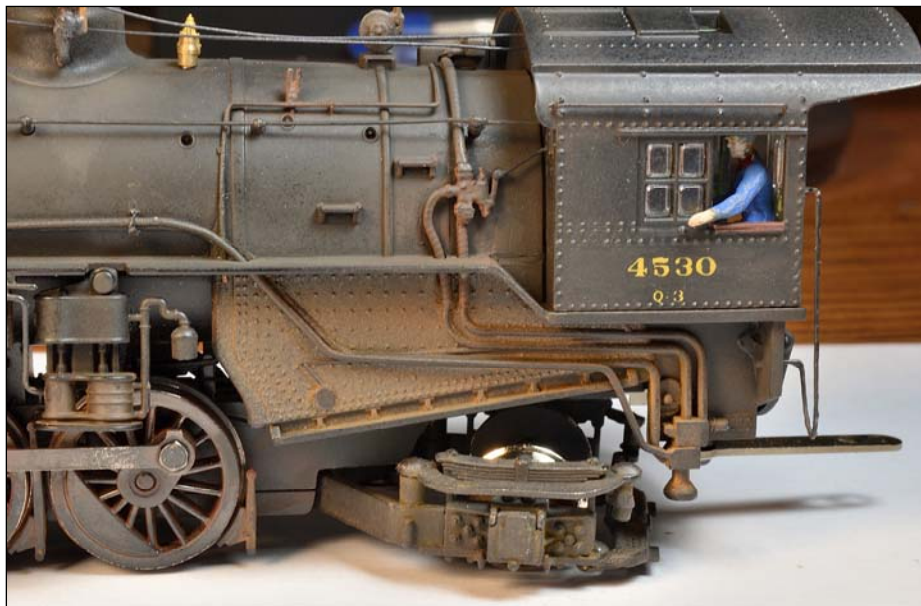


# ***THE B&O MODELER***

*Number 43*



**N-13 Hopper HO-Scale Model**  
**M-15L F&C Boxcar Kit Review**  
**One Man's (And More) Roster--Wagon Top Boxcars**  
**Bachmann USRA 2-8-2 Review**  
**Bachmann USRA 2-8-2 Detail Upgrades**  
**Lidgerwood Feedback from the Readers**

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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**

**P. O. Box 1608**

**Sykesville, MD 21784-1608**

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## FROM THE EDITOR

**SMD** Well, the Spring Mills Depot N-34 HO ready-to-run wagon top covered hoppers are in. Everyone seems to feel the wait was worth it. Enough said?

**Wagontops**.... Again, maybe **not** enough said. Because this present issue contains another detailed review by Bob Chapman of another wagon top, this one of Funaro & Camerlengo's M-15L boxcar. And there will be more—the folks from RPM Chicagoland 2016 have given us permission to publish their 2016 “mini-kit” project. This involves creating an M-15K by hacking onto a Fox Valley M-53 shell. In N- and HO-scales. Coming later this year.

**N-13** The N-13 50-ton, side-dump hopper car is an interesting animal about which questions still remain unanswered. The definitive article has yet to be written about the prototype, and we may never know what the railroad was thinking. Meanwhile, coffee-klatch and e-mail listserv discussions contemplate various approaches to kit-bashing the car. But instead of the yak-yak, Ed Kirstatter has gone ahead and put some facts about the class down on paper for us. And Brian Porter has likewise gone ahead and actually executed such a kit-bash and has shared some photos and a brief description of his work with us. We welcome photos and descriptions from any other readers who have rendered a model of this class. And rumors persist of a forthcoming commercial product. After all, other styles of side-dump hoppers have been offered commercially before in styrene and brass.

**Layouts** There has been some reader interest expressed in articles about B&O theme layouts. Bruce Elliott has offered to share some material about his layout, so we will start this feature in *Modeler No. 44*. Bruce's layout is a collection of “favorite parts of the railroad,” so it makes for a nice subject to cover. This allows us to present his layout on the “installment plan,” featuring one section of the layout at a time. Most of our readers will be able to relate to Bruce's layout because, like most of our layouts, Bruce's is in various stages of completion. As an extra bonus, those who are fairly regular attendees of Society conventions and Pennsylvania Prototype Modelers meets will recognize structures that Bruce has entered into past model displays but which are now in their ultimate layout settings. Fran Giacomini is working on a piece updating and continuing a three-part article on his layout that appeared some years ago in *The Modeler*. And maybe I can get Ken Larsen to share something about his rendition of the CL&W in the future.

**Thank you** It was fun working on the material in this issue, and once again I thank all contributors for their efforts.

John Teichmoeller  
Editor  
March 5, 2017

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## FROM THE COMPANY STORE

### Past Issues of *The B&O Modeler*:

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

Vol. 8 (2014, 2 issues) may be downloaded for the time being as well as issues 40, 41 and 42.

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

A link to the free comprehensive index of *The Modeler* prepared by Jim Ford is also found in the CD order section. (Note, this is a *true* index, not just a contents listing. You might be amazed at what has been covered over the last 11 years!) [http://borhs.org/ModelerMag/BO\\_Index\\_Website.pdf](http://borhs.org/ModelerMag/BO_Index_Website.pdf)

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## UPDATES AND ERRATA

Readers are welcome to submit questions about content or information about additions or errors with appropriate documentation.

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

Organizers of other Prototype Modelers meets not listed here are encouraged to send information about their event to the editors.

### **Railroad Prototype Modelers Seminar-East**

March 24, 2017--March 25, 2017

Ramada Hotel, Greensburg, PA

For program and registration form go to [www.hansmanns.org/rpm\\_east](http://www.hansmanns.org/rpm_east)

(This is the “western” PA counterpart—odd numbered years—to the Malvern/Valley Forge meet, name notwithstanding)

### **Railroad Prototype Modelers Savannah, GA.**

March 31-April 1, 2017.

Port Wentworth Community Center, Port Wentworth GA.

[www.savannahrpm.com](http://www.savannahrpm.com)

**B&ORRHS Western Mini-convention** - May 20, 2017 in Willard, OH

**[New England/Northeast RPM](#)** – June 2 & 3, 2017 in Enfield, CT

**B&ORRHS Eastern Mini-convention** - July 15, 2017 in Eldersburg, MD

### **Mid-Atlantic Railroad Prototype Modelers Meet 2017 (Cancelled)**

~~September 30–October 1, 2016, Wingate by Wyndham, Fredericksburg, VA~~

~~Norman Wolf, 1600 Pantigo Lane, Apt. 202, Chesapeake, VA 23320 [www.marpm.org](http://www.marpm.org)~~

### **RPM Chicagoland (aka “Naperville”)**

October 26-28, 2017 Sheraton Lisle-Chicago Hotel, Lisle, IL

For updated registration info, presenters and program schedules see [www.rpmconference.com](http://www.rpmconference.com) or contact Mike Skibbe at

[mike@rpmconference.com](mailto:mike@rpmconference.com)

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## B&O MODELING IN THE ENTHUSIAST PRESS

BY JOHN TEICHMOLLER

Below are articles and product reviews of relevance to B&O modelers from the enthusiast press. We will particularly mention any evaluative comments that might be useful to purchasers or builders. Let us know if we have missed something.

**M-15k Wagontop Boxcar Kitbash.** The 2016 RPM Chicagoland meet offered “minikits” in HO and N to the first 200 registrants enabling them to kitbash this early single-door wagontop class using Fox Valley Models M-53 shells and (HO) a Frank Hodina-custom cast box end sill (but not hard to scratch build). The “minikits” with actual parts were for meet attendees only, but you should be able to obtain most of the parts on the secondary market.

Sunshine Models did a “flat kit” for the M-15k in 2000, but it is no longer in production. The RPM Chicagoland 2016 approach gives you another option in HO. At this time, we have permission to reproduce at least the N-scale article and maybe the HO-scale section too in *Modeler No. 44*. Unless our readers tell us they have had too much of wagontop boxcars. If you can’t wait for a future *B&O Modeler*, download the project description (starts at page 10 and goes to page 20). <https://www.rpmconference.com/wp-content/uploads/2016/10/2016-RPM-Program-Complete.pdf>

**“A Balancing Act,”** by Byron Henderson, *Model Railroad Planning 2017*, page 60-65. Byron has designed an N-scale layout for a 24’x27’ space based on the East End of the Cumberland Subdivision—Harper’s Ferry to staging in Cumberland. The design features two operating levels and one staging sub-level. It includes representations of recognizable features such as Harpers Ferry, Martinsburg, West Cumbo, Cherry Run, Hancock, the Green Spring tie plant and a number of well-known tunnels. As the title suggests, naturally he couldn’t get everything into the design including the sand mines near Berkeley Springs. However, the design is what I believe layout design gurus call “sincere,” as it only has trains passing each point once, so it should be great for railfanning.

This article triggered a recollection of a couple B&O-theme John Armstrong designs from *Model Railroaders* of the past. “No Stoop Railroads” in the January 1956 *Model Railroader* (pages 51-57) focused on the Magnolia Cutoff in a 25’x10’ space for HO. “Harper’s Ferry Vignette” in the August 1952 issue had the Harper’s Ferry crossing as its theme in a mere 6’x10’ for HO. This plan seems rather tight in HO and would offer more potential in N scale. Both of the above were “railfanning” layouts and didn’t offer much in the way of operating possibilities. I have never seen either of these built. It sure would be nice to see Byron’s design built one of these days as it offers both railfanning and at least a modicum of operation. About 16 years ago I compiled a never-published annotated bibliography of prototype-flavored B&O layout designs from the enthusiast press. We can serialize that if there is any interest.

**“Improving the Athearn Trainmaster,”** by Tom Brennison. *Railroad Model Craftsman*, January 2017, pages 90-93. “Wait,” you say... “the B&O didn’t operate any H-24-66 2400 hp ‘Trainmaster’ diesels.” Right you would be (although I seem to remember a photo of some of the demonstrator units on the B&O). However, they did operate 1600 hp H-16-44s on the Old Main Line and in the Baltimore Terminal area. For many years Bachmann has offered an HO version of what I understand is the final carbody style of this locomotive (sometimes erroneously but understandably referred to as the “Baby Trainmaster.”) It turns out that the hood width on the Bachmann model appears to be the same as that on the Atlas (and Athearn) Trainmaster. Mr. Brennison, in this, one of RMC’s Dremel Kitbashing Award features, shows how he fitted the nice photoetched brass cooling fan covers from the Atlas Trainmaster to a pair of old Athearn Trainmasters. Now the Bachmann H-16-44 units have rather clunky open screens for the cooling fan covers. Some years ago I actually ordered some of the Atlas photoetched fan screens (part no. 780241) from the on-line Atlas parts department with the idea of upgrading my Bachmann engines (I think I should have ordered the housing, too, 780243 which unfortunately is no longer available.) But I have been chicken to do it because the Bachmann screen arrangement is not quite the same as Atlas’s. How about if someone does this conversion to the Bachmann engine and writes it up for *The Modeler* to give me confidence to proceed? And you’ll have to improvise or somehow scratch-replicate the housing, part 780243.



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## NEW PRODUCTS

BY CLARK CONE AND THE MODELER STAFF

### Policy on New Product Notices and Disclaimer

A model is a representation of reality. It is up to the purchaser to decide what level of prototype fidelity is acceptable. As our readers are probably aware, we do not generally receive “review samples” of newly issued B&O models. Accordingly, we will do our best to cite new B&O scale models as notices appear in enthusiast publications, with whatever prototype information is available. At the same time, we realize that manufacturers will never stop pasting B&O identity on patently incorrect models and our inclination is to cite all claimed B&O products. The *Modeler* staff read most of the enthusiast publications and we will try to cite any new “B&O labeled” products we see. If we miss something you think should be cited, by all means let us know—even “way past due” items.

Meanwhile, we will try to identify “suspicious” offerings with the legend “no prototype information given” or “No/B&O class provided.” If and when updated or corrective information becomes available, we will certainly publish those comments which feedback we invite—and we certainly invite full blown reviews. The basic principle of *Caveat Emptor* should prevail! Comments by editor noted as JT.

### Bachmann 4-6-2 – HO-scale



Bachmann’s new DCC sound-equipped 4-6-2 follows on the heels of their successful USRA 2-8-2. The model includes Bachmann’s Sound Value *SoundTraxx*® steam package with authentic prototypical chuff, short and long whistles, bell, air pump, steam release, and blower—all in 16-bit polyphonic sound. Performs best on 18" radius curves or greater. This offering gives you an opportunity to have close-to-faithful models of as-built versions of B&O’s class P-5 out of the box and offers good opportunities for detail modifications and upgrades. Note they have ditched the silver cylinder heads.

[http://shop.bachmanntrains.com/index.php?main\\_page=product\\_info&cPath=258\\_276\\_1055&products\\_id=6483](http://shop.bachmanntrains.com/index.php?main_page=product_info&cPath=258_276_1055&products_id=6483)

### Bachmann E7A – HO-scale



Bachmann is proud to offer a DCC sound-equipped EMD E7A unit that includes their Sound Value *SoundTraxx*® diesel sound package with prototypical prime mover, 3 air horns, and bell – all in polyphonic 16-bit sound. There is also a DCC-ready model with an 8-pin socket for the DCC encoder installation of your choice. Both versions feature a precision motor with dual flywheels, die cast frame, all-wheel drive, operating directional LED headlight per prototype, illuminated number boards, RP25 wheel contours, and *E-Z Mate* Mark II couplers. For more information, check out

[http://shop.bachmanntrains.com/index.php?main\\_page=product\\_info&cPath=258\\_288\\_1020&products\\_id=6176](http://shop.bachmanntrains.com/index.php?main_page=product_info&cPath=258_288_1020&products_id=6176)

## Spring Mills Depot I-5/c/d Caboose – HO-scale

These RTR cars will feature crisp detail and sharp painting. Models will have the correct details based upon the period and paint scheme. Some details are:

- tongue-and-groove or plywood sides
- various window combinations
- early/late short/tall smoke jacks
- toilet vent
- various marker light types
- old C or new C or J grabs
- wood or aluminum cupola windows



The cars will have wire grabs, metal wheels, and Kadee ® couplers. The B&O built 400 I-5 cabooses between 1924 and 1929. The I-5c and I-5d versions received narrower steps and lengthened truck centers. Alterations through the years produced many different window configurations. Spring Mills Depot will offer as many of these variations as possible based on photographic evidence and available documentation. For more information, check out the I-5 page <http://www.springmillsdepot.com/i-5main.htm>

## Spring Mills Depot I-1, I-1a, I-2, I-3 Caboose – HO-scale

**Spring Mills Depot** has announced their 6th car! All new tooling for this signature car!!! All versions of the I-1/1A/2/3 have been announced with many variations and road names including the B&O and B&OCT. For more information, visit <http://www.springmillsdepot.com/i-1details.htm>



## Intermountain AAR Alternate Standard Hopper – HO-scale

Also scheduled for release this summer is the second run of the HO-scale model based on an AAR Alternate Standard twin-bay hopper car in Baltimore & Ohio livery. For additional information on this car, contact a dealer or visit [intermountain-railway.com](http://intermountain-railway.com).

