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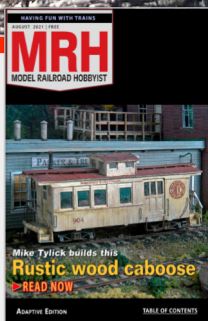
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MRH
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- Upgrading a layout industry scene
- Liftouts and duckunders
- ... and much more inside!

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Wide Edition
Hard-coded facing pages PDF

[INDEX](#)

[TABLE OF CONTENTS](#)

MRHMAG.COM

[INDEX](#)

[TABLE OF CONTENTS](#)

TABLE OF CONTENTS | RUNNING EXTRA

August 2021



RATE THIS ISSUE

Rate Running Extra issue ...

**RUNNING
EXTRA**

Publisher's Welcome: More MRH Acrylic paint updates

JOE FUGATE



Limited Modeler: Pennsylvania L1s and L2 class Mikados

JIM SIX



Getting Real: From eyesore to scenic masterpiece: 2

MIKE ROSE



Roundhouse Climax rebuild & upgrade: 2

JEFF PALMER



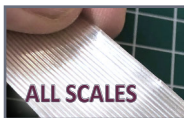
Modeling a stream with ripples: Ashley Creek

MICHAEL ANTEAU



The ups and downs of liftouts and duckunders

ROBERT PERRY



Ah-Hah Moment: Make your own corrugated tin

JOE FUGATE

TABLE OF CONTENTS | MRH

August 2021



Publisher's Musings: Revisiting The "One Module" Approach ...

JOE FUGATE



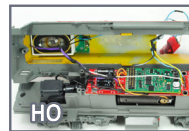
MRH Website this month: CP Rail's Newport & Lyndonville Sub, ...

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What's Neat: Tricking out Civil War era locos

KEN PATTERSON



TCS WowSound decoder install

JASON MILLER



Modeling a backwoods caboose

MICHAEL TYLICK



Scatchbuilding a small miner's shack

KRIS BLACKMARR



North American Railcar's 50-foot PS 5077 boxcars

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Savvy Modeler online: Painting HO Preiser figures

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August 2021 news and events

RICHARD BALE and JEFF SHULTZ



[SUBSCRIBE](#)

[INDEX](#)

[TABLE OF CONTENTS](#)

[MRHMAG.COM](#)

[INDEX](#)

[TABLE OF CONTENTS](#)

PUBLISHER'S WELCOME

introduction



MRH Running Extra | August 2021

JOE FUGATE WITH MORE UPDATES TO THE
MRH ACRYLIC PAINTING GUIDE ...



RATE THIS ARTICLE

RECENTLY I MENTIONED WE UPDATED THE FORMULA FOR OUR HIGH PERFORMANCE THINNER,

and then shortly after I announced that, Craig Townsend posted this note on the MRH forum:

"My only complaint about the HP thinner is that it seems a bit 'hot' when you use it to make washes for weathering. I've ruined a few projects by making a wash with the HP Thinner that ate through an acrylic clear coat, acrylic base and got down to bare plastic.

"I didn't notice the problem on my first batch of HP thinner, so I'm wondering if I accidentally got the newer Armour All instead of the old stuff."

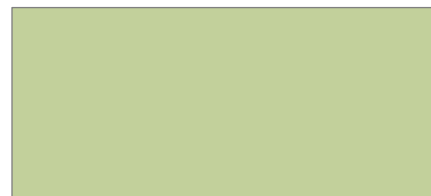
Yes, that sounds exactly like what happened! The new Armor All has isopropyl alcohol (IPA) added to it. Combined with the butyl cellosolve in the HP thinner formula and you get a very hot thinner that's not good for the models, just as Craig said.

Adding IPA to their formula ruined the



1. Watch out for the "New improved formula" Armor All Glass cleaner! See text for details.

PUBLISHER'S WELCOME | 2



2. Union Railroad of Oregon light green

Model Master

2pt MM4873 (Reefer white)

1pt MM4852 (Zinc chromate green)

Vallejo - MicroLux

5pt VMA 71.126 (IDF green)

3pt VMA 71.001 (White)

MODELflex

2pt 16-02 (Reefer white)

1pt 16-47 (Light green).



3. Soo Line red

Model Master

1 pt MM 4629 (Chevy engine red)

1 pt MM 4632 (Guards red)

Vallejo - MicroLux

5 pt VMA 71.003 (RLM23 Red)

1 pt VMA 71.102 (Medium yellow)

MODELflex

16-37 (Soo Line red)

Armor All Glass Cleaner for our purposes, unfortunately. The new formula for HP thinner should "cool" it back down again and make it safe for use with acrylic coatings again.

Using the HP thinner formula (thin 20% typically for airbrushing), acrylic paint has a bit more "bite" or "grab" when it goes on plastic and primed metal models, feeling more like solvent paints. We also add flow enhancer and some retarder to the formula. That combination makes a thinner that totally rocks with acrylic model paints.

You can find the new thinner formula here on the MRH website:

<https://mrhmag.com/subscribers-only/painting/acrylics/updates>

Note this same link is in the front of the *MRH Acrylic Painting Guide* under updates. Periodically check out these extra links in the front of the guide to keep up to date on things.

We've also added a couple new color formulas in the updates: we show them above at [2] and [3]. ☑



SUBSCRIBE

[INDEX](#)

[TABLE OF CONTENTS](#)

[MRHMAG.COM](#)

[INDEX](#)

[TABLE OF CONTENTS](#)

THE LIMITED MODELER

column

Images are from the author's collection, except as noted.

MRH Running Extra | August 2021



JIM SIX DISCUSSES PENNSYLVANIA L1s AND L2 CLASS MIKADOS ...



1. This post-WWII photo shows Pennsylvania L1s Mikado #2369 coupled back-to-back with an I1s Decapod. Both are filthy as was typical of Pennsylvania locomotives and rolling stock! The railroad never spent much on maintenance of their equipment. The Mike has a high, extended coal bunker while the decapod has the so-called long-haul tender.



DOING MORE WITH LESS

THE LIMITED MODELER | 2

THIS MONTH, I have included nine color photos of PRR L1s steam locomotives. All nine are post-WWII, since color photography before then was scarce. Even these newer images are not of highest quality, but they still offer an idea of what steam looked like.

I am not an expert on steam locomotives or on the Pennsylvania Railroad, but I have learned much over the past several years, thanks to tutoring from Ray Breyer and other steam experts. I have also done much of my own research to earn my “stripes” to speak on this subject.

In my opinion, the 2-8-2 Mikado was one of the most important steam locomotive types in 20th century American railroading. With more than 9,500 Mikados built, they accounted for more than 25% of the North American locomotive fleet at one time.

The Pennsylvania Railroad built 574 L1s class Mikados between 1914 and 1919. 344 from PRR's Juniata shops in Altoona, 205 from Baldwin, and 25 from Lima.

Most of the L1s locomotives worked in Pennsylvania on Lines East (of Pittsburgh). A much smaller percentage worked the Lines West, where H-class 2-8-0s, N-class 2-10-2s, and other Pennsy steam locomotives including 2-10-0 Decapods, were more common.

The Pennsylvania used a common design for the major components of its K4s Pacifics and its L1s Mikados. They used the same smokebox, boiler, firebox, and cab. They also shared many mechanical components, and in some cases, even used the same tender design.

The L1s class was comparable to the best Mikados of other railroads, though they lacked many of the “modern” appliances some railroads embraced at the time. The Pennsylvania was conservative about spending money on such new developments as mechanical stokers, power reverse, and feedwater heaters that some railroads (like NKP) invested in



[SUBSCRIBE](#)

[INDEX](#)

[TABLE OF CONTENTS](#)

[MRHMAG.COM](#)

[INDEX](#)

[TABLE OF CONTENTS](#)

THE LIMITED MODELER | 3

during the early 1920s. In later years, the railroad retrofitted most, but not all, L1s locomotives with mechanical stokers and power reverse.

While the L1s was a darling of the railroad when built, its reign was short-lived. The more powerful I1sa Decapod 2-10-0, which began arriving two years later, proved better-suited for working mountain grades and hauling mineral trains off Lake Erie. The L1s lost most high-speed freights to the new M1 class 4-8-2s when they came out in 1923.



2. PRR L1s 546 moves into a yard with an N6b caboose in the background. The caboose and the terrain suggest the location is one of the Lines West yards. The wide-spaced PENNSYLVANIA on the tender side and the headlight position indicate this is a post-WWII photo. The tender appears to have been originally from a K4s.

THE LIMITED MODELER | 4



3. This photo of a K4s class 4-6-2 Pacific displays the many similarities it shared with the L1s Mikado. Both the K4s and L1s shared smokebox, boiler, firebox, cab, and many mechanical components. Compare the tender with the tender in photo [2].



4. This L1s 2-8-2 was captured in Wilkes-Barre, PA. Its tender has a full load of coal and its water is also most likely topped-off. The H21 hopper car has seen better days. A turntable and small roundhouse are just beyond the locomotive.



[SUBSCRIBE](#)

[INDEX](#)

[TABLE OF CONTENTS](#)

[MRHMAG.COM](#)

[INDEX](#)

[TABLE OF CONTENTS](#)



5. PRR L1s rolls out the back of the roundhouse at Enola, PA in 1956, a late date for a L1s class. Its foot-board pilot was typical of this class. Coming up with good color photos from the steam era is difficult. I spent a couple of hours with Photoshop editing this photo to make it usable.



6. PRR 1506, an L1s at Enola Yard in eastern Pennsylvania, circa 1956. The locomotive displays the dirty sooty appearance typical in the 1950s.



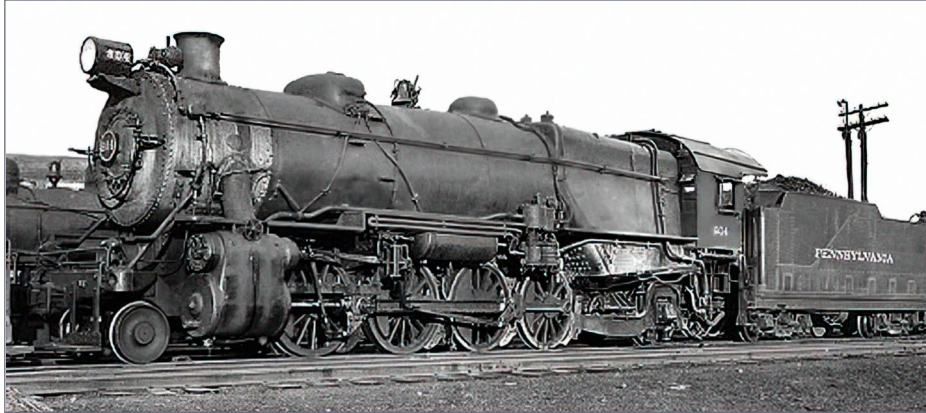
7. PRR 633 is shown here in 1956. It appears to be slowly rolling through town and, while filthy, it looks pretty good for a 40-year-old locomotive. The L1s wasn't a small locomotive. At the left is what appears to be a two-tone green Pontiac.



8. PRR 110 in post-WWII configuration rolls eastbound with the engineer hanging out the cab window. It seems that the rear drive wheels typically were coated with light dust from sanding. The locomotive is covered with a layer of soot and grime.



9. PRR 8589 at Sunnyside Yard, Queens, New York in 1955. It appears to have been recently washed or maybe repainted. Note the freight-car-red cab roof. Note the rusty rear driving wheel. It has but a couple of years left before retirement. *Jim Six collection, Art Huneke photo*



10. L1s #304 is interesting in that there is no air tank on the pilot. Originally L1s locomotives had their air tanks under the running board on the engineer's side of the locomotive, rather than on the pilot. The railroad relocated the air tanks to the pilot when it upgraded the locomotives with power reverse. Note the headlight and generator are in their pre-1946 locations.



11. PRR 686 stops to take a drink at Brandywine, Maryland. This setting typifies where the L1s worked and what they did – haul light freight and local trains along branch lines. The 686 shows the pre-1946 configuration. *Jim Six collection, Bob Janssen photo*



12. This is a good image of PRR 1788. There is a Train Phone antenna on the tender. The headlight and generator at the top front are in the post-WWII configuration that first appeared in 1946. Not all L1s locomotives got this treatment, but the majority did. *Ray Breyer collection*





13. This photo was taken in West Reading, PA. The locomotive has been turned on the turntable and is taking on water and coal. This L1s is in its pre-1946 configuration. *Ray Breyer collection*



14. L&NE L1s #503 is seen in Pen Argyl, PA on June 4, 1948. The Pennsy sold it to the L&NE in 1941. Note the L&NE circle shield on the tender. *Ray Breyer collection*

As part of the war effort, the government nationalized the railroads under the USRA in 1917 to improve efficiency for moving troops and material. The USRA insisted on standardizing locomotive specifications, so it terminated production of the L1s class by 1919. It assigned 33 USRA Mikados to the Pennsylvania railroad itself and seven more to the Pennsy subsidiary GR&I, which ran between Ft. Wayne and Mackinaw City.

The Pennsylvania did not like the USRA Mikado, especially since it was similar to a design of arch-rival New York Central. The USRA relinquished control in 1920, and by 1923 the Pennsy had sold all 33 of its L2 class Mikes to the Frisco and the Missouri Pacific. The remaining seven GR&I locomotives survived on the Pennsylvania until retirement about 1950.

Following USRA control, the bell and headlight on GR&I locomotives were relocated as indicated in the accompanying prototype photos.



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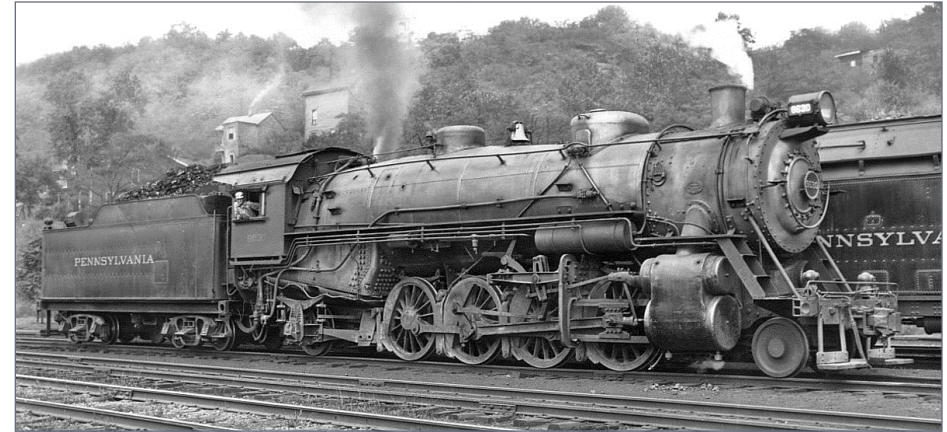




15. Here is PRR 9629 sitting alongside what appears to be an H10 class consolidation. If anyone knows the location of this and other photos, please let us know on the *MRH* Forum.



16. PRR 9630, a USRA 2-8-2 Mikado that Pennsy classed as L2. The locomotive is seen here somewhere on the Ft. Wayne Division, probably at or near Cincinnati. The only changes made are the headlight, generator, and bell locations, and these do not hide the USRA heritage. The Pennsy never added a Belpaire firebox to these locomotives, as it did with the N2s 2-10-2 locomotives.



17. PRR 9630 on the Ft. Wayne Division in Cincinnati, OH. Note that the front classification lights have been moved to the top of the pilot beam. I would guess that the locomotive in the background at the right is a class H10 and it's making smoke!

MODELING THE PRR L1s AND L2s LOCOMOTIVES

My feeling is that if you are modeling a Pennsy L2 after 1923, you should relocate the bell and headlight. Broadway Limited Imports is the way to go to model a Pennsylvania RR L1s Mikado. Broadway offers both pre-1946 and post-WWII versions of the L1s.

The BLI model lacks only the trailer truck bearing plate, though Bowser carries this part under its Cal-Scale brand (#190-390). The other thing needed is a nice coat of weathering.





18. This is the BLI post-WWII Pennsy L1s. It is a fine model that runs, looks, and sounds great. Pictured is an out-of-the-box model that only needs weathering to become a very realistic prototype model. The later version has a doghouse installed on the tender. Personally, I like the looks of the post-WWII version best, but I don't model post-WWII. *Broadway Limited photo*



19. Here is the BLI pre-1946 Pennsy L1s. The model has the same mechanism and electronics as the post-WWII version. This is also an out-of-the-box model. If you are modeling before 1946, this is the model you will need. Note: The pre-1946 version does not have a tender doghouse, though many L1s locomotives were fitted with one well before 1946. Photos suggest that many had a doghouse by the late-1920s. *Broadway Limited photo*



20. Another view of the Broadway Ltd. pre-1946 PRR L1s Mikado. This is a remarkably good model locomotive. It has factory-installed DCC and sound. The cab roof is Freight Car Color (FCC) and the tender deck is Tuscan Red – just like the prototype. The coal load is one of the more realistic I have seen. I found the model to be very smooth-running at all speeds. *Broadway Limited photo*

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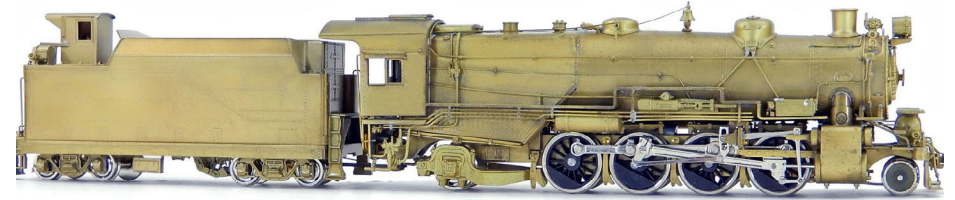
21. This is the fireman's side of the BLI pre-1946 L1s. It is a very good match for the prototype. The only thing really missing is the trailing truck bearing plate. *Broadway Limited photo*

The BLI model is not your only option. The L1s has been offered since the 1960s as an imported brass model, such as the PFM/United PRR L1s. It was a good brass model with a good reputation. Keep in mind though, with all brass models, the drive mechanism needs to be viewed as suspect.

