

THE B&O MODELER

Number 52



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Scale tool car and test car at Fran Giacoma's Winchester, VA scale.

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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 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 \$45.00. If you would like to join, click [here](#) to fill out our membership application, print a copy and mail it to:

B&ORRHS

Attn: Membership

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FROM THE EDITOR

COMMENTARY BY JOHN TEICHMOELLER

No great insights, just a few observations:

Are you excited about all the CHANGES we are experiencing?

Welcome or disturbing?

I watched *Pride & Prejudice & Zombies*, hoping it would give me more perspective or maybe make me feel better. It didn't, despite the prowess with the Samurai swords by Lily James and the Bennet sisters.

Then I'm hearing that some of us have used the time freed by not having to commute to the office available to make headway on all those projects, Pandemic Projects.

Some guys have even found a way to use cell phones and other electronic wizardry to have layout operating sessions with the operators being in their own homes.

It looks like all the train shows and conventions have been cancelled, but we have ZOOM which is quickly becoming the new model for sharing information in person. Maybe we don't even need *The B&O Modeler* any more.

Speaking of ZOOM, confused by those little colored buttons around the edge of your screen? Try this tutorial: <https://www.youtube.com/watch?v=QOUwumKCW7M>

The wife says: think of all the thousands of dollars we've saved by not attending those RPM and historical society meetings. I can buy more clothes and you can buy more trains.

Speaking of buying more trains, let's put things in perspective: 2020 may not be that bad of a year after all—I've gotten 4 new freight cars so far this year and have 2 Rapido H-16-44s on order for 2021 delivery.

And maybe the best development so far: one of my neighbors up the street now has chickens. The rooster crows off and on, all day long.

John Teichmoeller

COMPANY STORE

BY JOHN TEICHMOELLER

Store Manager Craig Close is happy to list some new items, one an actual model, the other items books that may help modeling efforts.

HO-scale D-14 Combine kit. Produced by Bethlehem Car Works. See [New Products](#) section for display of parts and view of one built-up and [From the Readers](#) section for some non-reviewed commentary. This KIT includes trucks with plastic wheels but no couplers. The retail price is \$59.95 before the 10%-member discount. The Item is 33439. Order it at B&O Historical Society Company Store <https://borhs.org/shopping/index.html> under Models.

The B&O Chicago Terminal History, a softbound self-published book by author David Leider, describes the full history from 1867 in 325 pages with a bibliography and index. There are over 280 photos with several in color, 120 drawings/illustrations, and 128 maps. No modeling as such but you and Henry Freeman can play dueling history games. David has presented a clinic version via ZOOM at least twice in recent months. Retail is \$44.95 before the member discount. It is Item 10177. Order it at B&O Historical Society Company Store <https://borhs.org/shopping/index.html> under Books.

Railway Prototype Cyclopedia No. 35. And you thought the RPC series was dead, did you? If you have to have a complete set for your estate sale, get this 385-page volume which describes the AAR 1937 box car with information on the genesis of the design. There are a couple pages that cover B&O cars. The AAR 1937 box car was covered in one or more of the RPC series and it's not clear what No. 35 adds to the story. Of course, you want a complete set for your estate sale, don't you? Commentary or reviewers invited. The price will be \$75.

UPCOMING EVENTS FOR POTENTIAL B&O MODELS ON DISPLAY OR B&O PRESENTATIONS

2021

October 21-24, 2021 - [Mt. Clare Junction](#). This is the 75th Anniversary Convention of the Mid-Eastern Region, National Model Railroad Association, hosted by the Chesapeake Division of the MER. It will be headquartered at the same place as the 50th, the Delta Hunt Valley Marriott in Cockeysville, MD. Boy, talk about getting old—I was on the committee for the 50th when the Mt. Clare Div. was the sponsor. Check out the website to see the many activities that are well into the planning phase. If we're not immunized by then, there is always Zoom, and the Mid-Eastern Region has some powerfully competent technical guys. What would you say to an OPS session in your hotel room? (*By the way, Mt. Clare Junction is the name of a small shopping mall next to the B&O Museum in downtown Baltimore and not related to the convention*) JT

UPDATES AND ERRATA

Modeler No. 51

Page 10: The Bethlehem Car Works baggage car kit is class D-14, not D-4.

NEW PRODUCTS

BY CLARK CONE AND THE MODELER STAFF

Rapido Trains FB-2 and FPB-2 – HO-scale

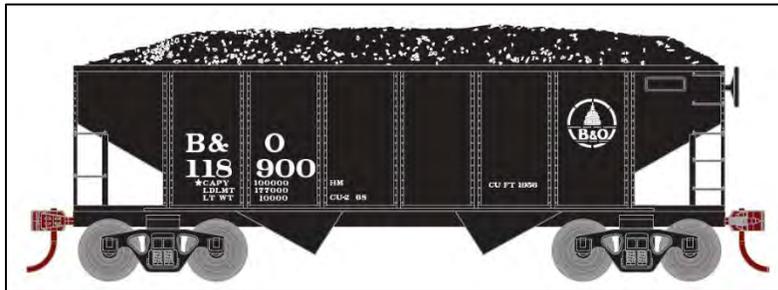
Rapido Trains Inc. is proud to be able to add the much requested freight FB-2 and dual-service FPB-2 locomotives to its range of museum quality Alco/MLW cab units. Now you can partner your first run A-units with matching Bs to the same high standard.

Alco/MLW built around 230 B-units which were mostly ordered with A-units in matched sets, usually in fours (A+B+B+A) or in threes (A+B+A). However there were a few notable examples of FB-2s that were constructed to supplement existing fleets of FA-1 cabs. The fortunes of the FB-2 and FPB-2s mostly mirrored the lives of the A-units and most lasted well into the 1960s, with a few notable examples keeping theirs right to the end of Alco/MLW cab unit operation.



For more information see <https://rapidotrains.com/>.

Athearn 34 Foot Ribbed Hopper – HO-scale



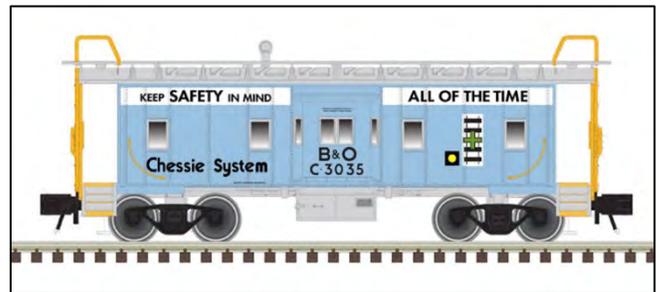
For more information see <http://www.athearn.com/Products/Default.aspx?ProdID=RND1022>

Athearn 50' Double Sliding Door Box - HO and N-scale



For more information see <http://www.athearn.com/Products/Default.aspx?ProdID=RND7387>

International Car Co. Bay-Window Caboose - Atlas Model Railroad (Trainman line) - O-scale



The Atlas Model Railroad Co is releasing two International Car Co. bay-window caboose in Chessie System/B&O markings in the first quarter 2021.

Available in 2-rail and 3-rail: B&O/Chessie System (Red/White/Yellow)
B&O/Chessie System (Blue/Black/Yellow)

For more information see <https://shop.atlasrr.com/p-58276-3rl-tman-bay-window-caboose-chessie-system-c-3035-blue-black-yellow.aspx>

MTH Premier SD35 Diesel Engine w/Proto-Sound 3.0 (Hi-Rail Wheels) – O-scale



The SD35 is now available in B&O livery. This product is compatible with all O-gauge 3-Rail track systems including those systems offered by Atlas and Gargraves and Lionel and Ross Custom Switches.

For more information see <https://mthtrains.com/20-21435-1> or <https://mthtrains.com/20-21436-1>

MTH-Premier 2-Bay Flat End Offset Hopper Car – O-scale

The B&O had more than 21,000 of these hoppers acquired over a 20-year span. That is enough to make a train 140 miles long! This group was built in 1956 and '57 at B&O's shops in DuBois, Pennsylvania.

This car is compatible with all O Gauge 3-Rail track systems including those systems offered by Atlas and Gargraves and Lionel and Ross Custom Switches.

For more information see <https://mthtrains.com/20-97949>



MTH-Premier 2-Bay Flat End Offset Hopper Car 6-Car Set – O-scale



- 6-Car Set - Car Nos. 727024, 727027, 727032, 727035, 727040, 727048
- 6-Car Set - Car Nos. 727022, 727025, 727030, 727038, 727042, 727047

Each car in these sets is individually numbered for authentic realism and each set is available in two item numbers. The second item number features an entirely different set of 6 cars, each also individually numbered, allowing you to obtain a total of 12 different numbered cars if desired.

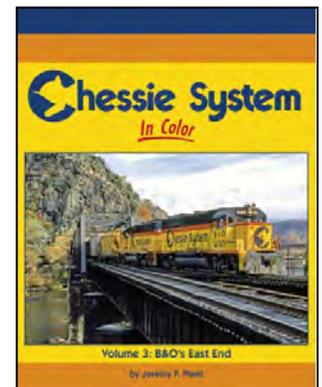
This product is compatible with all O-gauge 3-Rail track systems including those systems offered by Atlas and Gargraves and Lionel and Ross Custom Switches.

For more information see <https://mthtrains.com/20-92255>.

Chessie System in Color: B&O's East End

This third volume written by Jeremy F. Plant features B&O's colorful lines from Philadelphia and Baltimore to Grafton, WV and Connellsville, PA. Locomotives in B&O colors, as well as the C&O and Western Maryland predecessor roads, are portrayed in action.

For more information contact a dealer or visit: www.morningsunbooks.com.



NEW PRODUCTS—SECOND SECTION

BY JOHN TEICHMOELLER AND MISCELLANEOUS CO-CONSPIRATORS

We offer somewhat sketchy bits and pieces gleaned from various internet postings and condensed magazine ads and blurbs. Vendor URLs are provided where possible so you can find out more.

“Operating” Railway Track Scale in HO-scale. Yes, this is a reissue of the old metal Stewart Products scale. It is now being offered by the reinvented Alexander Scale Models. Ad appeared on page 87 of the September 2020 *Railroad Model Craftsman* (styled as “Steward”). This model contains a prototypical mechanism similar to that shown in the drawings in Ed Bommer’s article on page 55 of this *Modeler*. It was reviewed way back in a 1958 or 1959 issue of *Model Railroader* which determined that due to manufacturing tolerances the model was not very practical or accurate for modeling purposes. The review showed the mechanism assembled in some sort of Plexiglass enclosure and didn’t say whether the manufacturer submitted the review model that way (which I always suspected) or the *MR* crew made it. As a kid I always thought it was fascinating and as an old adult with ample funds picked up a kit somewhere just to have it. Now here’s **your** chance. Too bad the scale house appears to represent a concrete block structure as opposed to the wooden frame design we are familiar with from the Standard Plans books. Old fogies among the readership will recall that Alexander was one of the early producers of prototype-based structures back before most of us even cared. Another Alexander ad in a recent magazine notes they are offering the old Model Engineering Works Grasse River Logging caboose. It will be interesting to see if the gem of a model of the old MEW Western Wheeled Scraper 12 Yard side dump car is reissued, an outstanding model even in these times. For more information see <https://alexanderscalemodels.com/>.

Fairbanks Morse H-16-44 Road Switcher in HO-scale from Rapido Trains, Inc. This is the later body style body offered for many years by Bachmann. Painted in the simplified wide stripe later B&O scheme. Orders were being taken starting in May of 2020. For more information see <https://rapidotrains.com/products/ho-scale/diesel-locomotives/ho-scale-f-m-h16-44>.

GP30 in N-scale from Atlas. This is a reissue with new road numbers if I understand the blurb in the July 2020 *Model Railroad News*. It says both versions of the cab will be produced meaning that hopefully they will choose the correct one for the B&O version (no extended fireman’s side).

2-8-2 Mikado in HO-scale from Lionel. B&O lettered version produced. Marv Cadwell brought this to my attention, particularly the fact that the model uses “Mantua heritage tooling,” (noticeably boiler and tender). No B&O class claimed. Unless you have Gomez Addams as one of your MRR buddies you can probably pass on this one. Photos on page 28, July 2020 *Model Railroad News*. For more information see <http://www.lionel.com/products/bo-2-8-2-mikado-conventional-steam-locomotive-4511-6-11281/>.

EA diesels in O-scale from Sunset Models. Taking reservation announcement in July 2020 *Railroad Model Craftsman*. For more information see <http://www.3rdrail.com/reservation.html#E1>.

EMD GP-18 in HO-scale from Athearn. Announced in the July 2020 *Model Railroad News* with availability in March of 2021. The B&O had one of these. For more information see <http://athearn.com/Products/Default.aspx?ProdID=ATHG30700>.

PRR X31a Round Roof Boxcars in HO-scale from Rapido Trains. No, you are not reading *The Keystone Modeler*. But you probably need a couple of these cars because they were everywhere, certainly into the 50s and earlier. Totally different from the B&O’s “wagontops.” Lots of lettering variations to be made including undec so you can do “patch plate” versions. If you know it’s Rapido, you know it will be good! Reservations were being taken in October 2020. For more information see <https://rapidotrains.com/products/ho-scale/freight-cars/ho-scale-prr-x31a-boxcar>.

Roof Ridge Roll, Hip Roll and Finials. Back in the days of cheaper labor, many of the B&O's structures including stations and interlocking towers had slate roofs. Where the planes of the roof intersected, galvanized iron strips covered the joints. In addition, the B&O applied a decorative finial at the ends of the top ridges. This finial, delineated in the Standard Plans books, was a soldered fabrication of galvanized sheet, and is a distinctive roof feature. The old Webster Classic line of B&O structures included a representation of these roof features but for the last 30 years or so a decent model of them has not been available. Charles Sloan has been experimenting with making these using 3d printing and shared some examples with Bruce Elliott who knows a proper slate roof when he sees one. Bruce approves. The accompanying image shows Bruce's GA Tower appropriately appointed. As far as I know, Charles has not revealed whether he will sell these parts through the Shapeways store (in HO-scale and possibly other scales) or produce them some other way or even make them available for other than his own use.



Tatum Slack Adjuster and Brake Step in HO-scale. National Scale Car is offering a resin casting for the patented Tatum slack adjuster (*B&O Modeler No. 44*) and a photo-etched brake step. <https://nationalscalecar.com/product/p6-tatum-slack-adjusters/> and <https://nationalscalecar.com/product/p7-tatum-brake-steps/>

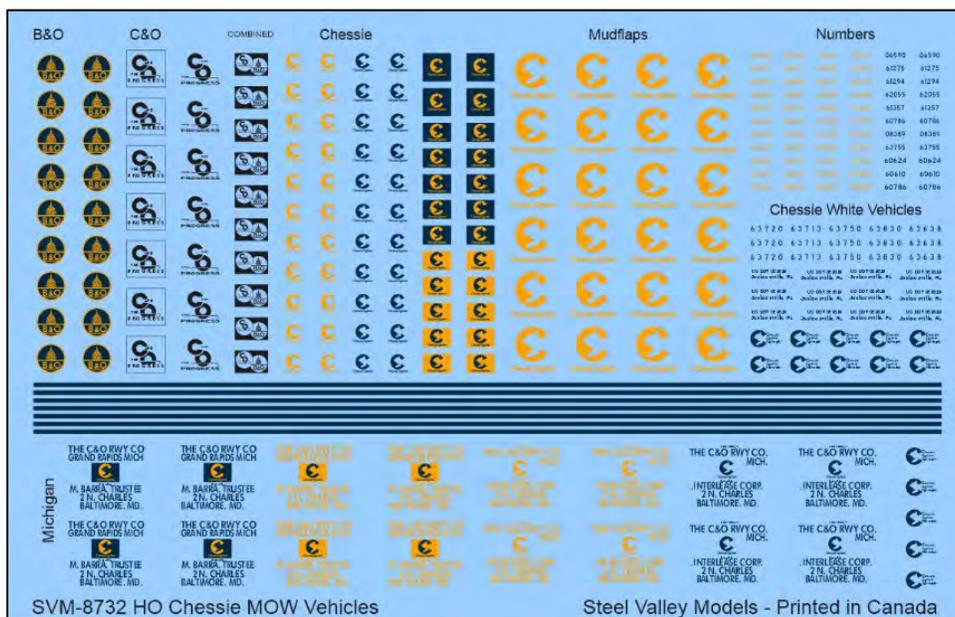


National Scale Car has completed pilot models on the M-55, M-55a and M-55b and is waiting on decals to release kits. Hopefully one of our readers will review one of the models.

Chessie System Class H-50 100-ton Hopper in HO-scale from Tangent Scale Models. For more information see <https://www.tangentscalemodels.com/product/bo-chessie-black-delivery-1975-ps-3526-100t-triple-coal-hopper/>.



Decals for Vehicles. Steel Valley Models from Warren, OH is offering a sheet of decals for modern era vehicles. For these and other in a rapidly expanding line see https://www.ebay.com/usr/steel_valley_models.



C-26 Caboose in HO-scale from Athearn. Mike Shylanski bought a small fleet of these—photo is of one of the green safety versions. Reviews welcome.



D-14 Combines are in... (see B&O Historical Society Company Store <https://borhs.org/shopping/index.html>). Doug Kisala offered his views:

“Prior to getting my Mantua 4-4-2, I never considered getting or building B&O passenger cars in the dark green scheme. I am now eating my words. :)”

When I heard about Bethlehem Car Works' D-14 combine (www.bethlehemcarworks.com), I decided to order one since I only have one B&O combine (which is actually a Bachmann PRR PB70). The stock number for the D-14 kit is 612. I attached a shot of nearly all of the kit parts almost as I got them. The truck components are on another part of my workbench getting assembled. I primed the kit's white resin passenger car sides with Polly Scale's Erie-Lackawanna Gray since I have trouble seeing details on white resin parts. The kit includes parts for a York air conditioner, and the instructions mention which of the series 1400-1411 did not get the York air conditioners.