**47158** RE-RELEASE with NEW ROAD NUMBERS

**Baltimore & Ohio** (6 numbers)

Date: NN 7-60

-13 52071	-15 52215	-17 52446
-14 52159	-16 52327	-18 52584

**Micro-Trains** is selling an N-scale, 31-foot bay window caboose decorated to mark the 175th anniversary of the Baltimore & Ohio – America's first organized railroad company. This caboose was repainted by B&O caboose historian Dwight Jones into a special scheme to honor the anniversary. Completed in November 2003 and named "Spirit of the B&O," it is still seen on work trains and some local freights as it travels across the CSX system. It runs on Bettendorf Swing Motion trucks. For more information, check out [Micro Trains Web site](http://MicroTrainsWeb.com).



## Trainworx HO-scale 40' Trailer

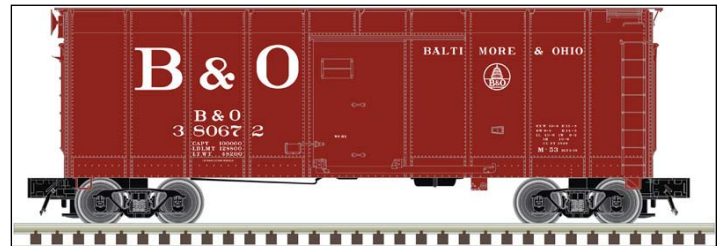
Lettered for B&O "Trailer Service will be available in three road numbers. The prototype were built by the Brown Trailer Division of Clark Equipment Company. The trailers B&O purchased match the model except the radius of the front corner curves differ slightly. Check them out at [www.trainworx.com/16-10-HO-corrugated-trailers.pdf](http://www.trainworx.com/16-10-HO-corrugated-trailers.pdf)



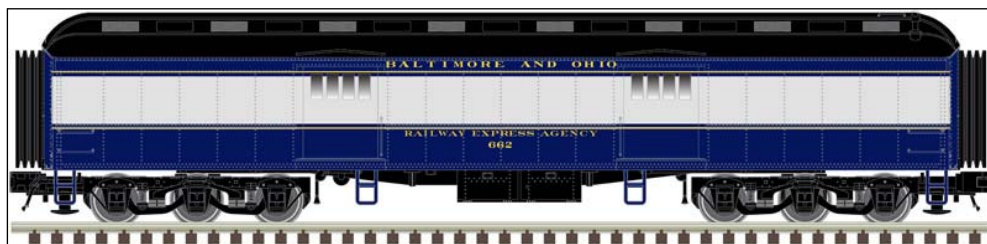
## GA Tower, Garrett, PA – HO-scale

MJB Models has introduced its third B&O interlocking tower. This is the second specific location model interlocking tower, and was released in February 2016. The prototype was located at Garrett, Pa. and controlled the interlocking plant there with the Quinamahoning Branch from Rockwood and the Berlin Branch both coming together. If you are modeling Garrett on your layout, of course, this model is what you need. If, however, you are just looking for a small tower that has that "B&O Standard look," this model has a lot to recommend. It's dimensions are 12x15ft., and it is different in that there are no exterior steps to the second floor, so there won't be that intimidating set of stairs to build for the newer modelers. Second floor access was gained by a spiral staircase just inside the first-floor entrance. For those of you wishing for a small tower with a small footprint, this is for you! Small layouts with small yards will find this fitting the bill, without being over powering. The above summary is by Bruce Elliott, and his more detailed review of this kit will appear in *Modeler No. 44*. See <http://www.mjbmodels.com/>.

**Atlas O** plans to release a 40-foot wagon top boxcar during the second quarter of 2017. The new O-scale Master series model will be produced from tooling Atlas acquired late last year from Weaver Models. Road names on the ready-to-run model will be Baltimore & Ohio, B&O Express, and Pennsylvania Railroad. <http://www.atlaso.com/o40wagontop.htm>

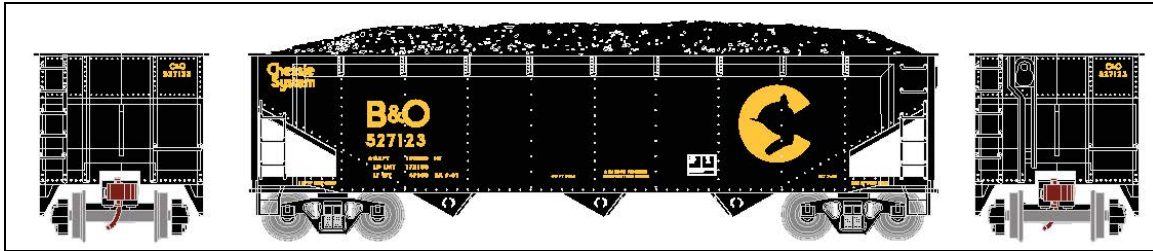


Also planned for release sometime during the second quarter of this year are 60-foot passenger car models based on C&NW prototypes but decorated for Baltimore & Ohio in blue, gray, black. The O-scale Trainman series will include a baggage car, an RPO car, a coach, a combination coach-baggage car, and an observation car with an open platform. No B&O classes indicated. <http://www.atlastrainman.com/Freight/tmo60passengercars.htm>

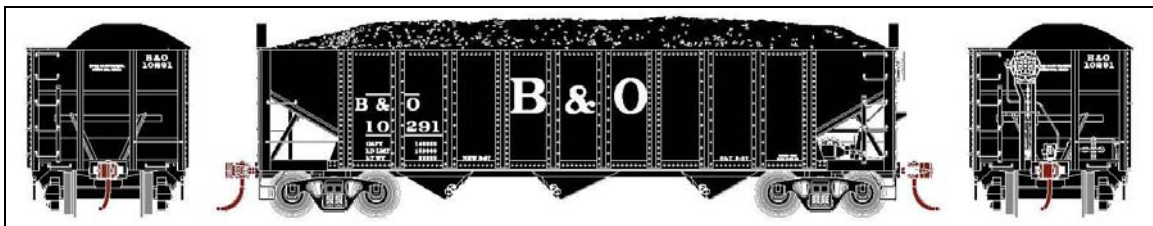




## Athearn – HO-scale



A 40-foot triple-bay hopper with offset sides is scheduled for release in September 2017. The hopper cars come with a coal load and feature factory applied wire grab irons, ladders, and stirrup steps. Among the road names will be Chesapeake & Ohio, and Chessie System /B&O. The models will be available singly and in two 4-packs for a total of nine road numbers. From the artwork, this appears to be an upgraded (wire grabs) version of the old Roundhouse offset triple hopper tooling.



A 40-foot triple-bay hopper with ribbed sides is scheduled for release in December 2017. The hopper cars come with a coal load and feature factory applied wire grab irons, ladders, and stirrup steps. Among the road names will be Baltimore and Ohio and Chesapeake & Ohio (with yellow lettering). The models will be available singly and in two 4-packs for a total of nine road numbers. From the artwork, this appears to be an upgraded (wire grabs) version of the old Roundhouse ribbed side triple hopper tooling. No prototype information of B&O class designation is specified for either car or visible from the artwork.

## Rapido – HO-scale

**Rapido Trains** was accepting reservations for HO-scale models of B&O Alco/MLW FA-2 freight and FPA-2 passenger locomotives with delivery planned for mid-summer. Rapido has pledged to incorporate numerous road-specific details into the model locomotives such as etched-metal chicken wire or Farr side grilles, dynamic brakes, variations in the battery box louvers, underbody piping and conduit, nose louvers on B&O models etc. According to Rapido, getting the water/fuel tank combination correct for all road names has required four different sets of tooling. Features that will appear on all versions of the model include operating number boards, headlights and two color classification lights; separate grab irons and handrails; full cab interior, and factory-installed Macdonald-Cartier couplers mounted at the correct height. Of the many prototype features replicated in the HO-scale model, Rapido seems most proud of the locomotive's nose which is based on a 3D scan of a full-size FA-2 preserved at Canada's national train museum. For additional information including making a reservation, contact a dealer or visit [rapidotrains.com](http://rapidotrains.com)

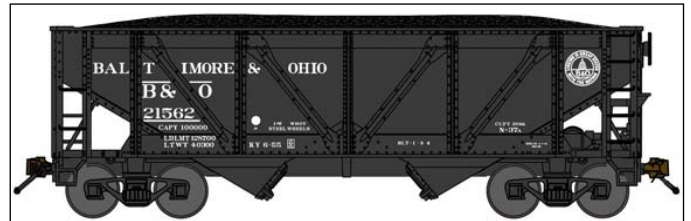


## Rapido – HO-scale

**Rapido** is also announcing the re-launch of their N-scale 73'6" Express-Baggage car in B&O paint scheme. The models feature Rapido's highly detailed underbody, body-mounted Micro-Trains couplers, all air, steam, and electrical lines, road name-appropriate trucks, and factory painted and applied grab irons. No B&O class is indicated, safe guess is that this will be a nicely executed model of a Canadian prototype. Models are forecast for a Summer 2017 delivery. For more information see Rapido's website at [rapidotrains.com](http://rapidotrains.com).

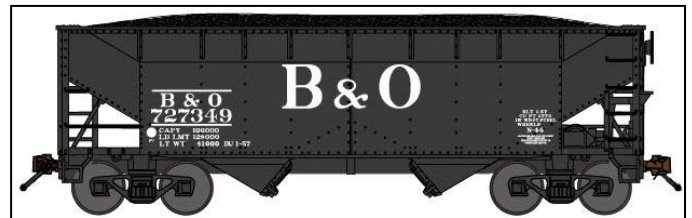
## Bluford Shops N-37a – N-scale

Bluford Shops recently announced their N-scale N-37A class cars in B&O. These cars were converted from WWII-era composite cars (Class N-37, 1025 cars) by replacing wood with steel. The N-37 was done in N-scale by Micro-Trains in April of 1978. The composite conversions began in 1946. By 1960 the Summary of Equipment showed 575 cars still in service with 231 of the original composite cars and 200 of N-37b subsequent rebuilds. Bluford shops claims the rebuilds have never been available before in N-scale. The ready-to-run cars feature: die cast slope sheet-hopper bay-center sill assembly; injection molded plastic sides, ends, and hopper doors; fully molded brake tank, valve and air lines; body mounted brake hose detail; load; body mounted magnetically operating knuckle couplers; close coupling; and Fox Valley Models metal wheels. sometime during the 1950s. All road names will be available in multiple road numbers. For instance, order a single, a 2-pack and a 3-pack to get all six road numbers on a run. (Some road names will be available in just three road numbers.) Pre-orders closed on October 28, 2017 and delivery is expected in Spring of 2017.



## Bluford Shops 2-Bay Offset Side Hopper – N-scale

Bluford Shops announced at Trainfest 2016 their fourth new hopper body style in N-scale since July of 2016. A 2-bay hopper design with offset sides was first proposed in the 1920s and first appeared in the form seen here in 1934. The AAR adopted it as a standard design the following year. The offset design permitted greater interior capacity than a rib-side car with the same outside dimensions. It was thought this more than made up for the car's higher cost of construction. The last new 2-bay offset side hoppers were built in 1960. Bluford's 2-bay offset side hopper features a die cast slope sheet-hopper bay-center sill assembly; injection molded plastic sides, ends and hopper doors; fully molded brake tank, valve and air lines; body mounted brake hose detail; load; body mounted magnetically operating knuckle couplers; and Fox Valley Models metal wheel. Each road name will be available in multiple road numbers. Pre-Orders were due by December 30, 2016. Delivery is expected in late Spring of 2017.



The N-44 class depicted in the artwork were built in 1956 and '57 at B&O's shops in DuBois, Pennsylvania. This run will be available in six road numbers.

- 66021 Baltimore & Ohio billboard single \$24.95
- 66022 Baltimore & Ohio billboard 2-pack \$49.90
- 66023 Baltimore & Ohio billboard 3-pack \$74.85

**“XXX” hopper decals from John Frantz dba Mt. Vernon Shops.** These graphics were applied to Chessie System hoppers in the 1980s which were serving out their final days restricted to system trackage. The hoppers were 8-panel two baycars from the B&O and C&O fleet. This decal set could also be used for the sans-serif block style lettering for B&O and C&O late era hoppers. More info: <https://www.mountvernonshops.com/products/ho-chessie-system-moonshine-hopper-decals>

### Something different, something odd....

For those of you into 19<sup>th</sup> century B&O modeling, or if you are modeling the B&O Museum, the field of 3-D printing offers some products only dreamed of or built by the late Don Adams (*B&O Modeler* Vol. 7, No. 2, Mar/Apr. 2011). For example:

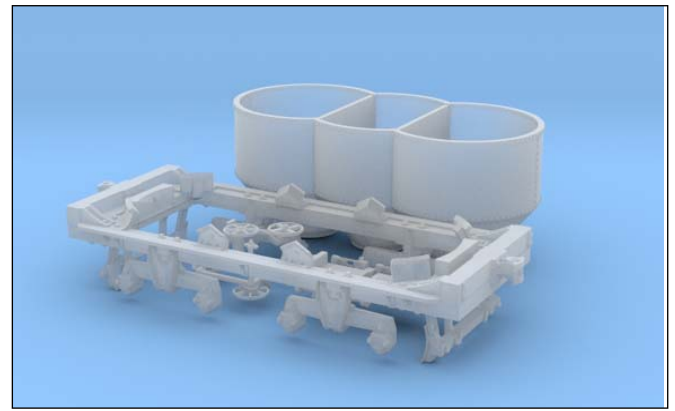
**Shapeways 1840-1860 “HO Live Spring Trucks”** Designed by Panamint Models/Eric Cox, See *The American Railroad Freight Car* by John White, p. 439. Note how the bolsters on these very short wheelbase trucks are notched for the wheel flanges so you don’t have to file the notches yourself (you supply the wheelsets.)

These are printed in Ultra Frosted Detail plastic, 4 pairs for \$25.



**Shapeways 1855 HO “10-ton Iron Pot Hopper”** also designed by Panamint Models/Eric Cox, printed in Ultra Frosted Detail, \$32, with rigid integral trucks (you supply the wheelsets). Text below is mainly taken from the Shapeways website:

This is an HO-scale kit to make an early iron car known as a 'pot hopper.' These cars were favored by the Baltimore & Ohio, Cumberland & Pennsylvania and other American coal hauling lines from the 1840s to 1900. This particular model is of the ten ton version from prior to 1860 as it appears in photos taken at Martinsburg, Va. with corrections inferred from other Civil War era photographs and diagrams in J H White Jr's *American Railroad Freight Car*. (pp. 557-562).



Cars of this design were used well into the 1870s or later. Along with the chassis and pots is included two types of brakewheels (facing the side or to the rear), two sizes of turnbuckles for the internal drawbar, and optional link and pin couplers.

