

THE B&O MODELER



Number 40



WD Tower, Federal Junction, Fairmont, WV
Scratchbuilt O-Scale B&O Diner
B&O Cabooses in HO-Scale 1900 to 1966
One Man's Roster - Cabooses
N-12 Hopper - Part One

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Cover Photos – Top, WD Tower, Fairmont, WV – Bruce Elliott photo. Bottom, B&O Class F-4BC Dining Car 1035 Edward Bommer photo.

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 of 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 are able to 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. Several classes of [annual memberships](#) are available, Regular annual memberships are only \$35.00. If you would like to join, click [here](#) to fill out our membership application, print a copy and mail it to:

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FROM THE EDITOR

It's Alive! It's Alive!

Yes, The B&O Modeler arises from the ashes. I am excited to be able to work with Scott Seders and the rest of our crew to bring you a great mix of articles. These include both reviews of new products as well as accounts of solid modeling work. If you have a project you'd like to share with us, contact me for submission guidelines—they are pretty basic. This issue and the next few contain some material which was submitted some time ago, and we hope to get all of that published as soon as possible. We also learned that some submissions seem to have fallen through the cracks, so at the end of this issue will be a concise list of what's in the pipeline, both material in-hand and articles known to be under construction. If you have work that should be listed there but isn't, please let us know.

Our publication schedule is flexible, not locked into any bi-monthly, quarterly or other calendar. It will be totally a function of the energy and time available to the staff as well as, naturally, material submitted. Also, we thought it made more sense to abandon the previous "Volume/Issue/Month/Year" numbering scheme and simply go to an Issue Number system. We are starting with this issue as No. 40 as a consensus of opinion is that there were 39 previous issues of one kind or another.

Additionally, from a personal standpoint, I will try to acknowledge all communications to me promptly. If you e-mail me and don't receive a reply within a couple days, especially after sending a large file, contact me again—stuff sometimes disappears. Our crew list contains contact information for all crew members, so please contact me or any of the other crew members if you have any questions.

Finally some brief commentary about this issue. Bruce Elliott's review of the MJB Models WD

tower speaks for itself and covers another fine product from this relatively new producer. Funaro & Camerlengo's variations of the N-12 hopper classes are extremely important new models in view of their abundance in the fleet, even into later B&O years. Ben Hom, of course, wrote the definitive survey of the B&O's open hopper fleet in Vol. 2, No. 3, May/June 2006 *B&O Modeler* (available on CD). He covered both the prototype fleet composition and modeling suggestions. Fortunately, since this was published, modeling options have expanded, and the N-12 kit represents an important expansion. In particular, F&C's initial subclass was the "g." The importance of this to modelers is that most members of this subclass had end ladders rather than grabs, meaning, for modelers, a lot fewer little holes to drill. (Some also had the interesting Tatum patent peaked end, about which more in our next issue.) Steve Funaro was "on the road" during 2015 with his PowerPoint® on the N-12, and many of us saw it, including those at our Cleveland Convention. We offer input from Bruce Elliott, Ed Kirstatter and Bob Chapman on this kit. Most of us have way too many USRA-type hoppers in our fleet; unfortunately, Steve is not in a position to offer a USRA trade-in allowance toward your N-12 purchases. Ed Bommer's account of his project to scratch build an O-scale diner is truly inspiring and represents modeling at a level far above that most of us would dare to contemplate. The article has been sitting on the shelf for a while, and I didn't want it to sit there any longer. Finally, in view of the long-awaited arrival of the Spring Mills Models I-5 cabooses, Greg Smith has compiled a spreadsheet of all-time HO B&O caboose offerings, accompanied by a new "One Man's Roster" feature.

John Teichmoeller
Editor

FROM THE COMPANY STORE

Past Issues of *The B&O Modeler*:

Issues in Vol. 1-2 (2005-2006, 9 issues), Vol. 3 (2007, 6 issues), Vol. 4 (2008, 6 issues), Vol. 5 (2009, 6 issues), Vol. 6 (2010, 6 issues), Vol. 7 (2011, 4 issues) are available on CDs from the B&ORRHS Company Store . Each CD is \$10.

Vol. 8 (2014, the most recent 2 issues) is not available on CD yet but may be restored for free download for a limited time.

To find these you will need to scroll down to the bottom of the Company Store subject list and click on "Videos and Other Digital Media") <http://borhs.org/Shopping/index.html>

Click [here](#) for a link to the free comprehensive index of *The Modeler* prepared by Jim Ford. Note this is a *true* index, not just a contents listing. You might be amazed at what has been covered over the last 11 years!

UPCOMING EVENTS

Great Scale Model Train Show Timonium, MD February 6-7, 2016 <http://gsmts.com/>

Railroad Prototype Modelers - Valley Forge March 18-20, 2016
Desmond Great Valley Hotel and Conference Center, Malvern, PA.
POC: Paul Backenstose, prrpaul@aol.com
<http://rpmvalleyforge.com/Index.php>

Western Mini-Con Preliminary information indicates that it will be in the Columbus area in mid-May. Information will be provided as it becomes available.

Society National Convention Tentatively scheduled for the Buffalo, NY area. Information will be provided as it becomes available.

UPDATES AND ERRATA

Ed Bommer writes: In the last published *B&O Modeler* (Vol. 8, No. 2, 2nd Quarter 2014) there is a photo of my model of B&O diner 1035 on Page 37. It is incorrectly identified as a class F-4D. Instead, the car is a model of Class F-4bc, the only one of its class on the B&O as covered by the article in this present issue.

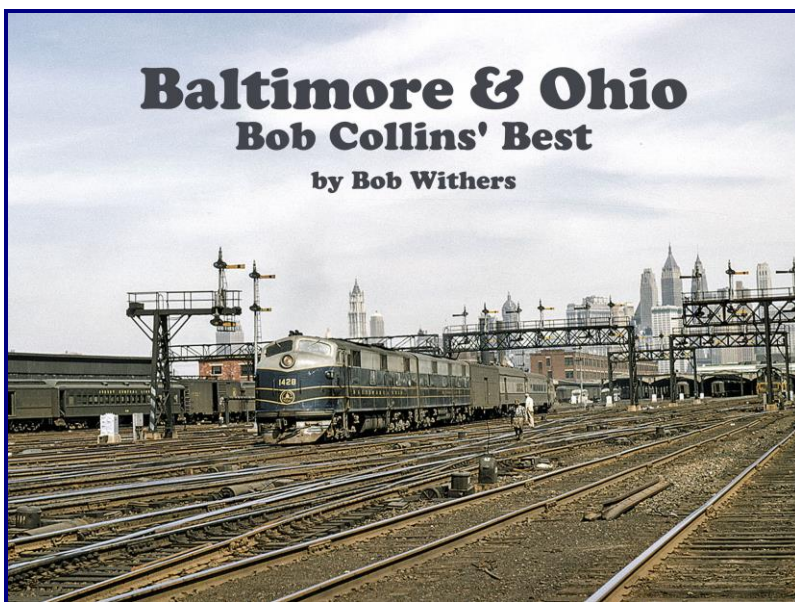
NEW PRODUCTS

BY CLARK CONE

Concrete phone booths: Although not a new product (a “blurb” appeared in *B&O Modeler*, Vol. 5, No. 4, July/August 2009) these HO models of the B&O’s concrete phone booths are being reissued when maker Will Jamison finishes replacing worn-out molds and makes new resin castings. Will offers models of the larger and smaller 8-sided booths and a model of the 4-sided variety. He offers them painted, primed or unpainted. (Model Tech Studios offers the 5-sided BR&P version.) We plan to have a more comprehensive article on this subject, but in the meantime for pricing and product availability, contact Will directly at ironwill77@yahoo.com



Best of Bob Collins Photos: Morning Sun has released an e-book of the Best of Bob Collins B&O Photos, <http://morningsunbooks.com/products/b-o-bob-collins-best>



B&O Vertapac ExactRail has announced HO-scale models of B&O Vert-a-Pac auto racks. Vert-a-Pacs were used to transport Chevy Vegas. They issued this car previously but not the B&O version. <http://exactrail.com/products/vert-a-pac-autorack-b-o>



N-12 Hoppers in HO: It has been about a year since Funaro & Camerlengo introduced their resin kit for the N-12g subclass, the one with easy-to-apply ladders on the corners instead of those grabs you have to drill all the holes for. Since then they have issued more variations of the car including one with “patched panels” on the side and the original N-12 subclass with grabs (locator holes provided and the resin is soft). All versions feature a one-piece body with minimal flash and provide many modeling options including parts for either AB or K brake gear with either Ajax power gearbox or vertical staff and a number of door lock options. Our next issue will have two reviews. List price is \$44.95 but deals abound. <http://www.fandckits.com/>

1948 AAR Boxcar, “M-55c”. Walthers is offering a boxcar lettered for car 466032 in the blue and silver Sentinel Service scheme we all love (SKU 1763). This is the same car shown on page 77 of the Morning Sun color guide. This car and two companion offerings issued by Walthers were reviewed in the February, 2016 *Model Railroader* but the B&O version was not covered. There has never been a correct M55c produced in HO and this model does not break the record. We did not receive a sample, but based on studying the photos of the model, there appear to be some variances from the prototype: incorrect inside ht. (model 10’ 6” vs., prototype 10’), incorrect door opening (6’ vs. correct 7’), incorrect roof (diagonal panel vs. correct rect. panel with slightly recessed panels under lateral running boards), incorrect ends (improved 4/4 Dreadnaught vs. correct proprietary Pullman Standard), incorrect running boards (Ajax vs. correct Morton), incorrect underframe (Walthers “standard” vs. correct Duryea), and incorrect corner posts (Walther’s “L” vs. correct “W”). Other than those deviations, based on the artwork, this is a handsome car. Thanks to Jim Mischke and Bob Witt for evaluative comments.



