Next, detail the roof, using Bob Chapman's article as a guide. The circular Gold vents will have to be removed and repositioned and a few more added. Two new Bethlehem (White Rose Hobbies) box vents will be added, one on each side.

Add the antenna: Lay out a line running lengthwise and centered on the clerestory roof with a pencil. Then plot where the stanchions will go. I installed 16 stanchions over a ten-inch (a wee bit more) length and divided 16 by 10 to get the proper spacing between posts, which is roughly 5/8".

Next plot and mark the position of each post and drill holes for each, using a Dremel drill press. This is much more accurate than trying to drill by hand. I highly recommend getting one, as I did from eBay. They aren't expensive, either. The antenna is attached to the roof at each end, so drill holes, each about 3/16" beyond the post at each end (see images 16, 17 below).

Completed unpainted model, left side.

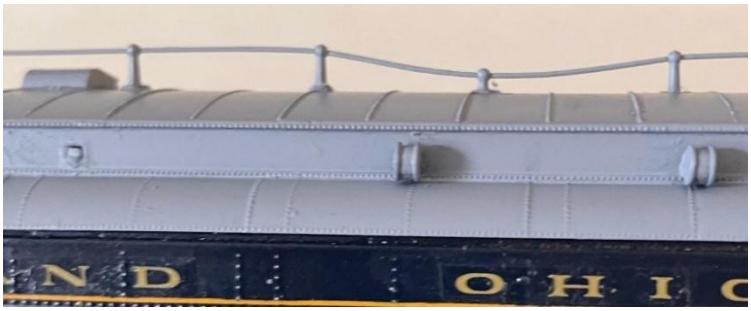


Completed unpainted model, right side.

(Images 13, 14, 15-courtesy of Bob Chapman.)

Once the holes are drilled, mount Precision Scale #373 stanchions with the glue of your choice. I use Gorilla Super Glue, but any CA will work as well. I modeled D-14ab #1232, which has a roof antenna with a funky looking dip about 2/3 of the way towards the baggage end (see images below). This bit of B&O whimsy was too good to pass up, so I modeled it by using a shorter stanchion (Precision Scale #370) and weaving the wire (PSC #4869 .016 brass wire) through.

If you want to model the antenna dip, note that the first five stanchions from the baggage end are tall and that the sixth is short. The remainder are tall stanchions.



Other roof details: Add a single rooftop galley vent by trimming the front of a Bethlehem (White Rose Hobbies) #28 long Garland Vent, clipping off the protruding front section to produce a squared vent. Glue to top of clerestory roof per images. Also, add .016 wire drip strips over the baggage doors. Images below are in gray primer to show details more clearly.

(Image 18 – Baggage end)

(Image 19 – Lounge end of roof in gray primer to show detail more clearly).

Paint the roof: Use your preferred paint. I used Tamiya TS-82 Rubber Black spray paint.

Secure the roof to the body: I drilled a hole in the middle of the underbody for a screw which then ran up into a styrene plate glued to the underside of the roof. I drilled a hole in the styrene for the screw to attach to. I happened to have a couple of 1-1/8" self tapping brass screws on hand from other projects. A look online shows these screws are available from various manufacturers.

Interior**:** I did not add an interior to this car, but did add a railing for the windows in the corridor and a wall to denote the dorm section when looking thru the corridor windows. I painted the wall with leftover Wisconsin Central gold, but any tan will do. For the shades, I used manila folder cut to size. These are important details which give the car a finished look.
Handrails, grabs and stirrups: I freely admit that I am squeamish about drilling holes in a car I just painted, but I'll have to learn. I did add stirrups by simply gluing them on.