I would recommend this kit to anyone who's built a Branchline passenger car kit (the car core is modified Branchline) and who has a bit of experience working with resin parts....starting with a resin boxcar would be a good way to gain experience. This would not be a good first passenger car project due to the large parts count and the mixed media (mostly plastic and resin).”

Here is a shot by Tom Greco of his D-14.



EXTRA SECTIONS FROM THE READERS

BY JOHN TEICHMOELLER AND READERS

Colors continued—Modeler No. 44

While depot buff is a great color for post-Indian red wood structures, there is another color that came along in the late 50s/early 60s. I call it a cream color, and to my eyes it was paler and lighter than depot buff. I model a portion of Cumberland east as it was in 1964. Late 50s/early 60s saw major track relocations in this area and all the wood structures got a fresh coat of paint at that time. All were painted this lighter cream color, including the window sashes on Martinsburg depot. Also the corner boards on these structures were not painted the contrasting dark color; only the window and door frames got the dark color.

Here are a few of my models. Miller Tower (R), West Cumbo Tower (W), and Martinsburg Tower (NA). All are scratch-built. All were painted with PolyScale D&RGW Building Cream, with Roof Brown for the window and door frames. Two coats on raw wood (no primer) and then weathered. Lighting is 5000 K fluorescent with diffusers.

Don Usak

Thanks for your approach, Don. It reflects my comments in Modeler No. 44 suggesting that old Floquil “depot buff” is NOT a great prototypical B&O color and that there are lots of better recipes. And when we got in the C&O/B&O period, it seemed like almost anything goes, based on my viewing of the various “Color Guides.” JT



West Cumbo Tower (W)



Martinsburg Tower (NA) (Scratch building article by Jeff Hanke in Modeler Vol. 6, No. 2, plus a kit was made for NA some years ago. Your non-railfan guest probably will need an explanation why this “hooch” is a tower. JT)



Miller Tower (R)

B&O SF22

Snow fighting equipment serves as an essential element of the non-revenue fleet, necessary to keep any railroad operational during the roughest winter. As I have been looking for a suitable model for my B&O railroad for some time without success, I decided to build my own snow plow model. In *B&O Modeler No. 50* were some pictures of SF22 models which finally inspired me to start. I did some research on the B&O Group, and I got the information that this type of equipment was very often built from old flat cars. John Teichmoeller also mailed me some pictures, thanks a lot for the support.

The base for my SF22 model was a Tichy Train Group 40' 50-Ton AC&F flat car and an old Rivarossi snow plow which I got from eBay some time ago. *[This commercial model is based on an article from Model Railroader in the late 1950s on scratch-building a Milwaukee Road prototype. JT]* For the operator's cabin I used the rear door end and the roof from a Tichy boom car, which was cut to fit the cabin length. Tichy window frames and Evergreen car siding has been used for the front and two sides. A ladder, roof walk, smokestack, a headlamp and grab irons completed the operator's cabin. The smokejack is made from brass, and the headlight is built from several small styrene parts. My model uses Kadee HGC arch bar trucks, but I exchanged the wheels and the electrical pick up from a Kadee HGC caboose truck as I wanted electrical pickup but did not want to have leaf springs. I installed a 3mm soft white LED in the headlight and added a DCC function decoder to switch the headlight on and off. As DCC address I chose 22—why now?

I spray painted the underbody with Tamiya Matte Anthracite and the rest of the model with Tamiya Italian Red. After the paint had dried for several days, I applied B&O decals and slightly weathered the model. A clear flat finish sealed everything, and my SF22 was almost ready to go. The last step was to apply window glazing.

When I had my model finished, I remembered an old issue of *The Sentinel*, November/December 1992. This issue covers "B&O Snow Removal Equipment". On top of page 17 you can find a B&W picture of SF22. There are of course some differences from my SF22, but I think it is a good representation.

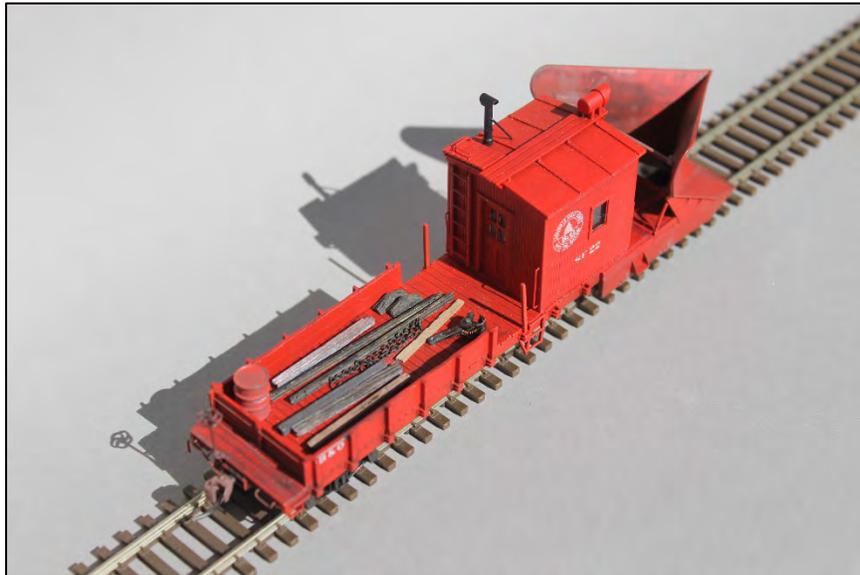
Manufacturer	Part No.	Description
Tichy Train Group	4021	ACF 40' 50 ton flat car
Tichy Train Group	4022	Boom Car
Rivarossi	2258	Snow Plow

Manufacturer	Part No.	Description
Evergreen	2037	Car Siding 3-1/4" Spacing, 0.020" Thick
Evergreen	Various	Styrene Strips and Tubes
Digitrax	DXTL1	TL1 Single DCC Function Decoder
Kadee	#561	HGC Arch Bar Trucks
Kadee	#5	Coupler
Decals	various	Letters, Numbers, B&O Logo

All pictures by the author.

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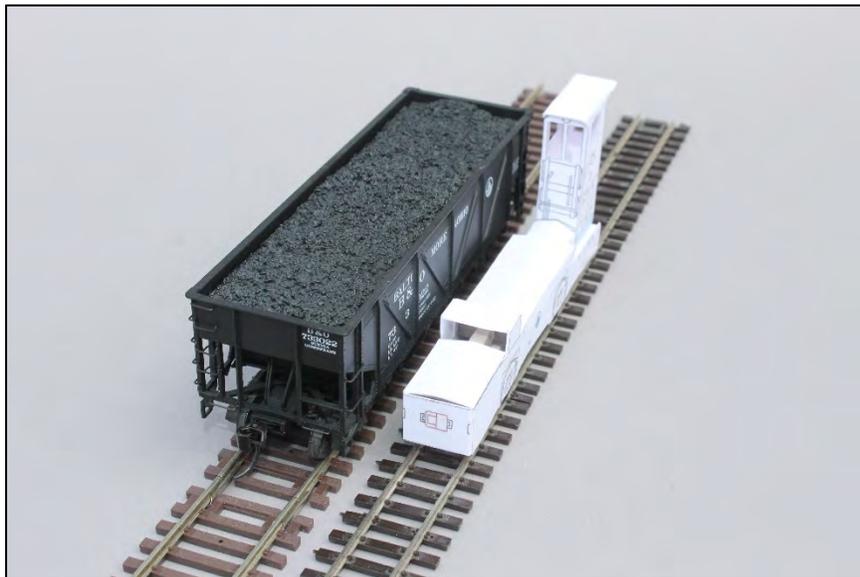


Curtis Bay Electric Mules

Hello, John:

The project that I can't get out of my mind is modeling the pusher locomotives (mules? shunts?—I know they go by different names on different railroads) that are used at the Curtis Bay, MD coal and ore piers. You sent me scans of a number of pictures you took of them years ago, but I have no dimensions and you indicate it is impossible to visit now. I tried other sources without success, the B&O archive is still closed and from GM I did unfortunately not get any reply. I finally decided to start with a cardboard mockup before I built what will be a brass model, to see if the proportions are reasonable. Attached are some photos of the cardboard model--at least the 3' gauge is prototypical. Can you publish this in *The Modeler* in the hopes that one of our readers has a dimensional diagram and I can do a construction article that you might publish in *Modeler No. 99*?

Regards,
Thomas Goernig



Bethlehem Car Works D-14 Construction Commentary

After using gap filling super glue to secure the sides and baggage end to the Branchline core, I have my first Bethlehem Car Works D-14 in running order. For those of you who have finished the kit, how did you secure the sides to the core? The gap filling super glue gave me a bit of working time (i.e., better than regular cyanoacrylate adhesive). I thought about epoxy, but I've never had good results using epoxy for any project, and I've thought about using silicone caulk for my next car.

The roof is currently held in place with a friction fit; this worked out well on one side and less well on the other. I plan to secure the roof with screws as I've done with some of my other Bethlehem Car Works kits once I figure out the best way to do that for this kit.

Part of the reason I'm sending these photos is the roof vent (Gold vents, I think) locations are approximations based on the three available prototype photos I could find, and the underbody detail positions are, mostly, informed speculation. The available photos and the diagram Bethlehem Car Works provided as part of the kit instructions all conflicted. Corrections and additional photos of a non-air conditioned D-14 most welcomed.

Doug Kisala



More about the Hamilton, OH station model glimpsed at the 2018 Dayton Convention:

Readers may recall that we were able to get a few photos of Dan Finfrock's model of the Hamilton depot at the 2018 Dayton Convention but were hungry for more, and I was also curious about the model, which most of us found to be simply stunning. So I contacted frequent Groups.io poster Robert Federle to find out more. Here is Robert's response:

The station was a kit custom made by Custom Model Railroads of Baltimore. I gave Dan a kit as I had an extra made up for him since he had helped with much needed information to enable the model to be produced. It cost a bit , but I am glad I had it done. The first two shots are mine as built-up and shipped from the model builder and the last three are Dan Finfrock's from March 2017. The last two are the operators bay before, with Tom Miller copying orders and the next one is the way it looked in 2009.

Robert Federle
Hamilton Ohio



South and east sides, Hamilton station HO-scale model.



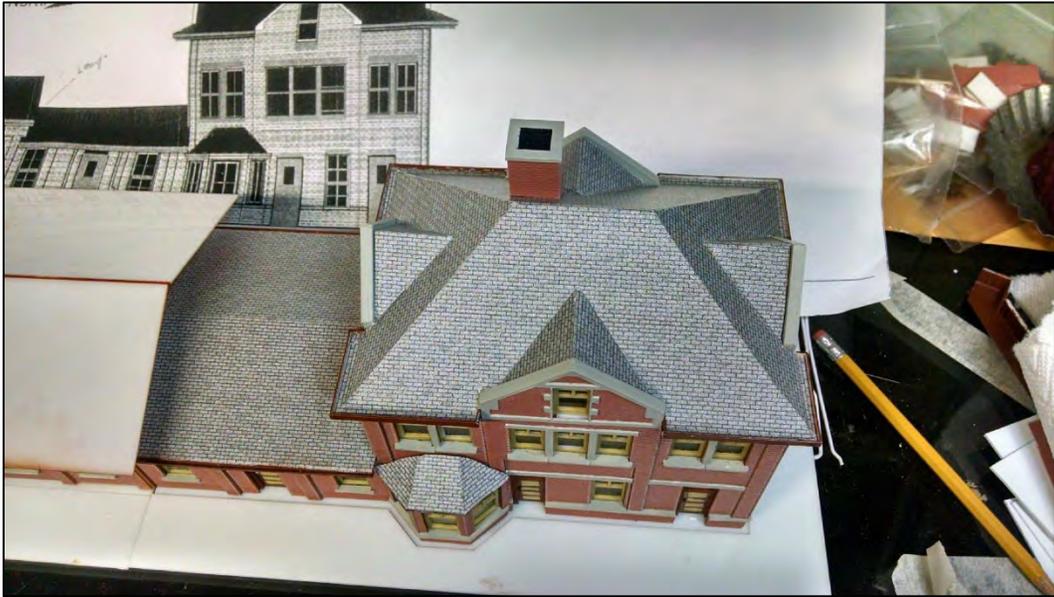
North and west sides.



Dan's kit, north and east sides.



Dan's kit east side of north end.



Dan's kit, roof view.



Tom Miller copying train orders.

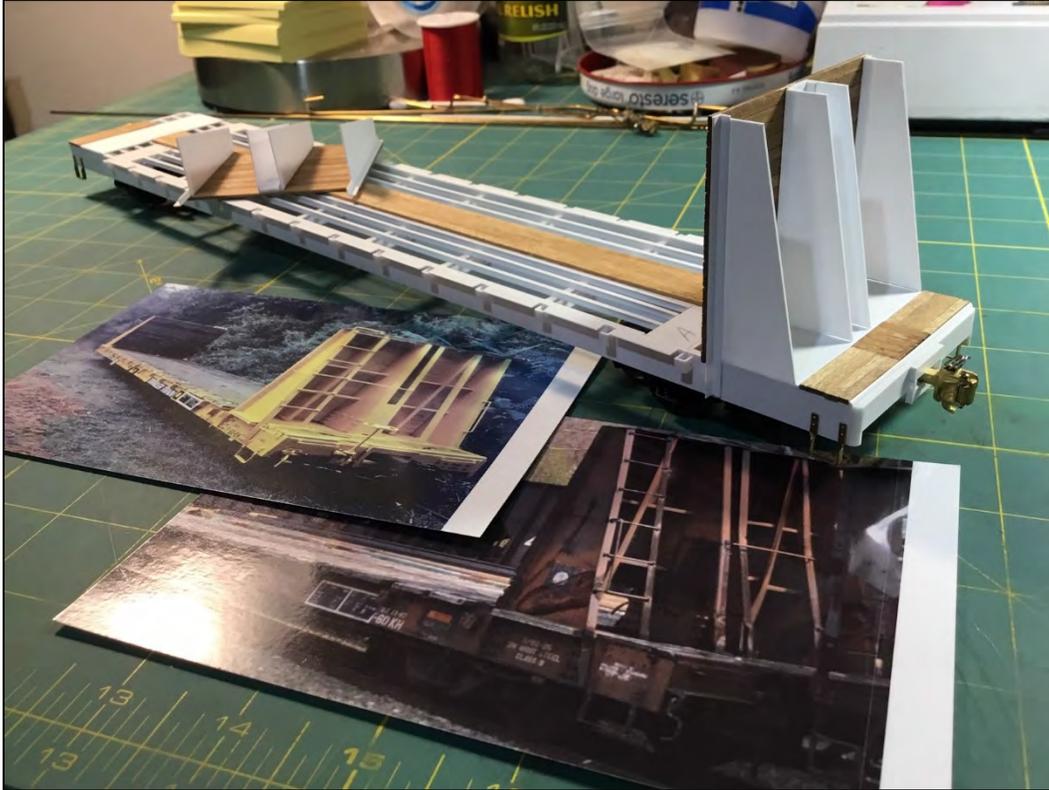


Depot operators bay as of July 2009.

O-scale Bulkhead Flatcar

This was not particularly a pandemic project since I am retired anyway. This O-scale PTTX F60KH has been on and off my bench for maybe 16 months and just over the weekend I got around to beginning the build of the two bulkheads. Just a test fit here, lots more Evergreen styrene yet to make pieces for the bulkheads before attaching them permanently.

Alfred Fickensher



Dubois Station

Attached are shots of the completed 'stand in' for Dubois Station. I started this project back in March of 2020 using available photos off the Internet and Google Maps to do approximate measurements. I drew out the station using *3rd PlanIt*. I did a very rough mock-up back in March. Since then I scaled the structure down a bit to fit the area on my layout. Then I cut all the cardstock using a Cricut Maker. I had to cut all the door, windows and overhang supports since the structure is very unique. I downloaded brick, stone and roof shingles from the Internet and then scaled them to HO-scale and printed them on heavy card stock. The roof was very challenging to do. I'm glad I made the card stock framing members. That helped a lot. The chimneys are 3D printed with brick paper glued onto the pieces.

The structure is glued to foam board. Because the structure is mainly cardstock, there is a bit of flex. I'm sure if it was done in styrene, that would not occur. At any rate, Dubois now has a semi-respectable train station in the town awaiting passengers.

Photos of the actual station are included for reference. The Dubois Station is no longer in use by the railroad and now houses commercial businesses.

Bob Rodriguez



Dubois HO station model by Bob Rodriguez



Postcard view of Dubois station used in Bob's modeling.

Cabeese

I've had this done for months but I went back to work; summer came; got lazy - that kind of thing. Hindsight being 20-20 I should have filed the bay window rivets down but oh well. The I-17 is waiting for lettering. Also working on a blast furnace, ore bridge, and started a coke plant; sort of a hybrid between Dean's article and the Walthers kit. Enjoy!

Rick Blackford



I-16 2738 by Rick Blackford.



I-17 by Rick Blackford.