WD TOWER, FEDERAL JCT., FAIRMONT, WEST VIRGINIA
REVIEWED, ASSEMBLED & CRITIQUED BY
BY BRUCE ELLIOTT



North elevation of assembled tower.

Introduction

WD tower controlled the interlocking for the OML (Old Main Line) and the FM&P (Fairmont Morgantown & Pittsburgh) subdivision at a location called Federal Jct. on the Monongah Division. The OML ran east to Gaston Jct. on the east end of Fairmont, then east to Grafton, and points east. From Gaston Jct. the line ran west to Clarksburg. Following the OML west the line ran to Moundsville on the Ohio River Subdivision. Following the FM&P, the line ran west to Connellsville on the Pittsburgh Division.

This HO scale model came about by necessity, as I chose to model Fairmont on my layout. I could have kit-bashed the tower from an IHC kit, after all, I had built several other B&O tower models in the past with this method. (Editorial End Note

1) Time is more precious to me now. Just over three years ago, the owner of MJB Models, Mark Bandy, wanted to know how I was building my interlocking tower models. I told him it was simply a matter of cutting the two floors apart and then rearranging things like doors and windows to accommodate a particular structure, then glue it all back together. This usually took me the better part of at least a month to do. During the winter Timonium train show of 2013, MJB Models introduced their first interlocking tower, a 12x18 ft model from the Standard Plans book. By this time I was committed to building the Fairmont yards and a model of WD tower was a necessity. I can't lie here; I actually tried to talk Gary Deavers out of his model of WD tower that he scratch-built. While Gary and I go back a

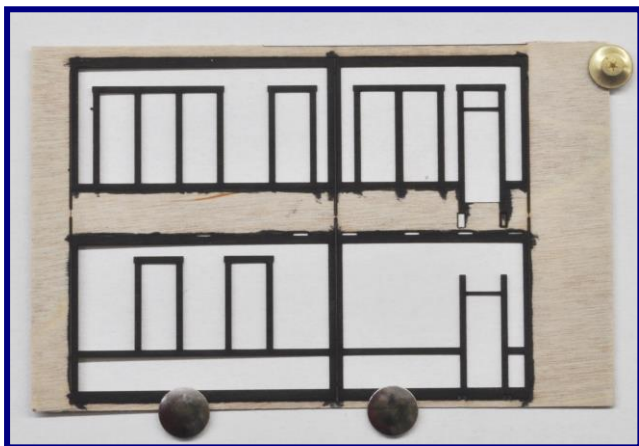
ways, he just wouldn't let his model go. Well, if MJB Models could make a standard tower, the next step was to see how far “out of the box” MJB Models was willing to go. In February of 2014 I contacted MJB Models, and Mark and I talked about the possibility of building a model that was just slightly different from his new “standard” interlocking tower model. I had the essentials, photos and most important a drawing of the tower that had been supplied to me by Gary Deavers. Without them, there would be no model. Thank you, Gary! Mark looked over the project for a couple of months before he got back to me, telling me that he could do it. I don't know how much real time Mark put into it, but most of the work was done by the end of October. The model was finally finished and available for the February 2015 Timonium train show.

Assembling the kit

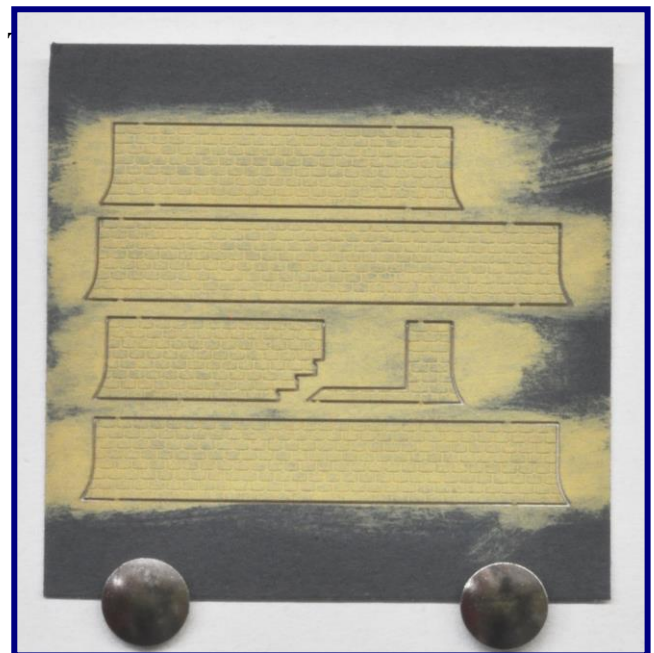
This is a craftsman kit, but that doesn't mean that it's hard to assemble. The first thing is to familiarize yourself with the parts. The kit recommends that you paint the various parts while they're on the sprue. Oh, sorry, that's a term used with a styrene kit. Let's call it a “laser sheet.” Anyway, I painted the walls my favorite Floquil color, Depot Buff (Editorial End Note 2) and the door, window and stair trim Engine Black.



North and west side walls after being painted but still on the laser sheet.



Trim for north and west side wall trim after being painted black but still on the laser sheet.



Skirting painted and still attached to sheet.

Once dry, I started assembly with the east wall, using ACC to glue the black trim to the wall. The manufacturer recommended a good wood glue for assembly, but I prefer ACC, and as long as parts are exactly where you want them when you glue pieces together, it really doesn't seem to matter. The walls and trim were cut from the sheet. With a laser model the parts are almost completely cut out except for a very small piece of material (wood) holding the part to the sheet. An X-acto knife with a #11 blade will cut this easily enough. As a result of previous experience building craftsman kits, I chose to assemble the walls entirely with all door and window parts on a wall panel, before attempting to assemble walls together. The kit instructions suggested partial trim assembly, then assembling the walls around the center, or second floor panel and adding window trim after the sides were assembled to

the second floor. The relief of the doors and windows is a testament to today's laser technology. Doors, windows and their accompanying trim are three pieces.

When working with the parts, it's hard to realize that this kit was actually a tree that some burly logger cut and hauled out of the woods. Because of the woods quality, it was turned into a craftsman model, and not into kindling that I'm using to keep warm. All pieces fit exactly, and no extra cutting was necessary. This is also a testament to MJB's laser cutting machine, Mark's ability to program it, and being able to properly align parts before gluing. Super glue is not forgiving, and even if I were using something else, these parts are so delicate for being wood that a mistake on your part could mean that you have to rethink the model's appearance.



Trim assembled onto west wall.

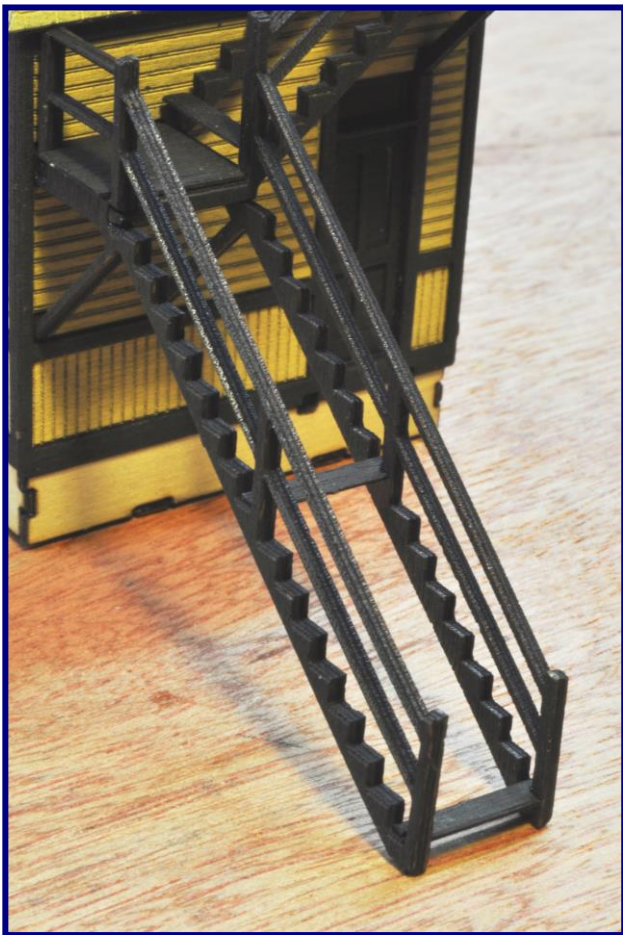


Window and door structure added to south wall.

Once each wall was assembled, it was then time to add the second floor. This would literally square up the structure. I used a small machinist square to keep the floor 90 degrees to the wall. I wanted this first wall to completely dry before I moved on to any of the other walls. Both the floor and wall edges are assembled with "tabs". This approach not only helps you assemble the right parts together, but more importantly helps tremendously to keep the structure "square." The second floor has a slot cut out for an Armstrong interlocking machine. I asked Mark about the slot. He was under the impression that WD was an Armstrong plant. I believe that he got that impression from looking at the standard plans book, rather than interior photos of WD that were supplied. Not a problem, I simply cut a "filler" from the same piece that the floor panel came from. Of course if you're freelancing and

want an Armstrong lever plant, your hole for the levers is all ready cut. All four sides went together like a glove. I was truly surprised that it fit so well!

While painting of the interior is not a necessary step in construction of the kit, if you choose to add any interior at all, this is the time to paint. For the time frame I'm modeling (1950 – 1955) the interior walls were a light gray, the ceiling was an off white, and the floors were a stained hardwood. Once the paint had dried (overnight) I added the window glazing supplied with the kit. Double sided tape comes with the kit, but I chose to use ACC to secure the window material. I just felt that the tape was going to be a real pain to work within close quarters. With all windows installed, my next step was to add the ground floor, or base to the sides.