Diagram

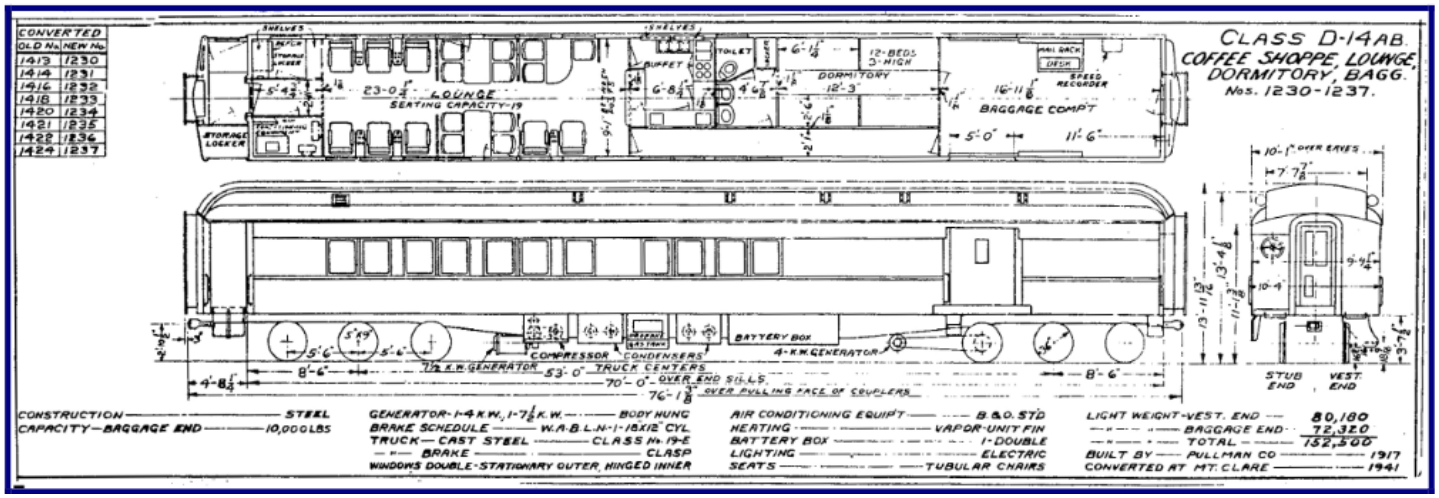
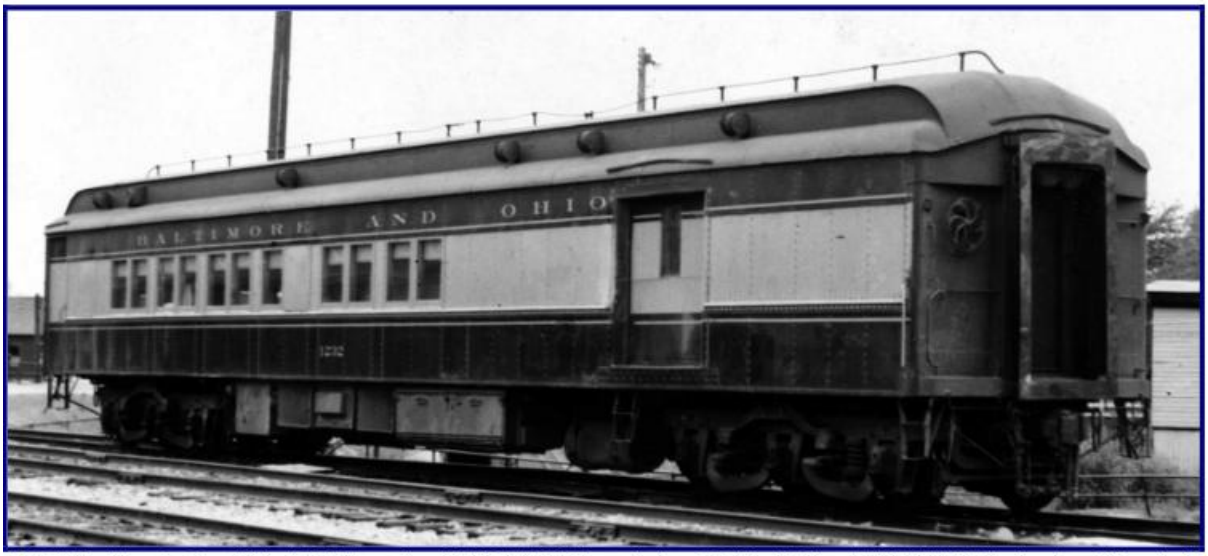


Image 22 - Note location of underbody detail. Image courtesy Bob Chapman

CONCLUSION

There is something special about those old B&O heavyweight cars in their classic Blue, gray and gold that motivated me to kit bash them. There was also a desire to run trains which looked like the real thing. While I make no claim of 100% accuracy, I truly enjoy building them and I hope you will too. Please feel free to email me at flabill89@yahoo.com if you have any questions or comments.