Note. During the summer of 2020, Bruce Elliott suggested that readers send in shots of modeling projects the virus has allowed them to execute. This collection grew more than expected so we decided to run the nice quantity of "From the Readers" material already in hand and carry over "Pandemic Projects" to Modeler No. 53. Thanks to all who have submitted, and I know everyone will appreciate and be inspired by what's to come. JT

B&O MODELING IN THE ENTHUSIAST PRESS

CAPTURE AND COMMENTARY BY JOHN TEICHMOELLER

Note: I try to pick up articles and books of B&O modeling interest from the general modeling press. However, after being a print subscriber of Model Railroader Magazine for 62 years, I let my subscription lapse. I did subscribe to the “electronic” version of MR via Zinio. I read the e-version of MR but find it hard going because of their navigational control, and I miss a lot. So I resubscribed to the print edition. Anyway, you may regard some of this issue’s selections as “peripheral” but here they are. JT

“Maintenance of Way Master: Jordan Spreader,” in *Model Railroad News*, April 2020, pages 70-75 reviews the reissued and upgraded model of Walthers’ Jordan spreader. This model is identified as being in Walthers’ Proto series so detail should be good. This release was not indicated as being lettered for B&O and there was a nice variation among models; I know enough about these marvels to be dangerous, but I’ve got to believe this model is either close to something the B&O operated or could be modified. See *B&O Modeler*, Vol. 2, No. 5, September/October 2006 for an article by Jeff Hanke on modifying the original Walthers run. There are two different specimens in the B&O Museum in Baltimore.

West of Cumberland, Book Three, by Terry Arbogast. I am not the person to review this latest volume of Terry Arbogast’s *magnum opus* but just want to point out that even if you aren’t interested in Fairmont, there are some marvelous photos and oral history transcripts regarding the Lidgerwood ballast unloading machines that were repurposed to reprofile steam locomotive driver flanges. The book weighs in at 5 lbs. on my bathroom scale, so if you don’t want to buy it but are hungry for more Lidgerwood stuff, borrow a copy from a friend and turn to the following pages:

P. 307 Track map of Fairmont engine terminal showing Lidgerwood track

P. 313 1943 photo yard looking south showing Lidgerwood track

PP. 319-320 Description of Lidgerwood operation by Manuel Garcia, shop foreman at Fairmont. He says the Lidgerwood was used only to true flanges, not tires. However, another oral history (the reference I neglected to mark and now can’t find it) says it trued tires also.

PP. 332-333 Views of the Fairmont Lidgerwood machine and “ground tackle.”

“Sandy Valley & Elkhorn Railway Equipment” by Thomas W. Dixon, Jr in *The Chesapeake & Ohio Historical Magazine*, May/June 2019, pages 33-40. This article was cited in another article in the *C&OHS Magazine*. It caught my attention because I thought it might shed some light on why the B&O, (owner of this land-locked branch that was finally sold to its connecting road, the C&O) acquired a sizeable fleet of side-dumping 50-ton hopper cars. It did not—interesting article nonetheless—but it did include a photo of SV&E No. 227616. One specimen of these cars, B&O class N-13, survived as an historical specimen and is in the B&O Museum.

“Tangent Scale Models introduces its first caboos: Baltimore & Ohio’s I-18,” no author shown, and **“Prototype Profile & Model Survey: Baltimore & Ohio Cabooses”** by Tony Cook, both in *Model Railroad News*, March 2020, pages 14-19. The first two pages are basically a product announcement (*MRN* will have a more comprehensive review in its May issue) and Tony Cook’s profile is a nice summary for those who haven’t coughed up the bucks for the extensive B&O caboos literature by Bob Hubler and Dwight Jones. Cook even picks up on the old Varney bay window caboos’s similarity to the B&O’s I-7 (See *B&O Modeler* No. 50.)

“Striped Sharks on the Prowl: BLI’s HO-scale NYC Baldwin RF-16s,” by David Otte in *Model Railroad News*, March 2020, pages 54-62. If I recall correctly, when BLI announced their intention to do sharks they were discouraged by the volume of reservations, and for a while the word on the street was that the project was dead. But it arose from the dead, and B&O versions are part of BLI’s production run. While this review is Lightning Stripe NYC specific, the models are given good marks operationally and visually. The review states that a number of road specific details were incorporated but we defer comment to a more comprehensive review of the B&O versions by a knowledgeable BLI model owner and shark lover. I did notice in the review model photos that BLI has included the little sandbox covers on the pilot; I may be wrong but don’t believe these have ever shown up on production shark models. Adding them to a model that lacked them would be a simple styrene craft bit project, but matching the factory paint on the pilot might not be so simple.

“A Car of Many Covers: Evans Coil Car from Intermountain Railway Co.,” by Tony Lucio in *Model Railway News*, April 2019, pages 44-50. The B&O rostered several versions of “Cushion Coil” cars, starting with the P-40 class, rendered in HO-scale as a box of sticks/1 in 5000 kit. Then a slightly longer version of the Cushion Coil design was represented by the Walthers product. The new Intermountain car is the third generation of coil cars on the B&O. It isn’t totally new because it is a slightly enhanced revision of the model originally issued in 2004 by Red Caboose. At least one revision in this run is added lettering on the tops of the coil covers that informs the crane operator that these are “long covers” and will not fit the shorter cars. (I’ll have to go back and add that lettering to my Red Caboose car.) Lucio offers a brief history of the car type. There may be some prototype discrepancies in the model’s highly visible air brake components, but they are not mentioned. Lucio does note that the Red Caboose car used trucks with brake beams, while this current model uses “standardized Accurail parts.” This car, unlike the Ambroid and Walthers cars, has a straight, not fishbelly, sill. Numerous photos of the models (B&O version with slanted covers and MKT version with curved cover) appear in the review. This review even includes Jim Kincaid’s scale drawings from the October 1996, *Mainline Modeler*. There is a great color photo on page 45 of B&O 306236 said to be taken in Dallas in October 1969. Another prototype photo shows B&O 306157 with covers from Milwaukee Road and N&W. As long as they were on a long car! One observation I made was that prototype photos show the grab irons and railings on the covers are black on the model whereas the prototype photos show them in the grey color of the hood, a simple matter to change.

For B&O-specific coil car information, see **“Coil Steel Rides the B&O,”** by Mike Shylanski in the Fourth Quarter 2007 *Sentinel*.

B&O DECO END BOX CARS BY INTERMOUNTAIN

REVIEWED BY MIKE SHYLANSKI

MODEL IMAGES BY MIKE SHYLANSKI

The Unique “Deco” End and its Appeal

The former resin kit maker Sunshine Models, a favorite of prototype HO-scale modelers, once made a model of a box car that really intrigued people. It seems that in 1937 the Chesapeake and Ohio Railway ordered some otherwise fairly conventional box cars with a unique end shaped like nothing else on the market. This was the Deco end made by a today obscure company called the Deco Railway Devices Company. One can speculate that the company prided itself on producing components that, in accordance with the Art Deco movement, were attractively designed in a streamlined style. However that may be, the Deco company supplied car builder General American Transportation Corporation with ends with a diamond and dot pattern for some 500 box cars purchased by the C&O. Incidentally, the end really did not catch on, and, as far as I know, quickly sank into oblivion.



C&O 5400, a Deco end car, presented a striking appearance in this GATC builder's photo.

Why should a B&O fanatic care? Well, as the early 1960s arrived, B&O had a continuing box car shortage, and the railroad turned to then partner C&O and also the used and reconditioned freight car market to increase its 40-foot box car fleet. C&O's Raceland Car Shop refurbished some of the Deco end cars for the B&O in 1964, and completely repainted them.

With Sunshine long gone, Intermountain Railway Company decided to do a mass-produced, plastic version of the Deco end box car. The company rightly noticed that it could tool a Deco end and fairly easily add it to one of its models, the 1937 AAR 10-foot internal height box car. This effort resulted in three pleasing models: an as-built C&O car, a C&O repaint, and, of most interest to us, a B&O repaint. We will share images of these and review the results.

Some of the History of the Deco Cars

The history of the disposition of the Deco end cars can get a little confusing. In 1936 and 1937, the C&O ordered 1500 of the so-called 1937 AAR box cars. The first five hundred cars, C&O 4000-4499, came from General American in 1936. Then C&O received that year and the following year, another 500 cars, C&O 4500-4999, from the Pullman-Standard car company. Finally, in 1937, General American provided the C&O with yet another 500 cars, C&O 5000-5499. It is this third

series of cars that had the Deco ends. Now the GATC-built--but not the Pullman-built--cars had the distinctive Viking roof. All of the cars had Camel or Youngstown-style doors except for a subset of the Deco end cars, 5250-5499. These cars had 3-panel Creco (Chicago Railway Equipment Company--later Superior) doors. So, only C&O 5250-5499 had the combination of Viking roof, Creco doors, and Deco ends. These 250 so-called “Deco and Creco” cars are the ones that Intermountain chose to model.

When C&O turned over about 200 of what remained of the 1500 above-mentioned 1937 AAR cars to the B&O, the cars were not all identical. Some of the cars were “pure” Deco and Creco, while others definitely had Dreadnaught ends and Youngstown-style doors. Of course, box car doors get damaged and replaced, so some of the doors could have been replacement doors. The 200 various cars being transferred to box-car short B&O were rebuilt and repainted at the C&O Wyoming Yard—the site of their Grand Rapids Car Shop. Evidently the work was done in the latter half of in 1964. The cars were stenciled for the B&O M-25d and M-25e classes, not to be confused with the original M-25 class of B&O box cars dating back to the 1920s and 30s.



Eileen Wolford snapped this great 1964 photo of pristine B&O Deco end car B&O 169544 at Willard, Ohio. The car, shopped at Grand Rapids in November 1964, was assigned to class M25E. B&ORHS Barnard collection.



Either Eileen Wolford or her husband Julian Barnard snapped newly refurbished B&O 169355, that same November day in 1964. It is hard to tell for sure, but this photo, also taken at Willard, suggests that the car did not have Deco ends. B&ORHS.

As with so many secondhand box cars, these did not last all that long on the B&O, however. The B&O started out with about 120 cars in the B&O 169250-169376 series and around 80 cars in the B&O 169005-169519 series in 1964, both of these containing some Deco end cars. By 1970 these figures had dropped to 108 and 70 cars, respectively. The numbers dropped precipitously by 1972, however, with there being only 31 cars left in the first series and 30 in the second. By 1976, as the cars approached their 40-year established life span, there were only 9 cars left in the 169005-169519 series, only one of which remained in revenue service in 1980. Incidentally, the number of C&O Deco end cars dropped in roughly the same pattern. They declined in numbers rapidly between 1970 and 1972 much the same as their B&O brethren.

Some of the longest surviving cars transferred to the B&O definitely were not Deco end cars. I have seen a shot of B&O 169519 taken in 1978, and the car has Dreadnaught ends and a Camel or Youngstown door. Similarly, B&O 169328 had neither Deco ends nor Creco doors when in service for the B&O. In general, cars with a Deco end would have been rare by the Chessie System era from 1973 on. A handful of cars did survive in MOW or other railroad use, however. There was a Deco end car painted silver on the ground as part of the CSX welded rail train in Russell, Kentucky in 2001, for example. The car still had its splintered wooden running board. However, it had a 7-panel rather than the original 3-panel door.



The author spotted this Deco end survivor minus its trucks at Russell, Kentucky in 2001. CSX was using whole strings of retired, 40-foot box cars to house machinery and supplies for the railroad's welded rail train. Note the partially rotted wooden running board on the roof of the grounded car. Mike Shylanski photo.

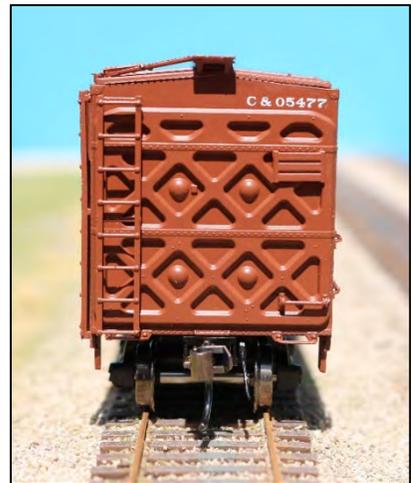
Reviewing the Intermountain Product

The IM model cars come in original C&O lettering, later “C&O for Progress” lettering, and B&O repaint decoration. IM chose not to do a late C&O car that would have had a different number and lettering style. The lettering of the three cars is crisp and appears to be mostly correct, right down to particulars like weigh dates and the B&O car class. All three models are box car color, although the B&O car has more brown to the car body color, as it should in this case. The model of the as-built C&O car has black ends and doors like the prototype.

All in all, I think the Intermountain Company did an excellent job on their Deco end cars. The notorious ends look quite attractive and accurately shaped. Only the lower left of the end differs by lacking a large steel plate to which the coupler lift lever is supposed to be mounted. As this suggests, IM chose not to include coupler lift levers on its models.



Intermountain's nice model of C&O 5477 shows the striking end and the 3-panel Creco door. This model is in the post-war "For Progress" lettering scheme. At least some C&O cars eventually got futura demi-bold lettering instead of the Roman used here. Still others would have been refurbished and repainted for the B&O.



This is the end that launched a thousand models. IM did an excellent job of re-creating this classic box car part. Missing however, is the plate that held the mounting for the coupler lift lever. See the grounded box car on the previous page, which still has this part and the lever.



Just look at all of the crazy angles and surfaces on this great little B&O model.



The B&O A end is nicely done. Note the diagonal lettering with information on the truck springs. Unique.



Now to the shot that many of you were waiting for, the B&O model with the Deco end. This car is painted the box car brown favored by C&O/B&O at the time. It is not the same color as the C&O model. Note that, as on the prototype B&O cars, the tack board and routing card board are in different places on the box car door.

The Viking roof is quite nicely executed, and the simulated wooden running board looks fine. The Creco door is well rendered, as is the car side. However, I am not wild about the large gaps between the boards of the tack boards and routing card boards. You almost never see such gaps on real cars. Strange.



The Viking roof on the B&O model looks outstanding.

There is good underbody detail, although there is an odd non-prototypical gap between the draft gear and the main members of the car underframe. It is not visible. The coupler is a metal one about the size of a Kadee 5. The coupler box cover is glued on, which precluded me from replacing the coupler with my standard Kadee 158. One minor disappointment: the C&O and B&O cars all had roping loops, but IM chose to ignore this. I added metal roping loops to my models.



The author used a pin vise with a #76 bit to drill two small holes in the car floor and install Details Associates #6214 roping loops. He cemented them into place with thick ACC. The shiny spot left by slopped over glue was retouched with dull paint later.



Pictured is the end of the author's upgraded CO model with new trucks and roping loops, a reweigh date more suitable for the mid-1950s, and simulated chalk marks from Speedwitch Media decals. The trucks and underframe were weathered with Microlux paint (made for Micromark by Vallejo.)

The two cars I have were equipped with serviceable but somewhat disappointing looking Accurail trucks. I think the wheelbase of these is too wide to represent 50-ton trucks, and the appearance is just OK. The C&O car as-built car had 50-ton, double truss trucks. I decided that the Tahoe #107 or #207 Double Truss AAR 50-ton truck was just the ticket for as-built car.



Here is the author's final version of the C&O 1950s car. He used Vallejo black, gray, and oiled earth washes to weather the car roof and sides.

By the time the B&O got its cars, some still had their original trucks, others had had their trucks modified to a degree or even replaced with other plain bearing trucks. C&O/B&O was trying the Wikit truck lubrication system on plain bearing trucks in 1964. This was even the case on some new C&O box cars, which were among the last new cars on that railroad not to receive roller bearing trucks. The journal boxes on some of the B&O Deco cars had a somewhat different looking cover lifter, a look found on C&O/B&O 70-ton trucks as well. I found that Tangent Scale Models has a 50-ton ASF Cast Steel Spring Plank truck (items 102 and 103), that looks to be perfect for the job.

At about \$35 a car, the B&O Deco end box car is a good investment in my opinion. One will be enough on most layouts or clubs, but will that car ever stand out!

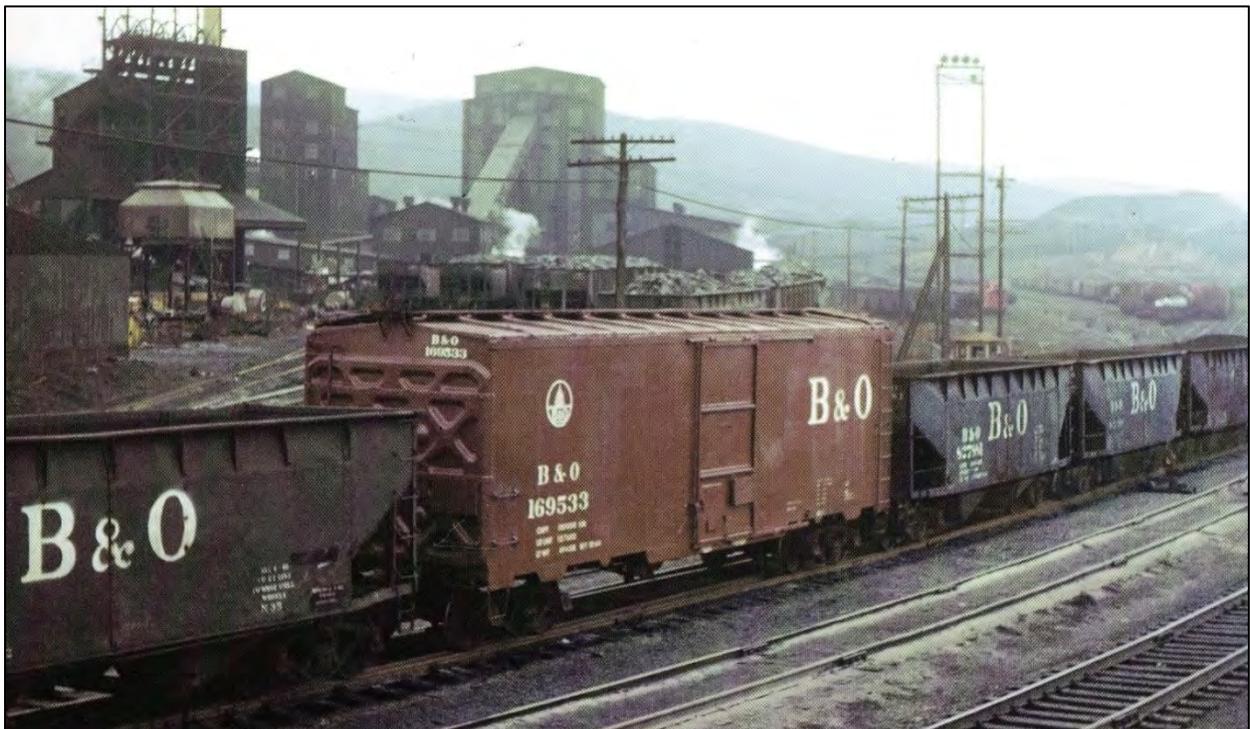
Those interested in learning more about the C&O prototype will find an article by Al Kresse invaluable. It is in *C&O Magazine*, July/August 2001, pages 9-13.