Partially complete staircase attached to south side of tower.



Finished view of west side of tower.



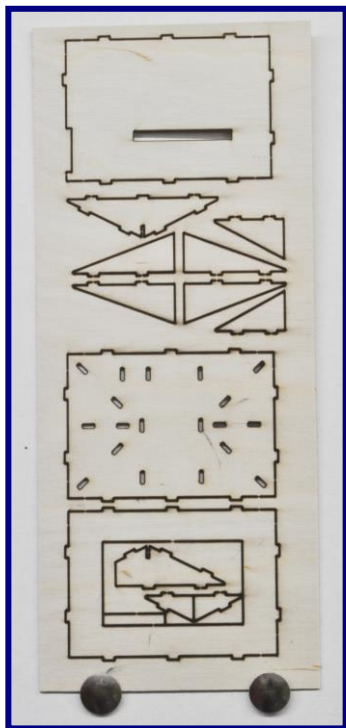
A pair B&O GP40's, led by No. 4015, bring an eastbound Underwood Mine Run off the Old Main Line and past WD Tower at the west end of the Fairmont Yard on a snowy February afternoon in 1972. (Terry E. Arbogast photo)



B&O GP40 4004 switches a string of empty hoppers out of the west end of the Fairmont Yard and past WD Tower on an overcast summer day during the early 1970's. (Terry E. Arbogast photo)

Next came the roof. The roof base has several interior supports/joists that needed to be assembled before the roof sheeting was applied. Again, every piece fit like a glove, with no work required to make things "fit". The roof sheeting was next, but before it went on, short rafter pieces needed to be installed to the edges of the

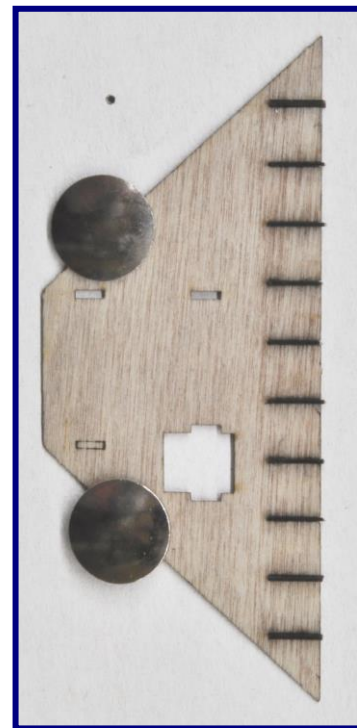
roof sheeting. This was probably one of the more tedious parts of the job. Not difficult, but you have to pay attention to keeping the rafters square to the roof. Once the rafter ends were installed, the roof sheeting went on like a breeze, tight and square.



Roof and floor components ready to be sliced from the laser sheet.



Assembled roof structure.



Attaching rafter tails to roof sheet. The hole is for the chimney.

There are a few changes that I wanted to make to my model, enhancing its final appearance, vs. the kit "as is." The kit was modeled with the roof it had at the end of its life, which was rolled roof tar paper. I'm modeling 1950-1955 and at that time it had a slate roof. The slate roof was constructed with roofing material from B.E.S.T. This is a self adhesive material that is applied in strips, and needs to be cut to length for each row of shingles. A little thought needs to go into shingle installation to accommodate the chimney. If you chose to build the kit with the tar paper roof, the roof material is already cut to fit the roof, and is merely a one piece peel & stick application.

I chose to use a roof ridge and finial from Webster Classic Models. The roof finial goes at the ends of the top of the roof, with the fancy scroll facing out board. (Editorial End Note 3). The roof ridge is a Godsend, as it covers the seam where the roof edges come together. Wood is an unusual beast, in that it is subject to expansion and contraction due to another beastly animal; humidity, not to mention glue and paint. This kit is cut precisely, yet these variables have to be considered if you want the roof to be able to be removed. I used a 4x4" piece of scale wood across the wide part of the structure in the center to keep the walls from wanting to "bow" in, and keeping the roof from not fitting at some point down the road.

Next came the steps. While this part of construction on previous scratch built towers was meticulous and delicate, not to mention time consuming, these stairs went together quite easily, and are very sturdy. MJB Models even has slots in the side of the wall to help locate and secure the steps in the proper location. The stairs are still delicate, as each stair tread has to be cut and placed (and glued) just like as if you were building a set of stairs 12 in. to the foot.

I scratch built a train order board (3 ft. square) from a .010 Evergreen Styrene sheet, trimmed it with a scale 1"x4" evergreen strip, and mounted it outside the second floor front windows. The other modification is that I added was an interior. I'm not going to go into the interior detail on this kit, as that is another aspect over and above the kit itself, and the kit is the subject of this article. Down the road, I want to add lighting, both inside and out.



Completed view of south side of tower.



Completed view of east side of tower.

Materials Used to Construct This Model

Floquil Paint [out of production]

Depot Buff
Antique White
Engine Black
Grimy Black
Aged Concrete
CN Gray
Freight Car Red

B.E.S.T. (www.besttrains.com)

Slate Shingles

Webster Classic Models [out of production]

Roof Ridge Finials

Evergreen Styrene

.010 sheet (for train order board)
HO scale 1"x4" strip styrene (for border around train order board)

Summary

This kit, including the interior took right at 24 hours to construct. There were no real surprises during construction, and everything fit like it was designed to. Earlier wooden craftsman kits required lots of sanding and cutting, and because of all that work, and because we're just getting older, has caused many modelers to keep their distance from them. Laser cutting machines has put some of the fun back into building kits. When we don't have to feel like we've put in a full day's work as a carpenter, just to get a really nice model, well, that tends to change our outlook on things. We've all been frustrated by looking and reading instructions for a model, only to come to grips with the reality that there

are parts that just don't fit without a lot of extra work. Not so with this kit. Everything fits where it should, like it should. Check out the MJB Models website to see what B&O kits are currently in the line. I can guarantee you that you will be seeing more B&O kits from MJB Models in the future. (Editorial End Note 4)

To wrap it up, let me just say it's a little Ho, Hum, to go to see someone's layout (especially B&O based) and see the "old standard" IHC interlocking kit. What makes it even worse is to see the same kit several times. Craftsman kits like this one allow us that unique look that we all strive to achieve.

Available from: MJBmodels.com

List price: \$55.00

Editorial Notes:

Note 1. For some nice photos of Bruce's collection of model B&O tower art at a recent Prototype Modelers Meet, see the 2nd Quarter 2014 issue of *B&O Modeler*.

Note 2. B&O "structure buff" is a subject of some discussion. Many modelers feel Floquil's Depot Buff is too yellowish and concoct a mixture including white and other colors. As far as Floquil/Polyscale's discontinuance, my observation is that it is still around. But for a one-bottle acrylic solution, let me suggest Polyscale's "CSX Tan." I used it on my Ilchester station and am very happy with it under my layout lighting. Harry Meem picked up some Tru-Color TCP-225, "Passenger Car Interior Cream" that he thinks might do the trick. Going forward, let me also suggest exploring the Modelmaster line because it's available everywhere and is part of the same outfit that made Floquil, and articles in *Model Railroader* now routinely list Modelmaster/Floquil "equivalents." (Yes I know Microscale has an on-line color equivalent chart but it's incomplete and I disagree with some of it.) Meanwhile, there is an entire article on this subject in the pipeline for *B&O Modeler*.

Note 3. The classic B&O slate roof end finial, fabricated from sheet tinplate, is detailed on page 67 of the 1907 Standard Plans book. Since American Model Builders produced the Webster Classic Models line and now catalogs the B&O class C station with these finial castings, modelers might want to contact John Hitzeman of AMB to see if he will package the castings separately for resale.

Note 4. See the May/June 2010 issue of *B&O Modeler* for Duane Carrell's review of the MJB Models Germantown station kit. Mark Bandy says "2016 will be the year of the tower," with several additional offerings planned. He also notes several of his earlier products (Ilchester, Ellicott City, St. Denis) are still available but his webmaster inadvertently removed their entries from the website and Mark has not gotten around to restoring them.

SCRATCHBUILDING B&O CLASS F-4BC DINING CAR 1035 IN O-SCALE

BY EDWARD F. BOMMER

PHOTOS BY AUTHOR EXCEPT WHERE NOTED.



B&O No. 1035 at Willard, OH, April 17, 1966 by Dave McKay, from *B&O Color Guide to Freight and Passenger Equipment*, used with permission of Morning Sun Books

Introduction and History

A B&O Railroad Historical Society director asked if I could build him an O-scale model of the dining car that was assigned to the Royal Train of Queen Elizabeth II in October 1957. This was in 2004, I think, at the B&O RR HS convention in St. Louis when I showed a scratch built O-scale model of B&O baggage car 627 (*B&O Modeler* Vol. 1 No. 3, Nov./ Dec. 2004).

B&O 627 was Class B-8aa that had been assigned to that train. I agreed but said there were other projects planned which had to be done first. Years passed. Family and health issues delayed things. In the summer of 2010 I finally got started on the dining car. Then there was more delay because of moving to another place and the need to build a workshop there. Finally, the car was delivered in March, 2012.

Rather than write on how you could build one just like it, I thought a review of the steps and techniques used in scratch building and detailing this car might be more helpful for work on other models. One could still build a model of B&O 1035 from this if they wished, using the basic dimensions in the B&O diagram I also used.