The brakewheel parts are positioned by a tiny hole at the base of the stanchion that fits over the appropriate bracket bolt. There are small holes through the pots for two lengths of 0.015" wire used for the drawbar, with a turnbuckle connecting them in the center. The outer ends fit in the locator holes behind the coupler. The separate couplers are for if a more conventional height is desired, and fit in holes started in the correct position for Kadee coupler boxes (which will need modification to fit). There's plenty of room for N-scale MicroTrains® couplers.

In addition to wire for the drawbar (admittedly optional and covered by a load anyway), this kit requires 33" wheelsets with 0.990" to 1.000" length axles. Wheelsets up to 1.010" such as a standard Kadee will fit but are hard to remove without risk of fracturing a sideframe. A 0.990" is loose but gives a little slop for sharper curves, so you could use them for the inner wheels and 1" for the outer and be fine. With all four axles 1.000" the car will manage a 16" radius, so this is what I use. Photo shows metal wheelsets from Reboxx (#33-1-1.000).

Go to the Shapeways website, search for these products, put them in your “Shopping cart,” give them your credit card and they will be in your mailbox typically within a week. Reviewers welcome!

**Some quickies and some oldies (missed earlier)—gleaned from product blurbs or thumbnail ads—hopefully more details later:**

**N-scale USRA light Pacific and Mikado**, by Model Power. Photo of B&O lettered Pacific is numbered 5242, has Vanderbilt tender and Delta-style trailing truck; “upgraded” versions of previous releases, reviewed January 2016 *Model Railroad News*.

**Timesaver 3 rail boxcar** from Menards, blurb in *Model Railroad News*, November 2016, p. 39. No prototype information or B&O class given.

**8-1-3 HO-scale Pullman kit** from Bethlehem Car Works, ad in *Railroad Model Craftsman*, November 2016, p. 6. Ad says these are “Tower” series cars and kit contains decals for B&O among others.

**PS-2 Covered Hopper, HO-scale** from Bachmann, blurb in *Railroad Model Craftsman*, November 2016, p. 22. Another PS-2 covered hopper—it will be interesting to see how it differs from the old MDC or the newer Kadec car. Working unloading gates?

**Alco S-2 N-scale**, from Atlas, DCC & sound, B&O and Staten Island versions. *Model Railroad News*, November 2016, p. 66

**M80b(?)B65 50' Boxcar HO-scale**, yellow body, blue door, Walthers Mainline Series, *Model Railroad News*, November 2016, p. 60.

**We conclude with some update information on previous product notices:**

**Bachmann N-scale streamlined passenger cars**, *Modeler No. 42*, p. 11 carried a disclaimer about B&O fidelity. The January 2017 cover issue of *Model Railroader* (p. 72) has published a review of the cars vetting them as representations, with “detail discrepancies,” of Santa Fe (coach and baggage) and Rock Island (observation) cars. If you’ve bought these lettered for B&O, submit your NMRA or “Friends of the Passenger Car” membership card to apply for a permit from the Prototype Police to run these cars behind your blue and gray Alco PA diesels. Wasn’t it Con-Cor that did one of those?

**Walthers 70' ACF baggage car**. *Modeler No.42*, p. 6 also carried a disclaimer about B&O fidelity which apparently agitated some readers who felt we should not have mentioned this product. Walthers has released this car several times, with different roof styles. Ray Stern found in his files that the B&O had only one car remotely close to the model car profile the side doors were located closer to the car ends, and the single door and double door positions are reversed on the car side. That was class B-18, six cars originally built for the BR&P (B&O numbers 494 - 499). They were 66' long over strikers and had a clerestory roof. Having said all this, it needs to be pointed out that this car is in Walthers’ “Proto” series which means that high quality details (including factory applied grabs). Paint appears outstanding from the images available on the link. Get your permit from the Proto Police as above and you are cleared to run this car in your freelance consists.



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## FROM OUR READERS



Stewart F7A No. 4650 with new headlight mask made by Ken Larsen on Ken's CL&W layout, Ken Larsen photo.

### Tatum Ends, Continued



Bruce Elliott has painted and lettered his N-12g No. 420297 with the Tatum ends shown on page 46 of *Modeler* No. 42.

## Lidgerwoods

*We received some blowback on our Lidgerwood piece in Modeler No.42, pages 47-50:*

*First, from the chap who built the N-scale model, Dennis Elliott (no relation to Bruce, at least not that we know):*

I will try to answer your question No. 1, How is the winch powered? I think most were powered by steam. Some of the photos show a fixed overhead pipe running from a nearby building as shown on the photo below of the Willard, OH unit. However, the Newark, OH unit, which pulled the locomotive, appears to have received its steam from the locomotive. The photo shows a flexible steam pipe coupling similar to what was used on passenger cars and locomotives.



Lidgerwood Unit, Willard, OH

Notice the toolbox attached to the "hauling dolly" which in this case is an archbar truck. D.A. Kaiser photo, March, 1955, courtesy Alex Campbell



Lidgerwood Unit, Newark, OH

No date given, D.A. Kaiser photo, courtesy Alex Campbell

## More about Lidgerwoods:

*Jim Mischke offered some elaboration on the historical background of the Lidgerwood product and added some observations in his posting on the Yahoo list of November 22, 2016:*

- Originally, the steam winches were mounted on truss rod wood flat cars. In due course, they were remounted on steel flat cars or tender frames, as shown in the article. At first they performed ballast unloading, a system dubbed the Lidgerwood Rapid Unloader, the winch drawing a plow blade towards itself across a string of flat cars or gondolas heaped with fill or ballast. The winches were powered by the steam locomotive handling the train. The flat cars or gondolas could be rather ordinary, yet modified to guide the blade, allow the blade to jump the gaps between cars, with otherwise vulnerable hardware such as brake wheels tucked out of the way. Later, the Lidgerwood winches were adapted to *in-situ* locomotive wheel truing.
- Popular at the time of Panama Canal construction, Lidgerwood Rapid Unloaders were obsolesced overnight by side dump cars around 1910. As railroads do not replace recent equipment quickly, Lidgerwoods continued to be used for many years until their replacement cost justification put side dump cars in the capital budget.
- In wheel truing service, the winch drew a cold steam locomotive towards itself. The locomotive's brake shoes were temporarily replaced with cutting tools to machine the drivers back to within profile specs. Multiple passes were required. This saved the cost and down time of a trip to the drop table, machining the drivers on a huge lathe, then reattaching.
- The Lidgerwood track would be straight and full of sharp shavings, rusted and fresh. Maybe too small to model in scale, these shavings might be represented with a rusty hue along the rails and some finely cut up staples sprinkled about and glued down (remember these can cause short circuits if allowed to wander).

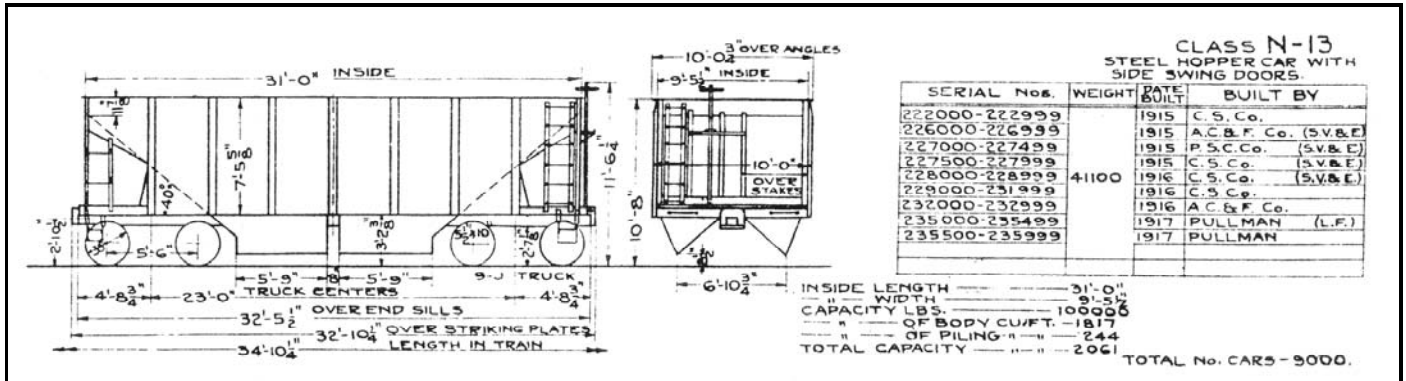
Page 49 of *B&O Modeler* No. 42 shows the Lidgerwood at Fairmont, WV, no lettering visible. Additional photos just add mystery; car is labeled "FA26", but not shown in any known roster or number series. [Maybe Terry Arbogast will offer us some insights in future volumes of his books. JT] B&O Lidgerwoods were in the U-1 to U-14 number series, although B&O may not have had them all at one time. Many were acquired with railroads, worn out and disposed of before the next merger.

Page 50 shows the Brunswick Lidgerwood winch U-2. Both photos are credited to L. W. Rice; my prints are labeled with the top broadside photo as mid-1946, bottom photo mid-1950. Note the wheeled cart in front of the winch; this is for playing out the coiled steel cable to the waiting locomotive along the straight track ahead. Beats carrying it there by hand. Some installations had a second winch or pulley at the far end.

[Curious editorial afterthought: Is there an image of the Lidgerwood Rapid Unloader and Plow in one of the early *Car Builder's Dictionaries*? How about images of wheel truing tools in one of the *Locomotive Cyclopedias*? JT]

# THE N-13 CLASS, A UNIQUE HOPPER

## BY EDWIN C. KIRSTATTER



B&O Mechanical Department Equipment Diagram T-44877 Revision 'B' 4-20-50.

These hopper cars were built from 1915 to 1917 and may have predated Mr. Tatum's days of designing Baltimore and Ohio rolling stock. These 9,000 cars were built by American Car & Foundry Co., Cambria Steel Co., Pressed Steel Car Co. and the Pullman Co. all to the same light weight of 41,100 lbs. They were unique in having 40-degree slope sheets instead of the usual 30-degrees on ordinary coal cars suggesting their possible use in coke service for steel mill blast furnaces and foundry cupolas. They also had longitudinal side swinging discharge doors not used on any other class of B&O hopper. These longitudinal doors were a common characteristic of coke cars because they provided for gentler unloading of coke which is more fragile than coal. However, due to coke's lighter weight, coke cars tended to be ca. 40' long to utilize the 50-ton capacity. These cars were not formally designated as coke cars, and the operational rationale behind what we will tongue-in-cheek call "shorty coke cars" remains somewhat of a mystery (see Editorial Musings below). 3,000 of these cars were assigned to the Sandy Valley & Elkhorn and 500 to the Long Fork, both in Kentucky. Both of these were B&O-owned lines with no physical connection to any other B&O line. These small railroads/branches had many coal mines the B&O owned. These lines with these cars & locomotives were sold to the C&O in 1923, so perhaps one day someone mining the C&O Historical Society's archives will come across "the rest of the story."

These types of cars (side dumping 50-ton) were also seen on the Maine Central, the Union Pacific and undoubtedly others.

A modeler could kitbash a plastic twin hopper model from Varney, Life-Like or Accurail to resemble one of these cars used in cinder service in their last days at a steam locomotive ash pit. He would cut out the existing slope sheets and hoppers, then rebuild these with Evergreen Scale Models styrene materials using the diagram and photos as a guide. Then grabirons and ladders would be added as well as a new brake wheel up on the top. He might even add rivets to show the new slope angle using Archer Surface Detail or Micro-Mark decals. A good enough model will be the result of this effort, although maybe not a contest winner. Those wanting to scratch build a better model can go to the B&O Museum in Baltimore, Maryland, to look at the only surviving car of this class, 227839, which you can photograph and perhaps get important detail dimensions.

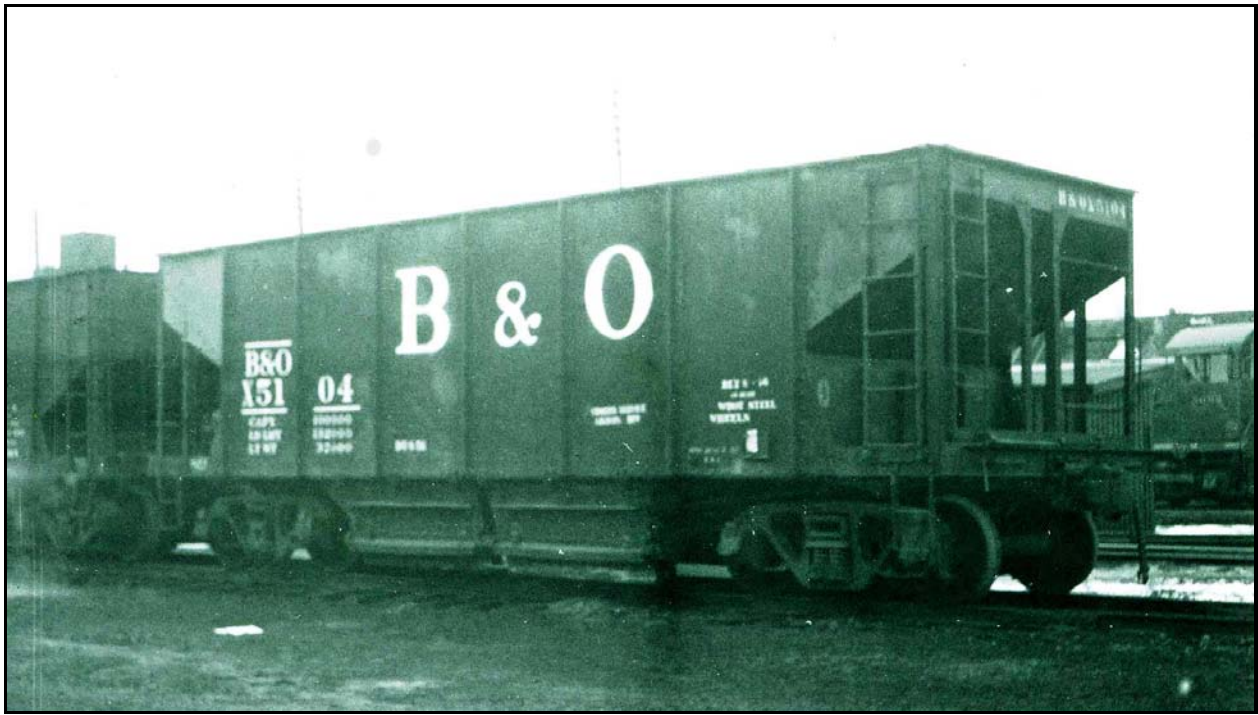




Kids, Don't Try This at Home—In 1997 David Bridgham sent me this photo of more than I care to count Life-Like twin hoppers in the process of “upgrade” based on my old Sentinel article. You don't need to do this anymore. JT



N-13 230215 at Haywood, WV.in 1937, from Bob Lorenz collection.