If you take the brass route, be prepared to rework the mechanism, which will most likely include motor replacement with a can-type motor. You will also need to install DCC/sound, and paint the model.

All of these upgrades can add a great deal of time and cost to the model, but I have seen and operated many similarly upgraded brass locomotives and they run nicely. Most brass models are good-looking models that run well, so don't be quick to rule them out.

Please include a phone number when contacting MRH
(in case your spam filters eat our email response)



22. This is a PFM/United brass import of the late 1960s or early 1970s. It is the later "High Grade" version. It is a good model with a good reputation. Add DCC/sound, paint, and weathering, and you have a great model. *ReSOURCED RAILS.com photo*

Since the 1950s, many companies have offered USRA Mikados in HO scale as brass imports, with cast metal, plastic, and hybrid models following.

I believe the Märklin/Trix PRR USRA Mikado is the best for an HO scale Pennsy model. It has the headlight and bell in the correct locations. You should remove the coal bunker extensions because these were details unique to New York Central Mikes.

The BLI Pennsy USRA Mike is also a good model for the Mikados as delivered. If you want to model the locomotives as they appeared post-1923, you should relocate the bell and the headlight.

On the one hand, the models from both BLI and Märklin/Trix need minor detail corrections. On the other hand, both models look great and run exceptionally well.

Only six USRA Mikados lasted on the Pennsylvania beyond 1923. The railroad assigned them to the Ft. Wayne Division, the former GR&I between Ft. Wayne and Mackinaw City, or the Lake Region across northern Ohio. If you model another location, these locomotives just didn't get there. ☑





23. This is the Märklin/Trix PRR USRA Mikado. It accurately represents its prototype from 1923 until retirement about 1950. Personally, I love the Märklin model more than any other steam locomotive I have. Nothing runs or looks better. The only thing you need to do is remove the coal bunker extension on the tender. This is a New York Central detail that does not belong on a Pennsy model. *Märklin photo*



24. This is the BLI PRR L2 USRA Mikado. It represents a Pennsy L2 as it appeared in 1920. The centered headlight is an as-delivered location. Shortly after the USRA relinquished control, the Pennsylvania relocated the headlight to where the bell is shown and the bell to between the sand and steam domes. *Broadway Limited photo*



25. The PRR L2s is also available in brass from Key imports. Key brass steamers were good-runners. *brasstrains.com photo*

★★★★★
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GETTING REAL



column

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All photos by the author unless noted

MIKE ROSE CONTINUES HIS WORK TO CONVERT AN EYESORE INTO AN ATTRACTIVE LAYOUT SCENE ...



PART 2: FINISHING THE SCENE

LAST MONTH, I detailed the construction of the Potlatch Paper mill at Ransom, PA using a custom-cut “non-kit” from Monster Modelworks.

This month, I discuss the backdrop I built to cover up cables, utility boxes, and other unsightly distractions on the wall behind the paper company. The key was to obscure the utility boxes with the backdrop, while still leaving them accessible.

In addition, I will show the process of scratchbuilding the pulp plant at Ransom using blank materials from Monster Modelworks, including their amazing concrete block material.

While I’ve always used much smaller plastic interlocking sheets from Pikestuff for this purpose, being able to use much larger pieces of material to do entire walls made the fabrication of this neat structure much easier and better looking. Since this building needed to be partly open to allow spotting railcars inside, I paid more attention than usual to the interior.



GETTING REAL | 2



1. With the major assembly of the Potlatch Paper Mill main building complete, I put it in its space on the layout. The building was coming on nicely, but the surrounding layout and the backdrop needed attention.



2. Along with the cables, I had two utility boxes to cover with the backdrop. I still wanted to keep everything accessible, of course. I secured two 1”-thick pine panels to the plywood to space the backdrop around the utilities.



SUBSCRIBE

[INDEX](#)

[TABLE OF CONTENTS](#)

[MRHMAG.COM](#)

[INDEX](#)

[TABLE OF CONTENTS](#)



3. A view from the opposite end. Note the empty space between the paper mill building and the trees at extreme right.



4. The empty space mentioned in [17] provides access to a turnout for the staging yard below this segment of the layout. I needed to find a removable, scenic cover that would blend in with the upper level.



5. A piece of foam made the perfect lift-out access panel for the turnout below.



6. I cut horizontal plywood guides for the backdrop and test-fit them to make sure they followed the contours of the wall.



GETTING REAL | 5



7. Once I had the plywood set up, I tested it with strip styrene.



8. I needed to wrap the backdrop around the utility boxes and the communications cables, so I chose styrene as my backdrop material for its flexibility. To secure the styrene while the glue dried, I screwed wood blocks to the ceiling and the layout in front of the pine panels and used strips of wood to press the styrene onto the pine panels. I did a dry fit to make sure the system worked as intended.

GETTING REAL | 6



9. I needed the end of the backdrop in front of the utility boxes and communications cables to be removable, so I used industrial-strength Velcro for that end. I couldn't get the Velcro strips to adhere well to the wood edges, so I used small brads to hold them in place.



10. I used DAP Dynagrip Heavy Duty Max adhesive to attach the non-removable portion of the styrene. Note the "glue" and "no glue" markings on the wood. It's always best to clearly mark this kind of thing in advance to avoid mistakes when the exciting part starts! I used the same adhesive for all my green floral foam construction and fascia installation.



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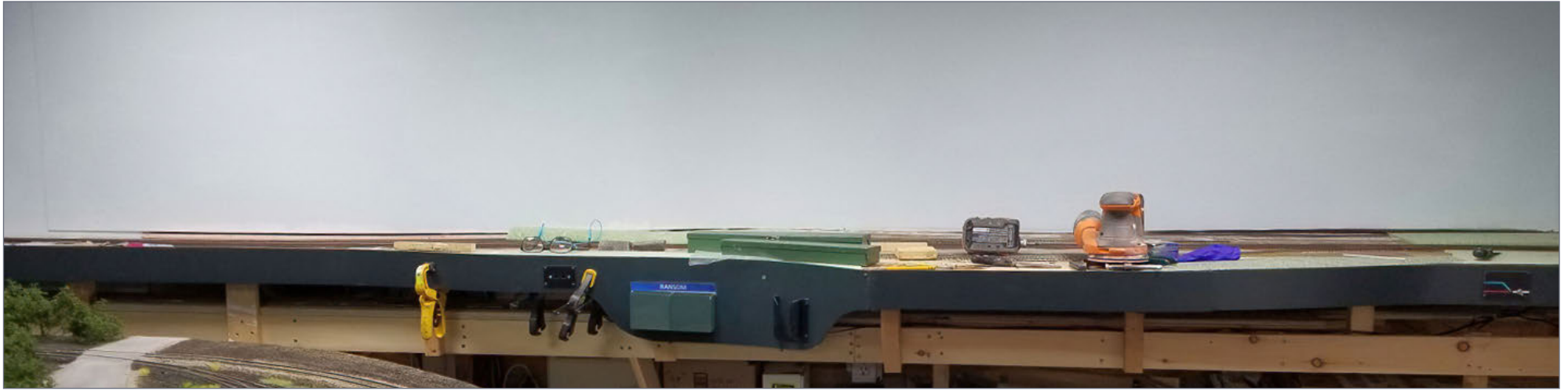
[INDEX](#)

[TABLE OF CONTENTS](#)

[MRHMAG.COM](#)

[INDEX](#)

[TABLE OF CONTENTS](#)



11. This view of the finished backdrop installed and painted is already a huge improvement over the chaos it hides, and gives a sense of the length of the scene.



12. Ransom's Pulp facility in modern times. I took this shot from the front porch of a Reading and Northern SD40-2 during a cab ride I was fortunate to get in 2016. Lacking any shots of it from my era, I decided to model the building based on a backward extrapolation of this unique viewpoint.

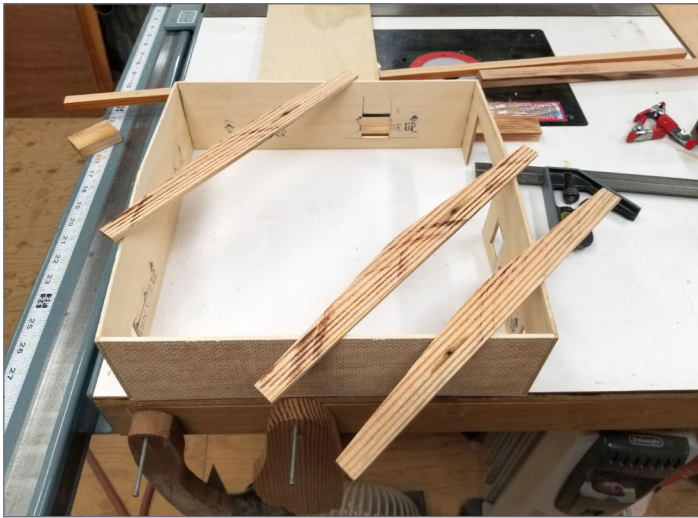
For example, in my era, the building would have had two working sidings inside. This view also made me want to include the concrete ramp on the right side, the awning over the truck docks, details about pole placement and the cross-track utilities bridge, and even the grassed-in turnout!





13. I laid out the building on the large laser-cut Monster Modelworks concrete block sheets. I glued the building sides together with Canopy Glue and used a variety of clamps to hold it in place for the glue to dry. I assembled it on the table saw extension

table, using the fence and 1-2-3 blocks to assure a square and true structure.



14. I wanted the roof to be removable so I could add additional interior detailing and lighting down the road, so I cut some roof support rafters out of vertical-grain fir, matching the roof angle already on the siding.



15. Temporary positioning of the rafters allowed me to determine where to put the top of the interior braces to support them. I would glue the rafters to the roof material, but they would simply sit on the bracing, allowing easy removal for the roof.



16. While I was at it, I cut more vertical-grain fir to provide the base for the interior floor (right notch) and serve as the freight car loading dock, hence the overhang of the "concrete" on the left.

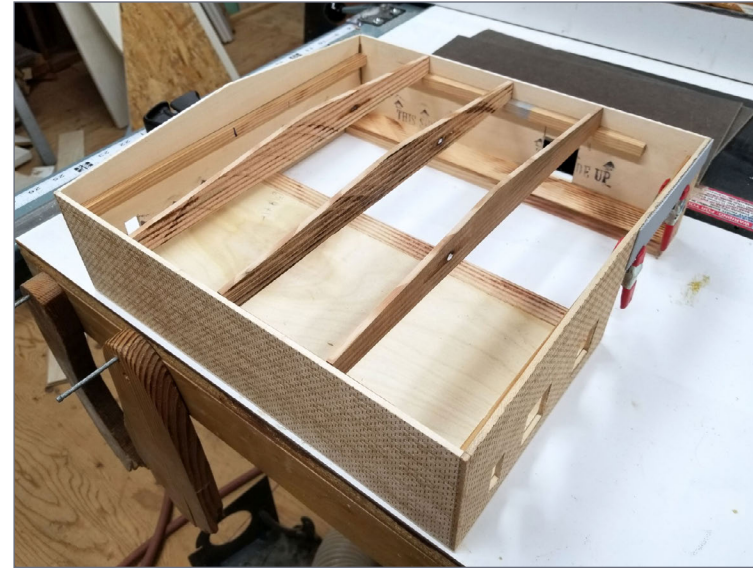




17. I installed the interior floor, loading dock, and interior cross-bracing. I test-fit the rafters, simply setting them on top of the cross-bracing. By this point, the building was dimensionally stable.



18. An interior view shows the loading dock on the other side and the opening for the future door leading to the exterior concrete ramp.



19. With the remaining interior bracing in place and the rafters set up, I was ready to glue the roof to the rafters.



20. I used heavy cardboard backing material from an old knock-together stereo cabinet for the roofing. I applied canopy glue to each rafter, careful to avoid the ends, and positioned the cardboard on top.

I held the roof in position with weights as the canopy glue set, about 20 minutes. I also used canopy glue to install the corrugated siding above the freight car area.





21. With the glue fully set, I removed the roof again for painting. I saturated the entire perimeter with Cypox to stabilize the edges of the cardboard material.



22. I fabricated the dock canopy from plastic corrugated material and stripwood, and used brass rod for the hanging braces. The personnel door is from Micro Engineering, the steps and loading dock doors are Pikestuff, and the dock door surrounds are a Walther's item.



23. With the remaining interior bracing in place and the rafters set up, I was ready to glue the roof to the rafters.



24. The juxtaposition of the pulp facility vis-à-vis the main building was not an exact replication of the prototype. Manufacturing generally flows from raw materials on one end of a facility to finished goods and warehousing at the other, so ideally this

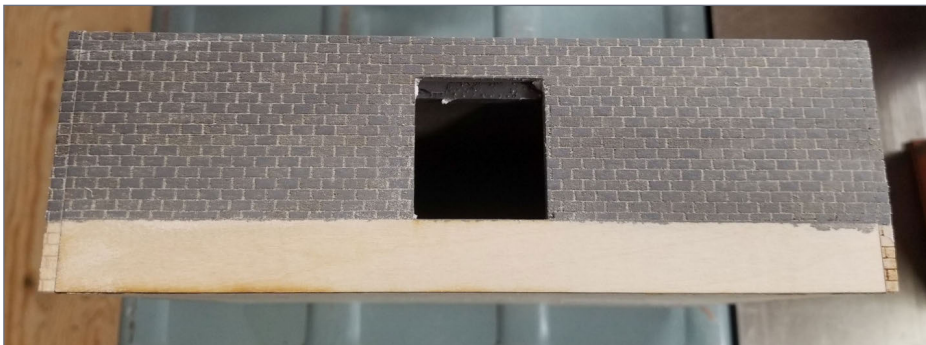
bridge would have been off to the right on the main building. I took some license with how the utility bridge interacted with both buildings and where it connected on each, but I'm satisfied with this arrangement given my constraints.

I used curved portions of sprue to get the transition down for the piping. I added plastic I-beams from Plastruct as supports for the brass etchings, and kitbashed the uprights from leftover parts in my scrap bin to better resemble the prototype.





25. This opposite-angle view shows the brass stairways I added to each end to complete the utility bridge prior to painting. Location of the bridge upright supports was critical to clear adjacent tracks, so I did a lot of trying in place to avoid unpleasant surprises later!



26. Before gluing the modules together into one structure, I tried various mortar compounds on portions of the painted building that wouldn't show. I found the concrete block portion easy to do with DAP Fast 'n Final lightweight spackle; the first attempt yielded the look I was after, toning down the gray a bit and providing a mortar line that looked right.



27. The bricks were another matter! I tried various tints of the spackle, and while all had merit, none produced the effect I wanted. In my era, the mortar lines on the prototype were almost invisible.

The effect I was getting with the spackle produced a mortar effect that looked too old. On a big building like this, it was overwhelming and toned-down my brick color too much.

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28. Additional attempts, with feedback from friends and listeners on my podcast group, produced a range of seemingly valid results. None of them was quite what I was looking for. Time for plan B!

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29. I re-masked and re-painted the entire building with one of the Scalecoat II Tuscan red colors I had. It seemed close enough to the prototype photos.

I went with the left-hand sample at the top after trying several colors. I decided to do that final mortar color with thinned oil washes after the paint had thoroughly cured and I applied several coats of Dullcote.





30. I worked on the ground cover as I waited for the building's paint to cure. This view looking north shows the point where the styrene backdrop rests against the painted sheet rock, held only by Velcro at the "latch" point. The bare scene extends beyond, in definite need of attention.

Having completed the additional pavement work, including grade crossing, I was ready for the next steps. I made the pavement using the same lightweight spackle, tinted with poster paint pigment.



31. I began with dried and sifted dirt from my yard to form a base layer. I did the removable panel off-layout, something I'm doing increasingly as construction on the layout progresses. The sifted dirt made a dramatic difference from the bare plywood I'd been looking at for years, and it spurred me to continue to complete everything.



32. This overall view looking south, with the main plant, the pulp building, telephone poles, and utility bridge in place, shows the dramatic effect applying static grass created. Note the grassed-in turnout for the pulp building, as shown in the prototype photo [12].





33. Though this industry is long by model railroad standards, it's only about half the length of the prototype. Plant facilities like this, strung out along the river, tend to be ramble and have an "added-onto" look about them.



34. An "early summer evening light" shot reveals the personality of the site as modeled. I have the mortar lines in the scale I'm looking for and have begun some weathering. Everyone (including me!) seems to like the opened windows, which were done per the prototype photos. But the site still needs one more thing...



35. A backdrop! Backdrop photos take a scene to the next level. Just compare these two photos. The backdrop photo is a temporary one (I've already received a greatly upgraded version that looks twice as good as this one), but the improvement in appearance is dramatic. My friend Mike Confalone put together and scaled the backdrop using photos of my modeling area I shot during several trips there.





36. We put in a great deal of effort to get the photo backdrop height and apparent distance right. This looks like what I was after. In real life, this mill is right on the river, with the hillsides on the other side of the Susquehanna. On the layout, the mill is only a quarter-inch off the backdrop, so that's always a tricky illusion.



37. Excusing the bit of tape holding the temporary photo in place, you can see how I blended the foreground scenery with the backdrop. I built a small foam berm just above the tracks and covered it with dirt and static grass. I will eventually add some small shrubs to further enhance the effect. The berm is barely an inch deep in places, but it helps make the scene look much deeper than its maximum depth of about a foot.



38. A local freight trundles through the finished scene. It's hard to believe that the scene is only about a foot deep. Even harder to believe that the ridge obscures what used to be an electrical eyesore. ☑

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[INDEX](#)

[TABLE OF CONTENTS](#)

[MRHMAG.COM](#)

[INDEX](#)

[TABLE OF CONTENTS](#)

Climax rebuild

Part 2



MRH Running Extra | August 2021

JEFF PALMER CONTINUES WORK
ON HIS MDC CLASS A CLIMAX ...