B&O 1035 was one of several 'Colonial' heavy-weight dining cars built by the Pullman Company for the B&O in 1923. Each diner was named for a colonial period woman of note. Car 1035 was originally named "Betty Zane." She was a young Revolutionary War heroine whose family lived in the far west of the 1770s, near what became Wheeling, WV. Classed F-4, in subsequent years these "Colonial" diners underwent a number of upgrades and

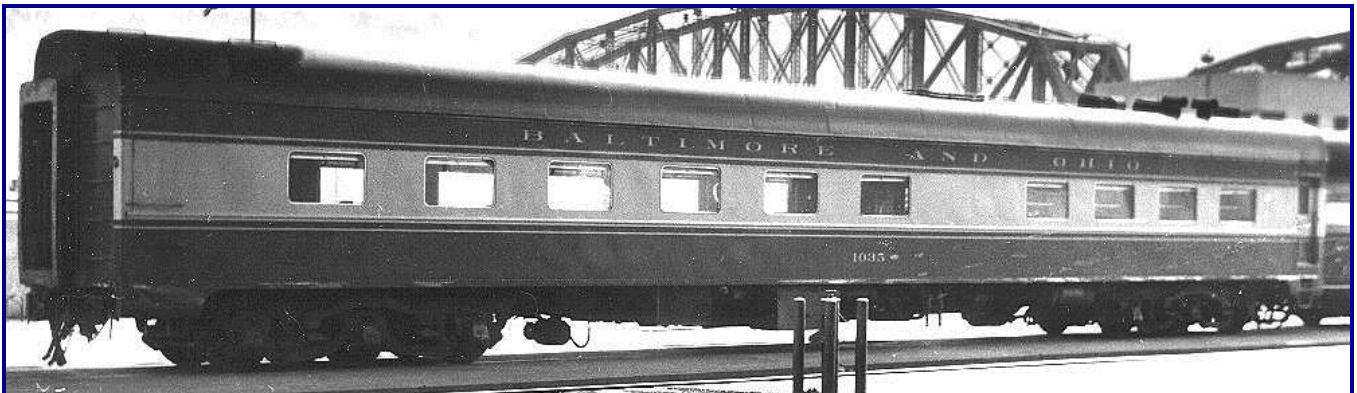
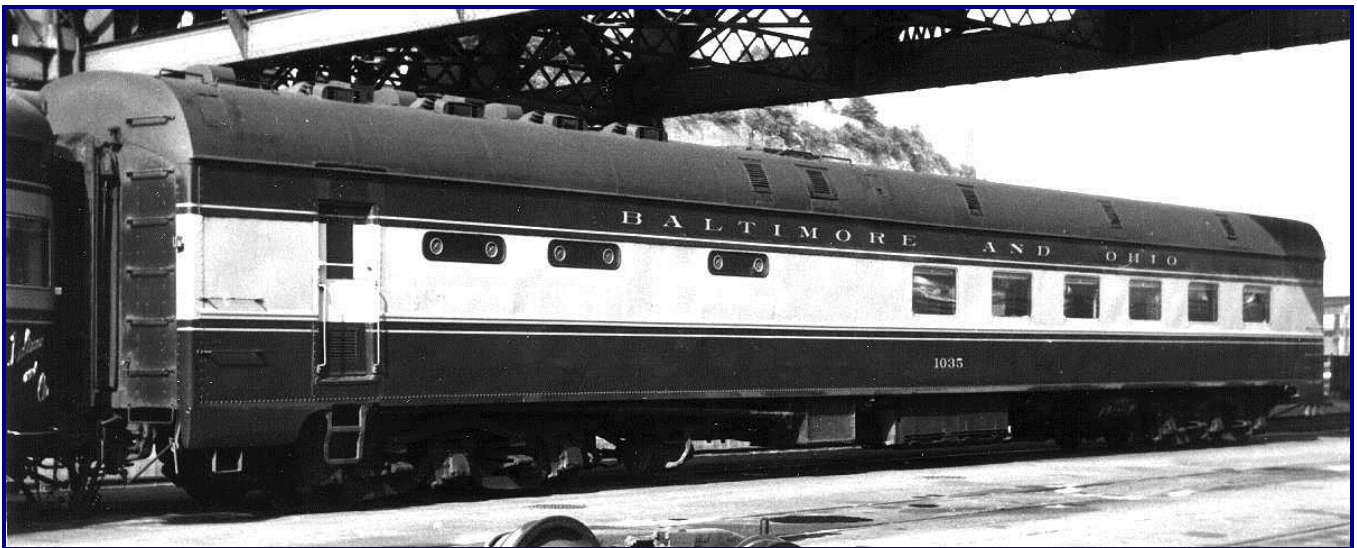
modifications with the result that few were exactly alike by the 1950s. Car 1035 became Class F-4bc, the only member of its class.

Air conditioning was installed in car 1035 during the mid-1930s. The interior was refreshed by the early 1940s. It was equipped with seating for 48 at the time, due to war traffic. New fluorescent lighting was also installed in the dining area. In 1946 the Mount Clare Shops overhauled, streamlined and modernized the 1035 which had lost its name before the war. Although updated, diner 1035 kept its original Stearns cast iron coal burning range and broiler. The original Bohn iced refrigeration was retained as well, being less expensive and easier to service than mechanical refrigeration.

At first assigned to top B&O trains, diner 1035 and its sisters by the later 1950s were becoming surplus. The number of B&O passenger trains needing dining cars was declining. Still, B&O held some of these heavyweights in good condition as substitutes for the newer dining cars when needed.

Assignment to a prestigious special such as for Queen Elizabeth II, her retinue and the press in the fall of 1957 would see diner 1035 put into the Royal Train and diner 1056 (the former Nellie Custis) with the Press Train consist. The story of these trains is in the Fourth Quarter 2004 *Sentinel*. By 1968, B&O was retiring the heavyweight diners, car 1035 included. Here are a few photos of it taken around that time.

The following three photos are from George Ellwood's Fallen Flags website and were taken by Bob Rathke at the B&O's Grant St. Station in Pittsburgh under the Liberty St. Bridge in June of 1965; used with permission.

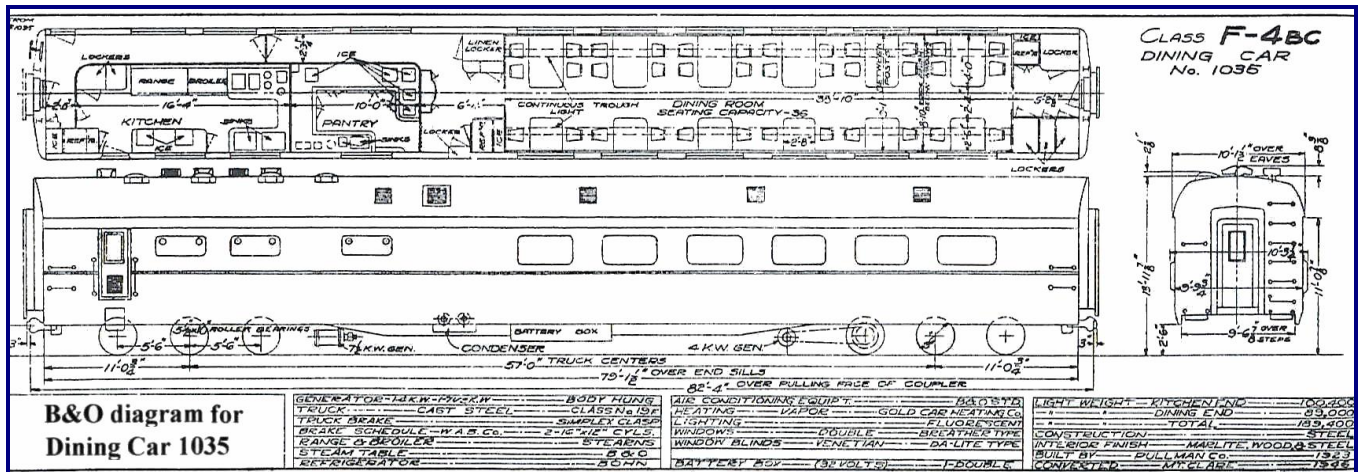




Body Construction Procedures

To build a reasonably accurate model, plans are needed as well as good photos showing both sides and the ends of the same car. Ideally, there should also be close-up photos of important

details. To build the diner, this dimensioned B&O diagram for the 1035 was the only plan available, but at least it gives the critical dimensions and does include quite a bit of detail.



From 'B&O Railroad Co. Diagrams of Passenger Equipment Updated to 1958,'
TLC Publishing, Lynchburg, VA



Photo 05. Materials were the next item. Making use of an old O-scale dining car kit would not work because of the unique way B&O modernized the sides of this car. Scratch made sides would be needed. Also a piece of milled wood arch roof stock was needed. It had not been made since the 1960s, but I found a piece that was still straight and true. Here it's being cut to length and the angles trimmed on both ends.



Photo 06. The car sides were cut from aluminum roofer's flashing. It's important that all cuts be absolutely straight, square and even, end to end. The sides were cut about 1/64" wider than measured against the cast metal car ends, because a belt line must be impressed as well as a row of rivets along the lower edge. Doing that makes the sides slightly narrower.



Photo 07. A jig was made for embossing the belt line on the car sides. First, a side was clamped against a straight edge parallel to the groove cut

into the board. A wheeled tool used in repairing window screens was rolled over the groove to impress a slight bend in the side. It was then flattened by hand. The resulting bend mark was placed over a heavy wire set into the groove on the jig. A grooved roller impressed and defined a raised bead for the belt line. To further sharpen edges of that bead, an angle cut piece of wood was pressed and slid along both sides.