Here is a closeup of the author's car with a replacement Tangent truck, hand weathered as described above, and an added roping loop (under the 'W' of the weigh symbol). Pan Pastels were used here instead of washes since no decals were used.



The author took it easy when weathering the B&O car. He has some circa 1965 equipment that he runs at train shows, and this car is intended for that consist. Of course, the appearance of the car was little changed as long as it remained on B&O rails. Neither C&O or B&O tended to paint 40-foot box cars into the blue Chessie scheme.



Car 169533 at the Huber breaker near Wilkes Barre, PA in August of 1964. Art Peterson photo from page 62 of the Morning Sun B&O Color Guide, courtesy Morning Sun Publications.

B&O MODELS BY MOLOCO

REVIEWED BY MIKE SHYLANSKI



B&O Modelers now can field two outstanding models of B&O leased Fruit Growers Express insulated box cars by Moloco. This striking car model was lightly weathered by the author. Among other things, the rather too shiny roof on the out-of-the-box car was toned down using dry brushed Vallejo paint.

Introduction

Some of you may not have heard of the Moloco company. Or you may have seen their ads but not their products on your hobby shop's shelves. It is a small, family owned business with Australian roots that produces very high-quality, impeccably decorated HO box cars as well as a variety of freight car detail parts. They sell direct. Moloco started out rather modestly as a producer of caboose detail parts but soon graduated to producing a whole series of detail parts that can be used for freight cars of the 1960s and 1970s. The company also made very high-quality, ready to run models of insulated box cars by the General American Company, at least one of which is a close but not exact match to a B&O car. More on this later.

More recently, Moloco turned from General American cars and a few other cars unique to Soo Line and the Santa Fe to focus on cars built by the Fruit Grower's Express company. FGE built thousands of insulated box cars designed to protect items like foodstuffs from extreme temperature swings. Many of the cars were built at its Alexandria, Virginia, shop. It would seem that Moloco is trying to tool as many varieties of FGE cars as is practical in a logical, largely chronological fashion starting with the 1960s cars the company favors.

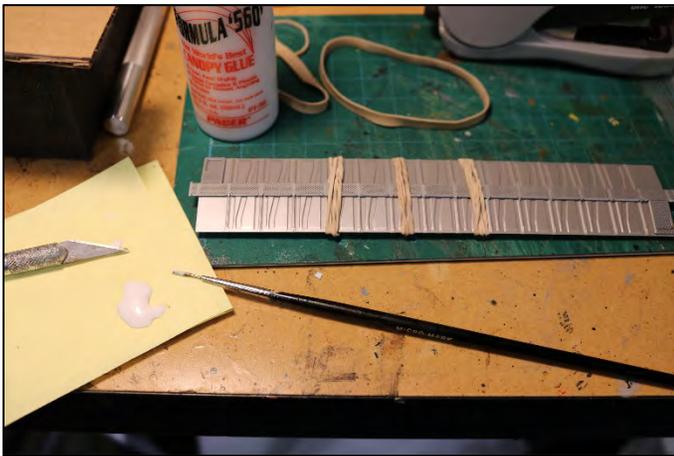
Early FGE/B&O Offering

Among Moloco's FGE offerings have been two excellent B&O models. The first of these is a fine replica of a 1963-built FGE car that was repainted in 1964 for service on the B&O. The model represents a 50' insulated box car with a plug door over a 10' 1" door opening. As was its custom, FGE leased these cars to various railroads painted in its standard yellow color scheme with black lining and individualized reporting marks for, in this case, B&O.

Like the majority of FGE cars of this time period, the car has an attractive red end and an unpainted, galvanized metal roof. The prototype car had Morton (round holed) running boards, which are nicely rendered by Moloco. Unfortunately, you may get a running board that has worked loose a bit in transit. When Moloco shipped my N&W FGE car, they included an additional running board in case I had issues. I carefully removed the slightly raised running board on the car and glued it back on using canopy glue held in place by rubber bands while it dried. No problem. My B&O car had a perfectly flat running board, by the way.



Moloco's earlier FGE reefer is an exceptionally rendered model that will look right at home on your mid-sixties B&O layout."

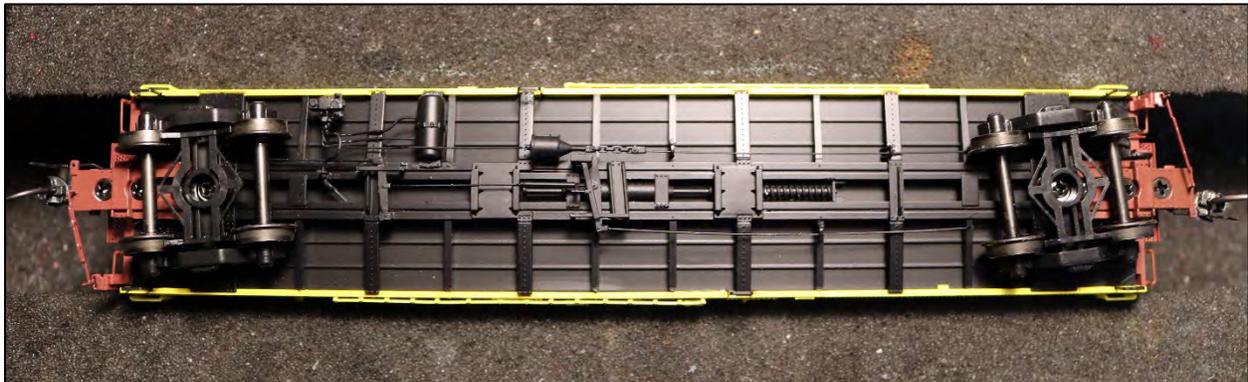


Moloco is not alone in having its high-quality running boards "move" a bit due to temperature changes. This problem is not hard to fix if you use the right glue. Super glue is probably not the best solution."



I was able to glue my N&W model's running board back into place and have the spare provided by Moloco to use on another project. N&W, like the B&O, served Proctor and Gamble using FGE cars. The return stencil calls for the N&W car to be returned when empty to the former Wabash line in St. Louis that served the P&G Plant there.

The models also have Moloco's nice 70-ton roller bearing trucks. The underframe of the model is highly detailed and incorporates the firm's great rendering of a center of car Keystone cushioning underframe. Incidentally, the cushioning unit and associated return spring are available as separate detail parts.



The detail on the underbody of the B&O model made me gasp. Note the wonderful rendering of the Keystone cushioning as well as the brake piping. One impressive detail is the rubber hose connected to the ABD valve. Sliding sill cars needed a flexible connection in this spot. Most model makers ignore this detail, but not Moloco.

My model is of B&O 190904, which bears the first number in a small series of 15 identical cars leased by B&O. The detail on this car is absolutely outstanding. There are nice rods on the plug door and separately applied ladders. There is complete brake detail and there are nice looking, accordion style coupler cut levers.

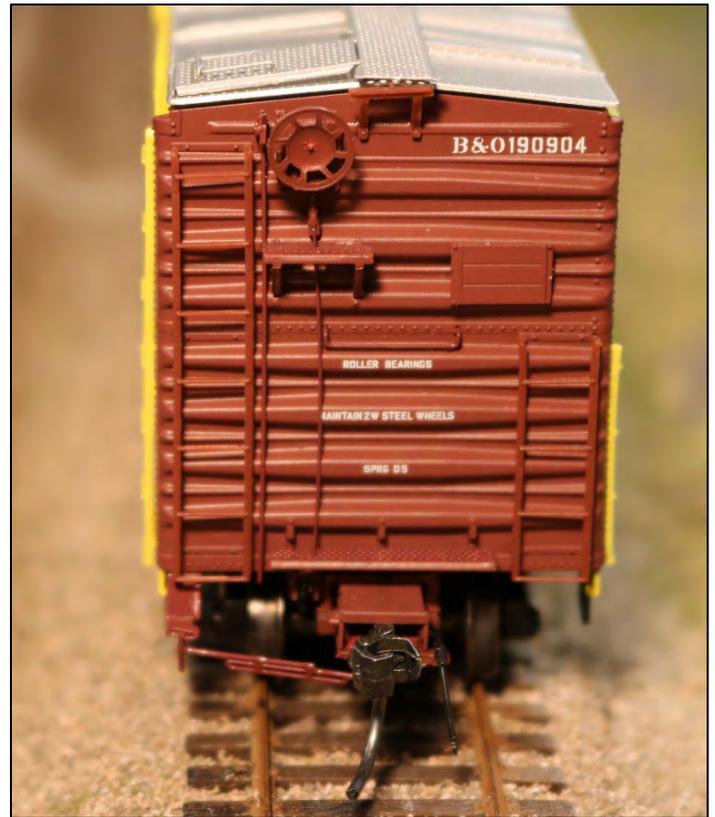
I like the subtle trucks and wheels. Normally, the first thing I do when I get a new model is take off the trucks and weather them. In the case of Moloco, the trucks look simply fine right out of the box if you are trying to represent a new car or one that has not been on the road too long. I really like the roof detail and running board. Excellent detail. Now the return empty stencil is just that: empty. I was surprised by this since Moloco usually goes out of its way to incorporate accurate return stencils. Of course, car assignments changed, and these stencils were re-done or even painted out entirely, so I am not too bothered by this. If there is anything to quibble about on this fine model, it is the fact that the FGE yellow color looks a little pale to me. A richer yellow with a touch of gold to it might have been closer to the mark.

Later FGE/B&O

The second Moloco FGE car of interest represents a slightly newer car. Moloco literature states that in 1965 FGE began putting out a car with a 12'2" opening plug door that was developed for Proctor and Gamble. (See the illustration of N&W 292773 above for an early example.) Now Proctor and Gamble had a big presence in the Cincinnati area as well as in Baltimore and St. Louis, all cities served by the B&O. B&O switched P&G plants in Ohio and Baltimore, while N&W (after absorbing the Wabash) switched the plant complex in St. Louis. It is not surprising that B&O leased 25 of these cars, B&O 894105-894129, and partner C&O leased five more.

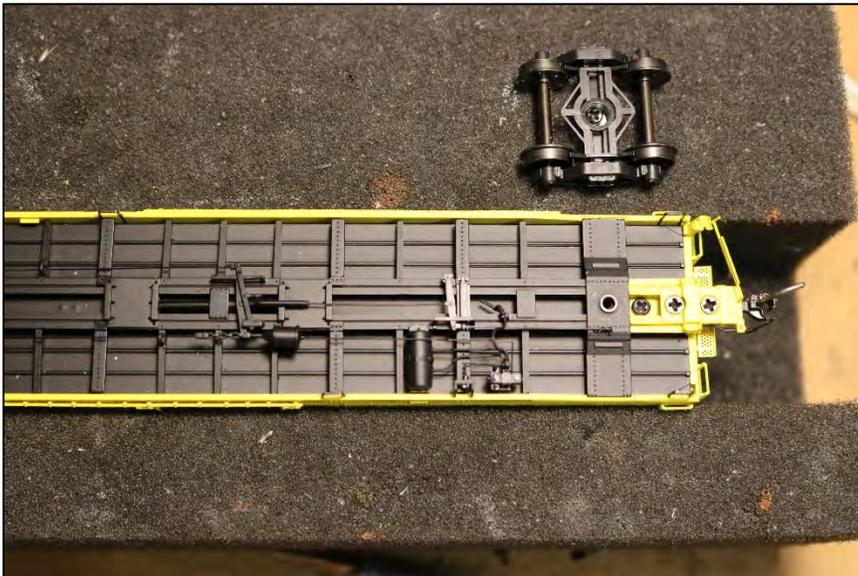
Moloco did a model of 1975 repaints (of 1967-built cars) for the B&O. Since running boards (roof walks) were decreed unwanted in 1966, this repaint has no running board and a low brake wheel. Such a model is right at home in my 1980 focused collection, so I was eager to get my hands on this one.

Moloco did not disappoint. The detail on my model of B&O 894123 is excellent. The model is nicely decorated with a good looking early consolidated stencil and an ACI (car identification) label to the left of the door. Nice. The model has Keystone cushioning, which I believe is correct. The Chessie System car diagram states that the cars had ACF freight saver cushion underframes. Since Moloco could have provided this type of model underframe as well, I assume that they got it right.





The snappy looking Moloco model of a more modern B&O leased car. Note the simulated overspray on the edge of the roof.



The Keystone cushioning can be seen deeply inset in the center of the car underframe (between the two "boxes"). The tube-like cylinder just above the brake cylinder is a simulated slack adjuster, a nice touch. Again, note the simulated rubber hose coming out of the ABD valve as well as a dirt collector with handle valve opener on the brake piping. The three Phillips screws are part of the simulated cushioned draft gear, which is available as a separate part for upgrading other models. Two of the screws hold the unit securely into place.



Excellent detail is evident in this end shot of the model. Moloco used a heavier looking truck on this car. This car cries out for a touch of light weathering, which I was only glad to apply. Note that the end of this car is yellow, not the usual red. A prototype photo confirms this.

Future B&O Moloco

B&O had still other FGE reefers, and one can hope that Moloco will do these as it gets a chance. The company has just announced a second Santa Fe box car, which would be the focus of current production. See the company's website to learn what is available. The kit basher and scratch builder will find many unique freight car parts and trucks. Speedy filling of mail orders is the rule when you deal with Moloco.

Earlier we mentioned that Moloco did a number of General American insulated box cars. This differed in door arrangements and sills. One of the cars was accidentally fairly close to matching a B&O class M-80 (later B-66) insulated box car in the two series B&O 479500-479614 and B&O 480000-480034. The roof, ends, door, and even the underframe all are fairly similar. (See the Morning Sun *B&O Color Guide*, page 86.) I bought an extra GM&O car, which I intend to convert. The

side sill requires surgery, but that is the easiest part of a box car to alter. Coming up with decals will be a challenge, although Herald King once made a suitable set.

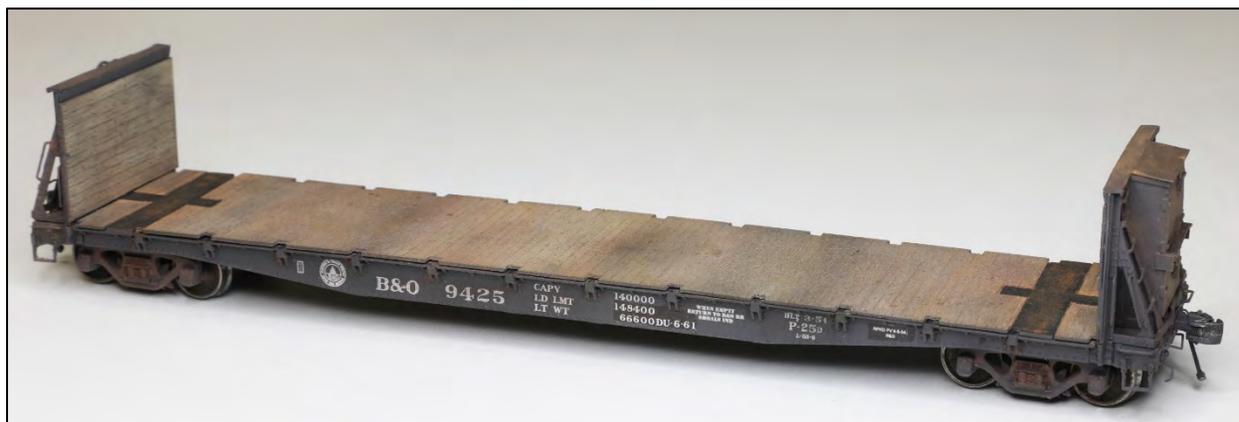


Moloco made some attractive General American models in striking color schemes. Company owner Nick Molo appears to have a fondness for Midwestern roads not often modeled, like the GM&O and the Chicago Great Western. Note the huge return stencil on this GM&O car. The return stencils actually are car number specific on some Moloco models. I bought an extra GM&O model so I can convert it to a B&O M-80.

Even more B&O goodies are to come. Moloco has announced a whole series of ACF industries modern box cars, and one of them is a B&O waffle-sided box car. One can really hope that the company will get around to doing that unique model. Meanwhile, still more FGE cars should follow. These are great times for modern B&O modelers.

MODELING THE P-25D BULKHEAD FLAT IN HO-SCALE

BY JIM KING



The Prototype

An extensive study of the AAR 70-ton flat by noted freight car historian, Ed Hawkins, has appeared in on-line groups and in a *Railroad Prototype Cyclopedia* publication. The WWII-era flat car, classified as a “war emergency car”, first appeared in early 1941 for the Erie Railroad. Many other roads, including NKP, Southern, C&O and NYC added cars beginning in 1942. B&O’s P-24 flat cars didn’t appear until early 1948 but the design remained “standard” throughout the many years of production. All cars were built at the Dubois Shops from kits supplied by General Steel Casting Co.

By the mid-1950s, B&O’s customer base, like so many other rail lines across the country, was starting to rely more on trucks to deliver specialized loads. To remain competitive, the B&O modified many of its “basic flats” and bulkhead flats to carry a wide variety of customer-centric loads, including auto frames, TOFC, tote bins, packaged lumber and “Gypsum wallboard” (referred to as “plasterboard” in Ed Hawkins’ notes).