Cinder car X-5104 at Akron, OH, Jan. 1958, Edwin C. Kirstatter.

Some additional references and images:

1916 *Car Builders Dictionary*, page 1035 and 1919 *Car Builders Dictionary* page 1172 (also reprinted in Newton Gregg's *Train Shed Cyclopedia* No. 36) B&O 222163.

*The Sentinel* V24, No.4, 4<sup>th</sup> Qtr. 1999 page 33 top B&O 231026 and another in bottom picture.

*The Sentinel* V32, No.4, 4<sup>th</sup> Qtr. 2010 page 20, B&O X-5006 in cinder service.

*Freight Car Equipment of the Chesapeake & Ohio Rwy. Aug 1, 1937*, Page A-4, a C&O diagram.

*B&O Power* page 75 "Smaller Lines"

### Editorial Musings and Extras

There are several additional images of N-13s in the National Model Railroad Association's "Bob Charles Collection" of black and white freight car images. These were made mostly around Harrisburg, PA in the late 1940s by a photographer who is officially unknown but who Lehigh Valley modeler Chuck Davis feels some evidence suggests is the late Ed Miller. Decent resolution versions of these are available for free viewing and download from the NMRA's website, although I think you can pay a fee for higher resolution versions. These are marvelous scans of the wonderful original photographic images which are smallish 2 ¼ "x4" prints (616 size?). I found N-13s as images 59 and 65 and there may be more.

Let me offer the following hypothesis about the rationale behind these cars:

1. I have not seen any designation that they were ever for coke service although the B&O did have such designated cars. In particular, an article entitled "Types of Freight Cars in Service on the Baltimore and Ohio System," was published in the *Baltimore and Ohio Magazine*, May 1925. (A copy of this article was mailed to Society membership in May of 1989 as a "between *Sentinel*" benefit.) One section of the article covered "Hopper Cars" and illustrated the type with N-13 No. 222163 and N-12G No. 331434. There was no mention of coke service in the context of the N-13. Moreover, another section of the same article covers "Coke Cars" and is illustrated with

classes W-1 and W-1a, both 40' long cars with lateral, bottom dumping doors (referred to by modelers as "clamshell" doors).

2. There are two photographs that suggest these cars may have been designed for optimal use on high-level gravity dump coal piers. One photograph shows a bunch of N-13s unloading on the old high level pier at Port Reading in New Jersey on Arthur Kill. Another photograph shows another bunch of them coupled together south of Locust Pt. Elevator B. Why would they be parked next to a grain elevator? Well, nearby, just east of where the Domino Sugar plant is today was another wooden gravity unloading coal pier that stood I believe into the early 1960s. This was not a high-volume operation like that of Curtis Bay. I have never seen a photo of this facility and I have no documentation for this, but I was once told that the primary purpose of this pier was for bunkering (fueling) steam powered tugboats and for loading barges with coal. The barges would be taken alongside coal fired steamships moored at various places in the harbor and the coal transferred to the ships. The tugs would just take a pile from the pier's coal chute down onto the deck, to be shoveled down the scuttles by the crew. And what kind of coal came from the mine(s) served by the Sandy Valley & Elkhorn? Was this the type favored for vessel bunkers? We rely on our reader coal experts to let us know.
3. The *C&O Freight Car Equipment* book cited above states the cars were designed by the B&O.
4. The cars were rated for 50 tons, a full coal load for this length and volume of a car. Coke loading would be inefficient car utilization.

So the hypothesis is that the cars were never intended as coke cars and with the 40-degree slope sheet and side unloading doors were purposely intended for fast unloading on top of these gravity coal piers, of which there were a lot in service when the cars were built. Just a hypothesis.

Additional factoids:

The *Summaries of Equipment* show 225 cars in revenue service in 1945, down to 46 by 1950 and 3 still in revenue service by 1960, the last year of the *Summary*. They are known to have been used in non-revenue cinder service, for which they would have been useful with the capability to side-unload cinder ballast in yards and sidings. Talk about a modeler's dreams—a car for all seasons through the end of the steam/diesel era.

The above cited images in the *Car Builders* were embedded in an Enterprise Railway Equipment advertisement. Enterprise specialized in side dump car mechanisms. However, the N-13s appear to have had simple side dumping arrangements, not more sophisticated alternate unloading capabilities offered by the Hart patent designs, many of which were actually also constructed by ACF.

Following are some additional detail images, photographed of 227839 at the B&O Museum in Baltimore in October of 2016. The car is presently parked along the fence on the McHenry Street side. Due to cars on the adjacent track on the one side and the fence on the other, only an oblique photo is possible. However, with afternoon shade, these glare-free detail photos were taken:





An overall albeit oblique view of the side showing both doors and end ladders.



View of "box" end sill, cut lever and T-section Andrews trucks. Note the corner ladders on the side and end rather than grabs.





A view of the side dump doors and details of Wine door locks on the doors—Westerfield makes these latch castings.



View of underside of A end. Note how the slope sheet runs at a steeper angle above the bottom edge of the side sheet

### Yes, a model!

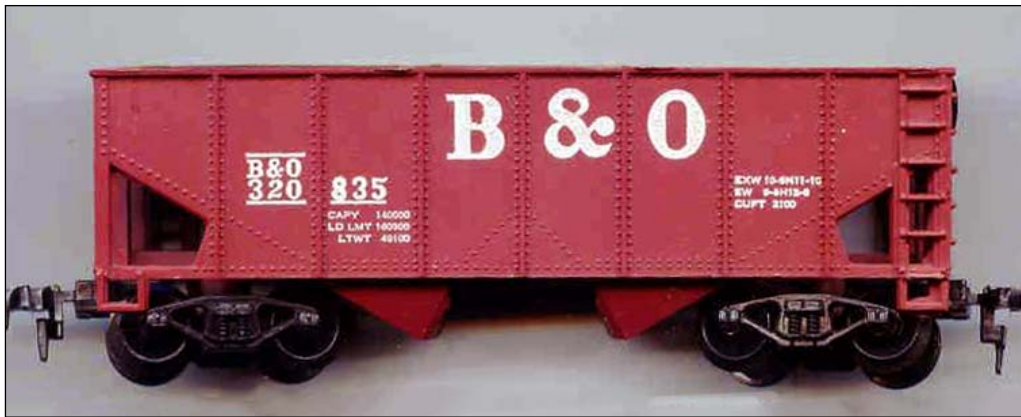
*The Sentinel*, Vol 12, Nos. 1 & 2 of 1990 contained an article I wrote about upgrading the Varney/Life-Like “USRA” hopper. This was an outgrowth of a “hands-on” clinic I presented to our local NMRA Division with the help of donated Life-Like cars courtesy of Pro-Custom Hobbies. Keep in mind that we didn’t have the Tichy, Accurail, MTH and probably other much better models of the USRA twin hopper at that time. I wouldn’t waste my time with such an upgrade today with the other options available, and I wish there were some way of “deleting” that article from the cosmic record. Having said that, ca. 2013 there was such an upgrade on display at the Greensburg Prototype Modeler’s meet. The documentation with the model even gave me credit for the project. I forget who the modeler was, perhaps one of our readers, but at least he did a credible job. At any rate, I, too have some left-over Life-Like USRA cars and contemplated using them to perform what Ed Kirstatter outlines above. (I also contemplated using them for kitbashed N-12s but Steve Funaro has saved us from such misery.) But reader Bryan Porter has beaten me to it and has harvested probably the only parts worth harvesting from the Life-Like car, the sides and underframe, as he tells us below. I think you will agree that Bryan has done a commendable job of capturing the essence of this car.

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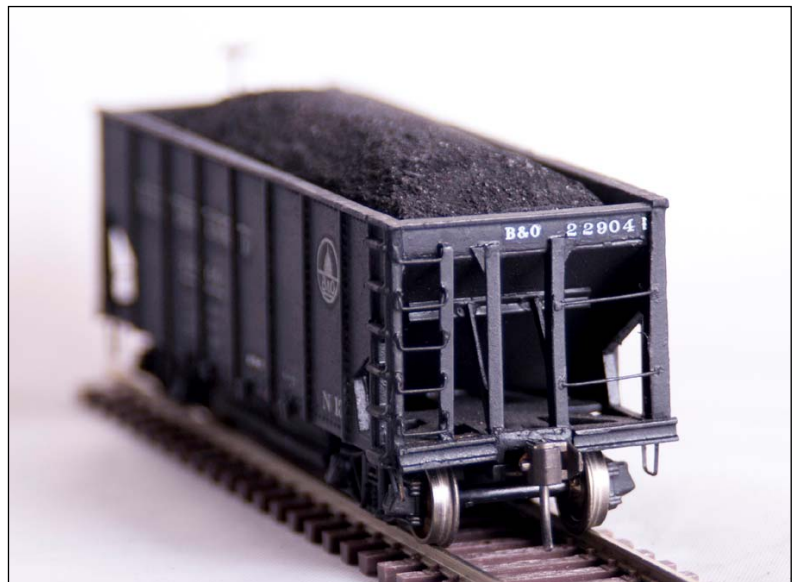
## BUILDING A B&O N-13 CLASS HOPPER FROM A LIFE-LIKE/VARNEY HOPPER CAR

BY BRYAN PORTER

I chose this car because it is very close to an N-12 class. Also from the photo's I have of the car it looked pretty similar to the N-13. Also the fact that I purchased the car on-line for about \$1.50 helped to make my mind up that I was indeed going to use this car to start with. Basically I simply decided that I only needed the sides of the car. So I took an Atlas snap saw and removed everything so that I only had the two car sides. I also shaved off the rivets that were in the wrong place that I could easily get to on the car sides. Then using Evergreen plastic sheets and shapes, I simply studied the photos that I have of the N-13 class car. I started with the slope sheets and a flat bottom (while not real, I had to have a base for the sideways hoppers to glue to when I built them). Knowing I was going to use this car in company ash service it would always have a load in it and thus having the actual hopper bays working was not needed. After some careful measurements, I began to glue the slope sheets into the sides of the car trying to keep it as square as I could get it with clamps and even rubber bands while the glue set. Then I simply used "C" channel, angle and different sizes of flat stock to build the ends, braces, sills, etc. needed to match what I could see in pictures. Then I drilled the holes and added the stirrups, grab irons, as well as brake gear from Tichy to complete the car.



The original Life-Like "USRA" shell with factory red paint



Note skinny end sheet, new end verticals and built-up "box" end sill





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# MODELING A M-15L DOUBLE-DOOR WAGONTOP AUTO CAR

BY BOB CHAPMAN

MODEL PHOTOS BY AUTHOR.



Funaro & Camerlengo's HO kit #7020 nicely models B&O's M-15L wagontop automobile car.

## Introduction

For many years, modelers wanting an HO-scale B&O wagontop boxcar were offered a limited set of less-than-satisfying choices. Cannonball Car Shop's styrene kit was easily assembled, but featured hamburger-sized rivets and a carbody too wide by a full scale foot. Brass models offered good detail fidelity, but were not affordable to many modelers. Sunshine Models' cast resin kit could be built into a fine model, but the wagontop carbody required complex assembly techniques best suited to experienced modelers. And of course, there are other less desirable HO wagontop alternatives.

In the last few years, the world of wagontops changed dramatically with the release of mass-produced styrene models – first with Wright Trak's M-53 wagontop kit, closely followed by M-53's in nearly every paint scheme from Fox Valley and ExactRail. Even non-B&O layouts were suddenly awash in wagontops, and what used to be a distinctive model was no longer special.

Against this backdrop, I encountered Funaro & Camerlengo's M-15L kit at a train show. In contrast to the M-53, the M-15L's inset notched sidesill and the car's double doors were definite "cool factors," not to mention the old fashioned "box" end sill and the additional ribs. No way would this car be mistaken for the run-of-the-mill M-53's now on everyone's layout. Here was an opportunity to have something a bit different. I left the train show with the shopping bag heavier and the billfold lighter.

## The Prototype

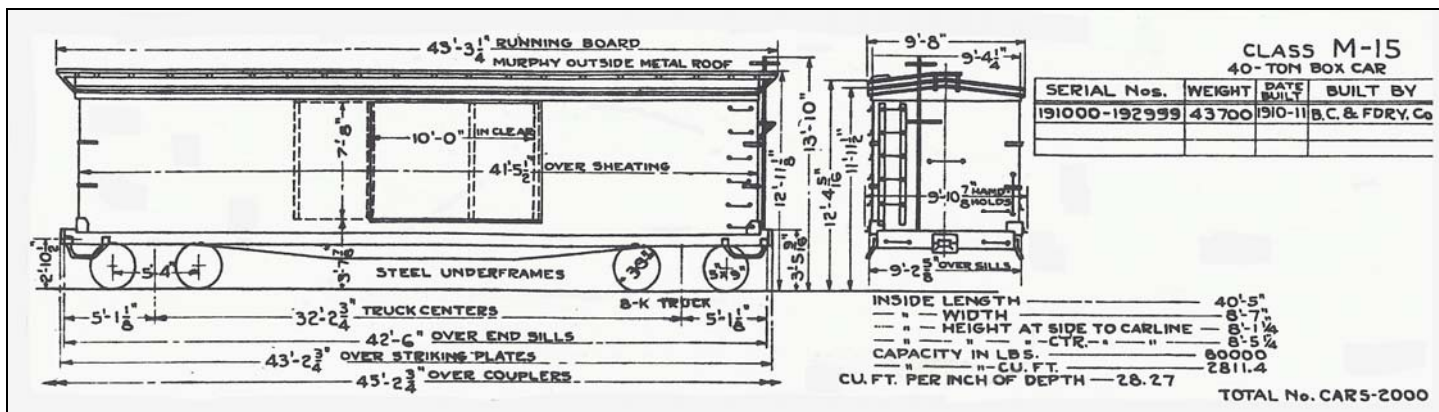
The history of B&O's wagontop boxcars has been thoroughly chronicled, most notably by Pat Wider in Volume 9 of *Railway Prototype Cyclopedia*. The design can be traced to the first of six experimental boxcars commissioned by car department General Superintendent John J. Tatum in 1934-35. The car, M-15BA #279000, was rebuilt from a M-15B double-sheathed wooden boxcar, using wagontop components for the carbody.

Encouraged with the success of the M-15BA and buoyed by funding from the Great Depression's Reconstruction Finance Corporation, in early 1937, B&O rebuilt 1470 additional M-15 wood-sheathed boxcars into three wagontop classes – 1240 M-15K single door boxcars, 50 M-15L double door auto cars, and 180 M-15M double door auto cars with six inches added height to accommodate Evans Auto-Loader mechanisms. (Concurrently, an additional six 36-foot cars would be rebuilt from class M-13's.)