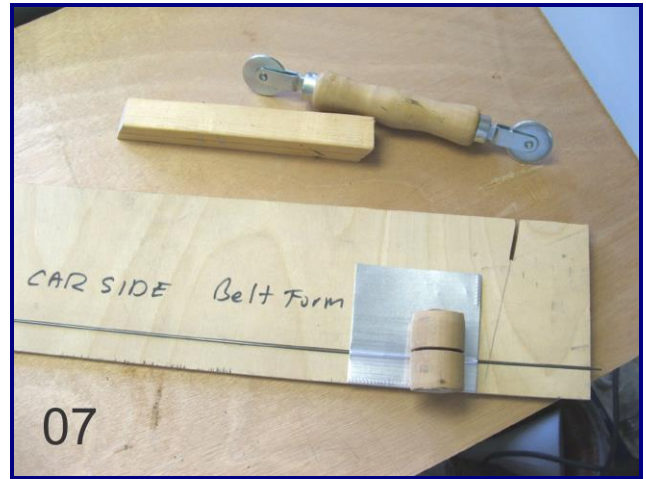


Photo 08. Here, both car sides have been cut and embossed. A pencil line tentatively shows the top of the windows.

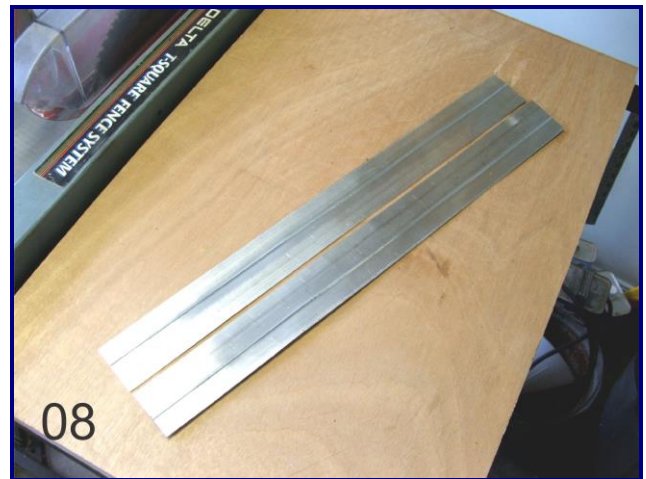


Photo 09. Matching up the car's floor, roof, ends and sides is next. The car ends are cast metal parts from Keil Line. Pullman type ends were used. They were modified for the diner by filing off 'ears' at the top, where a clerestory roof would attach to the car end. This diner has a round roof instead. A machinist square is

essential to make certain the body parts fit perfectly square and true before they are permanently assembled.

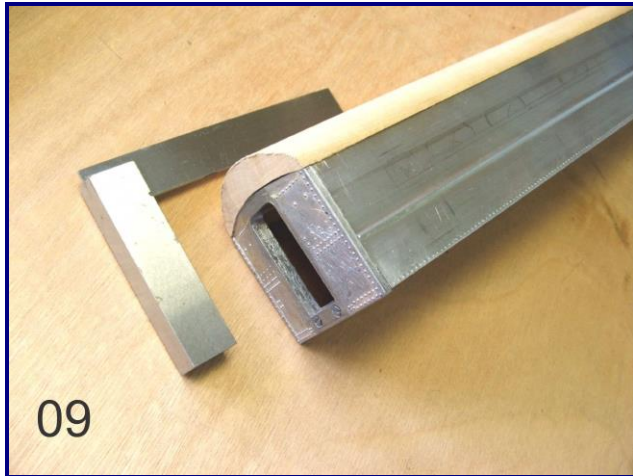


Photo 10. Because wood was used for the car floor, roof and basic under frame, six coats of sanding sealer was applied. Rub downs with 0000 steel wool were done between each coat. This yields a very smooth finish. All wood parts were cut to fit and fitted in advance and were permanently cemented in place after being sealed.



Photo 11. The car sides were sprayed with dark green paint for 'doping' and fastened back to back with tape along the edges. The window and door openings were marked off with a scribe and machinists square. Here, corners for the main dining room windows are being drilled for both sides at the same time as they are opposite each other on the car. All other windows and

door openings were similarly drilled in each side separately.



Photo 12. The window openings were fully opened with a Dremel tool and cutting wheel. They were dressed to size using fine cut files. This is slow, tedious work. Care is needed to stay within the scribed lines and to make certain all openings are perfectly square and that all the rounded corners are the same. Here, one side has been cleaned and filed to size. The other, still in green dope, awaits its turn. When both sides are ready, a strip of 1/4" brass angle stock was cemented to the top inner side of each to stiffen it. These stiffener angles were located about 1/4" below the top edge of each side as well.



Photo 13. So how does it look so far? A pair of Golden Gate Depot Pullman type 2411 six-wheel trucks was put on and couplers installed. The car sides and roof were temporarily held to the floor and ends with rubber bands.

Track testing helps assure the car tracks properly with its couplers and floor, as well as the roof at the correct height. It's much easier to make any changes and adjustments now, rather than after the car is finished! Here it's rolling along between a Walthers B&O combine and a Golden Gate Depot B&O 12/1 sleeper. The white styrene

strip was added to raise the roof slightly and also detail the bottom edge of the eaves. An additional strip of aluminum was applied as the top plate above the car windows, following prototype practice on the 1035.



Body Details

Photo 14. Now for the smaller details and there are a lot of them! The underbody was detailed to show the prototype's dual brake system and basic equipment as determined from the B&O diagram and photos.

Commercial parts were used for the two generators, dual brake system and cross bearers. The air conditioner, battery boxes and other items were made of wood with thin sheet aluminum or styrene coverings with detailed fronts. One air reservoir still needs to be installed as well as clevises, brake rods and the hand brake linkage in this photo. No water tanks are under the car. They were in the ceiling over the kitchen.



Photo 15. The 1035 has short end skirts at each lower corner. Here is how they were fashioned from some milled wood, soda can aluminum, strip brass for the stirrups and glue. One of these end skirts was made with a notch to fit the stirrup step for the side service door.

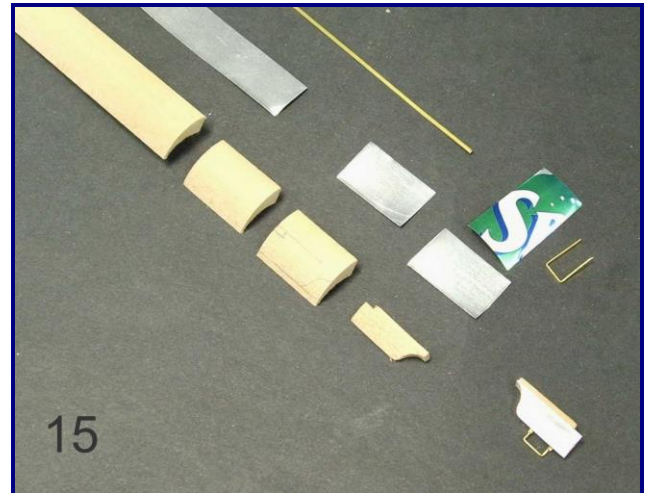


Photo 16. Roof details were next. Commercial louvered vent castings were bent to the roof curve and set into carved recesses. Two caboose stack castings were shortened to look more like those on B&O 1035. Styrene and sheet aluminum embossed with rivets were made into the air conditioning system access hatch.



Three ice hatches all the same size were cut from the same aluminum used for the car sides. Photos were used to locate these parts. Lacking measurements, it's best to use photos taken at different angles. Then temporarily reset parts until they match with the same angles when looking at the model. To do that, I used bits of clay. The desired location was marked, and holes or recesses needed were drilled or cut.

Photo 17. Doors on this model are made so that they are about scale thickness and detailed on both sides. Basically, each is a sandwich made with thin soda pop can aluminum on both sides with a styrene middle sheet the same thickness as the glazing material. The styrene filler has an opening slightly wider than the window openings in the door and is open to the top.

After the door is assembled with door handles, push and kick plates as needed, the rubber gasket detail is outlined on both sides after painting, with a fine black Sharpie marking pen. A piece of clear glazing is then slipped into the top slot.

There are six doors on this model: two end doors, a plain side service door, a vented kitchen side service door, an interior door in the passageway beside the kitchen, and a door into the kitchen from the car end vestibule.

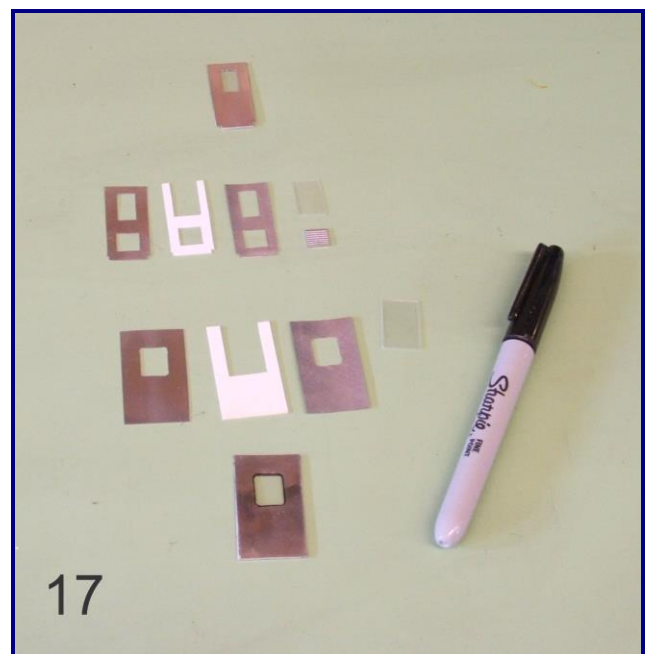


Photo 18. Next, seven ventilators for the kitchen and pantry were made by modifying commercial Garland vent castings. Their sides were narrowed by filing. Quarter round pieces of sealed stripwood were added to their backs. The bottoms of each were filed so they would sit level on the curved roof surface. As with the recessed vents, these were also located by trial and error with photo references. The range and broiler stacks were the most difficult to locate correctly, since they also had to relate to the kitchen equipment below them. Grab irons and rain drip rails were also added.