Reference photos of D-14ab #1232



B&O 1232, Class D-14AB, Willard OH, September 16, 1964 (J. W. Barnard photo). Originally Class D-14 #1416 built October 1917, rebuilt into Class D-14A April 1937, rebuilt into Class D-14AB June 1941 and renumbered #1232, retired 1965.

B&O 1232, Class D-14AB, Baltimore MD, June 12, 1965 (J. W. Barnard photo).

(Images 20, 21 - Note the location of underbody detail in the upper photo: L to R we have compressor, condenser, propane tank, compressor and battery box. Keep these in mind when detailing the underbody. Images courtesy of Bob Chapman)

BILL OF MATERIALS

Manufacturer	Part #	Description
Walthers	Out of production	Standard Heavyweight Coach
Bethlehem*	1431-D	Baggage Car Doors (4)
Bethlehem*	392	Pullman 10” Exhaust Fan
Bethlehem*	28	Long Garland Roof Vents (14)
Bethlehem*	86	Narrow Baggage Steps (8) (stirrups)
Bethlehem*	87	Wide Baggage Steps (8) (stirrups)
Bethlehem*	51004	Battery Boxes
Evergreen	9006	Clear Window Sheet
Evergreen	9040	.040 Styrene Sheet
Evergreen	9010	.010 Styrene Sheet
Precision Scale Co. (PSC)	373	3.0 mm Tall Stanchion (12)
Precision Scale	370	1.0 mm Short Stanchion (12)
Precision Scale	4869	.016 wire
LaBelle	BCW-0034	Gold Vents (12)
Kadee	2040	Ajax Brake Wheels (8)
Tamiya	3F-28	Gray Primer Spray paint
Tamiya	TS-82	Black Rubber Spray paint
Testors	1249T	Flat Black Spray Paint
SprayMAX	WA5563	Armour Yellow spray paint

*Note – Bethlehem is now owned by White Rose Hobbies

Acknowledgements:

Bob Chapman, Bruce Elliott

Thanks to these two gentlemen for inspiring me to build passenger cars. Their advice and assistance has been invaluable.

References:

Chapman, Bob, “Modeling B&O’s Class D-14ab Coffee Shoppe-Lounge-Dormitory-Baggage Car”, B&O Modeler, 2nd qtr, 2014 issue.

https://borhs.org/modelermag/Modeler20142q.pdf

Also: Chapman, Bob, “Modeling B&O’s Class A-18cd Modernized Coach”, B&O Modeler, Vol 5, Issue 1, Jan/Feb 2009

https://archive.org/details/BO_Modeler_V5-N1_2009_JanFeb/page/n10/mode/1up

This is about as simple a kitbash as there is and a good place for a first effort.

Armstrong Interlocking at Patterson Creek

BY BRUCE ELLIOTT

(All photos by author.)

(Sooner or later, someone is going to ask, "how does all this work"?
The tower operator throws the lever which moves the top rod, unlocking the throw bar in the switch machine. Next the lower rod is thrown which moves the throw bar and switch points. Then, the lever for the top rod is thrown again, the other way and now locks the throw bar in the switch machine. All this is repeated be done again to change the direction of the points back.)

Armstrong interlocking is far and away the oldest form of remote turnout operation, dating at least back to the 1890's. Surprisingly enough, it lasted into the 21st century. The last tower with manual interlocking that I know of to be dismantled on the B&O was at Keyser, W. Va.

(Turnouts and switch machines! My layout is populated with Shinohara turnouts, But I believe that all commercial turnouts need to be modified for correct placement of Armstrong switch machines. Close inspection reveals that switch stand tie extensions needed to be moved from one side to the other and that the pair needed to be moved one tie forward for proper seating of the switch machine. It is also necessary to remove the excess throw bar material.)