226 cars, scattered over four number series, were converted to haul plasterboard between 1955 and 1960 following the construction of National Gypsum (“Gold Bond” products) and U.S. Gypsum (USG “Sheetrock”) plants near Shoals, Indiana. The B&O built a long spur to serve these plants, which can be seen on Google Earth aerial views. Thank you, Craig Wilson, for this information.

The 9425-9474 group of 50 cars is the subject of this article because those best matched the model and my desired late ‘50s paint scheme.

As you can see, a “basic flat” car provided a great foundation for specialized hauling.

Model Selection

Several years ago, Intermountain Railway Co. (“IM”) imported AAR 70-ton flat cars and bulkhead flats in HO-scale. Stock number 48753 was their B&O P-25d bulkhead flat version offered in several road numbers in the 8800-8882 series (see IM photo below from their web site).

By the time I became aware of these cars, all flats and bulkhead flats, regardless of paint scheme, were out of stock at IM. Dealers and eBay had no B&O models listed so I settled on a New Haven car (IM stock number 48754-03) only because it was already painted black which provided a good foundation for future detailing, painting, decaling and weathering.

Comparing IM’s No. 8866 to the 9425-9474 group indicated that the model is fairly accurate regarding stake pocket quantity and placement and the open-sided bulkheads but was missing the “A” end “hardware locker” and the double row of side sill rivets around each bolster. Compare the IM photo of 8866 and white-lined 8831.



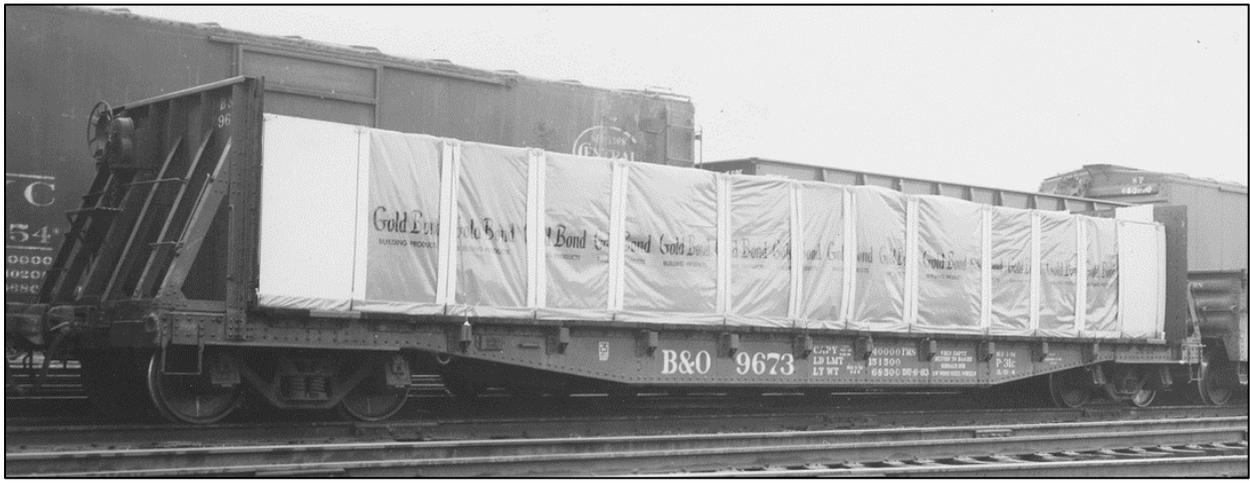
B&O P31c 9675 at Manassas, VA on 1-07-66 Bob's Photos collection.

I found a couple images on the Internet to provide some guidance with verifying the lettering arrangement on the Intermountain car; both were taken in Newark in the 1980s by Karl Geffchen. They are not being reproduced due to your editors' questions about reproduction rights for Fallen Flag images but here are their URLs:

<http://www.rr-fallenflags.org/bo/bo8831akg.jpg> is the link to a photo of 8831 taken in Newark, NJ on 3-02-86 by Karl Geffchen. This car closely matches IM's cars.

<http://www.rr-fallenflags.org/bo/bo9432bkg.jpg> is the link to photo of 9432 taken in Newark, NJ on 8-07-83 by Karl Geffchen. This car and P-31c 9673 were used to determine stenciling location.

Jim Mischke supplied four photos of P-31c 9673 taken December 1964 in Willard, Ohio by the late Julian Barnard. While a different class with a reweigh date later than I wanted to model, the photos provided valuable close-up views of the hardware locker and orange/white Gold Bond wrapped load of plasterboard (the subject of a future article). The P-31c was converted in 1960, wore no B&O herald and had only ten stake pockets compared to twelve on the P-25d. These differences confirmed that my choice of 9425-9474 was correct.



The Model

I removed the couplers and air hoses. One of the steps was broken and a section of the crossbearer holding the brake reservoir was twisted when I opened a supposedly “new”, unused model. The remaining steps broke off during construction of the locker due to handling. Once the locker was built, all remnants of the steps’ mounting pins were removed but Tichy #3038 stirrups weren’t installed until after painting to avoid damage.

Instead of stripping the paint, I opted to lightly sand off all pad-printed graphics with 400- and 600-grit wet/dry paper. Some of the paint came off with the lettering; apparently, the diecast metal surface was not properly prepared prior to painting and didn’t adhere as expected.

The locker was built in-place on the car’s “A” end using Evergreen Scale Models’ styrene of various sizes and Plastruct “Plastic Weld” (MEK works just as well). The 4-piece framework consists of .060” strips cut to match the photos. The middle upright was modified to fit the car’s geometry. The outer legs are almost flush with the end sill.

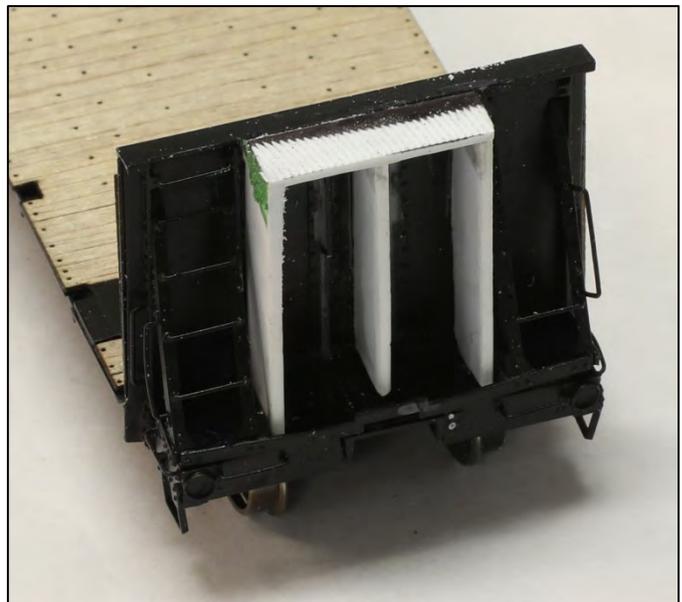
The prototype’s top surface has a slight downward taper to aid water drainage. I brush painted the styrene crosspiece with Floquil “Grimy Black”, then filed in the angle with a 3/4” wide medium-cut, flat file so I could visually “measure” how much angle I was cutting in as the paint was filed away. Once most of the paint near the rear edge was removed, I was “there”. Using a narrow, jeweler’s file creates an uneven surface.

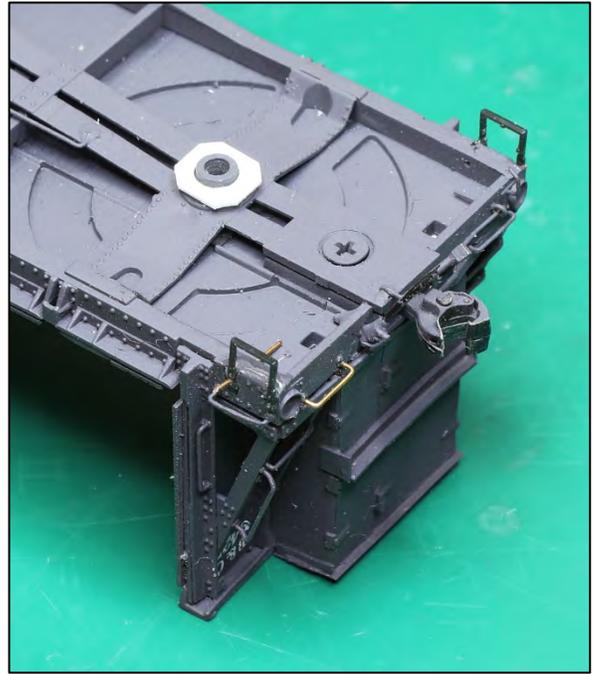
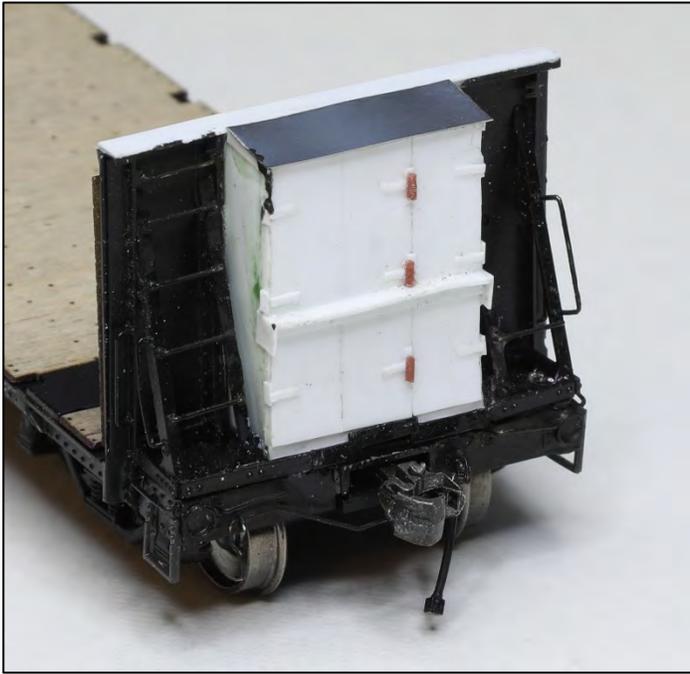
The prototype locker has three hinged doors. A single sheet of .010” styrene was scribed to represent edges using the prototype photo as a guide. Hinges and L-angle across the front were made from HO-scale 1x3, 1x4 and 1x6 strips. The three brown barrel hinges are pieces of Grandt Line (now San Juan Model Co.) .010” styrene rod. Green spots are Squadron putty.

The top sheet has a shallow overhang along all three sides and is flush with the bulkhead’s cap. The top is made from .005” stainless steel shim stock for strength. I tried .005” and .010” styrene (too thick) and .005” brass but the front corners didn’t survive basic handling. The shim stock was sanded with 400-grit wet/dry paper on both sides and bonded to the styrene frame with #665, double-sided, Scotch Permanent tape.

Unfortunately, even at a combined thickness of only .008” (tape plus shim), it protruded above the bulkhead. I “fixed” that by attaching a strip of .010” styrene to the bulkhead (white strip in photo) and filed everything down to the shim’s corner. 1x3 strips were then placed under the overhang. These details are easier to see on the weathered model.

All of these features were cut and placed based the single photo of 9673 from Julian Barnard (via Jim Mischke) noted earlier.





Painting and Details

I replaced the factory installed Kadee #5 coupler with #158's minus trip pins. Test-fitting the trucks showed they now sat too low. A simple .010" thick styrene shim cut to fit around the bolster boss fixed that. It's not attached to the car ... if I decide to upgrade the trucks later, the shim may not be needed.

The laser cut deck, bolsters and bulkhead sheets were masked with 3/4" wide blue "painter's tape" ... the exact width needed to cover the deck and ends.

The car was air brushed with Floquil "Grimy Black" (60%), lacquer thinner (30%) and Floquil "Glaze" (10%) using a Paasche "H" airbrush, medium tip and 16-18 psi air pressure. The bolsters between deck pieces were not painted, just weathered with oils/powders later.

The "air hoses" are from Pacific Western Rail in Canada. These flexible details have a Rare Earth magnet attached to the end which, when properly installed using their jig, presents a convincing "automatically coupled" pair of "hoses". The small magnets have sufficient attraction to pull a free-rolling car a little before separating. I brushed a thin layer of Grimy Black paint on the magnet... enough to reduce its magnetism to prevent dragging a car during uncoupling.



Decal Application

P-24 decal artwork was created in S-scale by B&O modeler, Ed Sauers, for my S scale AAR 70-ton flat car kit. He graciously downsized the artwork to HO-scale and I had these plus new routing text printed by PDC (Bill Brillinger) in Canada.

The photos of 9432 and 9673 were the primary sources I used to determine stenciling content and locations. Other cars from the Fallen Flags website were used to narrow the final number series to 9425-9474. Ed's decal artwork was specifically designed for the P-24 flat car. The characters I needed for the P-25D differed somewhat, particularly when it came to the

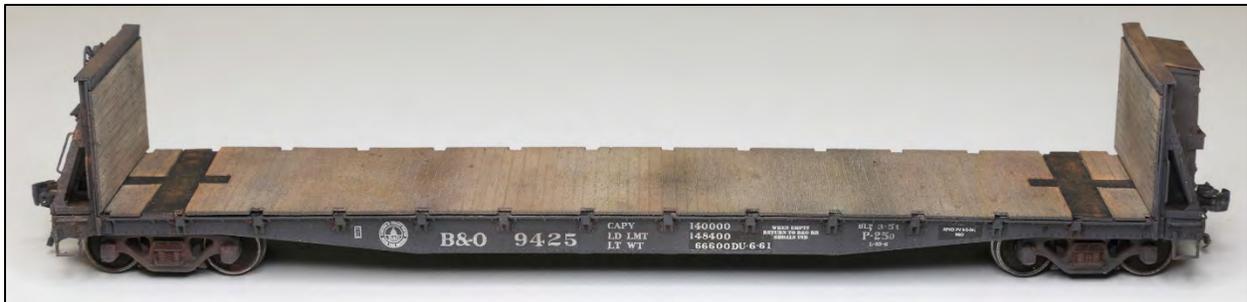
routing instructions and reweigh/repack dates. A few miscellaneous HO-scale B&O sets, some from companies no longer in business, were cobbled up to get what I needed to finish 9425.

This car represents a 1959 paint job with 1961 reweigh date so some “patching” was required. MicroScale’s flat-black “Trim Film” #TF-2 is dull black and unsuitable as a base for additional decals. I taped off a small section of this sheet with blue painter’s tape and oversprayed the uncovered section with Rust-oleum “Crystal Clear Enamel” from a rattle can. Once dried, this provided a black, glossy surface, which were cut into pieces matching the photos on Fallen Flags and applied like any other decals. While I’ve found no photo of 9425, photos of cars close to the number and year I wanted to model are on that site, specifically ones with the “13 States” logo. An enlarged view of these areas is shown below after all weathering was applied (weathering is described later). I couldn’t find suitably sized dates for “RPKD” so went with what I had. The 9-5-54 date should be 6-61 to match the reweigh.



After decals were set and dried, I replaced all steps with Tichy 3038’s and a few grab irons that had broken or I found were improperly located by the manufacturer with .010” phosphor bronze wire bent to shape and CA’d in place. Each step was pinned to the car with a .010” wire because glue alone was not strong enough.

A new cut lever was formed from the same wire and Detail Associate’s #2206 eyelet.



Weathering ... is truly an art form and highly subjective as to “what’s right” or “too much”. For me, I want a car to look lightly used, not decrepit. This car was shopped in June 1961 and restenciled in two spots but still wore 1959 paint and lettering so the deck boards would be in relatively new appearance, just faded and dirty.

The photo above shows the Winton artist’s oils, Turpenoid (odorless Mineral Spirits) and the 1/2” wide stiff brush I use for most weathering projects, including trucks. All came from Michael’s but most art supply stores will have similar products.

Below this is a photo of Alphacolor “Soft Pastels” 12-color sets of “Hi-Fi Gray” and “Earth Tones” in stick form. They can be brushed onto a car or scraped into a small puddle of Turpenoid to use as a thin wash.

The car’s deck was lightly sanded with 220-grit dry sandpaper parallel to the boards to enhance the small grain, slightly round the square edges and provide a little “tooth” for the thinned oil to attach.

Next came a brushed-on application of VERY thin Winton #32 “Payne’s Grey” which is much darker than the tube indicates. It works well as a “weathered black” base color, similar to the Floquil “Grimy Black” used to paint the car. Place a small “dollop” of the oil on a scrap piece of styrene, pick up a brush full of Turpenoid, then gradually stir into the oil.

Wipe off most of the oil on a paper towel and “dry brush” onto the deck, parallel to the boards in a single, side-to-side stroke. It’s important NOT to apply much color ... mostly thinner ... so the color sinks into the wood without being an overpowering grey or black. You’re trying to achieve a weathered grey appearance as a base color for everything else to follow.

While Turpenoid wash was still damp, powders were brushed on in random locations using a slightly narrower brush (between the 12-packs in this view). The key to a convincing weathered wood appearance is thin applications of light colors, mixed in overlapping layers with the same, stiff brush. “Warm” powder colors were used liberally, including yellow, red, orange and reddish-brown, then allowed to dry overnight. If you apply the oil heavily, it can take days to air-dry but a few hours in a lab oven at 85°F shortens that to overnight.

The cross-shaped bolsters were painted with a mixture of oranges, browns and Turpenoid to simulate fresh rust caused by water puddles.