LAST MONTH, I got started modifying an old Roundhouse/Model Die Casting (MDC) Class A Climax locomotive. I made cuts to lower the boiler section and remove the cab doors to bring the locomotive's appearance more into line with the prototype. I was skeptical in the beginning, but I like what I'm seeing now [1].

This month, I'll prepare to mate the Climax shell with the chassis of a Bachmann Spectrum 44-ton switcher. The wheelbase for the 44-tonner is close to the Climax's wheelbase. Its modern mechanism, meanwhile, will make for smoother low-speed operation and better DCC compatibility than the original.

Class A Climaxes typically operated at 6-10 MPH. This makes good slow speed performance essential for a convincing

CLIMAX REBUILD | 2

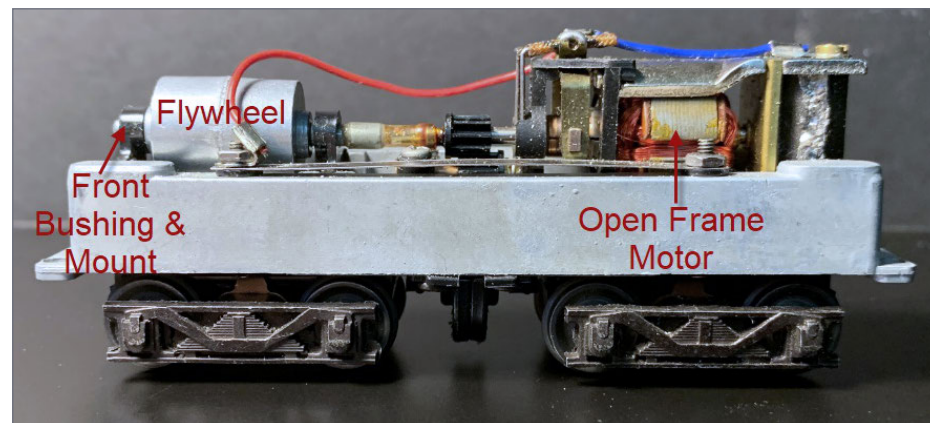
1. This is the MDC Class A Climax Shell after last month's modifications. It's already looking much better.

model. It needs to start smoothly at a crawl and transition well to slow.

The MDC chassis had some serious issues. Its old design made electrically isolating the motor a challenge. Even then, it was noisy, jerky, and had a lot of vibration once in motion. To tune the Climax, I referenced *Tuning for Beginners: Building the Lafever Climax* by Ron Lafever, which is the bible on how to make the MDC Climax run smoothly [2].

The vibrations were easy to diagnose. With the engine running, I could see the flywheel was out of round and out of balance. The front bushing and mount moved up and down with each rotation, similar to what you might observe with a bent axle.

Truing and balancing the flywheel was simple enough using a lathe and a prop balancer [3]. I placed the axle of the flywheel in the lathe chuck and trued the flywheel so its mass rotated in unison with its axle.



2. The MDC Class A Climax Chassis. Note that the motor draws power from the chassis. It would need significant modification and tuning to make it work with modern DCC.



SUBSCRIBE

[INDEX](#)

[TABLE OF CONTENTS](#)

[MRHMAG.COM](#)

[INDEX](#)

[TABLE OF CONTENTS](#)

CLIMAX REBUILD | 3

I also used the prop balancer to balance the flywheel. To balance the flywheel, I spun it, marked the bottom when it came to rest, and repeated. If the flywheel is balanced, no one spot should consistently wind up at the bottom.

If the flywheel came to rest with the spot consistently at the bottom after several rotations, I drilled the surface lightly on the marked bottom to remove material. I then spun the wheel and repeated until balanced. This is a slow, tedious process, and the most challenging part is to be consistent in removing material each time.



3. This is a Goolsky Tru-Spin Prop Balancer, similar to the Du-Bro unit I modified decades ago. In a previous life, I used it to balance wheels and armatures on my son's RC cars. It also works well to balance locomotive flywheels.

CLIMAX REBUILD | 4

I put the flywheel back into the loco and ran it on my test track. It was still noisy and jerky, especially at low speeds. My next task was to work on the gears.

I reviewed the chassis structure, and it became apparent that I needed to lower the profile of the open-frame motor to fit in my newly lowered boiler.

I searched the NorthWest Short Line website for possible answers, but found that whatever motor I selected, I needed to make major modifications to the metal chassis itself. This was insurmountable because I have neither had a milling machine nor the skills to operate one.

I found a couple of articles online that recommended the alternative solution of modifying the chassis of a Bachmann Spectrum 44-ton switcher locomotive [4]. See "Roundhouse Climax Build" in the *MRH* forums (model-railroad-hobbyist.com/node/22781) and also "Improving the MDC Climax" in Dean Kershner's *Geared Steam* blog (gearedsteam.blogspot.com/2009/09/mdc-boxcab.html).

The wheelbase of Bachmann 44-ton switcher is a close match to that of the Climax, and its mechanism runs more smoothly, and is built for DCC. The solution involves cutting away anything above the locomotive's walkway, then filing the sides of the walkway to fit into the MDC Climax shell. It seemed promising enough.

The first step was removing the shell from the base. I turned the locomotive over to find a mounting screw in the middle of each tank on either side of the chassis. I unscrewed them and slipped the shell off to expose the cab mounting tabs [5].

Since I needed to cut off any portion of the shell above the walkway, I was not concerned about preserving the cab or its mounting tabs. I simply cut the cab mounting tabs off, removed the cab, and proceeded to remove the railing [6].

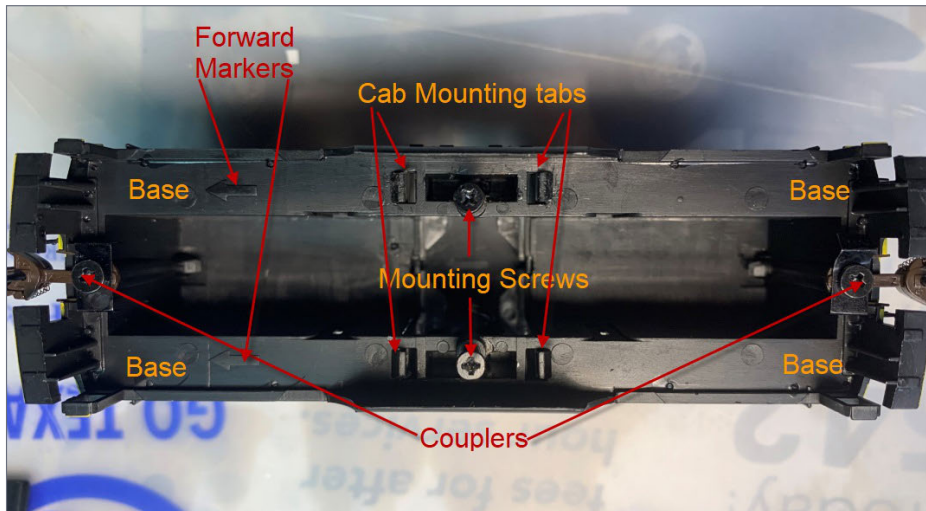


CLIMAX REBUILD | 5

With that, I was ready to really start cutting. I cut off the engine hoods from the walkway along with anything else sticking up above it, and the fuel tank sides below the frame. I sanded everything smooth [7].



4. This Bachmann 44-ton switcher provided a good chassis swap for the Climax.



5. The underside of the 44-tonner shell after removing it from the chassis.

CLIMAX REBUILD | 6

I sanded the edges of the walkway to achieve a snug fit into the Climax shell. This was a process of alternately sanding and testing until I had the fit I wanted. The boiler tabs on the climax shell were in the way, so I smoothed them, too.



6. The cab is removed from the locomotive. Everything above the shell's walkway must go.



7. I removed anything above the walkway and sanded it smooth.



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[INDEX](#)

[TABLE OF CONTENTS](#)

[MRHMAG.COM](#)

[INDEX](#)

[TABLE OF CONTENTS](#)

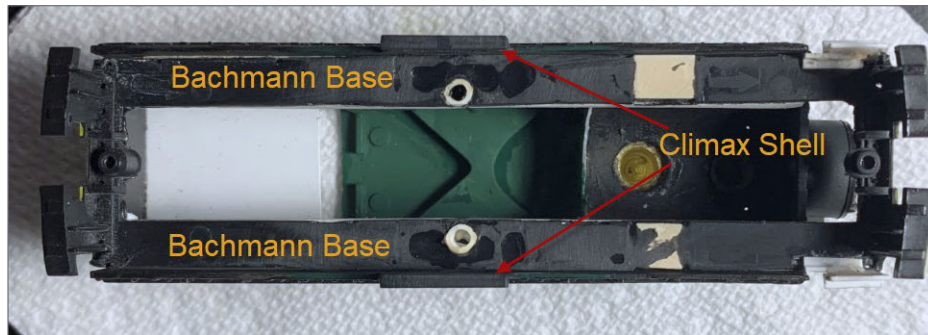
CLIMAX REBUILD | 7

Though the 44-tonner's frame is about the length of the original MDC chassis, the original MDC chassis does not extend nearly far enough in the front. The front edge of the frame should be underneath the front of the Climax's boiler. I needed to make the chassis $5/16''$ longer.

To solve this, I cut the Bachmann base $2-15/16''$ from its rear edge. I then cut two $5/16''$ pieces of $0.060'' \times 0.25''$ strip styrene (Evergreen 159) to serve as extensions [8].

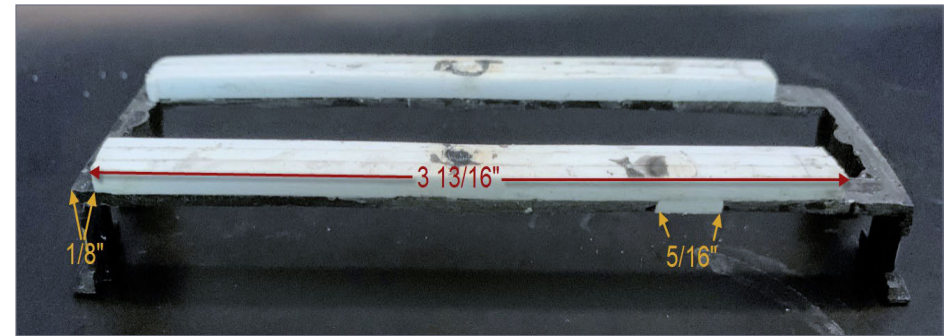
I reassembled the base using styrene glue, laying three $3-13/16''$ strips of $0.060'' \times 0.060''$ styrene (Evergreen 153) side-by-side across either side of the base for reinforcement [9]. I used plenty of clamps for the process to ensure a solid fit, and filled holes, cracks, and depressions with my plastic putty (see Part 1).

Once the extension assembly had dried, I needed to replace the chassis mounts on the Bachmann base so that I could attach the chassis. I put the base onto the chassis, aligning it as I wanted it for the final assembly, then pushed a $3/32''$ drill bit up through the screw hole of the chassis to mark the location for my new mounts.



8. I cut the frame $2-15/16''$ from the rear and used $5/16''$ pieces of strip styrene to extend it on either side.

CLIMAX REBUILD | 8



9. I used longer strips of Evergreen styrene to reinforce $5/16''$ frame extensions.

I then removed the base from the chassis and laid it on a flat surface. Using my $3/32''$ drill bit and a low-RPM drill, I bored the mounting holes into either side of the frame. I inserted some $5/32''$ styrene tubing (Evergreen 225) into each hole, glued it in place, trimmed it flush, and sanded it smooth on both surfaces [10].

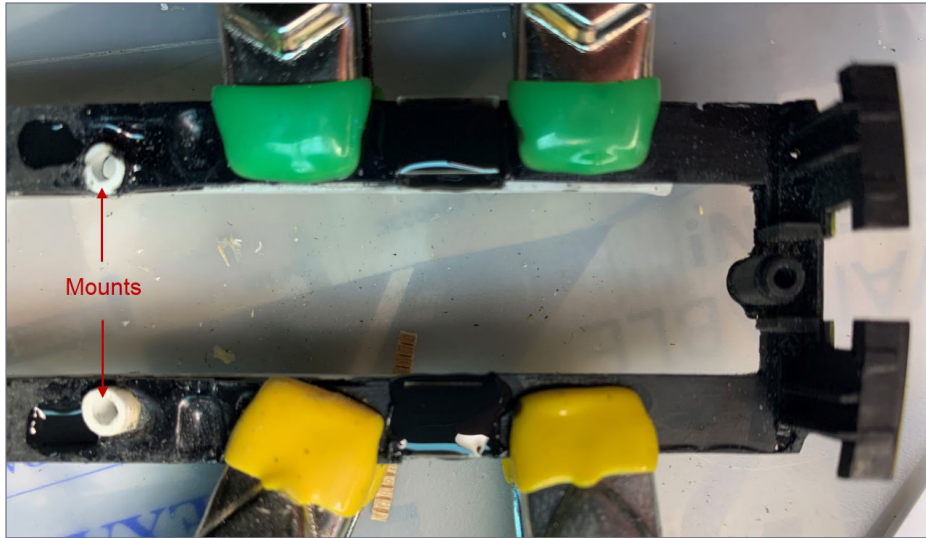
The next step was to rebuild the pilot of the Bachmann frame so that it would match better with that of the Climax. This meant building out the front $5/16''$ of the Bachmann frame to match the profile and material of the MDC Climax's sill molding.

I cut two $5/16''$ pieces of C-channel stock (Evergreen 267) and cut off the lower part of the "c" with my X-Acto knife. I lined up the extension with the existing frame sill and glued it to the Bachmann frame.

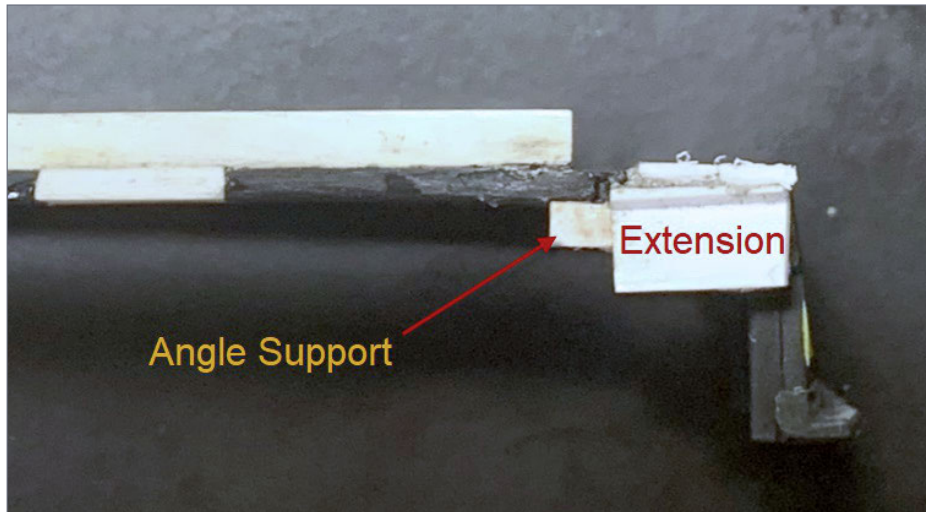
Unfortunately, this glue job proved too fragile. I cut two $3/8''$ pieces of angle stock (Evergreen 292) and glued them to the base for reinforcement. This did the trick [11].

I needed a deck for a $5/16''$ portion of frame underneath the front of the Climax's boiler. Using the width of the MDC Climax's sill as a guide, I cut two $1.379''$ (10' scale) pieces of





10. I applied 5/32" styrene tubing to mount the Bachmann frame to the chassis. Note that I used clamps to prevent the layers of the previous step from separating.

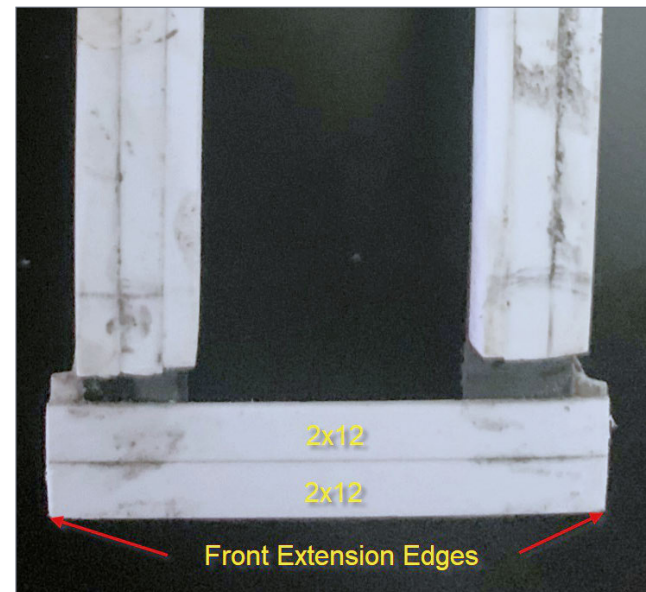


11. I built out the front 5/16" of the Bachmann frame to match the width and contours of the Climax frame molding.

scale 2x12" styrene (Evergreen 8212). I glued them in place starting at the front edge of the frame and moving back [12].