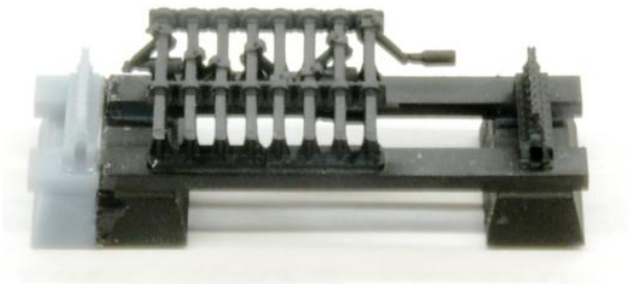
MODELING ARMSTRONG INTERLOCKING IN HO SCALE:

Anyone wanting to model this type of interlocking before 2025 was compelled to scratch build. I am sure that there have been several talented modelers that have successfully created this complex system for their layouts, but until this year NOTHING has been available commercially. Don Cassler is the only B&O modeler that I know who was able to model its intricacies with a high degree of accuracy. We all know the amazing work that can be done today with a 3D printer. If you can dream it, it can be printed. Thanks to Leopard Architectural Models, the parts to build an Armstrong manual interlocking plant are within our reach.

Pipe carriers are spaced 1" apart. This is the pipe carriers for the turnouts to the left of the tower. They are not installed, but merely setting in their approximate locations.)

First, let's set the record straight, every bit of this is cosmetic, just for looks. But properly done, the effect is, to say the least amazing.

Good instructions come with the kit/parts, but the manufacturer is the first one to tell you that they do not have all the answers. Over the years while rail fanning, I frequently saw piping arrangements at towers but never gave them much thought and few photos. This left a manufacturer with little practical experience and me with less than that, to assemble a plausible, somewhat correct arrangement.



(Rocking frames from the manufacturer are ether LH or RH. This is a RH rocker that has been modified for both LH and RH service by trimming off a set of pipe carriers from another rocker.)

Kit parts include:

Pipe carriers

Switch machines

Rocking frames

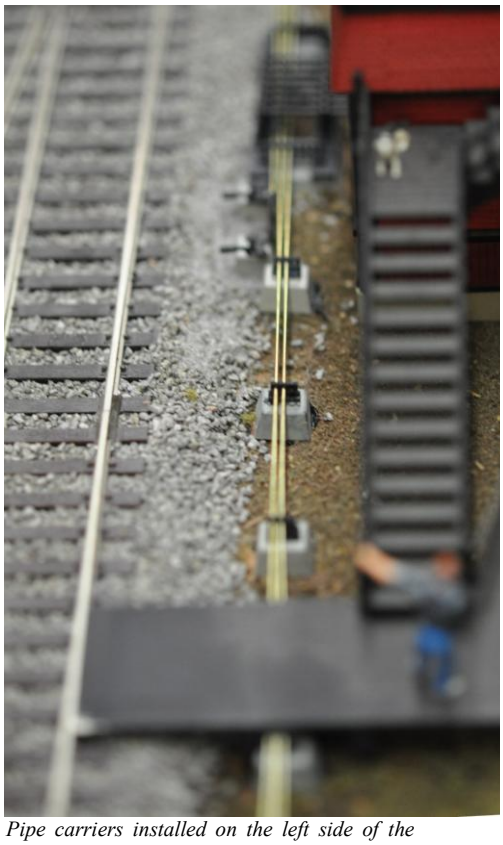
Bell cranks

Compensators

Double bell cranks

Pipe couplers

Brass rod to simulate the pipe itself is up to YOU! .020 rod or smaller is recommended.



Pipe carriers installed on the left side of the tower. Pipes traveled under the walkway.

Pipe carriers should be spaced at 1" intervals (center to center). This will allow room for a pair of bell cranks or a compensator to fit in between as necessary. Each modeler must realize that their track situation is unique to their layout. The instructions are good guidelines only. My application at Patterson Creek, W. Va., is larger than what the manufacturer designed and thus a few modifications were necessary.

A better view of the rocker and two bell cranks that go to a turnout two tracks over.

The rocker frames that come with the kit are for either left, or right rods leaving the tower. At Patterson Creek, rods go in both directions, so I had to kit bash a right-hand rocker frame with the extended pipe carrier from a left-hand rocker frame. While not exactly correct, the overall effect will be satisfactory. Each turnout needs two pipes, one to lock and unlock the switch machine and one to throw the turnout points. The kits provide a maximum of eight pipes per pipe carrier base, then six, then four, then two which will probably be adequate for most applications. This equates to a maximum of four turnouts.