Despite the powders being brushed into the still-damp wood, they do require an overspray to keep them in place ... ONLY for the base coat, not after subsequent powder applications. A couple quick passes from a Rust-Oleum “Frosted Glass” rattle can directly over top of the deck sealed the stained wood and bolster tops but did reduce the color intensity somewhat. More powders were brushed on top of the tacky dull spray then left alone. Like anything else related to modeling, it’s all about trial and error. Fortunately, most “powdered weathering” can be corrected with subsequent coats or removal with Turpenoid.

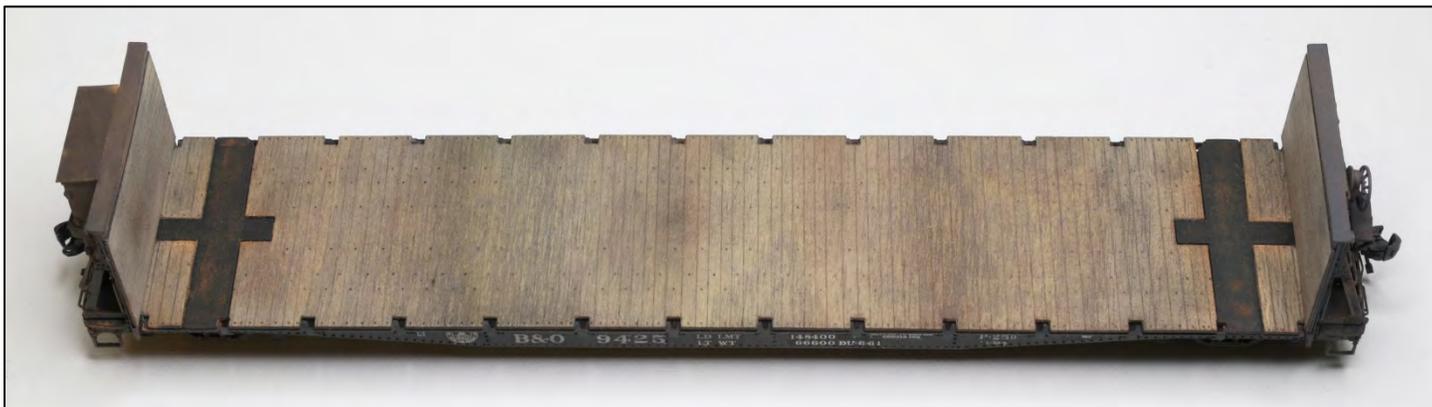
Only the decals applied over Micro-Scales #TF-2 black patches should remain “white”. All other graphics, applied at least two years prior to the 1961 reweigh/repack date, would have been covered in a thin layer of brownish-grey road grime, along with fading from sunlight. The end sills and the entire length of each side sill, except for the “patched” areas, were brushed with varying shades of orange and reddish brown to simulate road grime and surface dirt with a tint of rust, especially around the stake pockets and corners around end bracing and grab irons. The goal is to get the powders into the corners and to dull the white decals. If you’re modeling a car with older paint, applying a few streaks of dark orange powder diluted in Turpenoid with a #000 brush around hinges and in corners is a nice touch.

I removed the wheelsets and brush painted “Grimy Black” on the wheel faces and axles as a base color. While still wet, I liberally doused various powders ranging from blacks, greys, oranges and browns to simulate accumulated grime from “slung” oil leaking from journal boxes. Like with other powder applications, it took several applications of different colors with sufficient drying time in between to achieve a dull, weathered appearance. These do not need a dull coat overspray because the powders are bonded to the paint.

Finally, the truck sideframes, concentrated in the spring area, were dabbed with light brown pastels to represent accumulating dirt and light rust.

Photos on the following two pages show the “dusty” appearance following several applications of “Earth Tones” powders. The final applications were not oversprayed with a clear sealer ... doing so practically obliterates all colors.





Above two photos: Intermountain cut some corners with their injection molds related to the angled braces. The left hand and right hand pairs are mirror images of each other. Unfortunately, this leaves a series of holes with rivet detail on the righthand pair where there should be none... there is only one horizontal grab iron on this side. The ABS plastic is VERY brittle and easily broken. I carefully scraped off the rivets with a #11 X-Acto blade and plugged the holes with a couple applications of thicker "Grimy Black" paint, followed by weathering with powders.



BUILDING NKP CAR'S F-4BM DINING CAR

BY BOB CHAPMAN



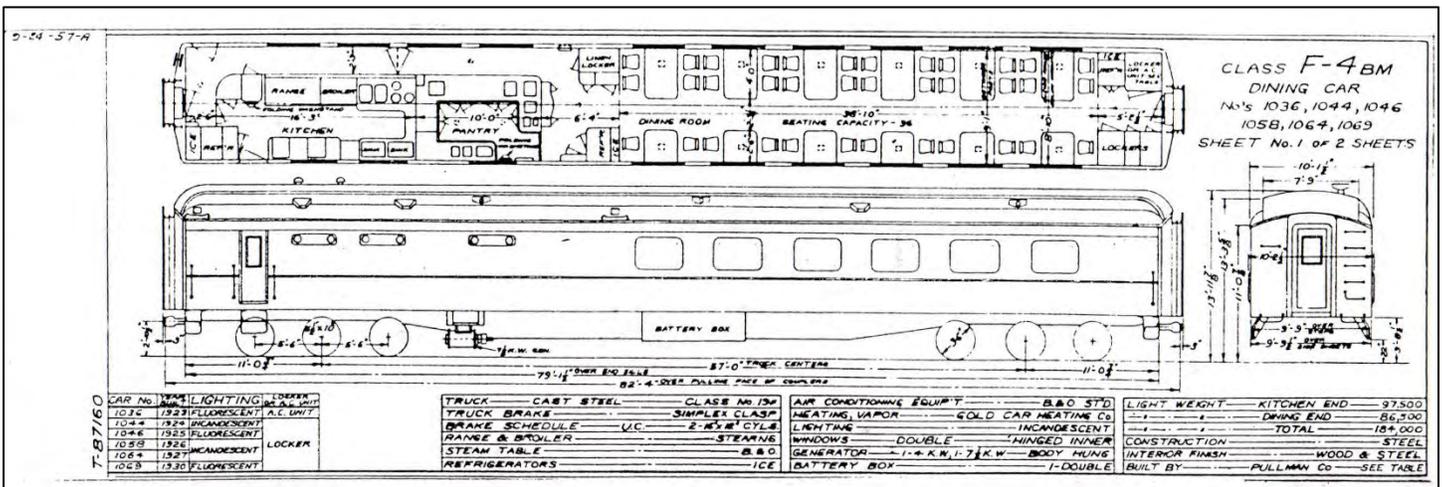
NKP Car's F-4bm dining car kit builds into a fine prototype model. Model photos by author.

The Prototype

Between 1923 and 1930, B&O upgraded its dining car fleet with new all-steel class F-4b Colonial-series dining cars constructed by the Pullman Company. Seating 36 and named for prominent Colonial women, the cars featured exquisitely appointed interiors and were assigned to B&O's premier passenger trains. A comprehensive history of these cars by Mark Stewart appears in the 4th Quarter 2009 issue of *The Sentinel*.

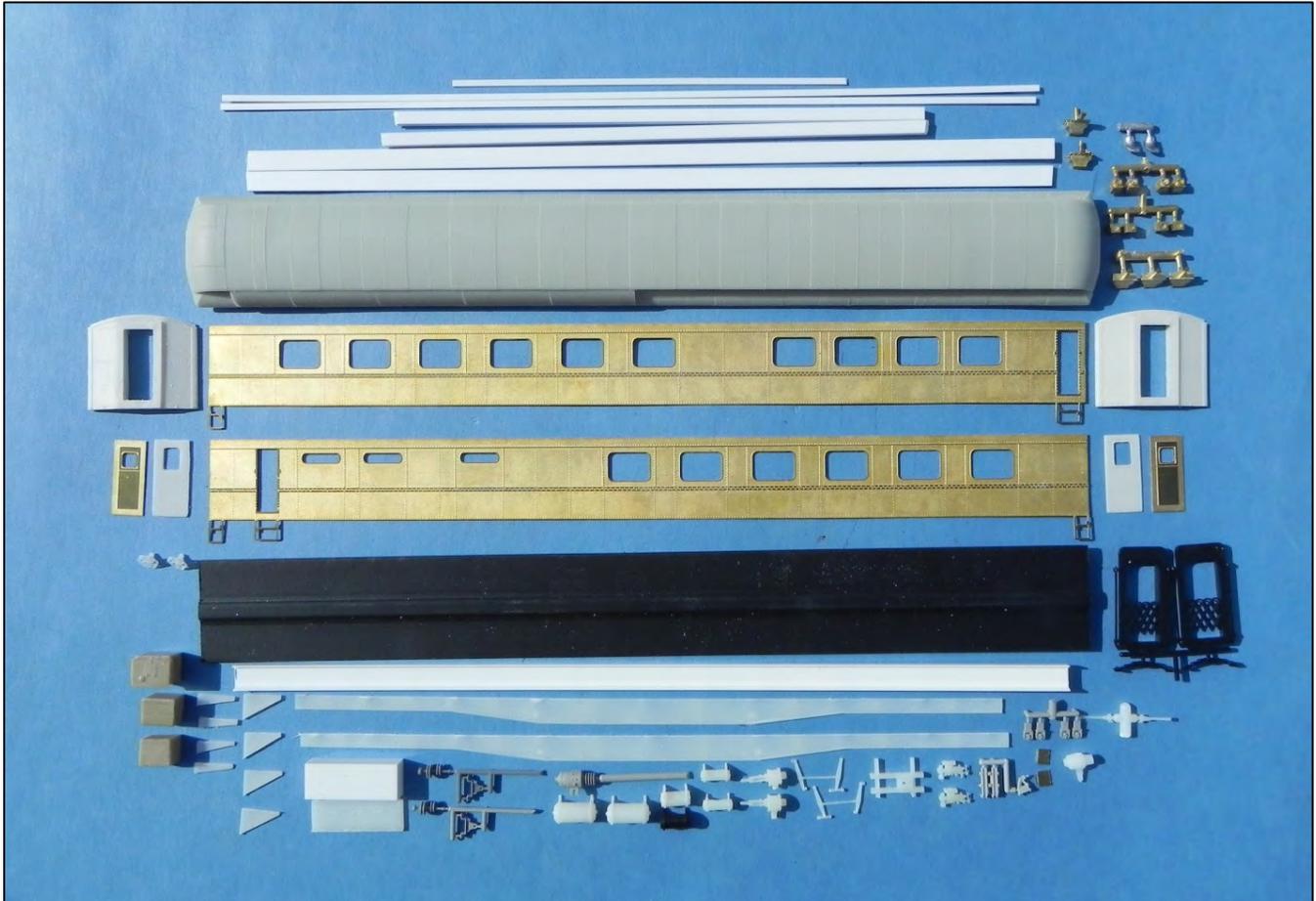
Soon to follow from Pullman is 1924-25 was the F-4c class. Dimensionally, mechanically, and functionally identical to the F-4b's, these cars were less fancy in interior décor for assignment to B&O's secondary trains.

As the years progressed, both classes received various modifications. Some were modernized with skirting and streamlined roofs for service in the *Royal Blue*, *Capitol Limited*, *National Limited*, and *Columbian* consists, others received arched turtleback roofs, and most received Thermopane windows. With accompanying mechanical and interior upgrades, the F-4b's and F-4c's ended being assigned into at least nine different subclasses. A list of published photos appears in the March/April 2012 issue of *B&O Modeler*, diagrams of the subclasses appear in *Diagrams of Passenger Equipment, B&O Railroad* (TLC Publishing), and a B&O 1/8" scale plan for class F-4bm appears in *Scale Modeling and the Baltimore & Ohio Railroad* by Dornette.



According to the B&ORR 1958 diagram book, the F-4bm, modified from the F-4b's in 1943-45, was B&O's most populous dining car class with twelve cars (second place was the F-4bn with eight). F-4bm car numbers were #1036, 1044, 1046, 1055, 1056, 1058, 1059, 1063-65, 1069, and 1070. Many lasted until the end of B&O passenger service.

NKP Car's F-4bm Kit



NKP Car's kit provides most of the parts needed to complete the model.

NKP Car (<http://nkpcarco.com/>) offers two versions of B&O's class F-4 dining cars – a class F-4bm with a clerestory roof, and a class F-4bn with an arched turtleback roof.

A review of B&ORR diagrams suggests that the two kits will accurately model nearly any of B&O's F-4b or F-4c dining car subclasses which have been upgraded with Thermopane windows. For example, the F-4bn will also model the F-4ce; by replacing the roof with a high-arch streamline-profile roof such as Bethlehem Car Works #40, classes F-4ba, F-4bb, F-4bc, F-4cd, and F-8 can be modeled. The addition of skirting will model class F-4cc. (For tips on adding a streamline roof or skirting, see *The B&O Modeler*, January/February 2009, "Modeling B&O's Class A-18cd Modernized Coach".) Note also that the class J-6 diner-lounge can be modeled from the F-4bm kit with revision of roof ducting and detail.

Inside NKP Car's kit box are nearly all the parts needed to complete the diner except for paint, decals, and couplers. The sides are beautifully photoetched in brass, and are highly accurate in both dimensions and appearance. A minor gripe – the sides are a bit concave from top to bottom, but this is hardly noticeable in the completed model.

The roof and ends are cast resin and dimensionally match B&ORR diagrams. Roof vents, a very prominent dining car detail, are provided in the various styles needed, as are a pair of photoetched ice bunker hatches. The roof vents generally match the style of B&O's vents but are a bit off dimensionally upon close inspection.

The two vents intended for the top of the roof don't match B&O's style; we'll replace them.

Underbody detail includes cast resin parts for B&O's nearly unique York air conditioning system, basic UC brake system parts, generators, steam traps, and electrical receptacles.

While the kit's complete set of components are much appreciated, the instructions are a different story. On the positive side, the instruction packet includes prototype photos copied from the book *B&O Salute*, a photocopy of a completed model roof, showing positioning of the vents, a diagram of the sides suggesting placement of the styrene strip framing, and an underbody diagram showing location of the underbody components.

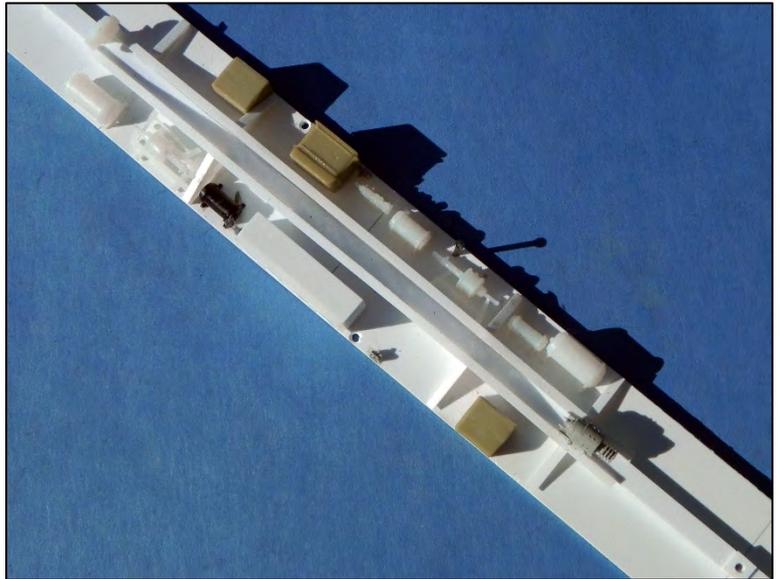
The downside of the instructions occurs with the text, where the instructions for the dining car kits have been combined with instructions for unrelated car types such as the D-14ab and D-15 combines. The cars do not have a lot in common, and I found myself having to cross out text in the generic instructions irrelevant to the dining car project to keep myself from being confused with the different car types covered. In today's world of cut-and-paste word processing, it would seem simple to present a dedicated instruction text for each car type. But bottom line – NKP Car has provided a fine kit for this essential B&O passenger car prototype, and deserves the support of B&O modelers for their efforts.

Modeling Approach

In our case, construction of the F-4bm is identical or highly similar to the F-4bn presented in the March/April 2010 *B&O Modeler*. Rather than waste bandwidth in the current issue, we'll present the F-4bm primarily as a photo feature, and refer you to the prior F-4bn coverage for the construction steps that the two models have in common. This includes the sections Framing the Sides, Detailing the Ends, Floor and Underbody, and Painting/Lettering/Final Details.

The two models differ in roof style, the F-4bn with its arched turtleback style and the F-4bm with its clerestory style. As a consequence, the roof detailing is significantly different, and we'll cover the F-4bm detailing separately here.

Before detailing the roof, a few other differences. On the F-4bn model, the ends and roof are cast as one piece; on the F-4bm, the ends are separate from the roof. To assemble the F-4bm carbody, start with the sides. Tack one side to the roof with a few dabs of CA along their length, then make sure the side is perfectly centered on the roof. Repeat for the other side. Note that the air-conditioning duct is above the dining area end of the car.



Underbody details were placed using prototype photos and NKP Car's diagram.

When the sides are dry, glue an end to the roof, again making sure it is centered and snugly butted against each side. Repeat for the other end. Adjust each side as needed to line up with the edge of the end top to bottom, and glue it to the end. A short length of square styrene strip can be glued into the corner to strengthen the joint.

Detailing the Roof

There are a couple of sources of information to guide placement of the various vents – prototype photos and NKP Car's diagram. Use of these sources individually or in concert will result in some placement inconsistencies. For example, the NKP diagram in some cases seemed to misalign the vents with the carbody windows as shown in the prototype photos.