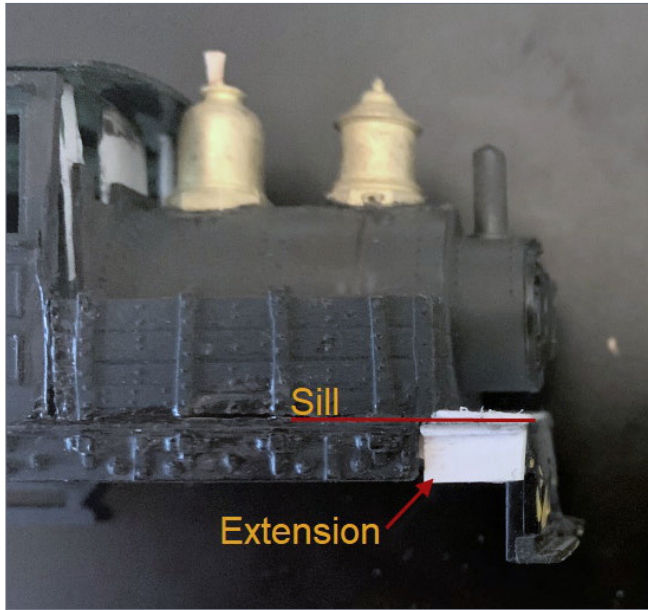
With that, I was ready to test-fit the modified Bachmann frame to the locomotive. The sill extensions and deck on the Bachmann frame matched the Climax perfectly. I was excited to have the mechanical challenge of mating the Bachmann chassis to the MDC Climax behind me [13].

I removed the frame from the locomotive again so that I could focus on detailing the Climax so it would better match the prototype's nineteenth century appearance. This meant new steam and sand domes, additional detailing and modification to the coal bunker and water tank, and various other items [13]. Next month, I'll discuss the detailing process. ☑

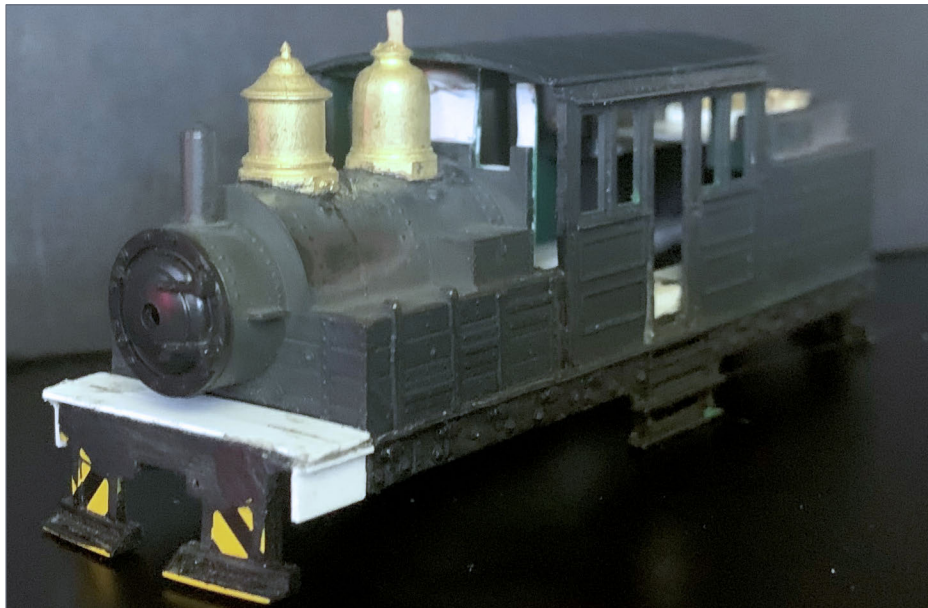


12. The scale 2x12" styrene gave the deck on the front of the locomotive the look of wood.





13. Test-fitting the modified Bachmann frame to the Climax shell. I replaced the original domes to give the model a more period-appropriate look.



14. We are getting there!

JEFF PALMER



Until Jeff retired, he spent 50 years developing software, and 25 years as a college professor. During that time, as now, he was a modeler. He loves to build structures, bridges, scenery, and locos. More specifically, his interest is in logging and mining, which means that he likes narrow gauge. He enjoys the free form and ruggedness that surrounds

logging and mining railroads, the scenery and landscape, and is always on the lookout for new techniques, and tools that improve the hobby. Model railroading allows him to expand his skill set, work with his hands, and share with his friends, the things he has learned.

About two years ago, he completed his MMR (Master Model Railroader) certificate from the NMRA. During that journey, he had the privilege of meeting many of the modelers he looked up to, like Gil Freitag, Duane Richardson, Chuck Ellis, George Sellios, Marc LaChey, Dave Revelia, Dave Frary, Scott Mason, and others. His goal is to be recognized in this group someday. ■



Building Ashley Creek



MICHAEL ANTEAU SHOWS US HOW TO MAKE
REALISTIC WATER FROM TOILET PAPER ...



SUBSCRIBE

[INDEX](#)

[TABLE OF CONTENTS](#)

[MRHMAG.COM](#)

[INDEX](#)

[TABLE OF CONTENTS](#)



RAILROADS LOOK GREAT RUNNING ALONGSIDE

WATER. When designing my HO scale Nicholas & Ashley Creek Railway, I wanted to have trains running beside creeks in the back woods of West Virginia, crossing them on rickety trestles. I wanted scenes of fishermen and townsfolk enjoying the water.

I'd long planned to build my creeks in the traditional way, structuring and painting the creek bed and then pouring the water, probably Envirotex. I've seen many creeks and rivers made this way, and they look terrific! But I tried a couple of these techniques on previous layouts, with frustrating results.

In one case, I used Woodland Scenics Realistic Water resin. I missed a pinhole when I was sealing my creek bed, and most of a bottle I poured wound up leaking onto my bedroom carpet below.

Another time, I tried Woodland Scenics E-Z Water, which uses hot-melt pellets. Unfortunately, I'd built my scenery using foam, and the E-Z water was hot enough that it melted right through the foam when I poured it.

After these mistakes, I searched for a simpler, safer, and cheaper way to make rivers. I watched a video on YouTube by user marklinofsweden that demonstrated a technique for making ocean harbor water using toilet paper and glue (youtu.be/2TwpB7sVMn8).

That meant my waterways wouldn't have to be perfectly level and watertight. Instead of building the ground underneath and covering it with a clear liquid, with this technique, you build

the water surface with toilet paper and diluted glue, and then color it for depth.

This technique looked promising. There was no "pour" step, so I didn't have to make my waterways perfectly level and watertight, and no danger of leaking resin onto the floor. I wondered if his process could be adapted for creeks and streams with their rapids and rocks, so I decided to give it a try.

STEP 1: BUILD THE BANKS AND PREPARE THE STREAMBED

My layout surface is made from foam insulation board. During construction, I provided for creeks by lowering the beds beneath the track level.

I pre-planned my bridges and left room for bridge abutments, which I installed while I laid the track. My creek beds were roughed-in but needed refinement.



1. Use knives and files to smooth the contours of the foam creek banks to a natural slope. Fill any cracks and holes with Sculptamold, and insert plaster rock castings and real rocks along the banks and in the creek bed itself. The goal here is to create a relatively smooth surface with some areas of rocks and rapids.



STEP 1: BUILD THE BANKS AND PREPARE THE STREAMBED *CONTINUED...*



2. Once the rough work is done, stain and paint the rocks, and seal the creek bed with brown paint. The paint isn't strictly necessary, since you will cover it all up, but it provides a consistently colored surface for visualization, and helps blend the creek bed in with the surrounding scenery.



3. Paint and permanently install the bridge abutments. Temporarily place a few details like fishermen and canoes in the scene to figure out their final location. With that, you can begin building the water.

STEP 2: INSTALL THE WATER SURFACE

The water surface is simple and inexpensive. It includes two components: 70:30 diluted white glue and toilet paper. I used about one bottle of glue and one roll of toilet paper to make my river. You'll also need a small assortment of common tools like scissors, an old paint brush, a hobby knife, and tweezers [4].



4. Tear the toilet paper into individual squares. Tear some of the squares in half for smaller areas of the creek. Put the squares into a bin along with any tools and the bottle of glue for easy movement around the layout.



STEP 2: INSTALL THE WATER SURFACE CONTINUED ...



5. To lay the “water” pour some diluted glue on the prepared bed and spread it to a thin layer with an old ½” paint brush. Lay a sheet of toilet paper on top of the glue and pat it with the paint brush to help it absorb the water/glue mixture. Keep laying toilet paper, overlapping the pieces slightly.

Once you have the first layer installed, while it is still wet, go back and start the second layer. Because the surface of the first layer is still moist, the second layer should take less glue than the first.

I found that two layers was enough for me to get the look I wanted. You can add a third or even a fourth if you want the material for larger waves.

While the glue is still wet, use your paint brush to gently smooth, stipple, and shape the moist toilet paper into ripples, rapids, and boat wakes. You can also use the brush to remove any patterns from it. The key is to work gently, as it’s easy to tear the glue-saturated toilet paper.



6. Finally, press rocks and pebbles into the moist toilet paper bed (left). You could also embed other items at this point, like tires, boards, fallen trees, or anything else you want to look partially submerged in the water.

Press items like boats and fishermen into the toilet paper temporarily, using enough pressure to form an impression (right). Texture the surface around these features with the brush to create wakes and eddies, then remove the objects. Add these objects back into the scene after it is complete.



STEP 2: WATER SURFACE, *CONTINUED ...*



7. Let the toilet paper and glue creek bed dry for several days before moving on to painting.

MICHAEL ANTEAU



Michael Anteau comes from a railroading family. His grandfather was an engineer for the C&O, and his father was an engineer for CSX.

Michael was first bitten by the model railroad bug watching his dad's Lionel trains, and he built his first 4x8 layout at the age of 10. Michael is now working on his "dream" layout, a prototype freelanced coal hauling railroad set in transition era West Virginia.

Michael lives in Northwest Ohio and works in Information Technology. He is married and has two grown children. When he is not working on the Nicholas & Ashley Creek RY, Michael enjoys playing piano, biking, hiking, and traveling. ■

STEP 3: PAINT THE WATER

When the toilet paper water surface was dry, I began the coloring process. I made a mockup on scrap foam and experimented with lots of different paint colors. This helped me choose the right colors and test them in various places around the layout to see how they looked with different lighting.



8. Inexpensive acrylic paints from the local craft store work well for this project. I settled on four colors, light brown, green, blue and black, plus the base brown color I used for ground.



9. Dispense some of each color onto an old container lid to use as a palette.



STEP 3: PAINT THE WATER *CONTINUED* ...



10. I found the best way to get the slightly muddy but not polluted look I was after was to start with the light brown at the edge of the bank (left). I followed that with dark brown as I got closer to the water line (right).



11. Getting into the water itself, I used green toward the banks (Left), then blue to represent deeper water (center). I used black to represent the deepest part in the middle of the creek (right). In a creek with two banks, paint the black down the middle. If your creek forms the edge of the layout, as it does on mine, paint the stream black along the edge of the layout to represent the edge as the deepest part.

Take your time and work in an area small enough that you can reach the next step of blending the paint in before it dries. On my layout, I found it practical to work about one foot of the creek at a time but use your judgment for your layout.

The contrast looks stark at first, but that's not a problem. The next step is blending the paint. Getting some paint on the rocks and pebbles isn't a problem, either, as you will wash off much of the paint in the blending process.



12. After applying the colors, soak a clean, large brush with water, and begin blending the colors. Working from light-to-dark makes the stream look shallower, while working from dark-to-light increases the illusion of depth. On my layout, I worked from dark-to-light, but changed things up a bit for the shallower areas that I wanted to keep lighter.

Continue until you have faded the sharp delineations of color into a natural, blended transition. You will quickly get the feel for doing this.



STEP 3: PAINT THE WATER *CONTINUED* ...



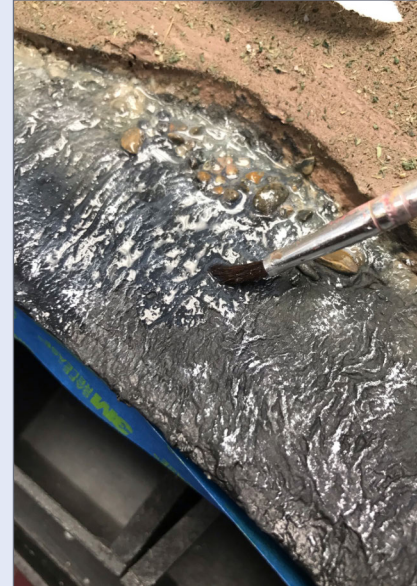
13. Use a piece of toilet paper to absorb the water and color from the rocks and pebbles. You can add a little water with a brush if the paint has started to dry. Once this step is complete, allow the paint to dry at least 24 hours before proceeding with the next step.



STEP 4: INSTALL DETAILS AND APPLY GLOSS

Once the paint has dried thoroughly, it's time to prepare to add gloss to give the water a "wet" appearance. Glue any permanent details such as fishermen and canoes in place before the application so that the gloss can seal against these items and give them the illusion of being "in" the water and wet, as opposed to glued on top.

I chose Woodland Scenics Realistic Water as my gloss medium, though any water-based gloss will work. The higher the gloss index, the better.



14. Pour some Realistic Water into a small cup and apply it to the water with an old soft paint brush to give a thin, even coating. Allow the coat to dry overnight and reapply as needed until you have the desired gloss. I applied three coats to my water.

STEP 5: HIGHLIGHT RAPIDS

Highlight the rapids by drybrushing the peaks with white craft paint. Use your brush to pick up some white paint, wipe most of it off onto a paper towel, and gently drag it across the rapids. The texture of the toilet paper will pick up the white on the tips of the rapids.



15. I experimented with whether it worked better to dry-brush the rapids before (left) or after (right) adding the Realistic Water gloss. I found I preferred dry-brushing after the gloss, since the effect seemed a little more pronounced. As a bonus, I found it easier to wipe excess paint off the glossy surface.

STEP 6: APPLY WEEDS AND BANK DETAILS

With that, Ashley Creek was finished! Now I can watch my trains run along the water, blow the whistle, and scare away all the fish.



16. To complete the creek, install weeds and bushes along the banks using traditional methods. I made some weeds from homemade static grass tufts for the edges of Ashley Creek.





17. Here's a shot of the finished Ashley Creek. I think it enhances this river crossing location on my layout by adding a sense of action and life to the scene.

★★★★★
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[INDEX](#)

[TABLE OF CONTENTS](#)

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[INDEX](#)

[TABLE OF CONTENTS](#)

The ups and downs of Liftouts and Duckunders



MRH Running Extra | August 2021



ROBERT PERRY SHARES TECHNIQUES FOR DESIGNING LIFTOUTS FOR IMPROVED ACCESS AND SMOOTH OPERATION ...

FEW OF US HAVE ENOUGH SPACE TO CREATE OUR DREAM empire. We try to pack as much track and operations as feasible into available space, which sometimes can compromise room entryways, or access to other necessary areas. So we incorporate a liftout, a duckunder, or another form of entry into layout planning.

LIFTOUTS AND DUCKUNDERS | 2

1. Liftout section in place.

Any form of movable access-way has the potential for rail misalignment due to expansion/contraction, hinge misalignment, or mechanical fatigue of the components. I have seen many club layouts that have liftout or other gate-type access-ways that are very prone to misalignment and are the scourge of the clubs.

My layout required an access-way with three tracks going over the 30" "bridged" section. Complicating things even more, the three tracks were not at the same elevation or grade, creating areas of potential misalignment. With three tracks, a typical gate-type section did not seem to be a good option.

My son Bob Jr., a mechanical engineer, devised a liftout section that we could stow when working on the railroad, and drop into place when operating trains [1]. The specific alignment mechanism distinguishes our liftout from other setups, but it could be modified to fit almost any access need.

We needed some method to automatically align the tracks when the liftout section was put in place. We made our alignment device of wood, but you could fashion it from aluminum plate stock, UHMW (ultra-high molecular weight plastic) or Delrin plastic for even more stability.

The most important issue relates to layout environment. Any system could be problematic with humidity or temperature variations. Likewise, if the wooden benchwork or sub-roadbed was not acclimated to the room before installation, the tracks can have misalignment issues.

Nickel silver rail does not expand and contract to any significant degree. Even a change of 20° F will only cause a few thousandths of an inch expansion. Wooden support



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[INDEX](#)

[TABLE OF CONTENTS](#)

[MRHMAG.COM](#)

[INDEX](#)

[TABLE OF CONTENTS](#)

structures, by contrast, can change significantly, especially with humidity changes.

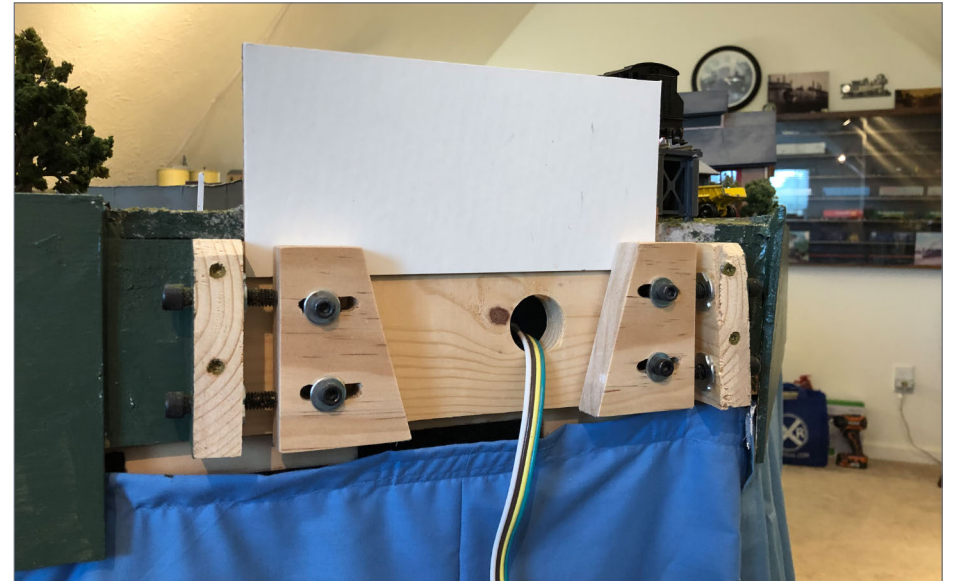
We decided to use a wedge shape affixed to each end of the liftout section. We made matching, but adjustable, receivers on the fixed portions of the layout. The position of the receivers dictated how far down the liftout could fit, or high it needs to be.