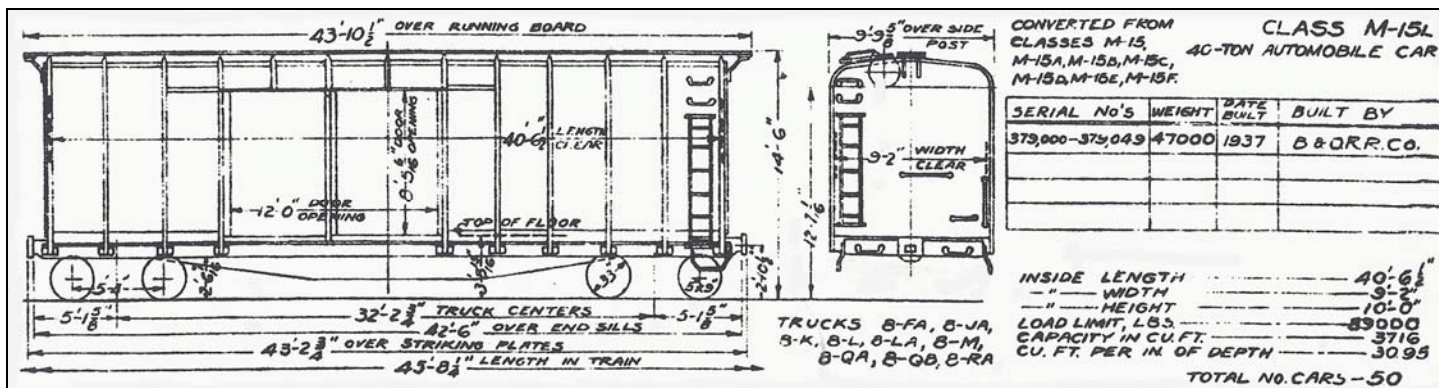




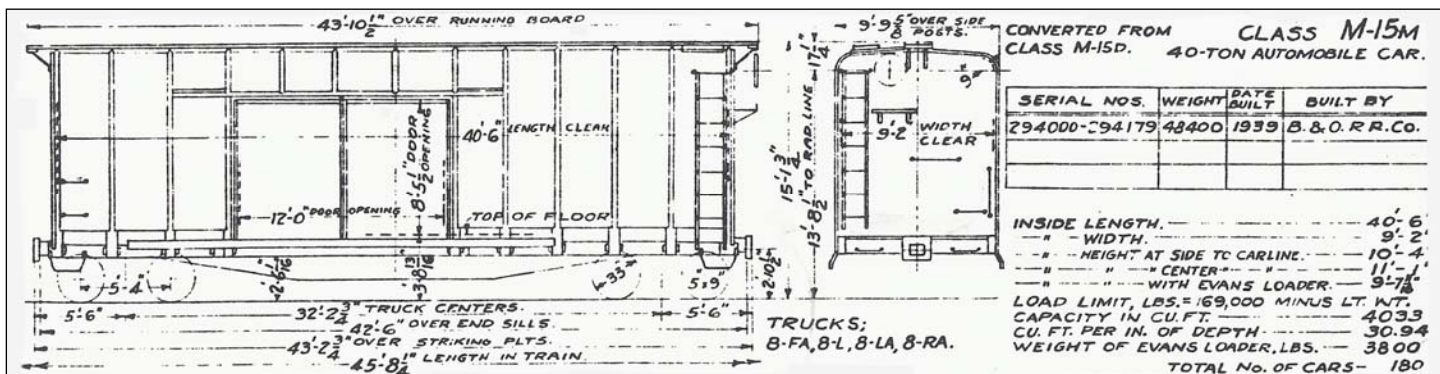
M-15L automobile car #379001 poses in its 1937 "rebuilder's photo," one of fifty (#379000-379049) rebuilt from double-sheathed M-15 boxcars of a 1910-vintage design. The original sidesill of the narrower M-15 carbody remains visible at the bottom of the M-15L side. This is the only M-15L prototype photo known to the author. Photo courtesy Martin Lofton



B&ORR diagram of M-15 double-sheathed boxcar, a class originating in 1910, and built with modifications in multiple subclasses as late as 1930.



Included in the 1470 wagontops rebuilt from obsolescent M-15 double-sheathed carbodies were 50 class M-15L automobile cars, #379000-379049.



Also rebuilt from M-15's were 180 class M-15M automobile cars, noticeably six inches taller than the "L's" to accommodate Evans Auto-Loader mechanisms.

The double-door auto cars differed from the standard wagontop boxcar body architecture. To further strengthen the carbody due to the 12-foot door opening, thirteen ribs were incorporated in the design, two more than the standard eleven on the single-door boxcars.

Immediately to follow in the second half of 1937 would be 2000 M-53 wagontops, new from the rails up. An additional 1000 new nearly-identical M-53A's would top off the wagontops in 1941.

The wagontops evolved through their long service lives, sometimes receiving new trucks, underframes (for the M-15's), doors, running boards, and a multitude of lettering schemes. The 1956 *Summary of Equipment* showed 47 of the original 50 still in service, but there was no listing in the 1957 issue.

### The F&C Kit

Funaro & Camerlengo has been in business for many years and offers over 300 cast resin freight car kits of various prototypes, including numerous B&O classes. Their kit #7020 professes to build either a B&O M-15L or M-15M double-door wagontop. While the two prototypes are very similar, the "M" is six inches taller than the "L". This small difference often might not seem noticeable; in this case it is, since the extra six inches above the standard-height doors will give the "M" a definite "tall" look. Even though the "M's" were more numerous, it became an easy decision to build the model as an "L".

The best feature of the model is its one-piece carbody, which includes sides, ends, and roof as a single casting. The one-piece body entirely eliminates the construction complexity found in the previous Sunshine Models cast resin wagontop kits.

The body is molded in a soft variation of white cast resin which is very easily drilled. Detail is fine, and rivets are correctly sized. The only flash on the body appears along the lower edges of the sides and ends and is very easily removed. Should you want to model a car with open doors, the carbody interior features wood-plank lining, a nice touch, indeed.

Construction involves adding to the carbody a few dozen detail parts – doors, ladders, grabs, stirrups, running board, handbrake system, and underbody detail, the latter from a Tichy AB system sprue. The remaining cast resin parts have modest amounts of flash which is easily removed.

Custom decals with dimensional data tailored to the model are included, and will letter the model in the style prevalent in 1937 when the M-15L's were rebuilt from the M-15's. Transition-era modelers will want to add a "Thirteen Great States" herald, and late-era modelers the large B&O initials, both not included.

Also, not included are trucks, couplers, and a few "modeling commodity" items such as paint, screws, and a few sizes of styrene strip. Several lengths of soft, green-coated (florist?) wire are provided; while it's adequate for the underbody brake rodding, you'll likely want to replace this with harder, correctly-sized brass wire for handbrake-end detailing.

The weakest part of the kit is its instruction sheet. While it makes an attempt at clarity, it falls short. I'd speculate that its author wrote it late at night; some steps are highly summarized, the sheet repeats steps already covered earlier while leaving other steps out, and a few steps are just plain wrong.

An added shortfall is lack of photos; there are no in-process modeling photos and no prototype photos, only a single murky side view of the completed model. A diagram of the M-15L underbody and generic drawings of various handbrake systems attempt to offset this.

Despite these shortcomings, the kit can be built into an excellent model. Note that F&C offers models at a good discount at the train shows they attend and has made some of their kits available with multi-kit discounts by mail. Be sure and check!

### **Building the Kit**

The instructions that follow will attempt to offset the shortcomings of the F&C instruction sheet. The numbering of steps is directly parallel, and we suggest using the two instruction sets in conjunction with each other. Along the way, we'll make a few modifications leading to a better model, and add a few tips.

#### **Step 1**

The F&C sheet suggests removing the "four corner sprues." This is not necessary, and we'll in fact find an important use for them later.

Sand the bottom edge of the sides as instructed. The inside of the side sill has some protrusions which will interfere with the later installation of the floor; cut them away with a modeler's knife, being careful to keep your fingers away from the path of the blade. Remove flash from the floor, doors, and "roofwalk" (railroaders call it a "running board"). Test fit the floor to nest in the carbody atop the four corner sprues, and trim it as necessary.

For good glue adhesion, this is a good time to wash the mold release agent and resin chips from these major parts, using a non-oily dishwashing detergent such as Ivory Liquid.

#### **Step 2**

Next install Kadee coupler boxes; they will extend beyond the floor, with their edge flush with the endsill on the carbody. The F&C instruction sheet suggests gluing them – in my experience a bad idea. If you run trains of more than a few cars, this joint will be under stress, and will almost always time its failure when the maximum count of visitors is viewing the layout. A better solution is a 2-56 screw (drill #50, then tap). While your drill and tap are out, drill and tap the bolsters.

When rebuilt, the M-15L's rode on Andrews trucks from the original M-15's. The sheet suggests several possibilities; I elected to use Accurail #103's. An alternate option is the standard AAR ("Bettendorf") truck, which some cars received in the postwar era.

Test fit the floor with the coupler boxes installed. The F&C sheet states that the floor should be "level with the bottom of the body end." This is wrong, wrong, wrong! For the carbody to be at a correct 14'6" overall height, the floor will be at correct height when it rests on the four corner sprues, and is inset relative to the bottom of the sides and ends.

For this to happen, you'll likely need to remove some material from the cutouts for the coupler boxes in the carbody endsills. You'll note a slight ledge molded into the face of the endsills above the cutouts; if you file to this ledge, you'll be about right.

#### **Step 3**

The F&C sheet next states, "Cement the styrene strip to the insides of the door opening." The kit includes only one styrene strip – a short length of .010" x .020" strip. I could see no function that a styrene strip of any size could serve inside the door opening, nor any evidence in the prototype photo that additional detailing was needed in this area, so I ignored this step.



Cement the doors in place, being careful to center them on the opening. Glue the top of the door first, resting it on the slight ledge molded on the upper door guide, then glue the bottom.

The lower door track is a cast resin item about 25 feet long. Lay it under the doors centered on them. Apply a small dab of glue where the guide rests on a rib nearest the door, then move outward applying a dab to the remaining rib. Repeat for the other end of the track. Finish by applying a bead of glue where the track runs along the bottom of the doors, making sure that the track doesn't bow inward in this area where there are no supporting ribs.

#### Step 4

For the two side ladders, trim the bottom of the stiles 3" below the bottom rung; leave as much material as possible at the top of the stiles. Cut 3-scale-inch long standoffs from the .010" x .020" styrene strip included in the kit, and glue two behind the stiles of each ladder near the top. The bottom standoffs are already molded to the carbody. Glue the ladder to the side, the bottom of the stiles flush with the bottom of the side.

On the prototype, there is an additional ladder rung connected 15" above the top of the ladder by steel strapping bolted to the stiles. We'll represent this top rung with an 18-inch straight grab. Drill (#76) for this grab; a push-pin is very handy in pressing locator dimples where you want to drill. Glue the grab in place, its surface flush with the outside of the stiles. Cut a pair of 9" lengths of .010" x .030" styrene strip for each ladder, and glue them from the grab to the stile, overlapping the stile by about 6".

At the bottom of the ladder, the left stile has a short length of steel strapping angling inward from the stile to the inset sidesill; cut a short length of .010" x .030" to represent this and glue it in place.

The end ladders have identical architecture at their tops, but are one rung shorter at the bottom where the endsill takes the place of the bottom rung. The molded standoffs on the ends are incorrectly located too far from the edge, and should be shaved off. Glue .010" x .020" standoffs behind the stiles at top and bottom, and glue the ladder to the end inset 3" from the end's edge.

#### Step 5

Drill (#76) for the grabs; in most cases, F&C provides helpful locator dimples, which can be enlarged with the push-pin. You'll have grabs at the following locations:

- Two 18" straight grabs at left of side (Westerfield #1198)
- One 18" straight grab on the curved roof area above the side ladder.
- One 18" inverted drop grab above the end ladder (Westerfield #1197)
- One 18" drop grab on the end sill on each side of the coupler
- One 18" horizontal straight grab near the bottom of the end
- One vertical 27" straight grab on right side of end (bend from .015" wire)
- One horizontal 30" straight grab on center of end (bend from .015" wire)

Step 5 also references the L-shaped grabs found on the roof's corner walks; we'll return to them when the sheet references them again in Step 7.



Unusual detailing on the wagontop ladders is strapping at the tops and bottoms of the stiles, and an extra straight grab on the roof curve



B-end detail placement.





Completed unpainted carbody, showing side detail placement.



A-end detail placement.

### Step 6

The kit provides cast resin stirrups which are correctly shaped, but which will not “angle out” from the recessed sidesill like the prototype’s. Since they are also fragile with handling, it seemed worth a try to bend some matching replacements from Detail Associates #2524 .010” x .030” Flat Brass Bar. This proved easier than expected, and I’d urge you to try it. A tip – make a pencil mark on your needlenose pliers when you get the bottom width of your first stirrup correct, then use the mark as a locator guide for bending the remaining three stirrups. Note that one leg of the stirrup is vertical and the other is at an angle.

The stirrups are installed into the bottom of the endsill for the angled leg and the bottom of the side for the vertical leg. Drill (#68) at an angle into the bottom of the endsill, and vertically into the bottom of the side. Glue the stirrups in place, then bend them so that both legs angle outward, and the bottom rung is parallel to the bottom of the side.



The kit provides cast resin stirrups, but a more accurate and sturdier representation can be bent from .010” x .030” flat brass bar stock.

### Step 7

Glue the running board to its supports, making sure it is centered both longitudinally and laterally on the roof. The running board is very flexible, and can be glued to the supports a few at a time.

Drill (#76) for the grabs on the corner walks, using the cast locator dimples as a guide. Install the corner grabs, and glue a short stub of wire as a support at the corner of the grab. Snip off the protruding wires on the bottom of the walks, and file the stubs smooth.

The outer edge of the corner walks rests on supports molded to the carbody roof. The inner edge is suspended from the bottom of the running board; a pair of .010” x .030” styrene strips is handy for this. Glue the corner walks in place.

### Step 8

Cut a length of .020” x .040” styrene strip and glue it under each end of the running board. Cut running board end angle supports from .010” x .020” styrene strip, and glue them between the rivets cast on the ends and the bottom of the .020” x .040” strips.

Assemble the Tichy brake cylinder, reservoir, and Ajax handbrake housing. Note that prototype photos show the chain exiting the bottom right of the housing, not the left.

### Step 9

Glue the Tichy retainer valve next to the ladder, level with the top grab on the “B” (handbrake) end. The retainer line runs vertically downward from the bottom of the retainer valve and through a vertical hole in the endsill. To secure this piece, drill into the end just below the retainer valve, then through the endsill. Bend a small “L” into a section of .012” wire (the kit’s green wire is way too heavy for this), and glue the bend into the hole below the retainer valve and the bottom of the line into the other hole through the endsill.

Glue the handbrake housing to the “B” end near its top, and 6” from the ladder. Snip off the chain where it hits the locator lug for the brake platform.

The handbrake bell crank called for in F&C’s instructions is hidden behind the endsill on the prototype, and is not visible; ignore this step.