At P- Creek, there are two turnouts to the left and five turnouts to the right. The instructions do not cover a multi-track situation where a turnout, and switch machine are a track or so away. The modeler can use the photos in the instructions to figure out a left and right switch machine, and of course bell cranks and rods will be necessary to gain access under the rails to remote switch machines. This is not covered in the instructions. The kit considers that your application will have a maximum of four turnouts and that they will all be operating on the same side of the track as the tower. Not all of us have that luxury.

Patience and thinking before you make a move is the order of the day! For example, once you figure out which bar on the switch machine is connected to the throw bar itself, and you look at your turnout, you realize that your turnout ties may not be in the right

location to support the switch machine properly. In my case, using Shinohara turnouts, this meant that every turnout had to have the ties that support the switch machines relocated. Sometimes just one tie, and at other applications both ties. As I have said, this project is not for the faint-hearted. Because of their fragility, these parts are printed from a more durable material, giving these delicate parts more strength. All concrete bases are built to the height of the cork roadbed. Any application of less height will require the modeler to file down the base as necessary.

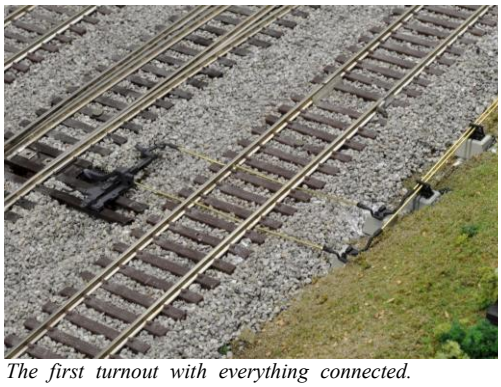
A different angle showing the pipe carriers passing under the walkway

About Compensators and double bell cranks: These parts are included with the kit.

Compensators were necessary over long lengths to automatically adjust for thermal expansion. Perhaps on your longest pipe run you might have a pair of compensators (one for each pipe) staggered between two sets of pipe carriers. In the end I felt that two compensators would be necessary here at P- Creek, but I know that I will need no less than six at Point of Rocks, but that's another story for another time.

Double bell cranks: a pair are provided. This will take one pair of rods under one or more tracks.

This work at Patterson Creek has been a precursor to the work that will be necessary at Point of Rocks. To say the least, this has been head-scratching; patience and a lot of breaks were necessary. I learned a lot here at P-Creek. My comments and observations are hopefully helpful, but in the end, I recommend that you contact Leopard Architectural Models for more details before getting started.



The first turnout with everything connected. The rods need to be painted.

Point of Rocks will be the next interlocking project. It is a much larger arrangement than it was here at P-Creek. Many days, I languished over how I would represent the much larger pipe arrangement with what was provided with the kit. 3D printed items are different than anything that we were familiar with in the past. No masters, no molds, just a program in a computer and as few as one can be built. The result is only a matter of programming. So, I contacted the manufacturer with my dilemma and to my surprise and delight they will be making rocker frames and pipe carriers with enough capacity for my needs at POR. This means that they will work with you on a project. My biggest challenge with this project was that this area had scenery done years ago. Everything had to be cut in. Some modelers are willing to tear out sections of their layout, I am not one of them

CONVERTING AN HO FM H10-44 TO AN H12-44

BY FRAN GIACOMA

First generation diesel locomotives are my favorite form of motive power. Growing up in the 1960's in northern Delaware, there were many to see and hear. During those years, my reference book was *The Second Diesel Spotter's Guide* by Jerry Pinkepank, which I still refer to today. I applied that preference to my B&O Shenandoah Sub-division HO layout set in late September 1956. My main source for diesel information is the *B&O Railroad Diesel Roster* (3rd edition) by Jim Mischke. I also have other B&O diesel books and frequently peruse various web sites for prototype photos of the particular unit that I am interested in modeling.