We can tilt the section slightly to accommodate side-to-side variations if needed. The Homasote sub-roadbed allows slight lateral movement to accommodate irregularities.

We used hex cap screws in slotted holes to attach the receiving wedges to the benchwork and allow for side-to-side adjustments. We added access holes for an Allen wrench to adjust the screws. The adjusting screws either push the sides of the receiver inward or allow the receivers to move outward [3].



2. Wedge-shaped block on liftout. Note the access holes. They accommodate Allen wrenches to screws that adjust the receiving wedge's position.



3. The wedge receiver. The Masonite wall is a safety measure to prevent loose cars plunging through the open gate, which is on a 2% grade. Note the adjustment screws and slots for lateral adjustment.

After the initial adjustments, I was set. The gate has worked well throughout the years without further adjustment. There have been no derailments around the liftout, and I've seen no need to add guard rails.

We keep the liftout removed for easy access when not operating the layout. We place the liftout on the floor in an angled holder that keeps it upright. An automotive trailer wiring harness connects track power on the liftout to the main layout and is easy to disconnect [3].

The track crossing the liftout is on a 2% grade. Switching off track power on either side of the liftout will stop locomotives (barring stay-alive capacitors) but this does not protect rolling stock from the law of gravity. We built slots into the receivers



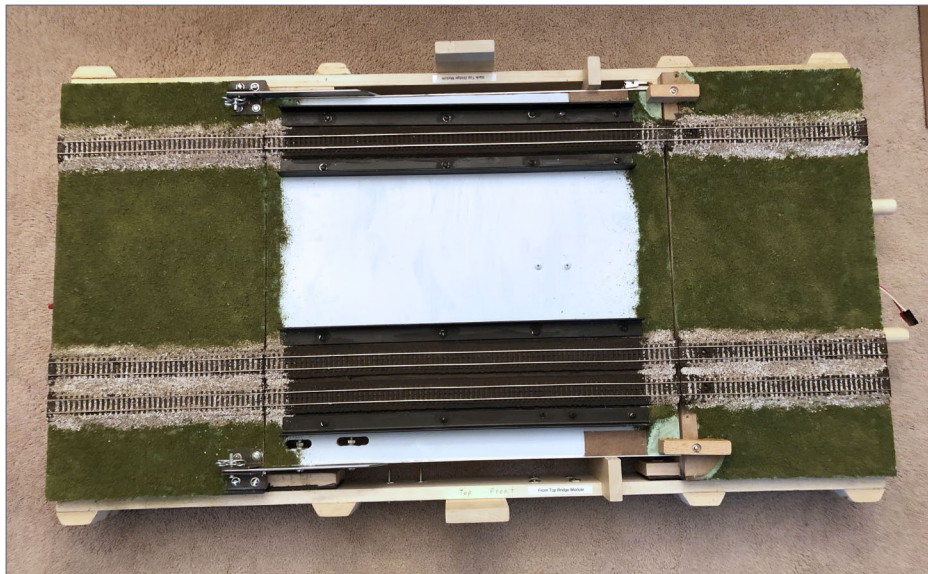
LIFTOUTS AND DUCKUNDERS | 5

on either side of the gap to accept a rectangular scrap of Masonite to protect loose cars or errant trains.

The liftout becomes a duckunder when it is in place during operations. Carpeting helps the knees. If the floor is a hard surface, consider adding a padded area beneath the duckunder that extends on either side to keep the operators' knees happy when they must crawl.

Carefully plan your duckunder location so that operators can stay on one side during operations. This minimizes the need for guests or operators to crawl underneath until the end of the operating session, when you can remove the liftout.

Although my layout room is climate-controlled, I know some people who have had significant problems with expansion and contraction of their benchwork. Depending on humidity levels, a 36" entryway can vary up to $\frac{1}{2}$ " in length.



4. This bridge is designed so the rails can ride the wood's expansion and contraction. The bridge is in its shipping frame.

LIFTOUTS AND DUCKUNDERS | 6



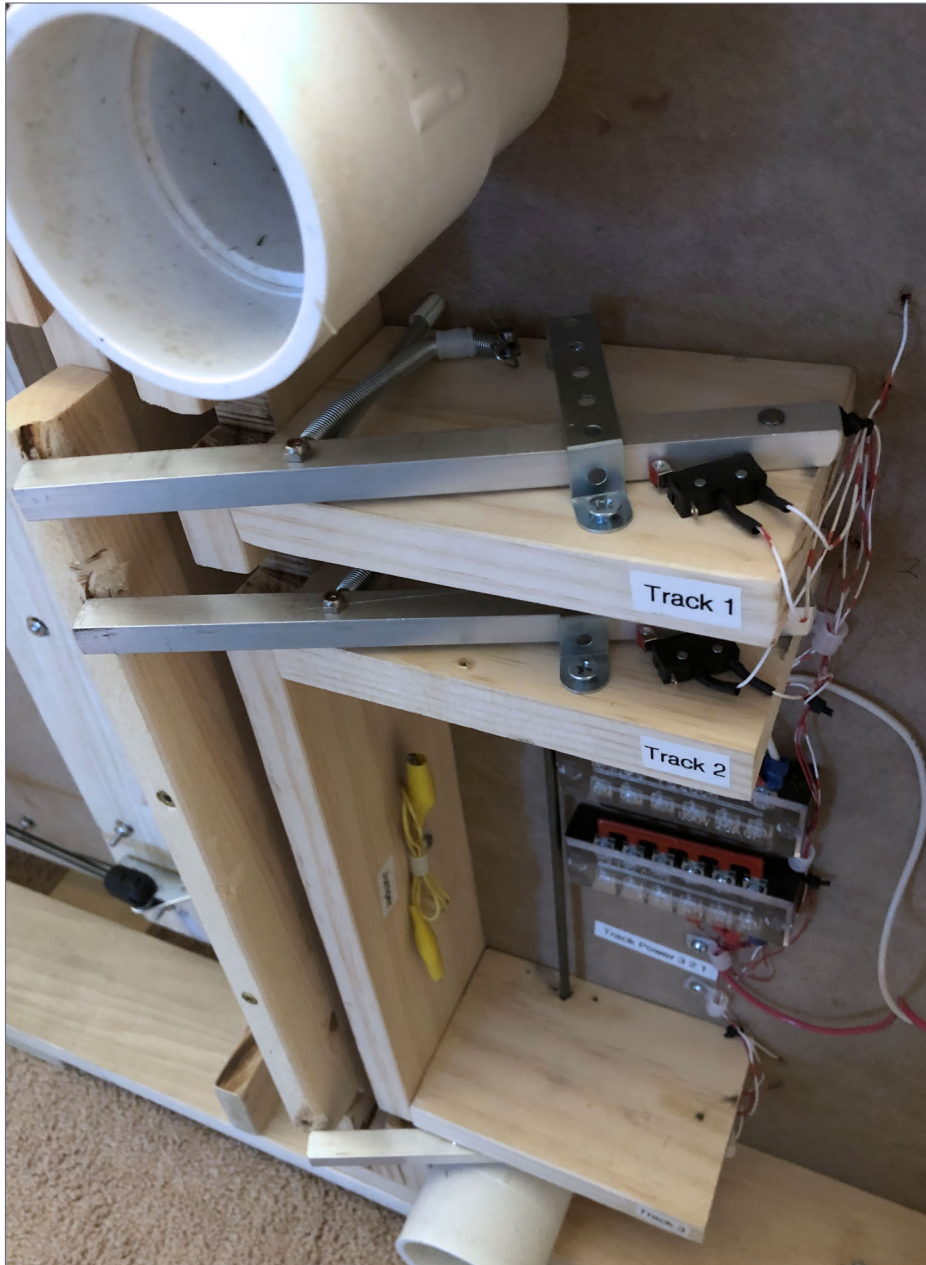
5. We used pneumatic struts to hold the gate open.

Trains can usually cross a $\frac{1}{16}$ " gap between rails on straight track. Breaking the 36" liftout track into four segments of 9" each, connected with loose rail-joiners would divide $\frac{1}{2}$ " of expansion. Use feeder wires on each segment, fed through oversize holes, to guarantee connectivity.

Loose fitting Z-shaped brass pieces on the outer portions of the ties to fasten the segments to the liftout would allow for better expansion movement than nails or glue. We used such an arrangement for a "bridge" module at the Naptown & White River Model Railroad Club [4].

The club's bridge liftout section used the same wedge-type receptacle to ensure alignment. In this case, we designed the bridge to swing up vertically on hinges, using pneumatic struts to support it when open. The struts also provide horizontal force when the gate is closed [5].





6. Mechanism to retract or deploy locomotive stops.

To protect against errant traffic when the duckunder is out, the club added switches to the track sections on either side. Because the sections on either side of the liftout are too short to stop locomotives with stay-alive capacitors, we designed a mechanical stopper that comes up between the rails to block errant trains [6].

Duckunders are never ideal solutions, though they can be helpful in maximizing a layout's usage of available space. If you do need a duckunder, our methodologies have proven to work well, opening space while allowing hassle-free operations. ☑



ROBERT PERRY



Dr. Perry has been an HO scale model rail-roader for 52 years. He started at age 8 and credits his father, uncle, grandfather, and his son for their interest and contributions to his hobby.

After downsizing homes, he is building a new layout in a 12'x24' loft, representing a fictitious division of Canadian National.

In addition to model railroading, he enjoys computers, robotics, genealogy, and camping. Extra thanks go to his wife, Mary, who has indulged him in his life-long hobby. ■



THE AH-HAH MOMENT

column



MRH Running Extra | August 2021

JOE FUGATE MAKES HIS OWN CORRUGATED SHEET METAL FOR STRUCTURES ...



RATE THIS ARTICLE

LIKE MANY MODELERS, I HAVE TRIED TO USE KITCHEN ALUMINUM FOIL TO MAKE corrugated tin sheets for modeling use, but that method has always failed to be very satisfactory because the material is so thin.

Heavy-duty aluminum foil is still too thin, although it's not as bad as ordinary aluminum foil. Regular aluminum foil is about 0.5 mils thick, or 0.0005". Heavy duty aluminum foil is about 1 mil thick, almost double that of regular foil. But it's still quite fragile.

So I went searching for inexpensive sources of heavier metal foil and I found some good ones that run 2-5 mils thick. *Ah-hah!*

First, there's metal foil tape for wrapping things like vent or furnace ducts. I found some in the 2-3 mil range. It comes with a backing that I don't remove until I'm ready to apply the corrugated sheet to something.

I also found stainless steel foil that's 2 mil, and I found some aluminum sheet that's 5 mil. The 5 mil feels like the metal they make disposable aluminum pie plates from. These thicker foils make corrugated sheets that are a lot less fragile than kitchen foil.

Once I had these thicker metal foils, I got myself some Evergreen styrene corrugated siding. I tape a piece of metal foil down to the styrene so it won't move then emboss it firmly with the end of a popsicle stick [1].

As to corrugation size, standard corrugation spacing runs about 3" wide. For the various scales, Evergreen makes siding with 0.030" (N), 0.040" (HO), 0.060" (S), and 0.080" (O). These corrugations are slightly

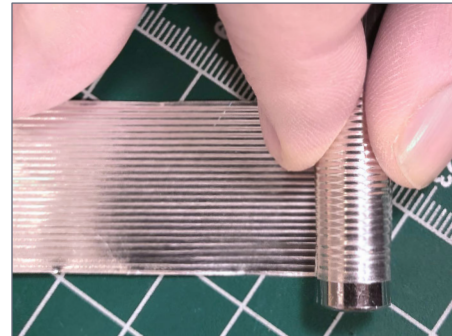
THE AH-HAH MOMENT | 2



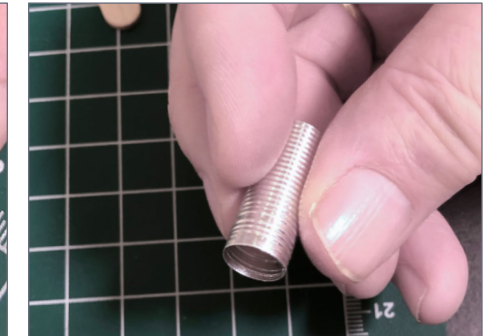
1. I take the thicker 2-5 mil metal foil and emboss it firmly against a styrene sheet with the desired corrugated metal flute spacing.



2. The thicker metal foil makes a scale corrugated sheet that holds the corrugations nicely when handled.



3. Wrap the foil around a round dowel or rod to make corrugated pipe for scenery.



4. The heavier foil pipe holds its shape nicely and looks very realistic. Weather it as needed.

oversize, but it still looks right to the eye. Standard corrugated tin comes in 2' x 3' sheets for siding and 2' x 8' sheets for roofing.

This thicker foil material also makes great corrugated pipes. Just roll it around a dowel or rod [3, 4] and voila! ☑

To get a shopping list for this article, visit the *MRH* website at this link: mrhmag.com/magazine/running-extra/2021-08/ah-hah-moment#shopping



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[TABLE OF CONTENTS](#)

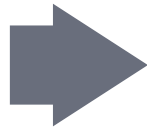
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[INDEX](#)

[TABLE OF CONTENTS](#)

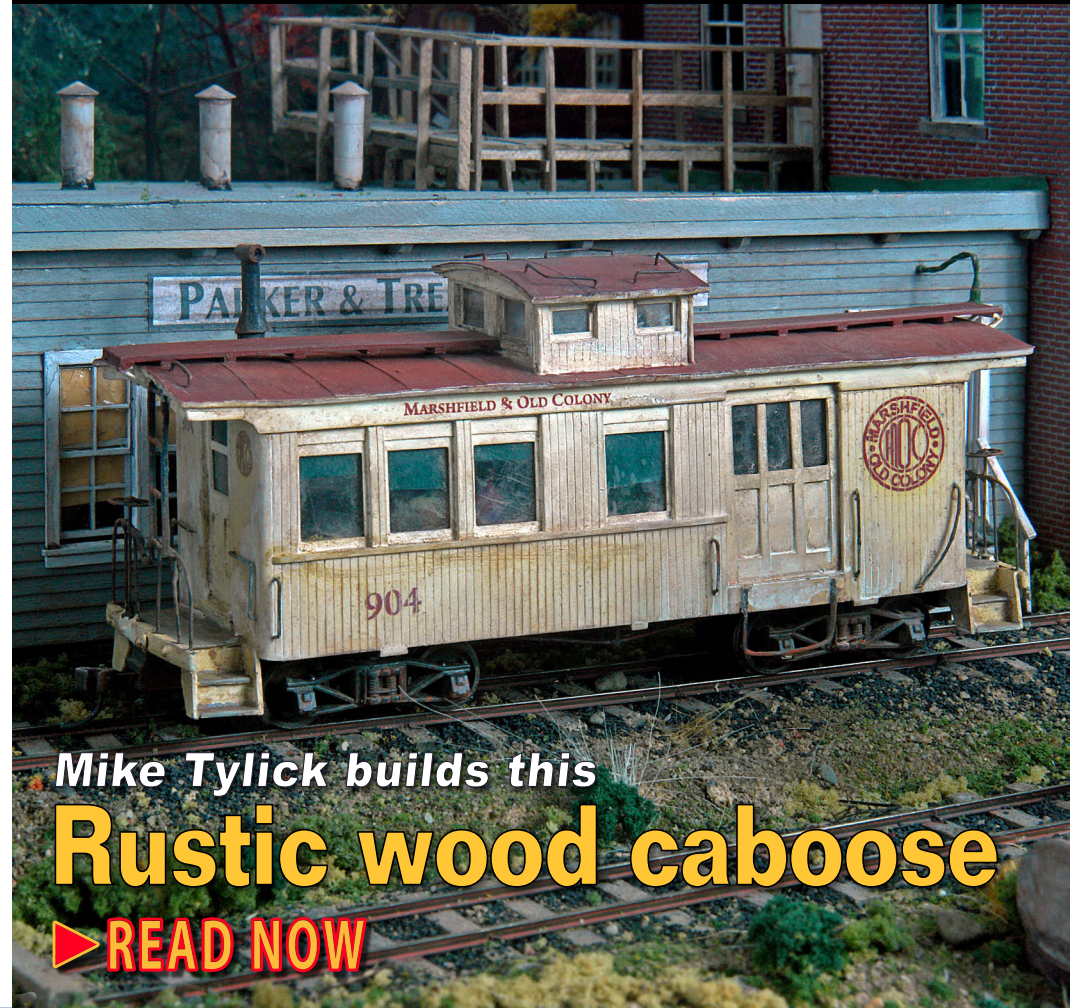
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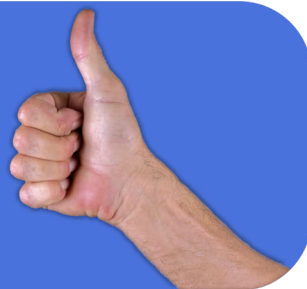
[TABLE OF CONTENTS](#)

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[INDEX](#)

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PUBLISHER'S MUSINGS



Model Railroad Hobbyist | August 2021

JOE FUGATE REVISITS TOMA, THE "ONE
MODULE" APPROACH ...



ORIGINALLY, THE "ONE MODULE" APPROACH (OR TOMA) STARTED AS A COMMENTARY TO GET ARMCHAIR GUYS BUILDING SOMETHING. You can read my original commentary in the May 2013 *MRH* as the *Reverse Running* column in that issue.

My original TOMA concept has evolved since that original column to become an all-encompassing approach to building a home layout using modules or sections.

What makes TOMA different from just building a sectional or modular layout comes from its unique approach to the construction process: build each section to completion as you go. In other words, use a deliberate phased modular approach.

With TOMA,
you build each
module section
to completion
and hang some



1. Classic TOMA module section with temporary staging.

staging off one or both ends so you can run trains [1]. This gets you up and running with a finished-looking layout in fairly short order and it doesn't take a huge space, either.