The handbrake rod runs vertically from the bottom of the chain through a hole in the endsill. Bend a small “L” in a section of .015” brass wire, and install it similar to the retainer line.

Notch the cast resin brake platform to clear the handbrake rod and retainer line, and glue it resting on the top of the locator lug.

The Tichy brakewheel is an older style not quite accurate for the B&O prototype; Kadee’s Ajax brakewheel (#2030) is an excellent replacement.

### Step 10

With F&C’s great care to produce an excellent model, why would their instructions now suggest that uncoupling levers are “optional”? They’ve got to be kidding! Uncoupling levers are every bit as visible as the end detailing that we have just carefully installed, and are easily added. Using the photos as a guide, bend the levers from .015” wire, and suspend them from a pair DA #2206 eyebolts installed into the top of the endsill.

### Step 11

Moving to the underbody – my practice is to model only what can be seen in normal viewing on the layout. This would include the valve, cylinder, reservoir, levers, and rodding, but would exclude the piping and train line. I like to think that the time I save on modeling these details can be invested in good trackwork on the layout, making sure that my models will never be seen resting upside down along the right of way! In reality, it’s a nice excuse to get done and move onto the next project.

Clear the slots in the centersill with a round needle file. Using the F&C diagram as a guide, glue the brake cylinder support (two parallel cast resin strips) to the ledge on one crossbearer and on top of the adjacent one. Cut the four riveted crossbearer caps 3’0” long, and glue them to the angled crossbearers, butting them against the centersill. Glue the brake cylinder to the support.

Glue the reservoir support (cast resin angle iron) to the underbody, and the reservoir to the support.

Glue the brake valve support (cast resin “L”) between the crossbearer and floor, its angle toe glued to the floor. Glue the brake valve to the support.

If you will be installing piping, do it now. Then glue the bolsters in place.



The kit provides cast resin stirrups, but a more accurate and sturdier representation can be bent from .010” x .030” flat brass bar stock.

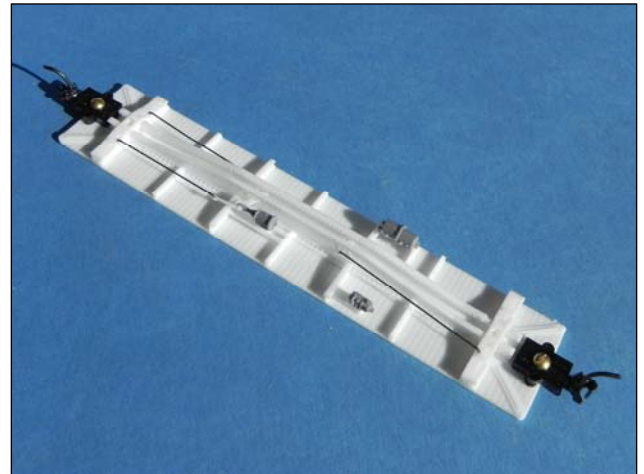
Install the trucks and couplers, and check coupler height. If too low, use the Tichy washers to shim the trucks.

### Step 12

Drill the ends of the cast resin brake levers for the brake rods, and drill into the bolsters for their opposite ends, making sure there is clearance for the trucks to pivot. Bend the rods to fit between the holes; the green wire is OK for this. Glue the rods in place. I much prefer the simple added effort of gluing the rods into holes rather than just to the surface of the levers and bolsters; this eliminates any risk of them later falling off and causing a derailment.

Some good news – the M-15's did not have Duryea underframes, and we are spared the extra work to add the various Duryea details present on the M-53 underbodies.

As a final item, determine what weight you want for your model. The unweighted F&C model tips the scale at about three ounces, one ounce short of the NMRA recommendation.



The low wagontop sidesills hide most underbody detail items in normal viewing, so one can get by with a minimalist approach to underbody detailing.

Many of us use contact cement for the weight, but its solvent can cause warpage of the cast resin floor. If you use contact cement, be sure to allow time for the solvent to evaporate before making the joint, and to leave the floor unassembled to the carbody for an additional period to allow any remaining solvent to fully evaporate. [Or use tube-size clear silicone sealant available from your hardware store—e.g. DAP brand. JT]

### Step 13

It's important to wash the model thoroughly before painting, to remove any residual mold release oil and fingerprints. Cast resin models seem particularly sensitive to paint fish-eying if they are not perfectly clean. I have had good success with Ivory Liquid for this; the F&C instructions suggest Shout spot remover, which may be as good or better.



Lacking a photo of an M-15L in the "Postwar 13 Great States" scheme, I copied the lettering arrangement shown in this 1947 B&ORR photo of M-59 #298898. Credit B&ORRHS





To match the orangish-red color often found on B&O's freight cars in the transition era, paint on the unweathered model is a mix of Floquil Zinc Chromate Primer and Oxide Red. The roof is a white-tinted variation of the body color, to add "life" to the model in our dark, flat-lit layout rooms.



Unweathered look at the two ends, weathering will add interest to these areas.

## Step 14

The F&C instructions suggest some options for correct color. Color choice can be a bit subjective; what looks right to me may not look right to you. My preferred B&O boxcar color is a 50-50 mix of Floquil Zinc Chromate Primer and Oxide Red, which to my eye nicely matches the subdued orangish-red of a circa-1950 car. I also like to lighten and highlight my carbodies so that they will look right under the darker and flatter layout lighting that most of us have (see December 2010 *Model Railroader*). For the wagontop, this meant spraying the roof with a white-tinted version of the body color. If using Floquil paints, be sure and add a gloss coat such as Crystal Cote before decaling.

Paint the underbody and trucks a grungy brown-black color.

Decal the car following F&C's instructions. The decals will letter the car as it left the shops after its 1937 rebuilding. The M-15L's were camera-shy, and the only prototype photo known to the author shows #379001 fresh from its 1937 rebuilding – perfect for those using F&C's decal set.

For my circa-1950 transition era, I needed lettering based on the "Mid-1946 to Mid-1955 Postwar 13 Great States" scheme, requiring a "Thirteen Great States" herald salvaged from another decal set. Lacking a prototype photo of a M-15L in this scheme, I copied the lettering patterns shown in a 1947 builder's photo of M-59 #298898. This approach may not be precisely accurate for the M-15L, but at least it is credible.

The number series for the M-15L's is #379000-379049. Chalkmark routings were common in the transition era, and add interest that the car has actually been engaged in earning its keep; they can be replicated from decals (often based on prototype photos), or freehand with a very sharp light gray Prismacolor pencil. After the decals have thoroughly dried, apply a flat finish such as Dullcote.

Weathering will further enhance the detail of the model, and there are almost as many weathering approaches as there are modelers. I elected to lightly weather the car, using Pan Pastel's Red Iron Oxide Extra Dark as the primary agent representing the accumulated road grime. On the wagontops, grime especially tended to collect along either side of the ribs, and on the M-15L along the inset sidesill. I also added some wheel-splash mud streaks to the ends – a feature probably found more often on models than the prototype; but it looks cool, and I like it. The trucks were dusted with AIM's Medium Earth. Assemble the floor, trucks, and couplers, and she's ready to roll.



Chalk marks add interest and realism, and can be added either from decals or a very sharp light gray Prismacolor pencil.





Wheel-splash is a fun touch for the otherwise plain ends on the wagontops.



Weathering helps emphasize the detail of the wagontops, with grime accumulations on both sides of the ribs and along the recessed sidesill.



The wooden tackboards and defect boards will benefit from special weathering attention, since they tend to lose their paint before the steel sides.

## Parts List

Manufacturer	Part No.	Description
Funaro & Camerlengo	7020	B&O M-15L/M Boxcar
Detail Associates	2206	Eyebolts
	2504	Wire, .012"
	2505	Wire, .015"
	2524	Flat Brass Bar, .010" x .030"
Evergreen	101	Styrene Strip, .010" x .030"
	122	Styrene Strip, .020" x .040"
Kadee	2030	Brakewheel, Ajax
Westerfield	1197	Drop Grabs, 18"
Pop Valves	2/#247	Cal Scale
See Text		Trucks
See Text		Paint
		Couplers
		Screws, 2-56 x 3/16"

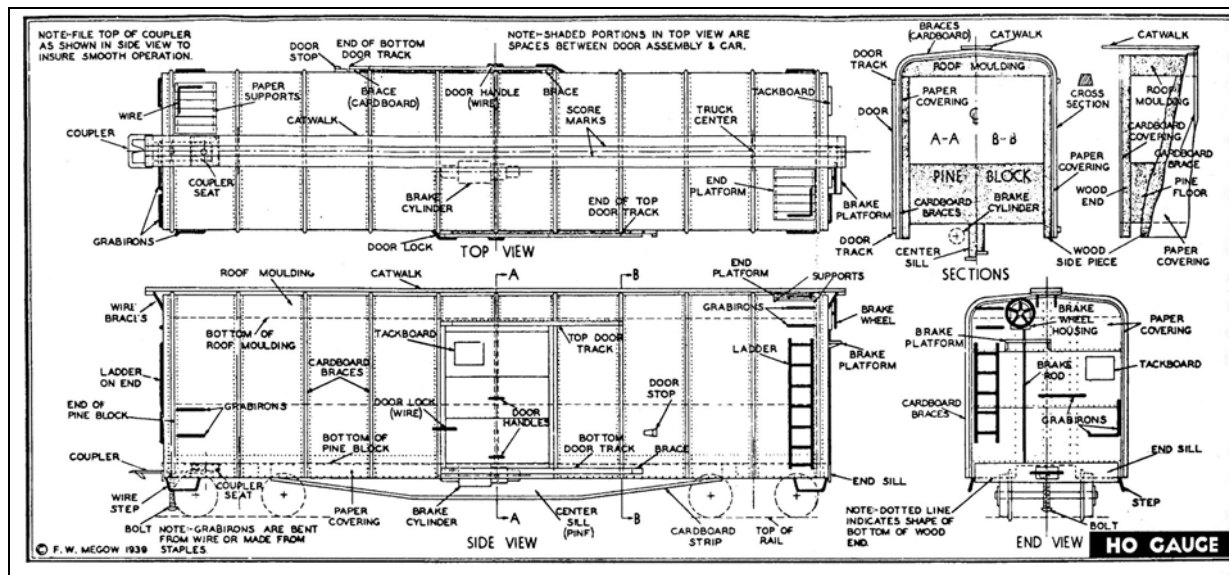
## ONE MAN'S ROSTER

This issue's version of "One Man's Roster" was originally intended to show more of the cars John Schletzer brought to the Prototype Modelers Meet in Greensburg, PA in March of 2013. To supplement this, we have a small album of wagontop models that Ed Kirstatter had submitted some years ago before the present editorship as well as some interesting "open door/closed loads" shots from Jonathan Vogel. As noted in previous issues, John Schletzer's inspiration was Julian Barnard's "One Man's Roster" features in 1962 and 1964 *Model Railroader*.

Barnard's roster in *Model Railroader's* June, 1964 issue listed 10 M-53s and 10 M-15m wagentops. There was nothing in the "Model comments" column by which I infer he hadn't actually built these models yet. The table does list three N-36 wagentop covered hoppers noted as being built from Selley castings (weren't these soft metal strips you bent around a form?) and there is a photo of one of these covered hoppers but no photos of wagentop boxcars. It's not clear what Barney's intention was. Back in 1964 about the only options for wagentop boxcars were the ancient Megow kit and some crude brass specimens (International).

For the models in the photos here, ownership is indicated as JS (John Schletzer), EK (Ed Kirstatter) and JV (Jonathan Vogel), and model information is that which has been provided by the owner. I took the photos of John's cars, and Ed and Jon photographed their cars. It's a nice but by no means comprehensive look at the variety of offerings available over the years. Indeed, this album makes no claim at being comprehensive as I believe that at least there are more brass wagontops that have been produced, and, of course, a lot more could be said about each of the models. I believe there were additional B&O wagontop class kits marketed by Sunshine and Funaro and Camerlengo. I do know Overland imported brass M-53 and M-15k versions in HO, S and O. *The Modeler* carried reviews of the resin kit for M-53/M-53a by Wright Trak (Jan/Feb 2010), and of the M-53a by F&C (Nov/Dec 2005). An "all-time list" of wagontop boxcars, similar to Greg Smith's lists of HO diesel and steam locomotives would be interesting.

All models featured in photos here are HO-scale except one as noted.



The 1939 wagontop kit from Megow featured a colored, printed and lettered cardboard wrapper that was to be applied to a body structure consisting of floor, ends and molded roof. According to this instruction sheet, the ribs were strips of cardboard.



371099 M-15k (JS) Funaro & Camerlengo resin kit, Scalecoat paint.



367100 M-50 (JS) Funaro & Camerlengo resin kit, Scalecoat paint.



279000 M-15ba (JS) Brass (Precision Scale?); Scalecoat paint, Champ decals.



Unpainted brass M-53 (EK) International Models from the Neolithic Period of brass.