Photo 19. Car end details include diaphragms with top springs and anti-rattle rods, end grab irons, uncoupling rods, steam line, safety chains, brake wheel, air brake and communication hoses. As seen, the model is ready for exterior paint and lettering. The sides are not permanently mounted to the body yet. They are held in place by slots cut into the tops of large interior detail items. Permanent mounting will be done after the sides have been painted, lettered, glazed and detailed on their interior surfaces.



Photo 20. Painting with Scale Coat colors has been done and lettering with Micro Scale decals is underway. Doing this before the sides are on the car is much easier, especially in O-scale. Gaskets for the kitchen windows have been detailed with a fine black Sharpie marker. A similar silver marker was later used to outline the other car windows before glazing was installed.



Interior Details

Photo 21. Interior detailing is fussy work. But for something to help show a collection of B&O dining car china, a fairly thorough job is needed. Items like the refrigerators and lockers are solid wood with detailed faces. They also help hold the interior walls in place, such as the kitchen/pantry/passageway wall. The wall was made in one piece with sheets of car side aluminum contact cemented to both sides of a sheet of styrene much like the doors were made. To model the rounded corners of the prototype's wall, this 'sandwich' was held in a jig with clamps until the glue had set.

Tables were cut from heavy paste board card stock. 1/16" styrene angle was used for wall brackets and ceiling tile staples for legs. Carpeting in the dining room is dress material with a small floral print similar to what B&O used. The interior wall is paneled with wood grain shelf paper below the window sill line and antique white painted matt board above.

Drapes are pieces of ribbon with their cut edges secured with a no-fray solution available at fabric stores. The Venetian blinds were computer drawn to fit the windows and printed on

overhead transparency stock. They were printed for me by a fellow B&O RR HS member, as my new printer would not take transparency material.

Since this car will be displayed with its roof open to show the interior, the ceiling was also detailed. To do this, part of the underside of the wood roof was cut away. The kitchen ceiling is sheet aluminum that has been scored to show panels and ventilator openings. It has a brace bent into one edge that fits beside the kitchen/pantry/passageway wall.

The passageway ceiling is painted sheet styrene. Holes were drilled in it for the light fixtures. They are modeled with slightly larger roundels punched from clear glazing and hazed on one side with fine sandpaper. Their edges were painted silver. The same was done for the square ceiling light in the reception area before gluing them in place.



Photo 22. In the kitchen and pantry, work spaces include: the ventilator hood, steam table, counter tops, cabinets underneath and overhead, refrigerator and sinks. All were made with sheet aluminum or with sheet aluminum applied over wood bases.

In the dining room, table cloths made from tissue paper, folded and fitted are in place. They were probably the most tedious of any work done on this car! Bits of double stick tape hold them in place.



Photo 23. Here, the opposite car side interior wall is being completed. It shows the process of adding wall panels, glazing, Venetian blinds and drapes. For other detailing, the dining room end walls have framed and glazed prints of Fringed Gentian, the West Virginia state wild flower in honor of Betty Zane, even though her name is no longer on the car. The side board in the reception area is made of solid furniture grade walnut. A thin piece of glass doll house mirror is set into the wall above.

The kitchen and pantry floor are covered with printed a Roll-a-Grate pattern on glossy photo paper. These were expanded metal gratings that could be rolled up, taken out and hosed down for cleaning. If something spilled or fell to the floor while underway and cooking, it usually went down under the grating so no one could slip or fall from it. It stayed there until the run ended and the kitchen /pantry area cleaned.

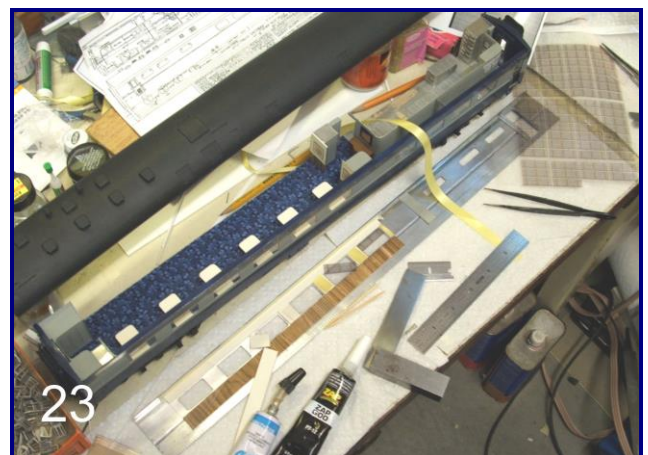


Photo 24. The kitchen window vents were computer drawn from a photo of an actual window vent. They were printed to scale size on photo paper. Each vent was cut out and its paper backing trimmed off to make it as thin as possible before gluing it to the glazing. These vents were applied to both sides of each window.



Photo 25. A big puzzle was: “What does a 1923 Stearns coal burning range and broiler look like?” Using the internet to find out was next to useless [*and there was nothing in your editor’s 1937 Car Builder’s Cyclopedia.*]. This kind of dining car or restaurant equipment was junk a long time ago and now forgotten. The Stearns Iron Works, then located in Syracuse, NY, was long out of business.

In checking photos of kitchens in other railroad’s dining cars, here is a result based on a similar 4’ long range and 4’ long broiler as seen in a 1920’s era N&W diner.

They are made in styrene with sheet aluminum and brass wire details added. Pot racks, warming oven, stove pipe with damper, safety rail and water outlet detail the range. There is a working hood, grate, fire box, a plate rack and plating shelf for the broiler. Below is space for the charcoal. Next to these are the transverse overhead cabinets and shelves that fit between the kitchen and pantry areas.



Photo 26. The kitchen equipment and cabinets have been installed. The sinks and steam table have water faucets. The interior side wall of the kitchen and pantry area has been detailed as well. The cabinet door ‘knobs’ are recesses made in the surface with a small drill bit.

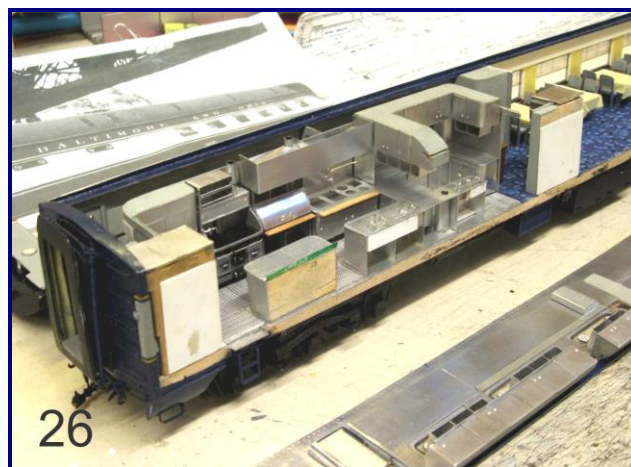


Photo 27. The 38’ 10” long dining room ceiling is a piece of heavy water color art paper. It was gently curled and detailed with a styrene strip down the middle to represent the air conditioning duct outlet. Antique white acrylic paint was applied.

Fluorescent strip lighting was modeled with 1/8” wide lengths of white styrene applied to the ceiling. Nine 1” lengths of 1/16” diameter white styrene rod were evenly spaced and cemented in line on them to represent 48” fluorescent tubes. Large diameter clear plastic soda straws from a drive-in were slit in half lengthwise and hazed with sandpaper and steel wool on their inner

surface. They were fitted over the styrene strip and rods to be glued in place.

Other work shown here is making vases and rosebuds for the tables. A conductor's punch cut out the bottoms from thin aluminum, long glass beads are the vase bodies, fine wire, two red beads and some ground green foam with a bit of glue does the rest. Twelve alike are needed. A larger vase with more flowers in it was made with bigger beads for the walnut sideboard.



Photo 28. In a B&O diner, one must not forget Deer Park water bottles on the tables! These were cut from a length of 3/32" diameter clear plastic rod cut 3/16" long with the top rounded off and polished. B&O used unique, clear Lucite pouring handles on them that fit around the base and snapped on over the top. A step too far here, I'm afraid!

There is a cabinet made in wood and sheathed in aluminum that fits under the counter space between the kitchen and pantry. It holds the B&O china sets and table ware assigned by the commissary to this car.

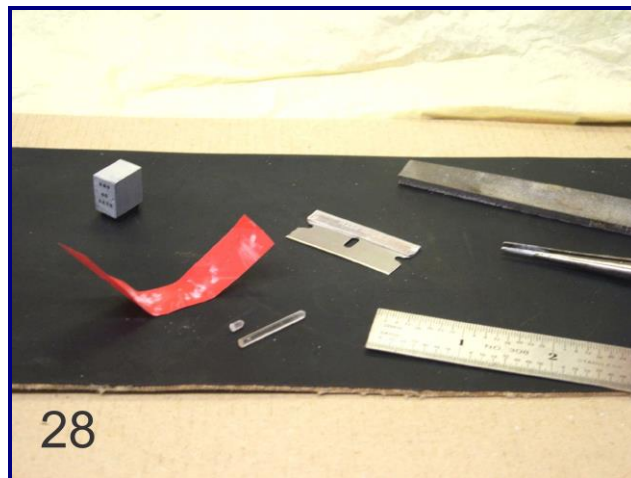


Photo 29. Next was a Hobart dishwasher for the kitchen/pantry area. The 1035 had a sizeable two bay sink. However by the mid to late 1950s, a number of state health departments were requiring three bay sinks if hand washing dinnerware was done. The third bay was for a bleach water rinse before drying.