Want more layout? Easy, just build more module sections.



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[INDEX](#)

[TABLE OF CONTENTS](#)

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[INDEX](#)

[TABLE OF CONTENTS](#)

How is TOMA is different?

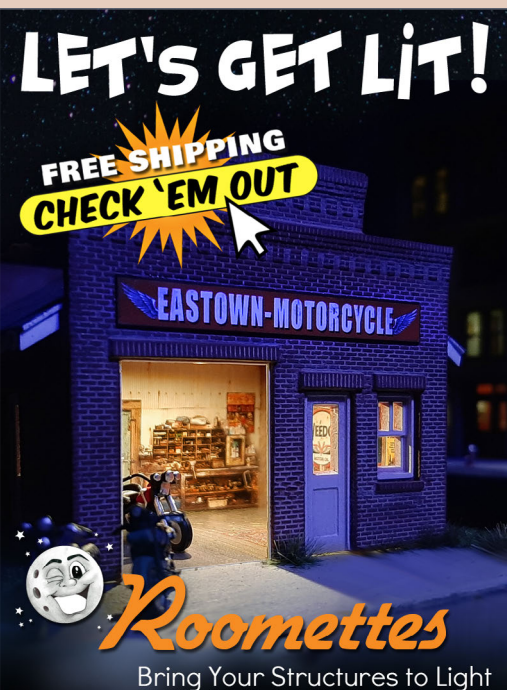
Modular and sectional layout methods have been around for decades now. Isn't TOMA just "marketing hype" for the same old modular/sectional layout methods we've had for a long time now?

Modular layout methods have been used for decades now, that's true. But these methods have almost exclusively been used for show layouts taken on the road. Modular methods haven't been used much for home layouts.

Building a home layout using modular methods can lead to considerations that almost never apply to show modular layouts. I'll cover some examples of those in the next section.

What about sectional layout design? Some layout plans include "sectional boundaries" that theoretically allow the layout to be cut apart and moved later if needed. Few layouts actually get

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built as sections from the get-go. Does that mean the layout design is a form of TOMA?

I know of cases where such potentially sectional layouts, when actually cut apart and moved, encountered unexpected complications. So the “not field tested” aspect of those potential sections can be a real issue.

With TOMA, you actually build the layout in module sections as you go, connecting and disconnecting the module sections during the construction process. You know the module sections work as expected and can be transported without issue with a TOMA layout design.

So, what kind of modular layout issues make a TOMA home layout design different from a show modular layout you take on the road with you?

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[TABLE OF CONTENTS](#)

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[INDEX](#)

[TABLE OF CONTENTS](#)

PUBLISHER'S MUSINGS | 4

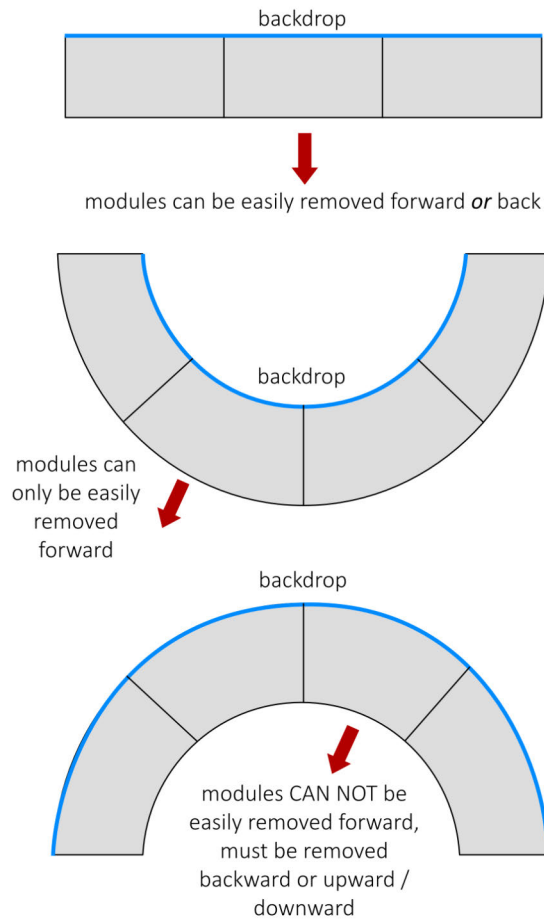
TOMA's unique spin on modular/sectional layout design

Show modular layouts you take on the road almost always get set up in a large open space, so maneuvering module sections around is seldom a problem.

But with a home layout, the layout module sections need to fit into a more constrained room with walls and a typically 7-8 foot ceiling.

Inserting or removing module sections on a home layout must deal with a lot more space constraints than a show layout taken on the road [2]. That's one very practical example of how home modular layout design differs from show layouts.

Because TOMA by design gives you a home layout you can take with you if you relocate to a new home, that brings up this additional consideration: will the TOMA sections fit into the new space? Probably not.



Also, walls may prevent using backward removal option.

2. Connecting / disconnecting module sections with TOMA.



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Again, home layout space constraints make TOMA different from show or exhibit modular layouts.

TOMA sacrificial modules

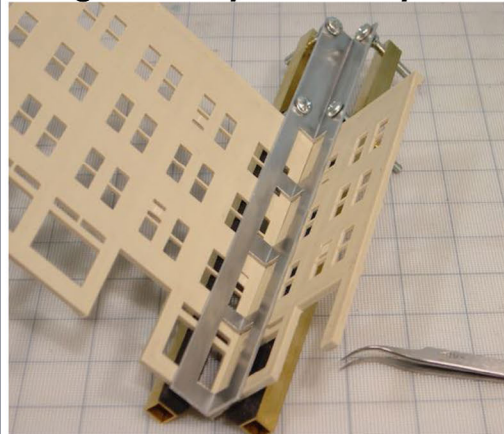
As I have been designing my Siskiyou Line 2 layout using TOMA thinking, I have come up with the concept of what I call a "sacrificial" module.

Basically, the idea is the current TOMA sections probably will not fit the same into any new layout space, so why not deliberately design certain simple module sections to be throw-away sections that can be replaced in the new space?

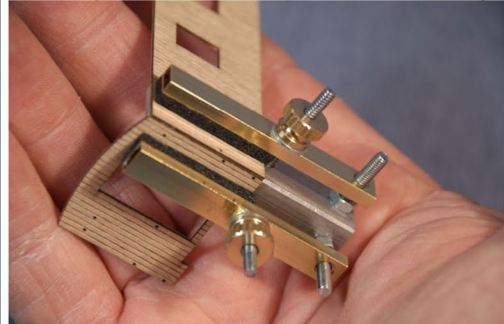
Take my Siskiyou Line 2 Roseburg yard as an example. The prototype yard is laid out on a curve, so I'm making my Roseburg yard design likewise fit on a curve.

However, what I'm doing different involves the sacrificial TOMA module. I have designed the two ends of the yard with all the turnouts as straight sections. In the middle

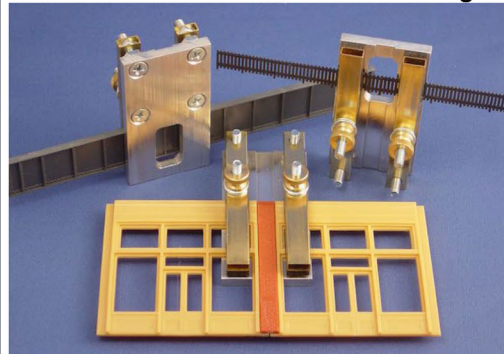
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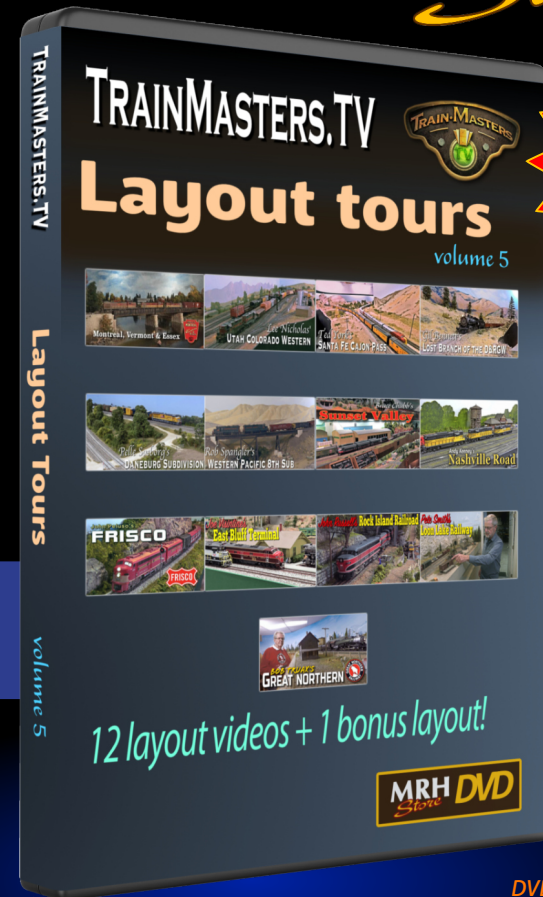
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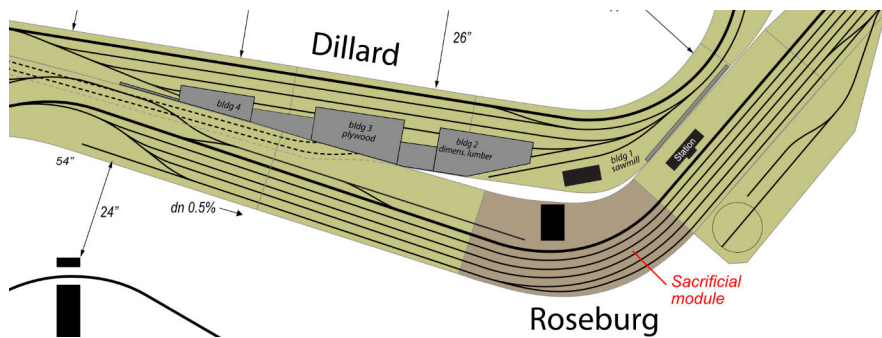
[TABLE OF CONTENTS](#)

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[INDEX](#)

[TABLE OF CONTENTS](#)

PUBLISHER'S MUSINGS | 6



3. Part of my Siskiyou Line 2 TOMA layout plan showing the sacrificial module in Roseburg yard.

I have inserted a simple curved TOMA module section that has few if any turnouts [3]. I'm thinking in any new space, I will have to curve the yard differently to fit the space, so this simple module can be discarded.

Then in the new space, I replace the sacrificial module section with a new section that curves differently to allow the yard straight sections to fit into the new space as needed.

Sacrificial modules is a new TOMA concept that's specific to the space constraints of a home layout. It's another example of how TOMA modular / sectional layout design differs from show layouts destined to go on the road.

As TOMA evolves, I'm expecting still more differences to emerge between TOMA home layout design and more traditional modular layout design for modules for show or exhibit layouts.

Given show layouts typically have lots of open space to work with, maneuvering modules in tight quarters or dealing with limited layout space such as you get in a home setting isn't a concern.

I'm also expecting differences between layouts designed to

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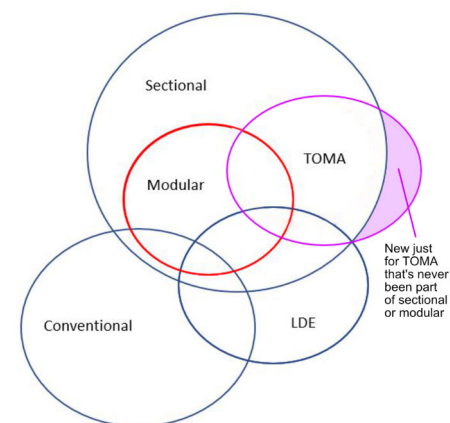
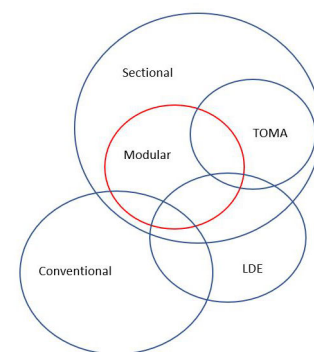
come apart if needed into sections and TOMA designs to emerge. One example I can think of right off the top of my head is how I'm designing my TOMA module sections to be easily movable. That means for one thing, they need to fit through a door without smashing my fingers.

That also means my TOMA modules need to be light weight enough one person can carry the module. I've set a goal of 40 pounds, max. How many home layout designs that allow cutting the layout up into sections consider weight or fitting through a door? Few if any.

In summary

This Venn diagram [4, top] got posted on the *MRH* forum recently as an attempt to show how TOMA fits into the different approaches in the hobby to layout design.

I prefer the bottom one [5], since I see TOMA bringing new concepts to the table for home modular / sectional layout design. ☑



4, 5. Venn diagrams attempting to characterize TOMA's place in the mix of layout design approaches. I prefer the bottom one [5].



Every little bit helps!

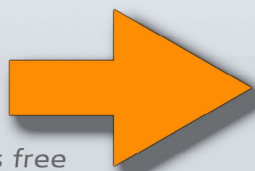


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Top rated articles in the [July 2020 issue](#) of MRH are:

- 4.9 July 2021 news
- 4.6 Build a small N scale layout, part 4
- 4.6 Weathering Tangent NP Boxcars

Issue overall: **4.7**

Top rated articles in the [Jun/Jul 2020 issue](#) of *Running Extra* ...

- 4.7 Pin wash weathering
- 4.6 Secret to a more satisfying layout
- 4.6 Limited Modeler:Pennsy N-class 2-10-2s

Issue overall: **4.6**

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[TABLE OF CONTENTS](#)

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Compiled by **JOE FUGATE**



CP Rail's Newport & Lyndonville Subdivision

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[INDEX](#)

[TABLE OF CONTENTS](#)



1. John Bruce asked for examples of modern logging railroad operation and started off with an example of his own efforts to that end.

Modern Logging

MRH forum member **JohnB** (John Bruce) kicked off a discussion on modeling modern logging railroad operations way back in 2011. Recently this thread has been revived with fresh posts.

John originally started off with his own modeling efforts:

"I've slowly been adding a modern logging operation to my layout, based more or less on the Camas Prairie and the Oregon California & Eastern. Here's a Camas Prairie type BN log car [1], using an Athearn Blue Box 40 foot log car kit and the Details West log bunks."

From there, many others chimed in with their own examples of more modern logging railroading. Follow the fascinating discussion on this timeless "blast from the past" thread.

[View the full thread on the MRH website](#)



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[TABLE OF CONTENTS](#)

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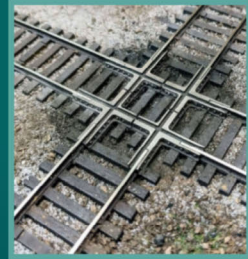
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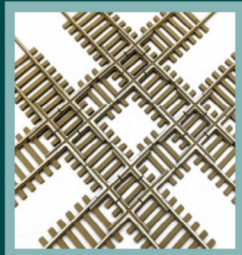
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2. MRH forum member **Mark Stafford** is prototyping a handheld steam throttle that mimics real steam loco operation. See more below!

Steam modelers ProtoThrottle?

You may be familiar with the diesel control station handheld ProtoThrottle from Iowa Scale Engineering. Back in 2018 after the release of the ISE ProtoThrottle, Joe Fugate asked if a steam version of a ProtoThrottle was possible.

Forum member **Mark Stafford** jumped into the discussion a few pages in and decided to actually prototype a working modelers' steam loco throttle. And he's actually making it happen!

Mark has made superb progress since 2018 and he's been documenting his successes and failures on this thread ever since. Mark now has a alpha prototype he's been experimenting with and we have to say, it looks pretty awesome.

But Mark still has a long way to go and could use some assistance. Jump on this thread and maybe give Mark a hand!

[View the full thread on the MRH website](#)

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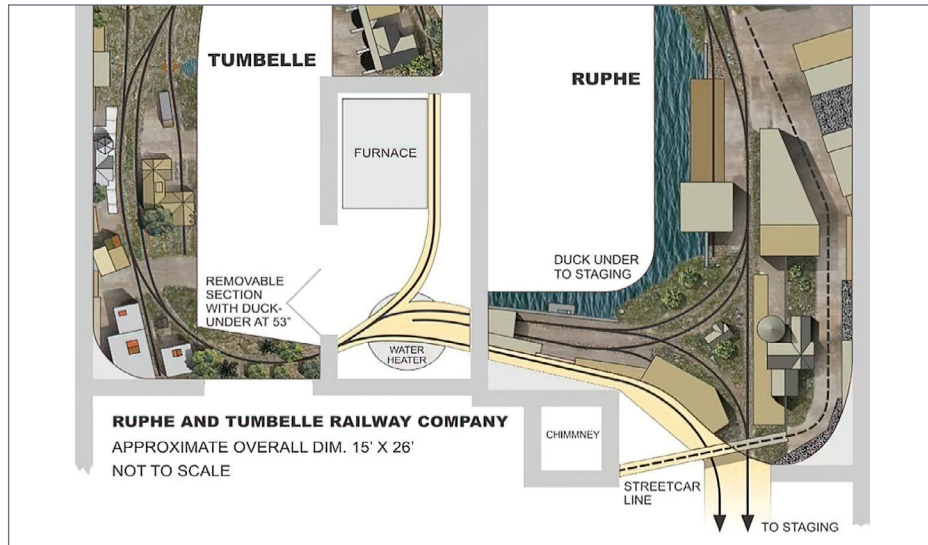


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3. MRH forum member **On30guy** (Rick Reimer) posted his superbly rendered trackplan on the On30 trackplan thread by **seustis13**.

On30 track plans

MRH forum member **seustis13** ("Sandy") in another blast from the past thread asked for well-done On30 track plans.