381890 M-53 (JV) Funaro & Camerlengo resin kit



380801 M-53 (EK) ExactRail RTR painted in older freight car color.





1907 C-16 (EK) Express service. custom painted dark green (original color) express car; S scale Overland Models.



1880 C-16 (EK) Express service. Precision Scale brass, factory painted & lettered blue (1947 standard). Note steam line.



385723 M-53A (EK) Trains Inc. brass import custom painted by EK.



381429 M-53 (EK) Fox Valley RTR



381725 M-53 (EK) ExactRail RTR



381112 M-53 (JV) Funaro & Camerlengo resin kit





380554 M-53 (JV) Funaro & Camerlengo resin kit

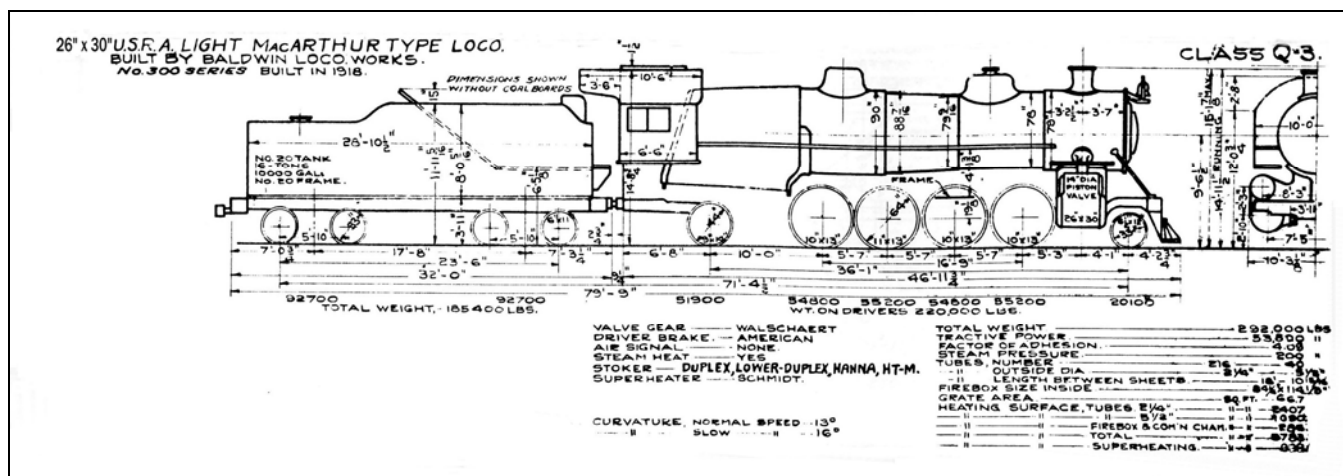


379001 M-15L (JV) Funaro & Camerlengo resin kit

## BACHMANN HO-SCALE USRA (B&O Q-3) 2-8-2 MIKADO

### EVALUATION BY DAVID GROVER

### EDDYSTONE LOCOMOTIVE COMPANY



Recently the Bachmann USRA “A”—or as it’s commonly called, “light” Mikado—entered the market. Currently it is only available with DCC/sound; perhaps a DCC ready version will be released later. The Bachmann site refers to DCC-Ready (per 7/ 2016) although no item number, nor price is given. (An early 2017 Micro-Mark catalog was showing No. 73481 with a list price at \$399, on sale for \$228.95. JT)

## Some Brief Prototype History

The prototype USRA “A” Mikado was developed very rapidly, in under four months, from concept to B&O’s number 4500, the first copy to hit the rails, July 4, 1918. It had a unique cab roof, which no other copies had. The B&O received 99 more copies, and they were very successful for the balance of the steam era. No. 4500 has survived and can be seen today at the B&O Museum in Baltimore, MD. As built, except for the cab, the B&O’s copies were “off the shelf” generic, USRA machines. In time, the B&O made some minor changes to them, although the design was so sound that the fleet remained largely as built. Very good coverage of them, in text, data and photos, is to be found in Barr & Barringer’s landmark work, “*Q*” *The Definitive History of The Baltimore and Ohio Railroad Company’s Q- Class Mikado Locomotives*. Bachmann too has provided a generic, as built, USRA rendition. It is offered for many roads, as the USRA allocated copies to those same many roads, and more. The model is well designed, and built, and runs well. Its execution is a bit Spartan so far as detailing goes. It looks “right” while working, and it is easily modified to more completely and accurately recreate a Q-3 in HO. The correct, required brass castings are available from suppliers such as Cal Scale, Cary and PSC. It is also an easy model to work with if you have wanted to start doing steam locomotive super detailing work. Jonathan Vogel has written an accompanying article in this issue of *B&O Modeler* about “B&Oizing” the Bachman product, and we invite photos from other readers who have undertaken such an upgrade.

A good evaluation compares initial objectives with outcomes, and it is free of corrupting influences such as compensation in return for praises. I am at an arm’s length from Bachmann, as a customer, just as you are. I have not spoken with anyone at Bachmann about the design objectives; however, I know the loco market pretty well, and as a custom builder of steam locomotive models for over a quarter century I understand much about the business of model loco development and manufacturing. From my background, as I examined the model, I was able to learn about what Bachmann was up to (objectives) in the design, and execution. Now, so much for orientation; let’s take a close look at this new locomotive.

## Operation and control of the model

The model was designed to be a pretty “user-friendly” DCC equipped loco which can run on DC or DCC depending only on what current is fed—no changing configuration variable 29 to change power source. It is a normal grade Bachmann, not a Spectrum, which accounts for the detailing level. It was designed to sell widely, to fans of many railroads. It was designed for beginners. Intermediate level modelers, more advanced, and sometimes more prosperous modelers may also choose to own a few. It is a good choice for old enough youngsters who are ready to own and care for road locomotives. The locomotive runs through 22” radius curves, and will traverse No. 4 switches, any dead frogs included. Bachmann rates the locomotive for 18” radius. In short, it is at home on your basic 4’x8’ sheet plywood, snap track layout. Certainly 18” is severe for a USRA Mikado: I recommend no less than 22” when it is available. No. 6 turnouts are more agreeable to it than No. 4s are. All drivers are flanged. There are no traction tires.

## Running test environment and results

This first week of June 2016, I built just such a layout to use for testing when my existent bench test tracks are not enough. The bench layout is J shaped, there is bi-directional running, but no trains of any size fit it, and there is no continuous “loop” running. The 4x8 now enables testing locomotives up through full size Mikados and Pacifics, with larger radius arcs for limited testing of longer locos.

I had previously found the draw bar pull of the locomotive and could now find out how the ounces pull relates to train length—at minimum curvature, without any grades. 22” radius is about as tight a radius as is realistic to run such a locomotive over. With all four drivers flanged, such a tight radius takes quite a toll in train length. If the same locomotive were operating on say 30 or 32” radius, train length would be substantially more, even through horse shoe curves. This is satisfactory in a way, as really long trains tend to occupy so much track that it becomes painfully obvious how small the 4 x 8’ layout is. Bachmann’s Q-3 is okay for about 1 ½ pounds of train, which amounted to 10 cars on my test layout. It typically sustains 2.2 to 2.4 ounces of draw bar pull at ¾ throttle. Spike values as high as 2.8 oz. draw bar pull were recorded. It turns out the Q-3 model’s pulling capacity is very close to the Athearn Genesis 2-8-2 which was offered during the 1990s. Many B&O people are familiar with the Athearn, so the comparison should be helpful to us.

The mechanism is smooth, even at the lowest of speeds, and quiet. The loco’s top speed is 54 scale-mph running light. The locomotive runs well on DC, but even better on DCC. The automatic, magnetic knuckle couplers are at correct height, and have good action. The locomotive and tender track well and do not demand excellent track work. My test layout has a deliberately nasty dead frog. The Q-3 keeps on rolling through, then by it.

## **Mechanism design**

Bachmann included a number of pre-existent components in its standard steam locomotive general arrangement. The general arrangement really harkens back to 1960s Rivarossi plastic steam. Bachmann advanced the Rivarossi scheme when they came out with their early, toy quality HO-scale road engines such as the Reading I-10 2-8-0, the Santa Fe 4-8-4, etc. These engines pioneered the split frame, and in so doing increased locomotive weight. The frame is of two sides, insulated from each other. Wipers pick up and return current on both the locomotive and tender. The locomotive has eight wheel pick up, the tender four. The frame extends up into the smokebox / boiler / firebox, acting as a weight, and holding the motor, transmission and some wiring harness in place. The transmission has an idler gear to enhance operation. A Mabuchi can motor provides the power. A small flywheel is installed onto the motor shaft.

## **Tender commentary**

Carry over from earlier models is not catalogued, only highlighted here. The tender is a widely-used Bachmann product, almost correct for a USRA 10,000 gallon. It contains the electronics, including the pig tail's hook up connector block. The sound decoder is made by Soundtraxx. A 10,000-gallon tender is correct for the Q-3s, although modification of the model is required to give it proper B&O features. The Cole trail truck was first developed for Bachman's USRA "A" 4-8-2.

## **More commentary on physical characteristics**

The Bachmann Q 3-3 is available in road number 4508, and is their product number 54302. A number of efforts have been made to bring extra realism to the model. The cab roof ventilators are in an open position, and the windows are glazed. The usual Bachmann crew is missing. That is a blessing. They are both oddly short guys, and they are actually dressed as Chinese enginemen, not North Americans. Their small size makes them easy for factory installation. So, if you want crew, you'll need to install properly done enginemen. The drivers have the correct 15 spoke configuration, with counterweights close to prototype. The rods are also very well done. The side rods are of 3 segments, wrist pinned together as was done on the prototype. This feature helps account for the model's good tracking. The rear frame / ash pan in the vicinity of the trailer is well filled in, not the usual, very unrealistic "Grand Canyon" wide open area where the trailer is located. All wheels are black all the way across, which is a big improvement over the hard to keep paint on nickel rims so common these days. The head and back up lamps are very realistic looking, as they carry the road number on the sides in white numerals, and they look like they have a scale bulb centered in a reflector. They make good, proper loco headlamp light, not some of the creepy colors diodes have been known to make. The handrails are blackened wire, of realistically thin cross section. The stanchions are plastic. That means you better not pick the loco up with pressure on the handrails, as in time you might break some stanchions. Steam engines should not be picked up with hand pressure on the handrails any way. it's bad for any and all of them. Hold loco by the cylinder casting and cab for best results. Cast integral piping is of proper size. The air pipes such as cooler coil on the left, and distributions lines on the right side are fine, cast, add-on parts. Never hold the locomotive by these pipes, either. Finally, the wires between loco and tender are all black, and slung so as to resemble loco/tender water and air lines. This is an improvement over the traditional multi colored harness.

## **Some nits to pick and detail variation considerations**

There are some non-realistic details worth mentioning, since they detract from the model's overall appearance. The backhead could easily have been done accurately, but it looks made up. The pop valves and whistle are brass color. True, they are made of brass on the prototype, but railroads almost always painted them black in modern times. It is a manufacturer's custom for HO to often have such brass, where it should be black. Since the practice is so widespread, many model railroaders believe it to be correct. It isn't. The belief is an "urban legend". The cylinder and valve caps are painted aluminum, which they should not be on the B&O. The Cap herald is nicely done, but has a dark blue background, which should actually be black. The raised portions are a brass color but should be the same yellow as the markings. This is per B&O specifications. Sometimes in photos the yellow can look brassy. This is another commonly made mistake in B&O modeling. It's only brass color on diesel cap heralds of the transition era. The headlamp should have a chin number board, but does not. There is not a front air hose, but adding one would really upgrade the appearance of the front. The class lamps, and handrail treatment on the front of the smokebox are USRA, not evolved B&O. The loco's road number is placed above the capacity information on the rear sheet of the tender. It shouldn't be there. So, too the capacity info. does not reflect the Q-3's. The model reads 7500 Gals 13 tons. It should read 10,000 over 16. The ladder on the rear is on the wrong side for the period which the markings place the model in. Also, by then a very B&O back up lamp is mounted to the rear sheet, no longer the top of the cistern. The model represents post- 1942 and later, markings wise. The headlamp location, and cap herald are all consistent with the post-1942 markings.

### **Final Comments**

This is a well thought out, and well-built locomotive based on modern model technology. It is directed at a broad market of model railroaders. It was designed to sell for less than the Broadway Limited Q-3 model. The locomotive can easily be further detailed to become a very accurate B&O Q-3, anything from No. 4501 in the USRA era to a final steam era days model, with a post 1956 three-digit road number.

Further detailed, or right out of the box, the Bachmann Q-3 is a good “layout runner” which will handle smaller and medium sized freights for you. They were right at home on both the B&O’s main lines, and on branches where lighter rail and bridges prohibited use of locomotives with more weight per axle upon the rails. There is information about the decoder and its settings in the box. You can make some changes easily. If you are not used to DCC, this is a simple example to build your skills and confidence with. Then too, if you want to ignore all that, you can run it DC with it making sound, and showing lights. Dollar for dollar, and fact for fact it is a good, square deal. It is not “cheap”, nor a “super bargain”. It also has fine potential for super detailing. The days of really inexpensive HO from China are over. We are getting better quality now, however.

By: David M. Grover /



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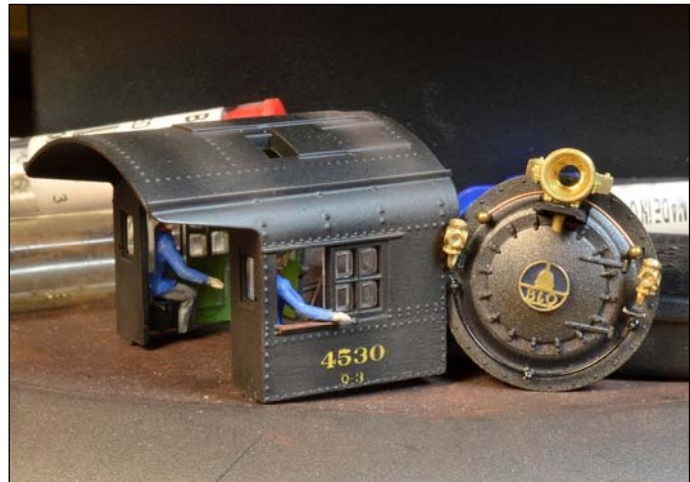
## MODELING A B&O Q-3 FROM A BACHMANN USRA 2-8-2

BY JONATHAN E. VOGEL



Modifying the Bachmann USRA Mikado to resemble a B&O Q-3 is pretty straightforward. The basic locomotive dimensions are correct. The biggest drawback is the molded-on detailing which must be shaved off. I replaced these with brass, phosphor bronze, or steel wire as needed. I modified two locomotives: #4508 was done first as an experiment; then #4530 received much more modifications to get even closer to resembling a Q-3. What follows is a description of the detail changes, moving from the front to the back of the locomotive. The photographs show work on both locomotives.

### Smokebox Front



The stock headlight resembles a PRR prototype. A Precision Scale brass replacement is very close to correct. The class lights need to be lowered, so I replaced these with brass parts and jewels. A little soldering is required to rewire the headlight, but not difficult to perform. Don't forget a 560 to 1000-ohm resistor, if you use an LED. An extra grab iron is needed high on the smokebox front, as well as moving the step from the right to the left side.



White glue is still drying on the lens.



There are too many lug bolts on the smokebox door. The Q-3 had 12 lugs, the model has 16. Over the years, Bowser, Cal Scale, and a few others, have offered aftermarket Q smokebox fronts—some with incorrect lug numbers. I went down a rabbit hole staring at Mikado smokebox doors. The as-delivered locomotives had as many as 20 lugs and the B&O went to 12 with, it seems, all the Q-class locomotives. Precision Scale once made a plastic Q-4 boiler front with 12 lugs (PSC HO-31614, 78" dia.). Probably would work but seems to be hard to find. I chose to let this detail go. My plastic models tend to get run quite a bit. Lugs and rivets don't get much attention because it's hard to pick out details on a running locomotive.

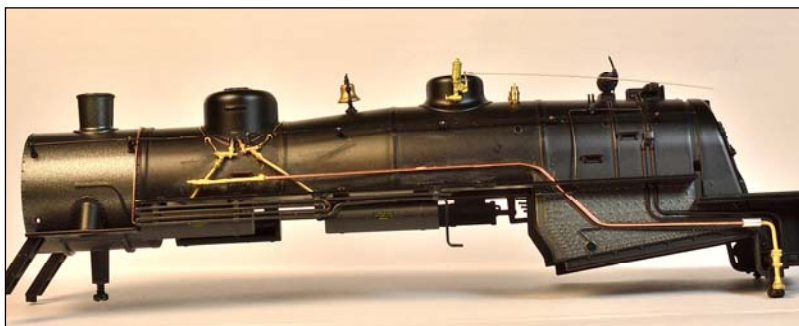
A couple extra grabs are needed along the side of the smokebox. For all the extra grabs, I used some Cal Scale stanchions and Tichy .010" phosphor bronze wire.