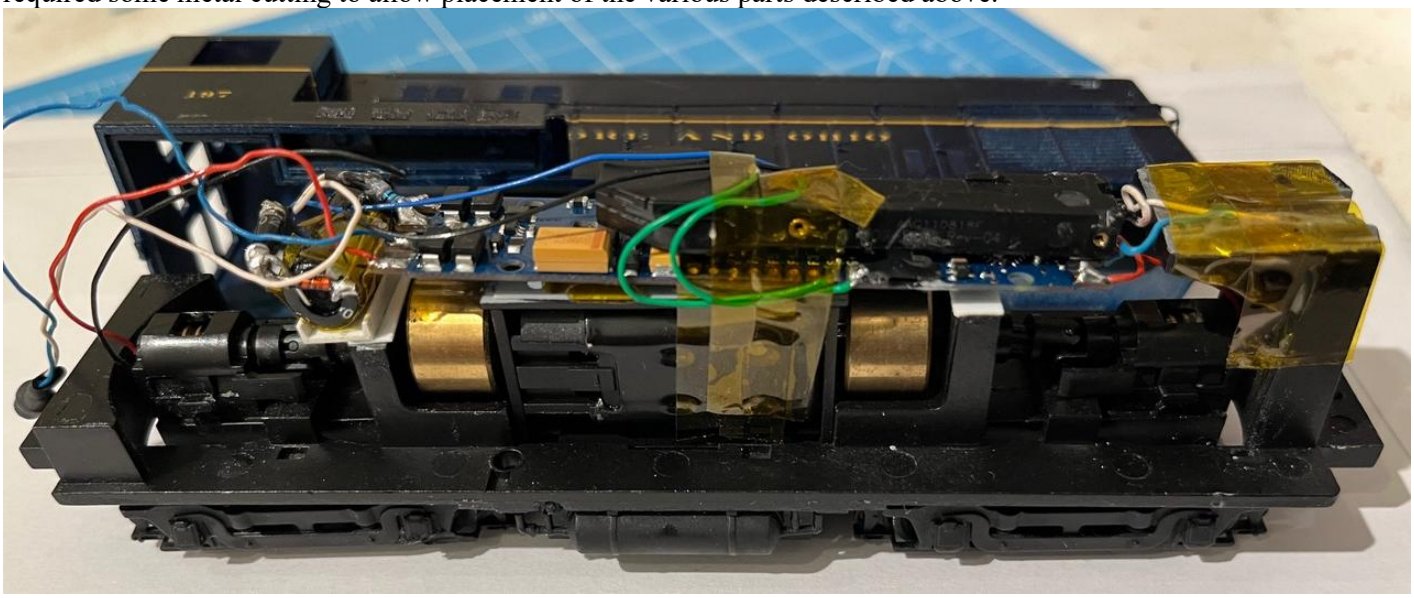
Contributing to the reasons why I chose that era for the layout was that the B&O bought various models from the 4 major diesel manufactures at that time: Alco, BLH, EMD, & FM. According to Jim's book, very few of the described locomotives actually operated on the Shenandoah Sub-division during the era I model. That's OK, it's my layout and so long as the B&O had them, and I make them at least 80% accurate looking, I'll run them.

During this past winter, I reviewed my diesel roster and noted that there were 7 switchers with each manufacturer represented, except FM, by two locomotives. The FM unit is a Walthers/Proto H10-44 that I repainted/renumbered to 309 to fit my roster and era. At any time, I have 4 switchers working on the layout: one at Charles Town and three at Winchester. After doing some research, I decided to convert a Walthers/Proto H10-44 to an H12-44 model to "round out" the switcher roster. I chose #197 (later renumbered to 9721) as this was one of two purchased by the B&O in 9/1953 that most resembled the H-10-44's and were delivered with three-digit numbers. Major changes were:

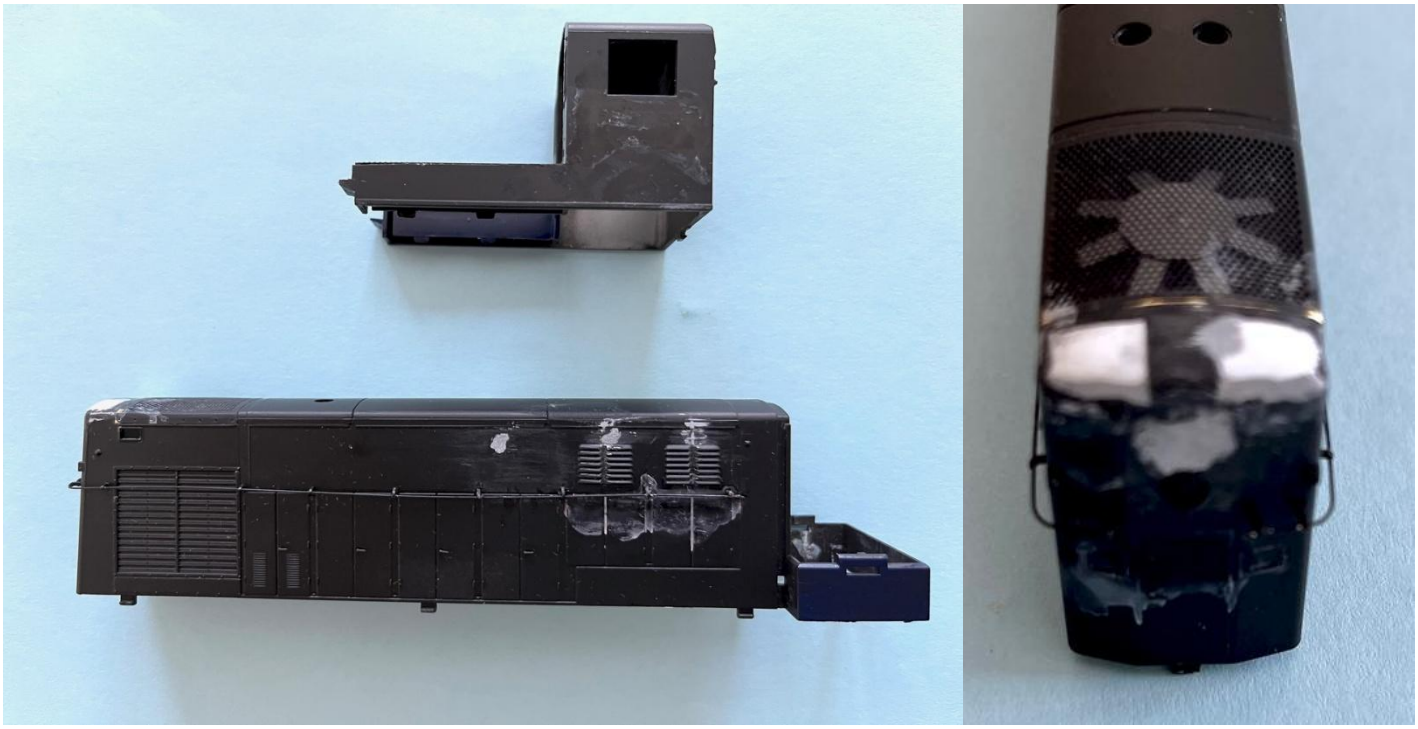
- elimination of the rear cab roof overhang
- lowering the front headlight
- filling in of the two "notches" at the top front of the hood
- modifying the louvers at the top rear of the hood in front of the cab
- adding 4 sets of louvers on the battery boxes along the hood in front of the cab and squaring the curved end
- moving the horn from the side of the hood to the cab roof above the fireman's seat and adding a reversed bell (chime)

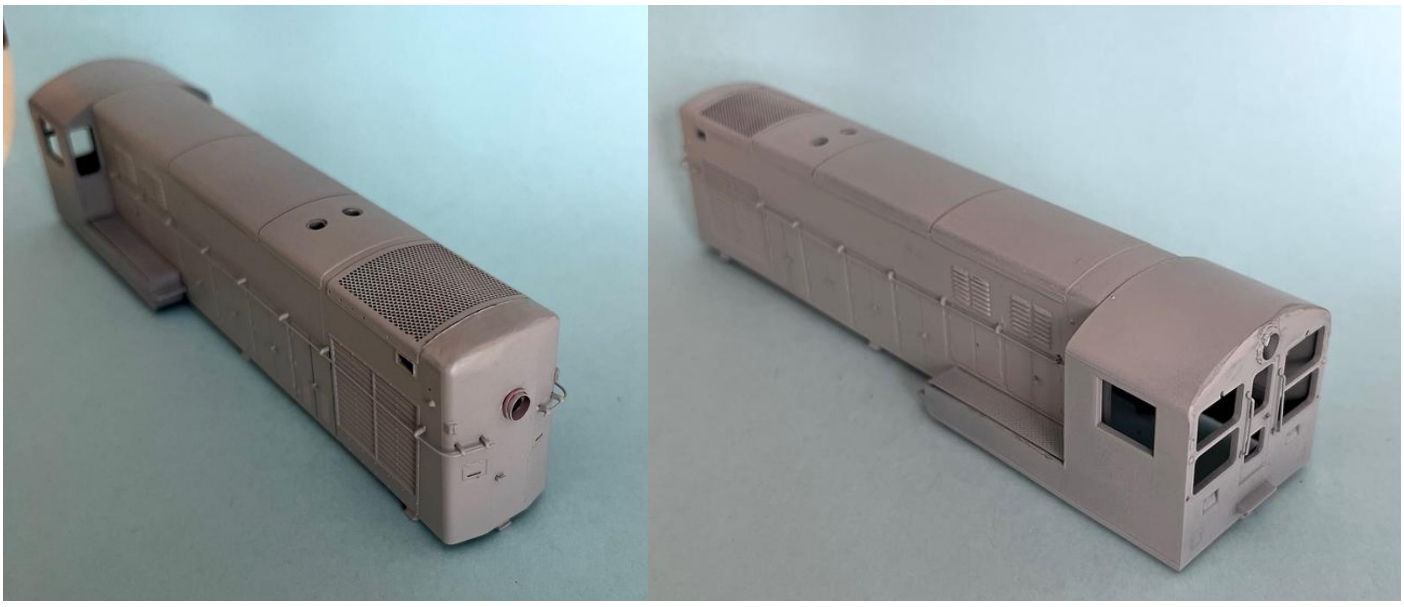
(Photo courtesy of Walthers Company)