*"Despite what some folks say, track planning in On30 is **not** just about taking an HO plan and increasing the track separation on parallel tracks a smidge. What works in On30 is **not** primarily driven by the width of the track (same as HO), but mostly by the footprints of O scale structures and scenic elements – at least it is for reasonable-looking layouts."*

Since this thread started in 2013, many interesting On30 track plans have been posted to the thread, including Rick Reimer's plan [3] for his Ruphe and Tumbelle Railway Co.

View these track plans using the button below.

[View the full blog on the MRH website](#)

Some great prototype photos posted in 2021

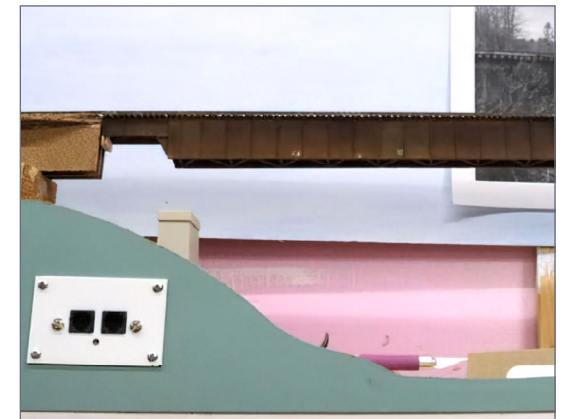
Besides weekly photo fun, we also have an annual prototype photos thread. Here's a sample from the 2021 thread.

[View the full post on the MRH website](#)



4, 5. MRH forum member **amsnick** wondered how he should model the ties at the end of his bridge, so he went on a field trip to look at the prototype and get some photos. On the right you can see his model bridge [5] and above, the prototype [4].

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WHAT'S NEAT

column



Model Railroad Hobbyist | August 2021

**KEN PATTERSON: TRICK
OUT CIVIL WAR ERA LOCOS ...**



THIS MONTH GEORGE BOGATIUK SHOWS US HOW HE MODELED THE famous Civil War General locomotive using Bachmann's DCC-ready 4-4-0 "Texas". George modifies or adds nearly all new details on the locomotive – *plus* installs a SoundTraxx TSU-1100 sound decoder, mini-cube speakers, and a CurrentKeeper in the tender!



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PHOTOS AND VIDEO OF SUPERB MODELS



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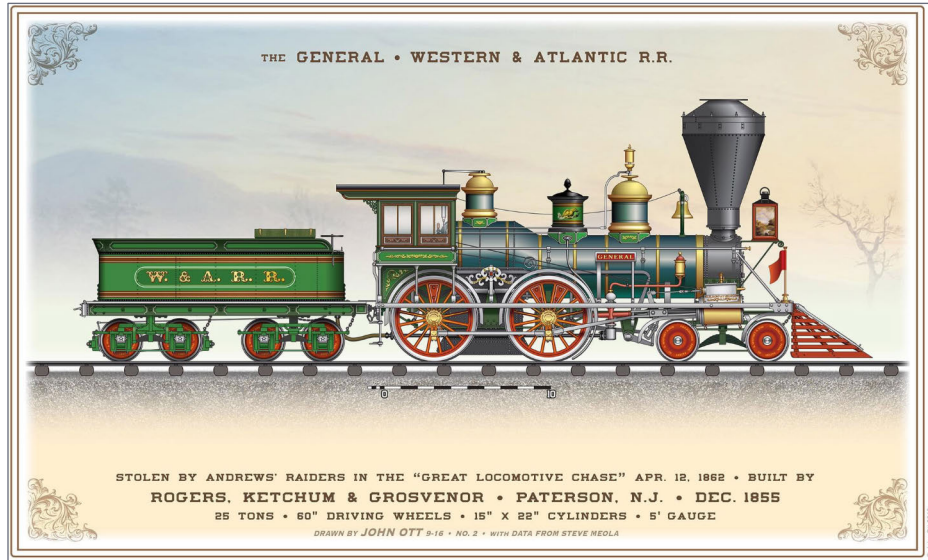
[TABLE OF CONTENTS](#)

[MRHMAG.COM](#)

[INDEX](#)

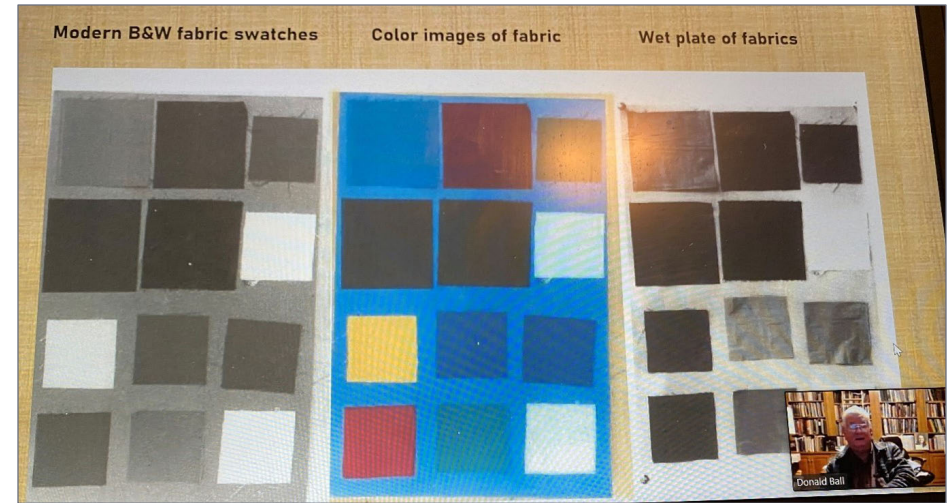
[TABLE OF CONTENTS](#)

The General



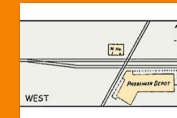
1. The *General* was the locomotive stolen by James Andrew's raiders in April of 1862, beginning the Great Locomotive Chase. Only quick and determined action by its conductor, William Fuller, prevented the raiders from making it back to Union lines.

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(Just in case your spam filters eat our email response ...)



2. Modeling Civil War era locomotives can involve a lot of research, some of which might be unexpected. This photo shows how the change from Civil War era wet plate photography to modern chemical processes has changed how colors are represented as shades of black and white. See how the yellow and blue swatches are nearly reversed in shade between the two processes.

Did you see this article?



Layout design using LDEs
(layout design elements)

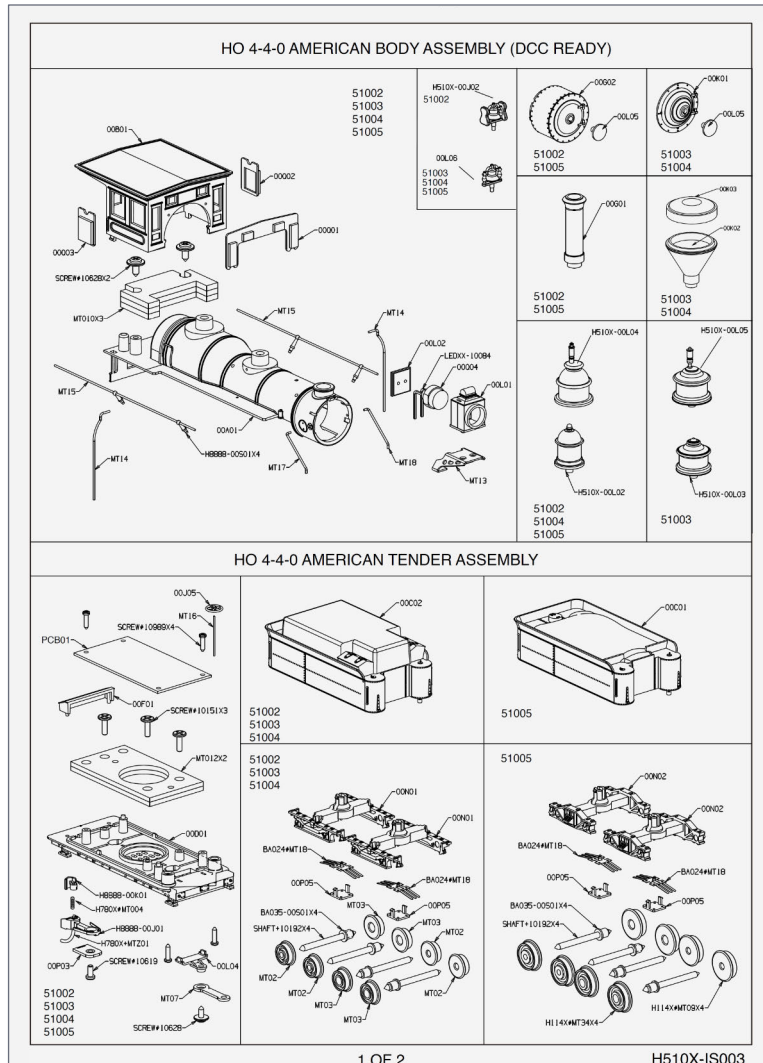
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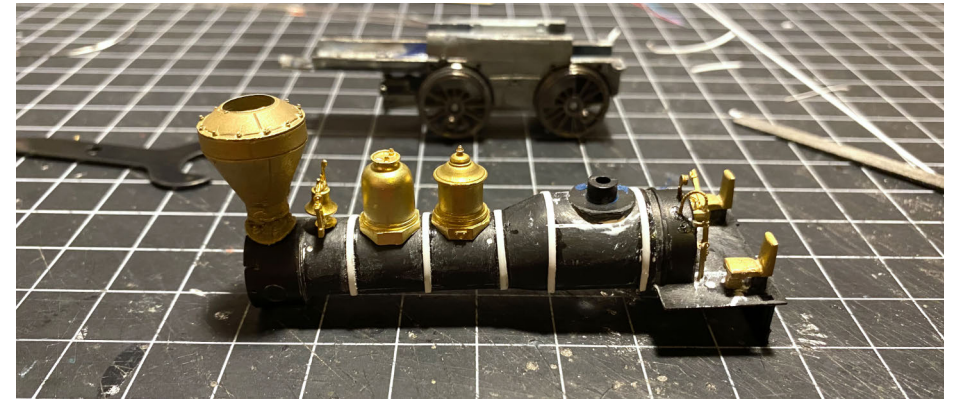


Also see the "What's neat this week" weekly video podcast!

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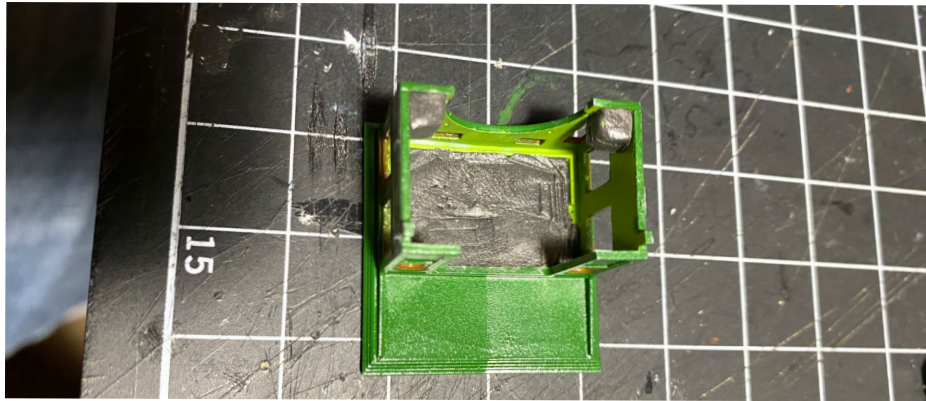
3. Studying the locomotive and understanding how to disassemble it, and how far you need to disassemble it, can take time, but the planning is worth it when it comes to take it apart. Exploded view diagrams like this one can be found at Bachmann's website. (Diagram Source: www.bachmanntrains.com/home-usa/references.php)



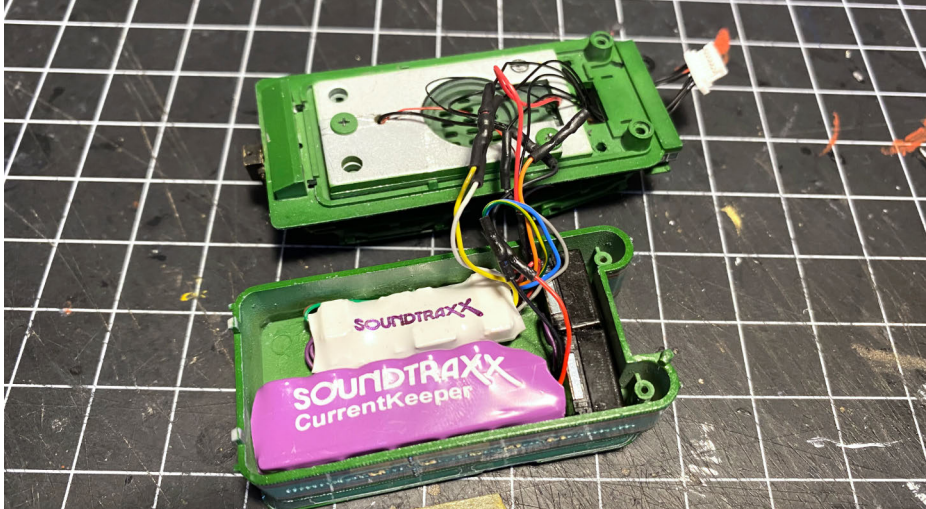
4. An important part of the process also involves deciding what parts need to be painted, and in what order they will be painted. Because the sand and steam domes may be multiple colors, as well as different colors from the boiler, it may be easier to paint them separately before attaching them.



5. Rogers' locomotives like the General had two steam domes as well as the sand dome, all with hexagonal bases. The Bachmann 4-4-0 has a single steam dome and sand dome with round bases. The boiler straps are also in different locations. Because of this, the boiler needs to be sanded smooth, with the new boiler straps made of .010"x .040" styrene strips. Paint the straps with a brass color first, then mask them and spray the entire model with clear coat to seal the masking tape so the primary boiler color will not bleed under the masking.



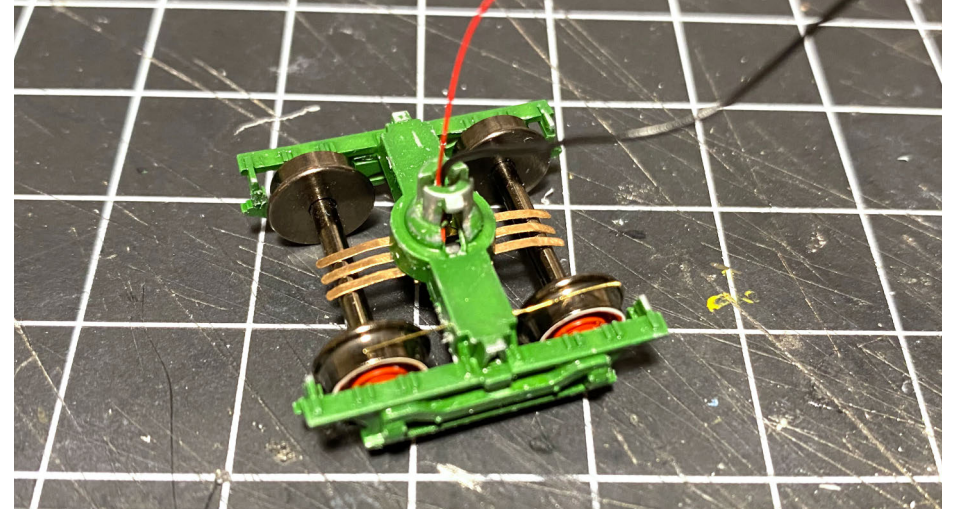
6. Some of the changes that George made to the locomotive moved its balance point too far forward, so he added lead putty to the cab ceiling and the front corners. The changes and this weight increased the locomotive's weight from 3.3 oz. to 4.2 oz.



7. By removing the top plate of the weights in the tender, a SoundTraxx TSU-1100, CurrentKeeper, and two mini-cube speakers wired in series can fit into the tender.

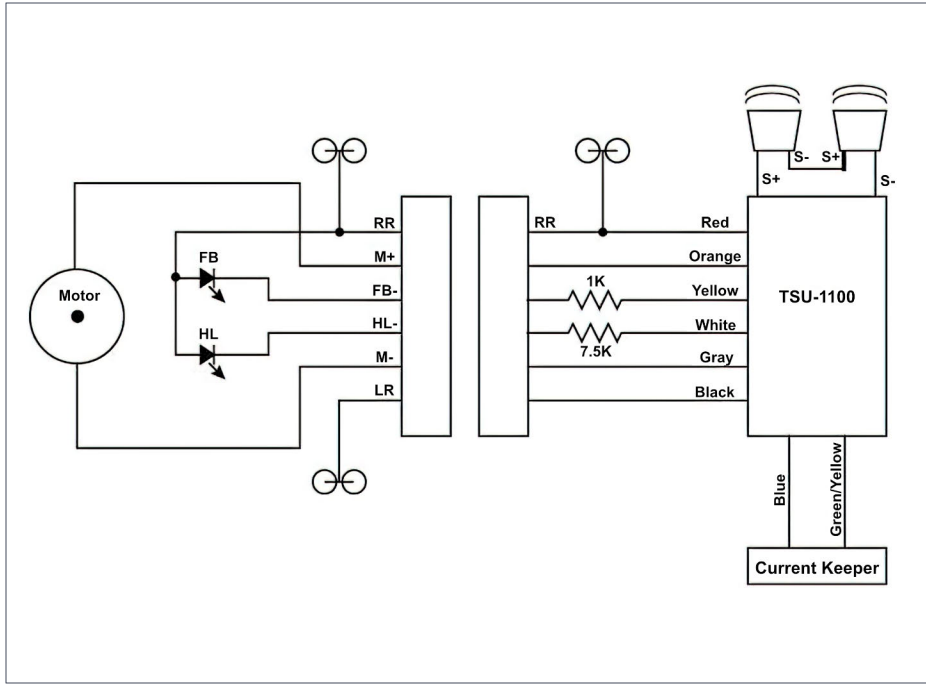


8. George cut out the cast wood load in the tender, built a new base out of styrene, and then used real wood for the firewood.