Or, install a commercial dish washer that could properly sanitize everything by heat-drying. A photo of one that styrene and wire counter-top dishwasher unit was made and installed on the model after it was painted Hobart medium gray.

B&O dining cars had to pass restaurant and health inspections for each state they traveled though when serving food. Certificates of inspection were required to be publicly posted. They were displayed on the passageway wall near the vestibule.



Photo 30. Finally complete inside and out, top and bottom is B&O 1035 showing the interior. Menus were added. A period B&O menu scan was reduced to scale size and printed on paper. They were cut, folded and glued in place at each table, between the bud vase and water bottle. Additional menus are on the sideboard. A small piece of fabric was fitted for the heavy curtain hung between the pantry and reception area.



Besides building B&O diner 1035, a display board with ballasted track and a citation about dining car 1035 was made. Small wheel stops were soldered to the rails at each end so the displayed car would not roll off.



Materials Used to Construct This Model

Keil Line Cast Metal Parts*

Amount	Item	Catalog No.
2	Keil Line passenger stirrup steps	48-006
One Pair	Keil Line diaphragms with hardware	48-025
Two	Keil Line diaphragm top leaf springs	48-028
One	Keil Line Spicer drive generator set	48-070
Two	Keil Line electrical connections	48-083
One pair	Walthers/Keil Line Pullman battery box covers	48-110
Two	Walthers/Keil Line Vapor 440 steam traps	48-201
Six	Walthers/Keil Line small hatches/doors	48-215
Two	Walthers/Keil Line short smoke stacks	48-249
Three doz.	Walthers/Keil Line dining chairs (to be modified)	8-256
Seven	Walthers/Keil Line Arch Garland vents	48-300
One	Walthers/Keil Line generator, plain	48-312
Two	Walthers/Keil Line bolsters	48-340
One pair	Walthers/Keil line Pullman ends (modified)	48-364
One pair	Walthers/Keil Line side stiffener braces	48-372
Four	Walthers/ Keil Line cross bearers	48-407
Set of 6	Keil Line louver panels	48-664
Set of 4	Keil Line air tanks	48-927

*John Keil, owner of Keil Line that took over production of most Walthers O-scale parts of the past and added a large number of parts made to his own designs, passed away early in December 2014. In October 2015, this parts line was purchased by Scale City Designs of Lordstown, OH. Production is to resume by January 2016. In the meantime, many of these detail parts may still be available from other O-scale suppliers such as P&D Hobbies, Des Plaines Hobbies and Caboose Hobbies.

Additional Parts:

Amount	Item	Catalog No
One pair	KTM/ Precision Scale brass dummy couplers	PSH-40154
One pair	KTM/Precision Scale cast brass steam connections	PSH-40461
One pair	Golden Gate Depot brass 6 wheel Pullman type trucks	
Set of four	Bill's Train Shop air hoses	BTS No. 12302
One set	Micro Scale B&O passenger decals	48-343
One set	Micro Scale B&O passenger car 1" stripe decals	48-344
One	Walthers milled wood arch roof (not made since 1968)	M-395
Two sets	All Nation+ Passenger brake cylinders with slack Adjusters (not available since 1999), number	1698A
One	All Nation+ UC type passenger brake valve (no longer made, in set 1698A)	
MidWest	3/16" x 3" x 24" sheet wood for car floor	
3 ft. length	Aluminum flashing, 8" wide (car sides, kitchen/pantry wall and ceiling)	
One 2' length	Micro Engineering Code125 weathered track (With Homosote roadbed and roofing granule ballast for the display board)	

Length of clear, knot and check free pine for display board.
Minwax stain/sealer for display board.

+ While All Nation parts have been out of production for over a decade, some may be found at the suppliers listed above, or on eBay.

Other Items:

Scale Coat I B&O Royal Blue and specially mixed Scale Coat II B&O Gray paint, Floquil paint mix of Engine Black and Grimy Black, Testor's Gloss Coat and Dull Coat, sanding sealer, acrylic paints for interior work, milled wood, soda pop can aluminum, styrene, brass strip, rod, wire, glazing, chain, fine mesh screening, photo mat board, wood grain shelf paper, tissue paper, glass beads, ground foam, ribbon and fabric for carpeting.

Computer printed materials: Roll-a-Grates, passageway tile floor, kitchen window ventilators, Fringed Gentian pictures, Venetian blinds, menus, food service inspection certificates for eight states (New Jersey, Pennsylvania, Delaware, Maryland, West Virginia, Ohio, Indiana and Illinois) and a citation for the display base.

B&O CABOOSES IN HO-SCALE 1900 TO 1966

By GREG SMITH

On the following page is a list of all HO-scale B&O caboose models for the 1900 to 1966 period as of 8-28-15.



B&O CABOOSES IN HO-SCALE 1900 TO 1966

CLASS	NUMBER	FIRST BUILT	LAST RETIRED	TRUCKS GRABS	MODEL BUILDER	BRASS/PLASTIC WOOD/RESIN	RTR KIT	DATES PRODUCED	COMMENTS
I-1	C-5 to C-399	1913-18	1977	Note 1,2	PCH	Wood	Kit	1970/80's	Notes: A, B, C.
"	"	"	"	"	PCH	Brass	RTR	1980's	Unpainted. Archbar trucks.
"	"	"	"	"	QC/GC	Wood	Kit	1980's	Notes: A, B, C
"	"	"	"	"	PMSS	Resin	Kit	2000's	Note C. Various versions.
I-1a	C-400 to 499	1922-23	1977	Note 1,2	SMD	Plastic	RTR	2016	Great model.
I-2	C-500 to 1571	1886-1917	1965	Note 1,2	SMD	Plastic	RTR	2016	Great model.
I-3	C-1600 to 1616	1915-16	1972	Note 1,2	SMD	Plastic	RTR	2016	Great model.
I-5	C-1900 to 2299	1924-29	1980	Note 1,2	TRN	Brass	RTR	1960/70's	Unpainted. Lacks details.
"	"	"	"	"	PCH	Wood	Kit	1970's	Notes: A, B, C.
"	"	"	"	"	QC/GC	Wood	Kit	1980/90's	Notes: A, B, C.
"	"	"	"	"	PCH	Brass	RTR	1970's	Painted. 13 States scheme. 4 road numbers.
"	"	"	"	"	SMD	Plastic	RTR	2016	Great model.
"	"	"	"	"	SUN	Brass	RTR	1980?	Unpainted. 7 and 8 window versions.
I-5a	2501	1935	1988	Andr/Bett	PCH	Resin	Kit	1990's	Crude casting.
I-5b	C-2502 to 2507	1936-40	1978	Andr/Bett	TRN	Brass	RTR	1960/70's	Unpainted. Lacks details.
I-5ba	C-2502.06.07	1936.39.40	1978	Andr/Bett	ORTL	Brass	RTR	1980's	Unpainted. Crude trucks.
"	"	"	"	"	Omi	Brass	RTR	1980/90's	Unpainted/painted in many schemes.
I-5c	C-1993 to 2281	1925-26	1978	Bett	SMD	Plastic	RTR	2016	Painted. Various road numbers & schemes.
"	"	"	"	"	PMSS	Resin	Kit	2000's	Well detailed kit. Etched railing.
I-5d	C-1900 to 2298	1934-62	1983	Bett	PMSS	Resin	Kit	2000's	Well detailed kit. Etched railing.
I-7	C-2500	1930	1975	Andr/Bett	VAR/LL	Plastic	RTR	1960/70's	ABS Plastic. Change steps to saddle.
"	"	"	"	"	Andr/Bett	Brass	RTR	1986	Unpainted.
I-10	C-2600 to 2623	1914-65	1970	Andr/Bett	Omi	Brass	RTR	1991	Unpainted. Two versions with K/AB brakes.
I-12	C-2400-99.2800-24	1941.42.45	1980's	Andr/Bett	ORTL	Brass	RTR	1980?	Unpainted. Poor trucks.
"	"	"	"	"	Andr/Bett	Brass	RTR	1986-94	Unpainted/painted. Many schemes and road numbers.
"	"	"	"	"	SMD	Plastic	RTR	2013-14	Many versions. schemes. and road numbers.
"	"	"	"	"	Andr/Bett	Resin	Kit	2000's	Well detailed kit. Etched railing.
"	"	"	"	"	PMSS	Resin	Kit	1990's	Crude casting.
I-13	C-1800-35	1941	"	Andr/Bett	PCH	Resin	Kit	2000's	Well detailed kit. Etched railing.
I-16	C-2300-74.2700-99	1942-43	1977	Bett Frt	ORTL	Brass	RTR	1990?	Unpainted. Nice model. Note D.
"	"	"	"	"	PCH	Wood	Kit	1980's	Notes: A, B, C, D.
"	"	"	"	"	Andr	Wood	Kit	1980/90's	Notes: A, B, C, D.
I-17	C-2850-2861	1952-53	1993	Bett	PMSS	Resin	Kit	2000's	Well detailed kit. Etched railing.
"	"	"	"	"	PSC	Brass	RTR	1995	Painted. Many inaccurate painted schemes.
I-17a	C-2862-2960	1953-65	1989	Bett	PMSS	Resin	Kit	2000's	Well detailed kit. Etched railing.
"	"	"	"	"	PSC	Brass	RTR	1995	Painted. Many inaccurate painted schemes.
I-18	C-3000-3045	1966	Few Active	Bett	ATH	Plastic	RTR	1970's on	Based on SP Caboose needs modifications.