In determining vent positioning on my model, I focused on placement relative to the windows in the prototype photos. With no 90-degree side-view photos to work from, the resulting vent placement is an estimate. Other modelers with better photo

resources are encouraged to use them. Note that the two white metal castings for the rooftop stacks are not a style shown in available F-4bm photos. Photos show the F-4bm with a very shortened version of the standard cabooses smokejack. I scratchbuilt these as covered in the previous F-4bn article. Note that I further shortened them at their base after shooting the accompanying unpainted car photos. As is so often the case, a model photo will point out errors and omissions less apparent in normal viewing!

The two small, photoetched hatch lids are ice bunker hatches, placed over the interior ice lockers as shown in the photos. Below each hatch is a Detail Associates #6603 ladder grab.

NKP Car's F-4bm builds into a fine prototype model, and will be at home in nearly any B&O passenger consist.



Roof detail positioning was estimated relative to window placement in prototype photos, and with reference to NKP Car's model roof scan.



Kitchen side, unpainted model. After viewing this photo, the two roof stacks were further shortened.



Aisle side, unpainted model.



Kitchen detail, showing roof vent placement and kitchen window vents.



Detailing differs between the two ends; the brakewheel is on the kitchen end.



Completed model, aisle side.

WINCHESTER TRACK SCALE

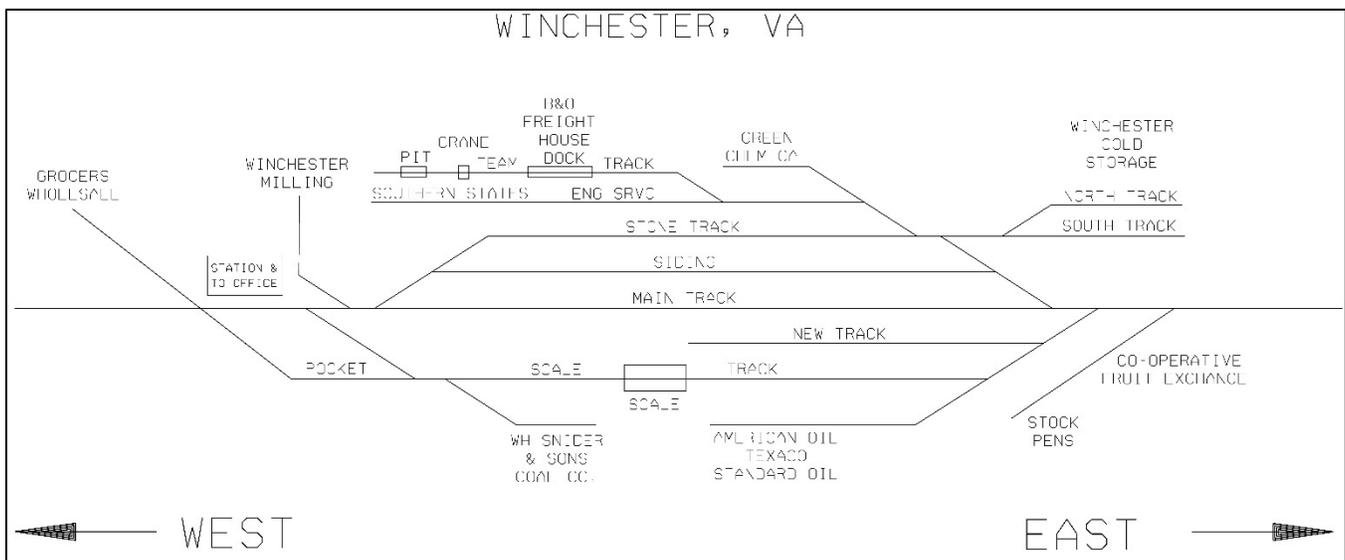
BY FRAN GIACOMA

An overview of my September 1956 era HO-scale B&O Shenandoah Sub-division layout appeared in *B&O Modeler No. 45*. John Teichmoeller asked me to write an article giving more detail of the track scale operation at Winchester.

A few references are in order before we get into the nitty gritty of how the scale works and its use during op sessions. A great article showing various B&O scales, scale test cars, and associated tool cars appeared in *Railway Prototype Cyclopedia No. 12*. Also, Edwin Kirstatter did an article in *B&O Modeler Volume 4, Number 3 (May/June 2008)* showing his work on scale test cars. And lastly, there is a wealth of information on the web site of Boulder Creek Engineering (<https://www.bouldercreekengineering.com>), the company that made my scale. All of these provided a solid basis to model a weigh scale operation which adds fun and variety when operating my layout. [In addition, Ed Bommer's article in the present issue reproduces some technical drawings. JT]

As on the prototype, my Winchester yard trackage contains a scale to weigh cars for the local industries and cars to and from the Winchester and Western Railroad (W&W) or Pennsylvania Railroad (PRR) interchanges located nearby. Here are typical cars that are weighed:

- stock cars carrying cattle from the stock Yard in Winchester
- covered hopper cars carrying sand coming off the W&W
- flat cars carrying open loads off the PRR
- occasional inbound cars from Brunswick (mostly empties) before they are spotted at an industry or sent to the interchanges



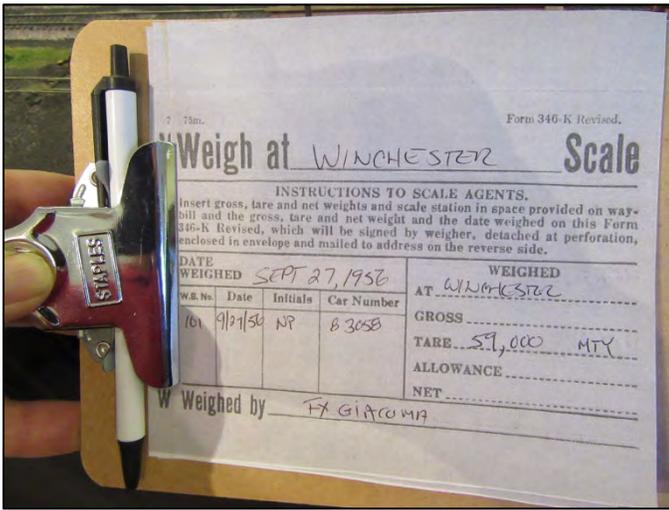
The scale is located at the center of the scale track (refer to the yard diagram) which has access from both ends. The scale building and track are from Walthers kit #933-3199. This is a nice kit that provides two scale houses and actually includes simplified interior detail of the above ground apparatus, although it is too dark to see, so this gives you an excuse to rig interior lighting. I used the heavy duty version in Winchester and the light duty version in the WS Frey Limestone facility at Stephenson. The Winchester scale contains two sets of rails; the “live” ones are used to weigh cars, the “dead” ones are used to make run thru moves. When not being used to weigh cars, the scale track sees a lot of action as a “clear alley” for movements thru the yard when other tracks are full and also for the temporary holding of cars during switching, so the non-scale traffic uses the “dead” rails. A set of switch points at either end of the scale does the switching between the “live” rails and the “dead rails”. The timetable specifies all movements over either set of rails must be at no more than five MPH, and locomotives are prohibited from traversing the “live” rails to avoid damaging the weighing mechanism.



The scale is made by Boulder Creek Engineering (<https://www.bouldercreekengineering.com/weighstation.php>) with the current model showing a digital readout of the car weight. My version, which has been discontinued, uses a “scale” style readout (40,000 to 200,000 lbs.) which is more appropriate for the era of my layout. The scale does not actually weigh the cars; instead it uses a random number generator to display a weight in a range that was set up during installation. It also features a toggle switch to further refine the weight for the type of car that is being weighed: load, empty, or scale test car with each category having its own range. The scale “does its thing” when a car is placed over an infrared sensor/receiver located next to the live rail in front of the scale shanty. When the red needle on the scale stops at a number, a small buzzer sounds and that is the weight. Once the car leaves the scale, the red needle drops back to just below 40,000.



During an operating session, three to five cars will be weighed by the yard switcher. The operator that is running the switcher, besides taking on every job in the crew, also acts as a yard clerk who does the weighing and the paperwork. There is a small clipboard with a pen and copies of blank B&O weight tickets hanging on the fascia below the scale.



Here is a typical car weighing scenario. The train crew, upon reporting for duty, receives a switch list that has the notation “Weigh” next to those cars that have to be weighed. During switching, the crew will weigh those cars (making sure that the toggle switch is set to “Load” or “Empty”) before spotting them at a local industry or placing them on a track for departure from Winchester. “Reach” cars are used to make sure the locomotive does not traverse the “live” rails. Also the car to be weighed is uncoupled from the others, which are pulled off the scale in order to get a more “accurate” weight. After the buzzer sounds, a crew member writes the weight in the proper location on the weigh ticket (along with car initials and number). At the end of the shift, the train crew gives the weigh tickets to the Winchester train order operator.

A similar scenario is followed when the scale test car arrives in town to “calibrate” the scale. The scale test car is placed on the “live” rails with the scale tool car parked just off the scale for easy access by the workers. The toggle switch is set to “Scale Test” after using a finger to push the scale test car over the infrared sensor/receiver to get a reading. The use of a finger simulates a few workmen pushing the scale test car onto the scale while they calibrate it. Later, the yard switcher will use the scale tool car as a handle to couple to the scale test car and take both of them to a designated yard track.



The “psuedo working” track scale brings a prototypical feel to the work done by the yard switcher crews and adds another “industry” for cars to be switched in and out of. Future plans call for the acquisition of a 40,000 lb. scale test car to accompany the current 80,000 lb. scale test car with both occasionally showing up during an op session to “calibrate” the scale. *[I have seen photos and drawings of 40,000 lb. test cars but as far as I know there are none commercially available. So we look forward to seeing Fran’s scratch built version. JT]*

75m. Form 346-K Revised.

Weigh at _____ Scale

INSTRUCTIONS TO SCALE AGENTS.
 Insert gross, tare and net weights and scale station in space provided on waybill and the gross, tare and net weight and the date weighed on this Form 346-K Revised, which will be signed by weigher, detached at perforation, enclosed in envelope and mailed to address on the reverse side.

DATE WEIGHED				WEIGHED	
W.B. No.	Date	Initials	Car Number	AT	GROSS
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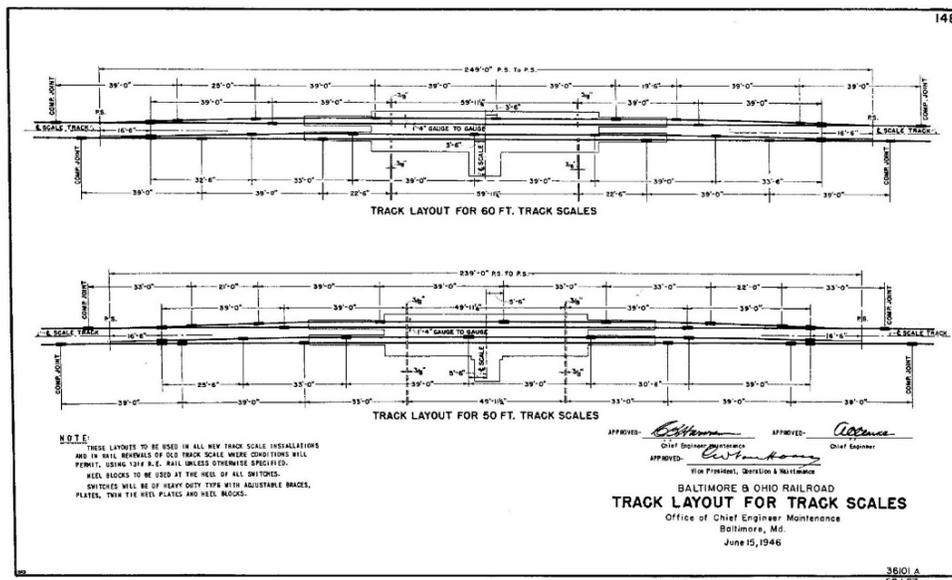
Weighed by _____

B&O Weigh Ticket

BUILDING AN O-SCALE B&O FAIRBANKS-MORSE FOUR SECTION 50' 300,000 LB. CAPACITY TRACK SCALE BY EDWARD F. BOMMER

Track scales are not common in model railroading, yet they were vital facilities on prototype railroads as much as a yard, station, car shop or engine house. Often, large shippers had their own small yard and track scale. It would be regularly checked for accuracy along with the railroad's track scales in the area.

Admittedly, an accurately modeled track scale is surprisingly long, as seen in this B&O diagram. Not just the 50' scale bed, but also 60'+ straight approach rails on each side and switches at each end must be considered.



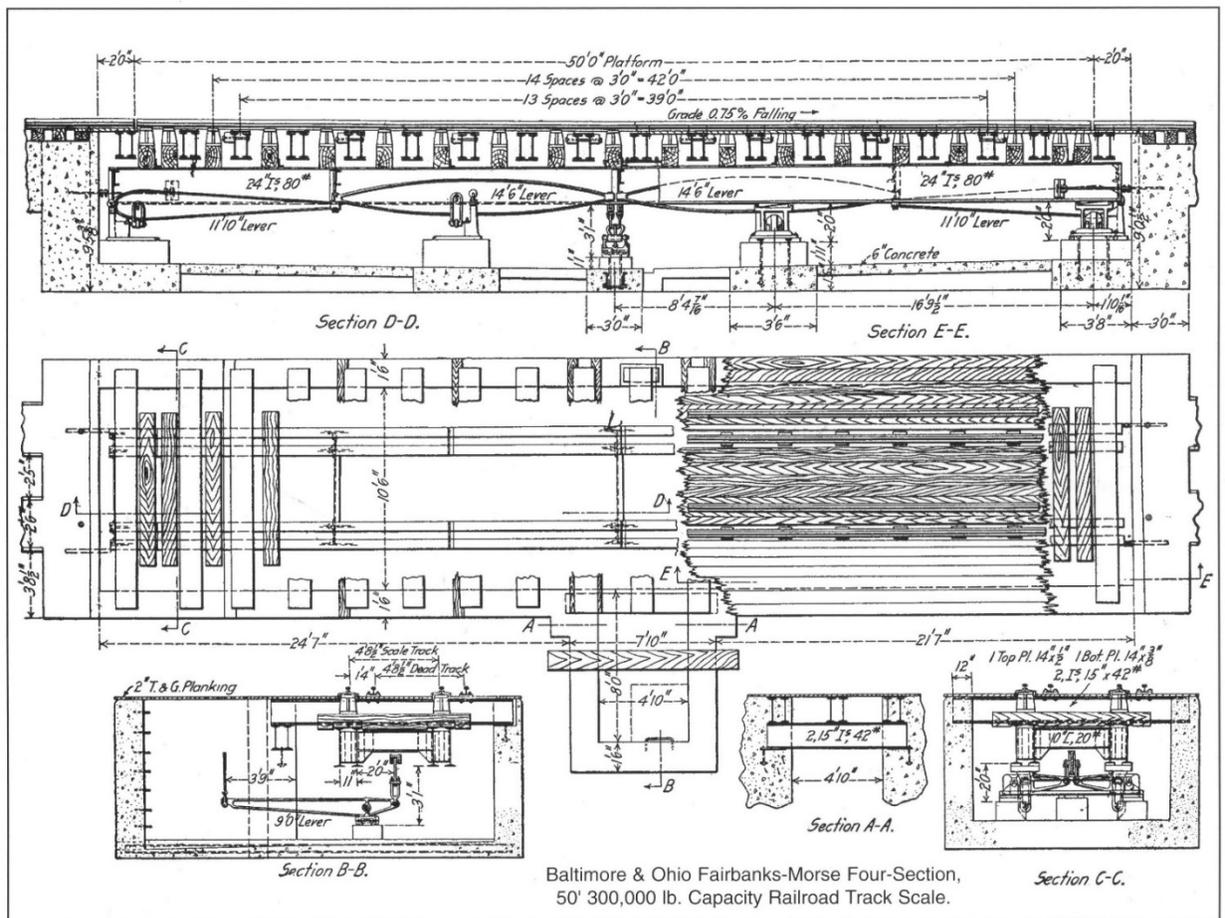
Correctly operating a track scale can be slow, tedious work – just like the prototype. Outgoing freight cars were usually weighed before being put into a train – a double-check against a shipper’s stated weight as some would overload a car not reaching its maximum volume capacity. Some incoming cars were also weight checked against possible losses enroute - especially cars found with damage, broken door seals, or showing signs of load leakage. Cars were also re-weighed after repairs were done as they usually gained weight.

Track scales were used to weigh cars before loading them on a car float, to assure it would stay level end to end and be in trim (no listing to one side or the other), when released from the transfer bridge. In loading or unloading a car float, care was taken to keep the float balanced while attached to the transfer bridge. Only two or three cars at a time were usually handled in each cut moved.

My O-scale Baltimore & New York Railway included a car float operation. It serves as staging for some interchange train movements, using a moveable car float set up in advance of an operating session. When operating car float transfers, a track scale would be used. For that, I selected a 50’ 300,000 lb. capacity track scale found in Volume 12 of the *Railway Prototype Cyclopedia* (now out of print).

On Page 16, the drawing below shows a Fairbanks-Morse track scale of that capacity, built for the B&O. It contains a great amount of information and dimensions for a model builder. A gantlet by-pass track is included. That helps reduce the amount of space needed, since cuts of weighed cars can be pulled back over the scale pit over the by-pass rails.

Because this scale would be a focal point along with the transfer bridge and car float, it was built to fine-scale standards and set up for prototypical operation. Here, “live rails” are those on the scale bed and they are not powered. The “dead rails” are those of the gantlet/by-pass which are powered. Confusing? Yes, but the logic is explained on the following page.