Rather than give you step-by-step instructions on how the conversion was done, I'll outline what work and materials were used to arrive at the finished product. I started with a "new old stock" Walthers/Proto Wabash H10-44 that I bought on eBay. I totally dissembled the unit separating the hood from the plastic frame and removing the cab interior, windows, and headlight/rear light lens. I cleaned and lubed all the mechanicals, painted the wheel faces black, used Kadee #153 scale couplers, installed a Tsunami2 PNP 885016 sound decoder, iPhone 4 speaker, and a homemade current keeper. The frame required some metal cutting to allow placement of the various parts described above.



While the locomotive spent time getting broken in by running forward and in reverse at various speeds on a 4’ diameter loop track, I began the modifications to the shell as outlined previously. For the relocated headlight, I drilled a new hole the size of the plastic lens tube and used scraps of styrene to make the housing. Louvers were chiseled/sanded off and narrowed to split a long one into two short ones. Tamiya Putty Basic Type Gray was used to fill the old headlight hole, the two notches on the top of the front of the hood, and other areas where I gouged the shell. All areas modified were sanded smooth and a coat of Tamiya Fine Surface Primer (light gray) was applied using a spray can. A little more putty and sanding, plus another coat of primer, then a wash in soapy water, got the shell ready for painting.





A spray can of Tamiya Dark Blue was used for the color. This is a little darker than the B&O blue, however the unit is only 3 years old on my layout. Plus, weathering will lighten it to simulate a little fade. A coat of Testors Glosscote was sprayed before the application of decals. After setting them with Walthers Solvaset, another coat of Glosscote was applied, then a coat of Testors Dullcote. Paints and clear coats were allowed to dry 24 hours between applications. Decals came from a road switcher set produced by Ed Sauers. The white numbers on the front number boards came from an I-5

caboose kit made by Pacific Mountain Scale Shops. The four battery box louvers on each side came from Archer Decals. The bell was painted gold and the air hoses painted Tamiya German Grey. The cab interior was painted a light green and two crewmen painted accordingly. Various shades of Pan Pastels were used to lightly weather the locomotive.

Overall, I am pleased with how it turned out as it looks, runs, and sounds great. The level of detail and prototype fidelity/accuracy has met my minimum of 80%. Web sites I used to obtain pictures and info for the project:
https://www.rr-fallenflags.org/
http://www.northeast.railfan.net/
https://www.rrpicturearchives.net/
https://www.lakestatesarchive.org/Fairbanks-Morse-Collection/Diesel-Locomotives-Builders-Photos/BO
http://atsf.railfan.net/airhorns/
https://baltimoreandohiorailroadlist.groups.io/g/main/topics

MY FAVORITE MODEL

Thomas Goernig Bobber Caboose

Hello,
In case you still need a model photo, please see attached. A reworked Bachmann bobber caboose.
I removed the toolbox and added the brake system. Added grab irons and window glazing. Used colors to make it match the photos I have taken some years ago at the B&O museum.
Best regards from Germany
Thomas.

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