Added grab on the smokebox.

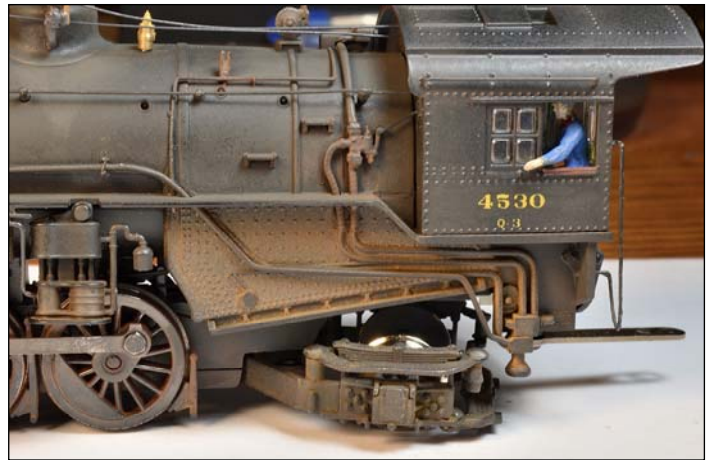
## Boiler

I used a hobby knife to shave off the molded-on details, followed up by sanding with 400 and 600 grit sandpaper. After shaving off the details, I added boiler check valves, sand pipes, starter valves, and any other pipes as needed. The stock whistle was a bit anemic, so that was replaced. The pulls are .008" phosphor bronze wire which were painted with engine primer. The primer seems to stick better than anything else I've used. Though, I'm told fine fishing line holds paint well. Haven't tried it, yet. The air pump governor is just a clevis from a Tichy brake sprue. There are brass versions available, but the part is so small, it was not worth going to all that trouble.



The end of the boiler walks need to angle down and finish flush with the bottom of the cab. A little resin scrap worked well for this detail.





Angle added in front of the cab.

## Cab

The cab is easily removed with one screw and a bit of prying. This allowed me to remove the window glazing and paint the interior. Since the interior is difficult to see, I didn't fuss too much with the details, except to paint the backhead (grimy black and weathering) and interior of the cab (green), along with adding some arm rests and crew figures.

Some long grabs are needed. On #4530, I added the long grabs that are located above the side windows on the cab. And I happened upon a brass hinged deck plate at the last train show. So why not add that extra detail if you've got it?

I used a photograph of locomotive #4530 for my prototype, which did not have a brakeman's hooch when the photograph was taken (1934) -- one less thing to add. If one wished to add this detail, I have scratchbuilt the extension for other locomotives. And I believe David Grover is producing a cab with the brakeman's extension. So, good news for modern man.



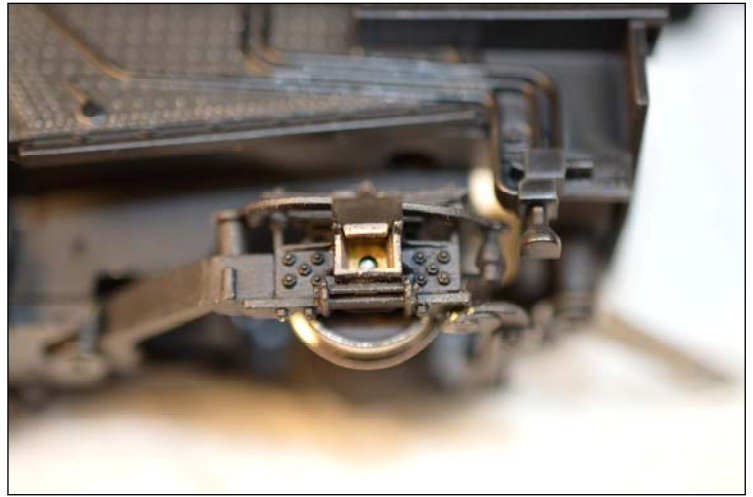
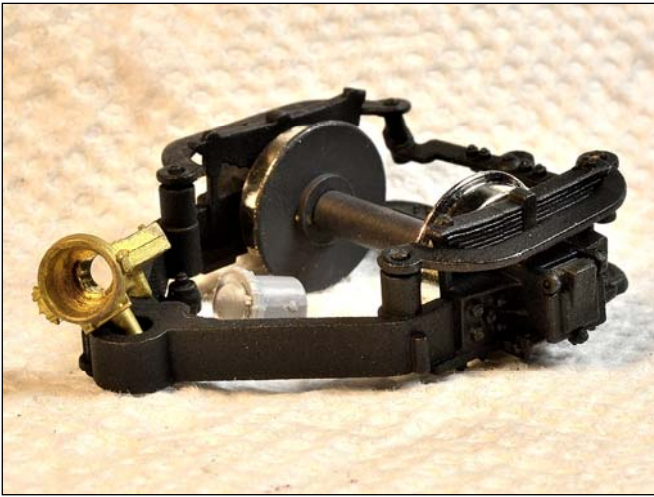
## Trailing Truck



Views of trailing truck of Q-3 No. 4500 at B&O Museum, 10/2016





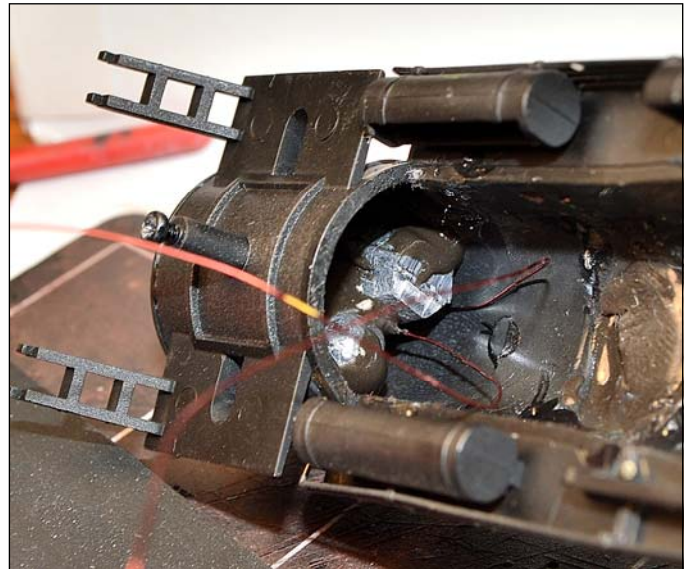


An exact match of the Q-3 trailing truck proved impossible to find (with the exception of a few brass models), but I did happen across a brass USRA trailing truck with working journal hinges, making it easy to add some graphite lubricant to the axles. It's the little things that make it fun.

### Weight

The locomotive's balance needs to be adjusted for efficient pulling (front is too light). There is room to add an ounce of weight in the smokebox, as well as adding  $\frac{1}{4}$ <sup>th</sup> of an ounce inside the sand dome and steam dome. Another  $\frac{1}{8}$ <sup>th</sup> of an ounce fits inside a groove just under the cab roof. This makes a world of difference in pulling. I wouldn't recommend adding any bullfrog snot to the drivers. While the motor is quite strong, the gears are a bit thin (just an opinion). They are Delrin and work well, but a little wheel slippage is probably a good thing to prevent over-taxing the gears.

I added  $\frac{1}{4}$  ounce of weight just under the coal load to ensure the tender would track well. The tender does operate well without the weight... "an ounce of prevention" gives one peace of mind in this case.



## Tender



Tender as purchased.

The rear of the tender may be correct for USRA, but not B&O. The tender attached to #4500 in the B&O RR Museum has a small reverse light mounted on the back, and the capacities are marked just below the light. That locomotive is set up with a switching pilot and tender steps, too. My model has a road pilot, so no steps were added to the tender, neither did I add the long hand grab to the rear deck.

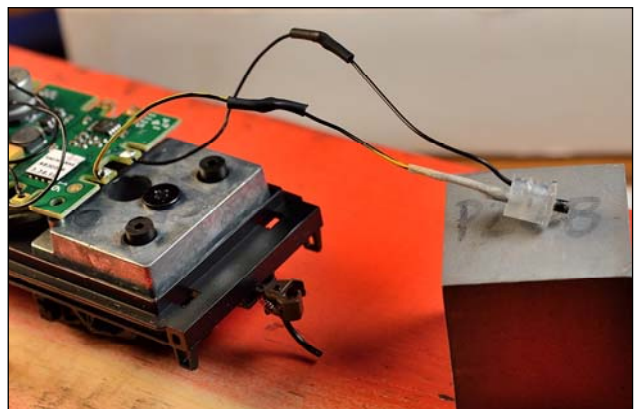
I did add a cut lever, air hose (to the pilot, too) and reverse light, as well as the grabs for the water-fill lid. The reverse light can be made from half a Tichy air reservoir, a small piece of styrene, a piece of Kadee coupler spring, and a Detail Associates lens. Put the LED inside the tender shell and run a clear plastic light tube through the tender to transfer the light. I used a light tube transfer piece from a Bachmann Consolidation headlight.



Building a reverse light.



Light transfer tube installed.



Modifying a light transfer tube for the reverse light.





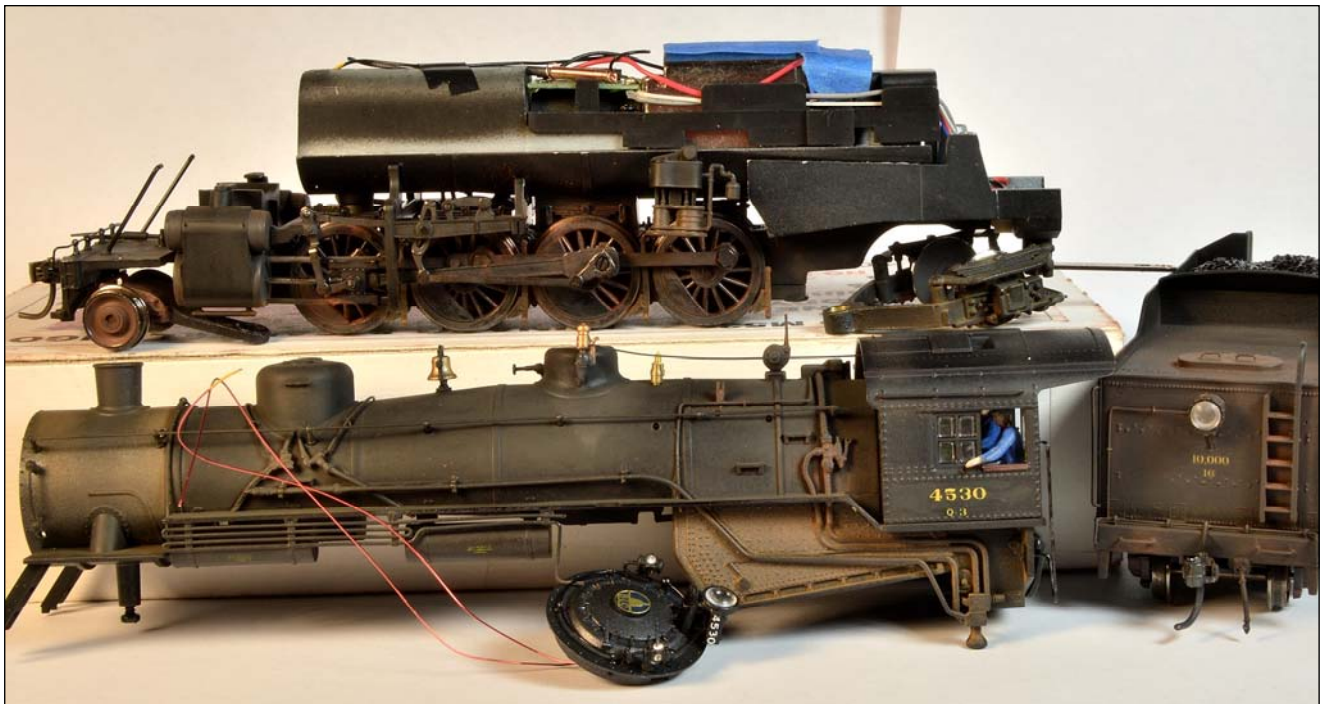
The ladder needs to be moved over to the engineer side.



#4530 tender nearing completion.

A couple of Precision Scale rerail frogs on the engineer side finishes off the tender details. A couple Kadee scale head couplers help the look and work well, too.

After all the modifications, painting and decals, a little weathering goes a long way to help the overall look of the locomotive.



Ready to be assembled.





Testing modified reverse light.



Almost forgot to mention. The silver steam chest covers! I covered them with a coat of grimy black and added some weathering.

This model came with Bachmann's Sound Value package from Soundtraxx. I like it, and it seems correct overall. The two locomotives work well together when double-headed, and pull at least 25 cars so far. I haven't tested for an upper limit, yet. Enjoy!







## Bill of Materials

Item/Nomenclature	Quantity/ Part No.	Production Company	Source
B&O, USRA 2-8-2 Sound Value	2/#54302	Bachmann	eBay (private vendor)
Light Transfer tube	2/No Part No.	Bachmann	Bachmann online part store or harvested from Spectrum 2-8-0
Brass Headlight	1/#3428	Precision Scale Company	eBay
Phosphor Bronze Wire (.008", .010", .015", and .025")	4 tubes (12 inches) part no. varies	Tichy	Train show
Brake Sprue	1/#3013	Tichy	Train show
Brass Handrail Stanchions (Small)	1 bag (12)/#604	Cal Scale	Train show
Brass, hinged, cab/tender deck plate	2/#190-292	Cal Scale or Bowser	Train show
Crew Figures	4/varies	Suggest Preiser or Woodland Scenics	Train show
Couplers, Scale Head, Medium Shank, whisker spring #158 and regular spring, medium head, #5.	2 each/#158	Kadee	Train show
Rerail Frogs, plastic	4/#3115	Precision Scale	eBay
Air hoses, plastic	2/#3150	Precision Scale Co.	eBay
Decals, Steam Locomotive B&O	1 Sheet/#87-83	Microscale	eBay
Steam Whistle	2/#3113 or #3100	Precision Scale Co.	
Pop Valves	2/#247	Cal Scale	
Starter Valve, small	4/#295	Cal Scale	
Brass Trailing Truck	1/#190-390	Cal Scale	Train show
Sanding Pipes with Valves	8/#3414	Precision Scale Co.	eBay
Boiler Check Valves	4/#PIA146	Wiseman Brass Backshop	eBay
Weight (lead sinkers)	1 5/8 ounces per loco.	Varies	Any fishing shop
Brass Boiler Step	2/#190-377	Cal Scale or Bowser	Train show
Marker Lights	4/#312	Cal Scale	Train show



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**B-8 Baggage Car**  
**Concrete Phone Booths**  
**Lees Coaling Tower Model**  
**M-15k Kitbash Project (RPM Chicagoland 2016)**  
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