1. The model will have the scale's rails isolated from running rails and not powered, as locomotives were not permitted to be run across a track scale under their own power. Running rails include approaches at each end of the scale and the gantlet/by-pass rails.
2. The by-pass ("dead") rails will be built on framework in the scale pit, per prototype practice.
3. The weigh scale ("live") rails will be built within the scale pit on separate framing and chairs over the scale beams, per prototype practice.
4. All rails are fitted with switch points, bridles, heel blocks, rail braces, tie plates, spikes and bolt heads, per prototype practice.
5. A wood deck covers the scale pit. The scale's rails have dirt/weather covers over the gaps on either side, per prototype practice.
6. Scale and by-pass rails are modeled with Code 148 rail, to model the prototype's 130 lb. rail.
7. Approach rails, including the gantlet switches are modeled with Code 125 rail for 100 lb. prototype yard rail.
8. The gantlet separation gauge is 16", per prototype practice.
9. Compromise rail joint bars are made for each rail weight transition and spaced per prototype practice in that such joints in a track may not be placed directly opposite each other but should be offset by at least 6'.
10. Gantlet switches are made with 13' Code 125 points, detailed with rail braces, bridles, heel blocks and tie plates. Both are operated with ground throws.
11. Approach and by-pass rails are wired in common on one circuit. The scale's rails are isolated.
12. Rail of 32' to 39' in length with joint bars are used for the approach and by-pass rails per B&O diagrams.
13. The final scene is to be equipped with a B&O design scale house having exterior and interior lights, interior details, ballasted tracks and a cinder driveway. An additional separate yard track may also be included.

Model Construction

Photo 1 A portion of the layout's yard panel was cut out at 14"x 55" to serve as a module. It is made of 1/2" thick, seven-ply, birch-faced, furniture-grade plywood, with a 1/4" sheet of Homasote cemented on it. The original track and details were removed. The top surface was cleaned, leveled with spackle and painted flat black. Because of a miscalculation in laying rails on ties set with diluted water-based Elmer's glue, all had to be ripped out and done over. Let's just call it a "Design Change" or "Revision Notice." Some photos show a black surface, others are brown, which was applied for the re-alignment work. The scale pit stayed the same.



Photo 2 A 3" x 13 3/8" hole for the scale pit was cut into the module sheet. A piece of 1/8" thick Luan plywood fitted and glued in place for the pit bottom, creating a scale 52' long pit a scale 5' deep. The full 8' depth of the pit with its balance beams was not modeled. Only the scale track bed and bypass rail supports were done.



The pit was lined with 1/8"x 1" basswood strips for the walls, with additional strips cemented on each side for by-pass track support ledges. The pit and walls were painted with linen color acrylic to imitate concrete. The tops of the 1/4" 'I' beam supports for the by-pass track and decking were laid on the support ledges, even with the top of the pit walls.

The pit has been painted and track parts set up to show the approximate rail positions of the gantlet. Styrene beams for the by-pass rails and transverse timbers for the scale's rail bed await paint and stain. The stained deck was made with 1/32" x

1/8" strip wood glued edge-to-edge and marked with centerlines for attaching paired steel 'I' beams to support the by-pass rails. The slots are for the scale's rails.

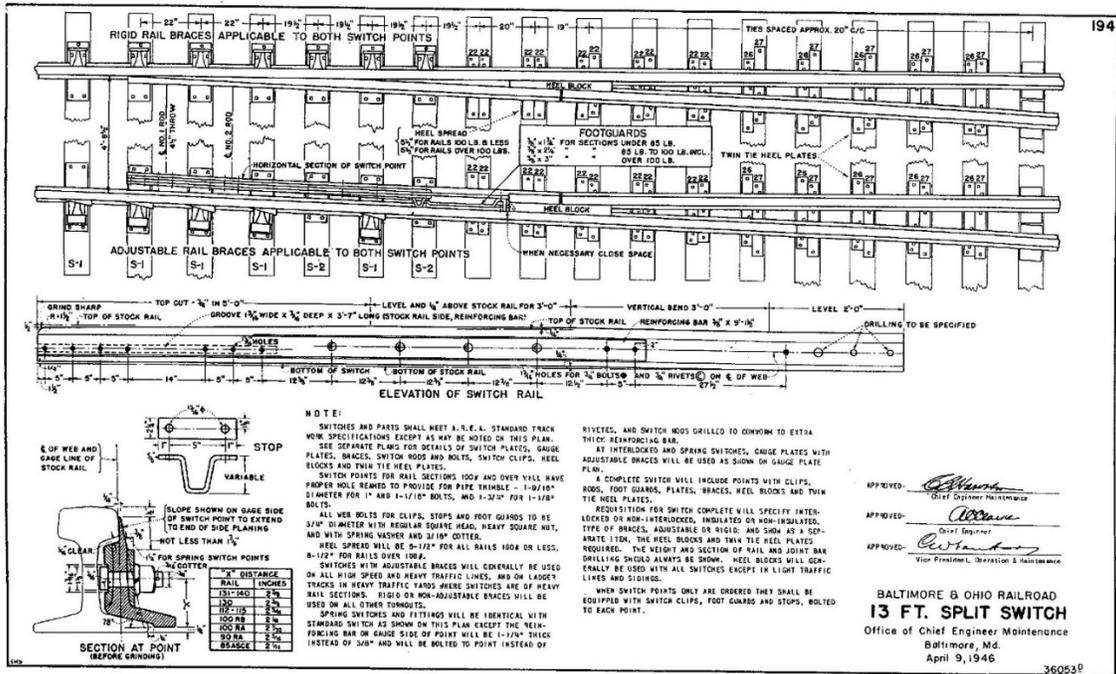


Photos 3 and 4 The 10' long approach ties on both ends were laid using a straight edge and pieces of 8"x 8" tie pacers. Black shoe dye was used to color the ties.



Photo 5 Stained timbers for the scale's rails have been glued to the bottom supports and the 'I' beams mounted to the underside of the deck, following the drawing. Rails for the scale bed have been cut to length. Eighteen doubled 1/4" styrene 'I' beams were cut to length and cemented at marked-off centers on the underside of the wood decking, following the prototype drawing.

Photo 6 The beginnings of the gantlet spacing can be seen above. It's an 18" (3/8" O-scale) gauge between the scale track and by-pass track rails. All rails were cut to prototype length and fitted with joint bars. These joints are not opposite each other on the by-pass rails or the scale's rails, but one joint each stand opposite here. At this point all is temporary. No spikes have been driven. A wood strip cut to a scale 18" wide was used for this gauging. The left, and right-hand switches for each end were laid following the B&O diagram on the following page.



After the scale's timber cross braces had been cemented in place, chair supports for the rails will be attached to them, bringing the scale's rail height at the deck surface to match that of the by-pass rails. After this is done the decking will be put into place. There is no need to glue it down, as it has a snug fit with the 'I' beams attached. The by-pass rails will hold it in place and the secured scale rails passing over the by-pass rail's 'I' beams with a slight gap will make removal of the deck impossible.

Photo 7 Before rails were laid for the approach tracks on each end, ballast was applied over the ties. It is done with roofing granules set with diluted Elmer's school glue (the "school" formula is said to be non-glossy). The ballast was laid thinly, following how it appears in photos of a B&O track scale at Baltimore. Applying ballast before laying rails is easier than trying to work around rails already in place.



Roofing gravel and diluted Elmer's school glue were used. This water-based glue can be wetted down to remove anything if needed. Rails are laid after the ballast has set. First the scale's rails are put in, then the approach track's two gantlet switches. The approach rails to the scale were laid first. The by-pass track was laid last.

Photo 8 Prototype rails over the scale rest on cast steel chair supports on the timber cross braces in the pit. For this model, 7" x 9" stained tie stock was cut into thirty-eight 5/32" lengths. Each chair support was glued in place after checking that the top is level with the deck. Any too high are lightly filed or sanded. Any too low were replaced with taller supports. It's critical that the bottom of the scale's rails be level with the top surface of the decking, as also are the by-pass rails.



The pit deck will be put in place before the scale's rails are permanently attached to their chair supports. The scale's alignment with the approach track on the right is shown. Below, a 1940's three-point track gauge is shown holding the scale's rails while the epoxy cement bonding them to their chair supports sets. A steel plate NMRA gauge was also used to keep the rails within 50% of allowable track gauge tolerance.



Photo 9 Spiking the approach rails to the scale is the next operation. The white foam core piece is for a 1906 16' 6" x 6' B&O scale house foundation. Spiking was done to fine scale standards. Spikes were driven in the "A" pattern on two ties at the scale pit end and two ties at the switch end. The "A" pattern uses two spikes per tie plate driven diagonally opposite each other to hold the rail. A long straight edge was used to hold the rail in alignment while spiking.



Photo 10 Tie plates were laid on 10 ties at each end of the scale pit. The switches require rail braces and long point tie plates. Once a rail had been fastened at each end, all remaining tie plates were inserted under it. The Right of Way tie plates being used were made in two different colors, so they were painted to be alike:

Spiking proceeded by fastening the rail at two ties midway between each end, keeping the straight edge in place. Subsequent spiking was done mid-way between those points and continuing in that pattern of spiking half-by-half. Then, spiking the remaining ties between those points. The result is neat, straight rail. Long tie plates are used at the switch points, with the outside rail held by braces, per B&O specifications.

The opposite rail is then laid in the same fashion, using track gauges to maintain accurate gauge separation. Each rail is fitted with a hidden lead for power. It is soldered to the underside of the rail and passes down through the roadbed and module board.



Photos 11 and 12 The rail braces are further detailed with adjusting shims. They are modeled with short pieces of styrene strip fitted between the brace and rail web. Prototype shims were driven in with mauls.



Photo 13 Above, an installed ground throw. Flangeway clearance was too tight by 1/64" but no wheel shorting occurred, as there is no frog crossing the opposite rail. The width of the switch bridles on assembly determines the flange way. The dimension suggested by Right of Way is slightly too large. That was not apparent until the installation was done. Widening the flange way required removal and disassembly of the switch points and bridles to narrowing their width by about 1/64", then re-assembly and installation. The flangeway clearance is now within NMRA standard and no point/wheel flange interference was detected with various wheelsets, including larger NMRA standard flanges dating back to 1936.

Photo 14 The pit deck's bolted rail braces are small. Made in styrene, the bases are 1/4" long and less than 1/8" wide. The rail clamp top is 1/8" x 1/8". They are made in double and single bolt, with right and left forms. Holes are drilled to fit scale 3" nut/bolt/washer details with a light press fit. Prototype bolts passed through the deck into the 'I' beam flanges below to secure the rails.

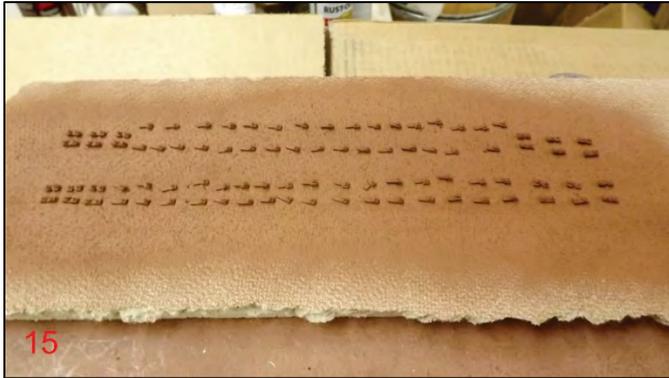


Photo 15 The rail braces are set into the back of a ceiling tile scrap for painting. They are arranged as fitted to the scale deck rails. Double bolt braces are at the ends of the scale deck, single bolt braces are between the ends. Only the scale approach and by-pass rails have visible clamps. The scale's rails have dirt/weather shields that hide their clamps, so they were not modeled.

Photo 16 The scale rail's dirt/weather shields are built like the prototype, with triangular shaped wood supports under five-foot long metal covers attached with 1 1/2" hex head lag screws. For the model, the metal shields are strips of thin aluminum cut from a large beverage can that was embossed with panel joint detail and drilled for scale 1 1/2" lag screws made from styrene nut/bolt/washers with their threaded tips cut off.

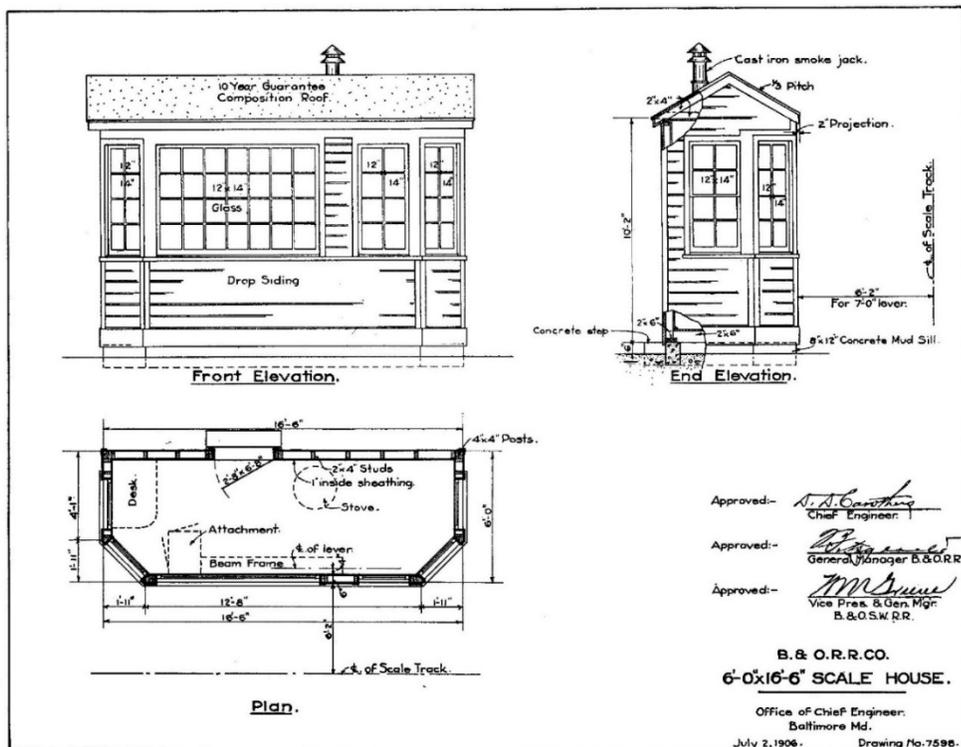


Photo 17 The completed B&O 300,000 lb. capacity, 50' Fairbanks-Morse track scale of the late 1920's with gantlet by-pass track. When this module is installed, operation will be from the left (bottom) to the right when weighing cars. The white panel sets the location for a B&O design 16' 6" x 6' scale house, awaiting construction. Above is a drawing for it.



In a backdrop setting for St. George Yard on the Staten Island Rapid Transit, a freight car is spotted on the scale. The Class D 0-6-0 was built in brass. The CNW 50' boxcar was built from a 1946 Grace Line kit having embossed, plasticized card stock sides, ends roof and doors.

Track Wiring

The module is wired for operation with the scale and by-pass tracks bonded in a single circuit. The two rails closest to the front edge are wired + (Red) and the two rails on the opposite side are wired – (Black), for forward travel left-to-right.

16 Gauge stranded wire leads were installed on all four approach rails on each side. They are soldered into holes drilled into the bottoms of the rail and pass through holes in the roadbed. This makes them completely hidden. “Suitcase” connectors join the track wiring leads.

The separate scale rails are dead (not powered) on this track scale. Locomotives were not permitted to run over the scale due to possible damage to the scale mechanism from their tractive thrust and vibration. Locomotives could be weighed, provided they were shut down and moved into place for weighing, like other equipment.

Red and black main circuit wires end at brass connector plates on the face of the module’s front support.

Parts & Supplies Needed

Manufacturer	Description
Grandt Line	48 1 ½” styrene nut/bolt/washer details for dirt/weather covers
Kappler Wood Ties	7”x 9” x 15’: 4
	7”x 9”x 9’: 2
	7” x 9” x 9’6” : 14
Micro-Engineering	(All rail in this project was previously used and salvaged).
	Code 125 - 7’ cut to scale 39’ lengths, some pieces cut shorter as needed.
	Code 125 beveled, 13’ switch points: Two pair.
	Code 148 - 16’ cut to scale 39’ lengths, some pieces cut shorter as needed.
	Code 148 - Two pieces cut to 52’ lengths and trimmed for the track scale.
Red Caboose	Switch Ground Throws: 2
Right of Way	Tie Plates - Standard: 280
	Tie Plates - Switch Point: 50
	Switch Bridles: Two pair
	Rail Braces (With scratch made adjusting shims) added): 24
	Track Spikes: 865
	Joint Bars: Straight, 6-bolt: 20
	Compromise, 6-bolt: 16
	Straight, cut to 4-bolt: 4 (for by-pass rails on scale pit deck)
Wiseman Models	3” cast metal nut-bolt-washer detail: 112
Approach ties	8”x 8” x 10’: 88 (Cut from long, milled wood stock)
Deck	3/32”x1/8” strip wood, bonded and stained

Manufacturer	Description
Roofing Shingle Gravel	Ballast: 1 lb.
Beverage Can Sheet Aluminum	Four 13" x 5/32" wide strips for scale rail dirt/weather covers
Scratch Made	Switch Heel Blocks with outer rail brace plates: 4
Scratch Made	Rail brace clamps over scale pit deck: Double Bolt: 24
Scratch Made	Rail brace clamps over scale pit deck: Offset Single Bolt: 64



Fairmont Roundhouse on Bruce Elliott's Piedmont Division HO-scale Layout

Here's a list of articles for which a) material is in hand or b) is backed by credible author promises, along with prospective publication issue. If you can help or have anything you feel might contribute to the strength of articles on these topics, please contact the editors. Also, if you have submitted an article that does not appear on the list, whoops! Please tell us!

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- M-23 Accurail Upgrade by Eric Hansmann 53**
- Piedmont Division Part 2-Fairmont by Bruce Elliott 53-54**
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- Corten Hoppers by Mike Shylanski 53**
- Cylindrical Covered Hopper by Mike Shylanski 53 or 54**