Abbreviations

ATH = Athearn
Andr = Andrews Caboose Trucks
Bett = Bettendorf Caboose Trucks
Bett Frt = Bettendorf Freight
OMI = Overland Model Import

ORTL = Oriental Import
PCH = Pro Custom Hobbies
PMSS = Pacific Mountain Scale Shop
PSC = Precision Scale Company
PTD = Painted

QC/GC= Quality Craft/Gloor Craft
SMD = Spring Mills Depot
SUN = Sunset Models
TRN/LAM = Trains / Lambert Import
VAR/LL = Varney later Life Like
UPTD = Unpainted

Notes

Note 1: Originally had Archbar, Changed to Andrews or Bettendorf
Note 2: B&O used three types of side grabs - 80 degree bend, J type and 1/4 round
Note A: No Trucks or Couplers
Note B: White Metal Detail Parts
Note C: Includes Decals
Note D: Converted Stock Cars or Boxcars during World War II

ONE MAN'S ROSTER

JOHN SCHLETZER'S B&O CABOOSES

COMMENTARY AND PHOTOS BY JOHN TEICHMOELLER

The September, 1962 issue of *Model Railroader* featured an article entitled "One man's roster" which described B&O rolling stock modeled by Julian Barnard, Jr. of Shelby, OH. Mr. Barnard, now deceased, went on to found his own B&O historical group and employed a somewhat different approach to modeling. He was modeling the B&O's Philadelphia Division in the 1946-56 time period, and his idea was to first construct the requisite fleet of locomotives and rolling stock as well as the structures and only then construct the benchwork and track. The 1962 article illustrated a number of his mostly-scratch-built freight, company service and caboose cars. A follow-up article in the June, 1964 issue covered his locomotives and published a summary roster of the entire fleet. I never had a chance to meet "Barney," but he was clearly a unique chap and a "prototype modeler" before most of us had heard of such things. His work undoubtedly inspired many other modelers. One was John Schletzer of Arbutus, MD. John even had a chance to acquire some of the models illustrated in the *MR* articles. John won several bidding contests with Howard Zane at one of Barney's estate sales conducted by the late Charles Roberts on an un-air conditioned August 1990 Sunday afternoon at Roberts' house on Gun Rd., Avalon Hill, in Baltimore County. (I picked up a few items myself including a couple

of Barney's Ulrich B&LE-but-not-B&O correct triple hoppers lettered for W-7 which I can't bring myself to repaint and reletter.)

John brought a collection of his B&O models, mostly caboose and non-revenue types, to the Prototype Modelers Meet in Greensburg, PA in March of 2013. I was able to get passable portraits of the models and their accompanying data cards using my Micro-Mark "portable photo studio," and thought it would be fun to share, groups of these photos with our readers over time. (Memo to self: next time you do this, take a brush to remove the dust!) Accordingly, here are the photos of the cabooses. (Readers who attended the 2013 Society Convention in Somerset, PA may remember the same collection of models which made a brief, one-evening appearance.) Captions are not intended to be encyclopedic but simply reflect the information John provided on the data cards; I made a few additional comments.. For more historical and technical detail on the prototypes see the books by Bob Hubler and Dwight Jones. JT

All red cabooses painted with Scalecoat Santa Fe red, Santa Fe yellow and Weyerhaeuser or Penn Central green except where noted. All cars lettered with Champ decals except where noted.



C-1360 K-1 AHM bobber, cupola removed, roof reworked.



C-1145 K-1 AHM bobber, Microscale and Champ decals.



C-511 K-1 in 1880 dark paint.



C-1703 from Coal & Coke No. 103. Alco Models brass PRR Class ND. (Photos show steps and some other external details on the C&C differ from the PRR ND).



103 C&C (Coal & Coke Ry.) Transferred to B&O. Alco Models brass PRR Class ND, (the box on the Railworks brass version of the ND is labeled "4-wheel drive" but alas the caboose is unpowered JT).



C-483 I-1 Pro Custom Hobbies brass.



C-2500 I-7 experimental one-of-a-kind bay window. Overland brass.



C-1835 I-13 Oriental Models brass.



C-224 I-1 with cupola removed. Quality Craft kit.



C-1912 I-5d Quality Craft kit.



C-2850 I-17 Precision Scale brass.



X-2862 Former I-16 converted to non-revenue service. Quality Craft kit.



X-2862 Former I-16 converted to non-revenue service. Quality Craft kit.

MODELING B&O'S CLASS N-12 HOPPER CLASSES—PART 1

BY BOB CHAPMAN



Look at photos of B&O trains with hoppers from the steam and early diesel era and you will see plenty of examples of the various N-12 subclasses. Here is N-12g 329977 sandwiched between an N-12 and an illegible subclass behind the steam locomotive tender. Significant are the numerous “patches” on each of these cars as well as the corner ladders instead of grab-irons. Notice also the interesting lettering on 329977. After many years, models of this huge and important class group are available. Here we’re on the West End of the Cumberland Division Photographer unknown, ca. 1949, B&OHS Collection.

The Prototype

The first all-steel two-bay hopper-bottom hopper cars came on the scene in 1897 with Pittsburgh, Bessemer & Lake Erie’s order for 1000 cars. It took the coal hauling railroads little time to see the merits of the all-steel carbody, and by the early 1900s all-steel two-bay carbodies had become commonplace.

Incremental design improvements in the early 1900s led to a nearly standardized design to be offered by most of the carbuilders; freight car historians refer to this design as the “1905 Common Design”. B&O jumped into all-steel hoppers in a big way with its N-10 through N-10B subclasses, totaling 7020 cars built between 1905 and 1910. B&O would adopt a close variation of the 1905 Common Design in 1913 with its N-12 class series, similar in capacity to the N-10s but with two fewer side stakes and a significantly lower light weight. The N-12 subclasses built new would eventually total 13,615 cars, and become the de-facto standard for B&O’s hopper fleet until the advent of the AAR two-bay offset-side hopper design of the mid-1930s:

B&O Class N-12 Two-Bay Hoppers Built New

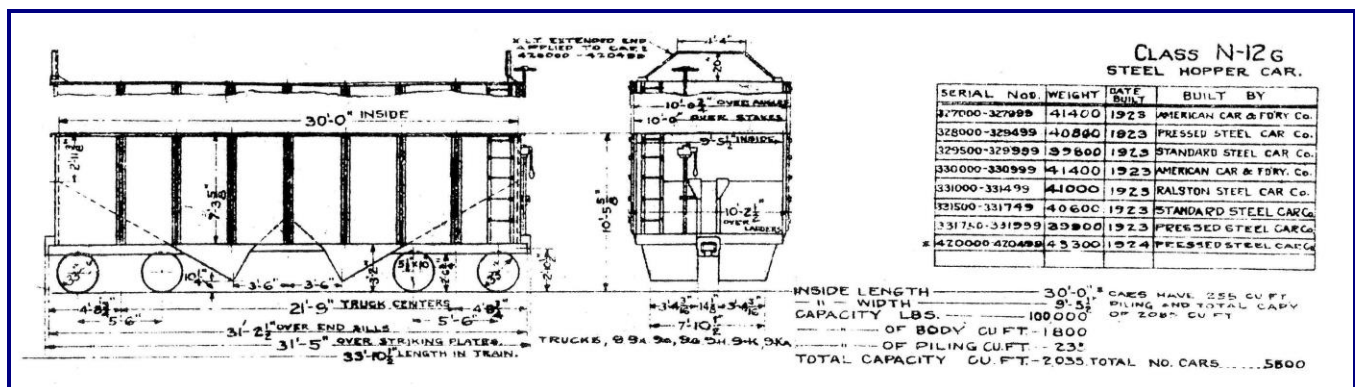
Class	Number Series	Qty	1953Qty	BldDt	Builder	Notes
N-12	220000-220499	500		1913	Standard Steel Car	
N-12A	221000-221499	500		1913	Pressed Steel Car	
N-12B	220500-220999	500		1913	Pressed Steel Car	
N-12C	221500-221999	500	39	1913	Cambria Steel	'53 Tot N12-N12D
N-12D	223000-225409	2400	1116	1915-16	Various	Excl. 223600-609
N-12E	322000-323414	1415	918	1921	Pressed Steel Car	
N-12F	326000-326999	1000	813	1922	Various	
N-12G	327000-331999	5000	4656	1923-24	Various	
N-12G	420000-420499	500	470	1924	Pressed Steel Car	Peaked End
N-12J	225500-225799	300	250	1923	Standard Steel Car	Ex-Hillman Coal
N-12K	425000-425999	1000	957	1925	Balt. Car & Found.	
	Total	13,615	9219			

Source: B&ORR Diagrams

Class N-18 (#323451-323999) followed in 1912-14 with 549 cars and N-20 (#234200-234248, Ex-CI&W) of 1916; both classes were very similar to the N-12.

In 1919, B&O would acquire 2900 similar cars in the N-17 class, the standardized World War I design prepared by the United States Railroad Administration during its wartime control of the railroads. The USRA cars were very close cousins to the N-12s – slightly longer and taller, with capacity about 4% larger, but with light weight about 10% heavier. Three hundred “USRA copies” of class N-17A would follow on B&O’s roster in 1923. Note that the N-12 group outnumbered the more familiar USRA design by more than four to one on the B&O, so contemplate that when constructing your model fleet.

The N-12s served well on the B&O, with over two-thirds of the class still riding the rails in 1953, according to that year’s *Official Railway Equipment Register*. As might be expected, attrition was highest in the earlier N-12 through N-12C subclasses, with only 39 survivors out of the original 2000-car population. Other N-12 subclasses survived well into the diesel era.



Coming in *B&O Modeler* No. 41: Part 2 will include reviews of two versions of the Funaro & Camerlengo kit.

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Wagon Top Covered Hoppers
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Lidgerwood Photos—Model & Prototype
B&O Steam Model List
Painting B&O Structures
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