9. George also added wipers to each of the tender trucks, converting them from picking up electricity from only one side to picking it up from both rails.





10. Having only six connections between the tender and the locomotive called for some creative electrical connections, since the rails, motor, headlight, and firebox light would normally call for two each, although the headlight and firebox could share one side of their connection. George used a method called “half-wave” wiring where he connected the “common” or + side of the firebox and headlight LEDs to the right rail wire in the locomotive, using the track as a return.



Also see the “What’s neat this week” weekly video podcast!

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11. One of the most distinctive features of the General is its “ankle rail” walkway. This meant that the handrails along the boiler needed to be remounted at a lower level and a handrail added to the side of the cab.

Check out the video for all the modifications George made to create the General, the settings he determined were most appropriate for the Tsunami2 decoder, and tips and techniques that apply to other scratchbuilding and kitbashing projects. ☒

Parts list is on the next page ...

★★★★★
RATE THIS ARTICLE



Also see the “What’s neat this week” weekly video podcast!

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PAINT LIST FOR THE GENERAL

Vallejo Acrylic

- 70-968 Green
- 70-800 Gunmetal Blue
- 70-950 Black
- 70-951 White

Testors Model Masters

- 1782 Brass

Badgerflex

- 16-37 SP Scarlett Red

True Color Paint

- TCP-013 Aluminum

Floquil

- F40119 Graphite
- F11009 Primer

Apple Barrel

- 20521 Nutmeg Brown

Krylon Spray Cans

- 1303 Acrylic Crystal Clear Coating (for Decals)
- 0500 Gloss Clear
- 1311 Matte Finish

Sunnyscopa

- 8.5x11" White Laser Decal Paper

PARTS LIST FOR THE GENERAL

PSC

- 3040 Johnson Bar
- 3062- Throttle
- 3069- Firebox Door
- 3227 Pressure gauge
- 3516 Radley hunter 6' Stack
- 31068 Bell
- 31378 PRR pilot
- 32299 Cab Seats (pr)
- 32401 Link and pin pocket (pr)
- 31937 Flush end spoked 26" wheels
- 48133 Clevis

SoundTraxx

- 884006 TSU-1100 for Steam2
- 810140 Current Keeper
- 2x 810162 Mini-Cube3 Speaker

Lighthouse LEDs

- 0402 golden white wired LEDs
- 0402 Orange wired LEDs

Atlas

- HO engineer and fireman full figure

Details Associates

- 11011 Brass Lift Rings

Bachmann

- 4-4-0 W&A Texas (Any 'New Tooling' 4-4-0)



PARTS LIST FOR THE GENERAL *CONTINUED...*

Cal scale

- 190-339 Whistles
- 190-338 Domes

ShapeWays

- Eight-Wheeler Models
- HO Baldwin Injectors
- HO scale old-time locomotive variety pack 1

Brass Wire

- .028" wire
- .022" wire
- .019" wire
- .015" Wire
- .008" Wire

Brass Shapes

- Special Shapes L-Strip, A-2

Brass Strips

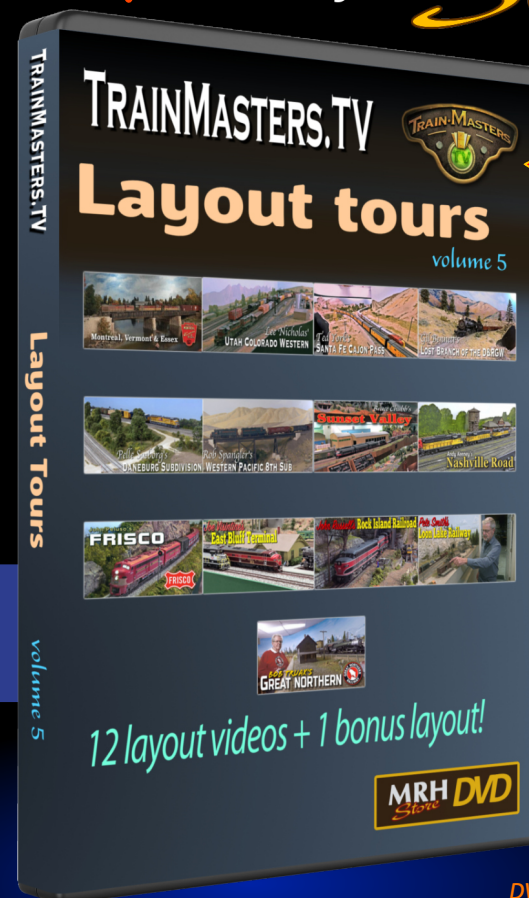
- .010 x .040"
- .020 x .040"
- .020 x .030"
- .030 x .060"

Styrene Strips

- .010 x .040" Strip
- .020 x .030" Strip ■

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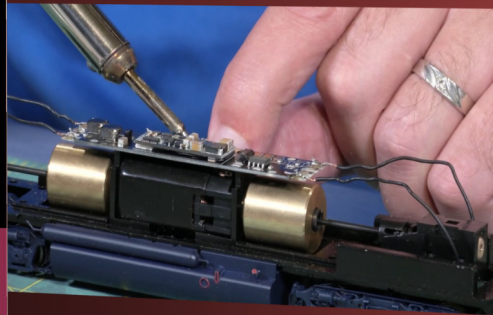
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TCS - WOW 101

**Electrical
Impulses**

1. This switcher looked good, and I needed a decoder with sound to match.

Model Railroad Hobbyist | August 2021



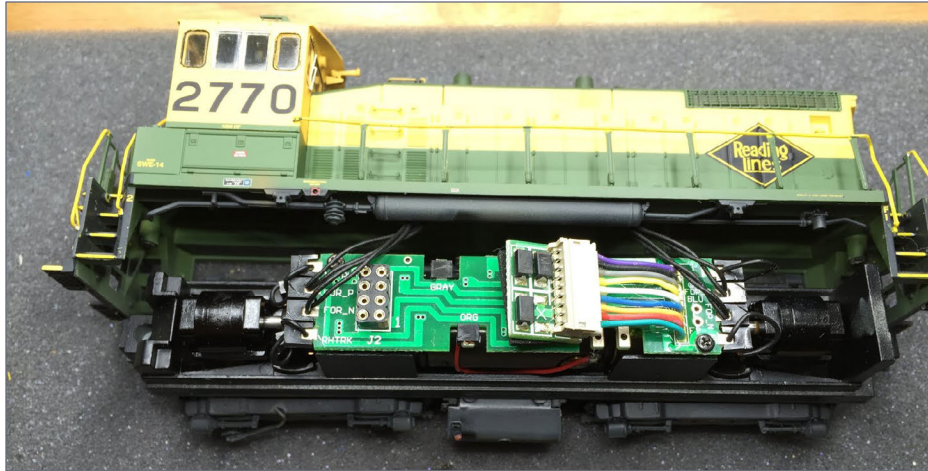
JASON MILLER INSTALLS WOWSOUND IN AN ATHEARN SW1500 ...

**NOW I KNOW WHY TCS PUT THE WOW AT THE
start of their new diesel decoders ...**

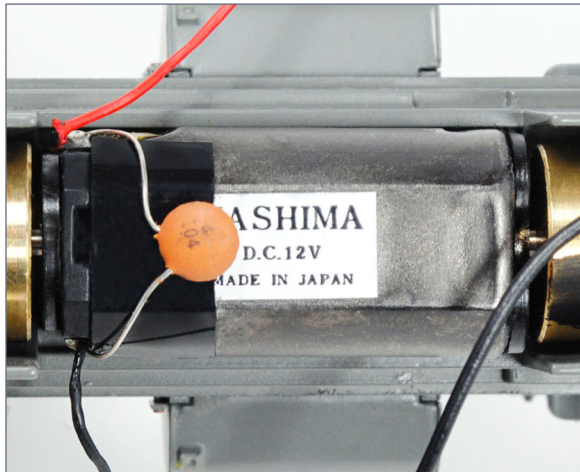
They are that good, that's all you can say... WOW!

I have been installing a WOWDiesel decoder into an Athearn SW1500 switcher I bought from Matt Fisher. Tom Adair detailed and weathered it.

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2. Pulling off the SW1500's shell reveals its DCC-ready motherboard, which has accommodations either for an 8-pin decoder plug or a 9-pin decoder harness. These early Ready-To-Run models were generally great slow-speed runners. Soldering the wires to the board and truck pads will make for reliable DCC running.



motor will interfere with the motor's smooth running. TCS
Photo (tcsdcc.com/installation/ho-scale/613).

3. In their installation demo for an Athearn MP15AC, which shares a common chassis and drive, TCS recommends removing and discarding the capacitor from the top of the motor. Because the decoders have built-in capacitors, the capacitor on the

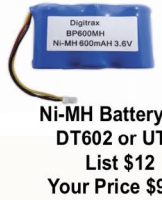


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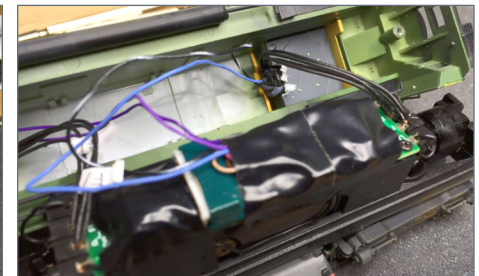
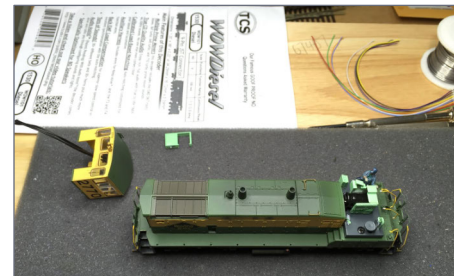
[INDEX](#)

[TABLE OF CONTENTS](#)

TCS WOW 101 | 3



4. I used a TCS WOW101-Diesel decoder for this installation. The decoder has a 9-pin JST connection that plugs directly to the Athearn board. The shell has enough space to accommodate the decoder and the wiring, but I had to place the capacitor in the cab between the electrical cabinets.



5, 6. I had to trim some plastic from the bottom of the cab and the LHS electrical cabinet to fit the capacitor. I took the opportunity to add an HO scale engineer from Kato.



J. Regier

THE PITFALLS OF ELECTRICAL TAPE

Several factors make electrical tape less than ideal for a DCC installation:

- It tends to retain heat. Good heat dissipation is important for decoder function.
- It is thick and bulky, less than ideal for the tight clearances inside a locomotive shell.
- It leaves a sticky residue.

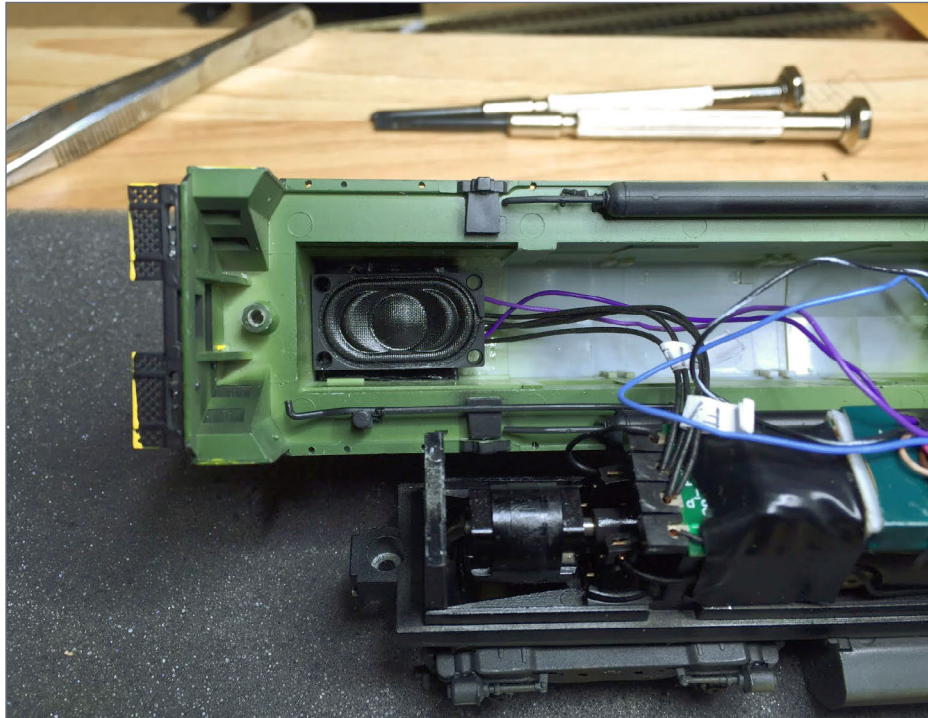
Instead of electrical tape, we recommend using Kapton tape. It is thin and does not interfere with heat dissipation or leave a sticky residue.

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[INDEX](#)

[TABLE OF CONTENTS](#)

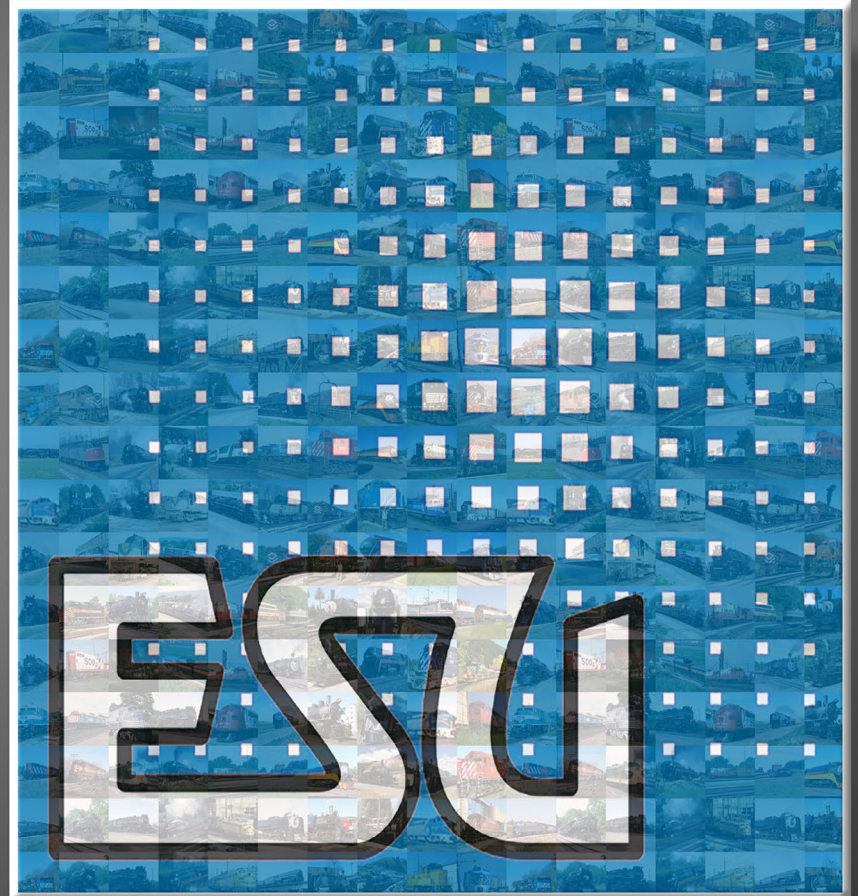
Later I will upgrade the wiring from the truck tabs to the board tabs and solder them all in place. I'll also add Soundtraxx connectors to the shell wiring too, which will allow me to remove the shell and disconnect the wiring easily for service. I was just keen to test the prototype throttle mode, which notches the throttle sounds automatically, based on back electromagnetic feedback.



7. I used a Soundtraxx Small Oval Speaker (no. 810112) that fits perfectly inside the shell above the front truck with plenty of space to spare. I would normally put the speaker in a baffle, but since the interior of the shell has no see-through grilles, the shell can serve as a reverberation chamber. I could add a larger speaker, but the sound is perfect from these.

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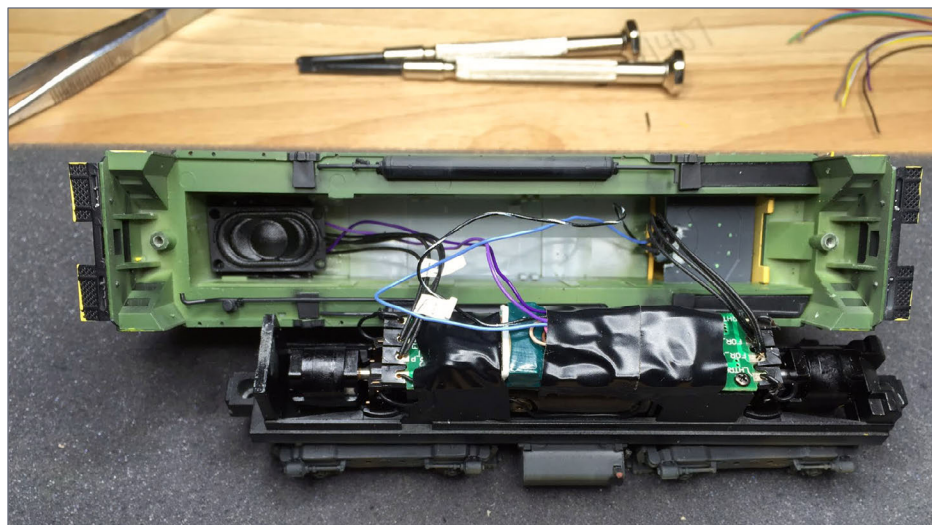
[INDEX](#)

[TABLE OF CONTENTS](#)

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[INDEX](#)

[TABLE OF CONTENTS](#)



8. Everything is in its place. The installation for such a small switcher went well. I may later replace the Athearn 1.5v micro bulbs with LEDs, but they are all working, so not now.

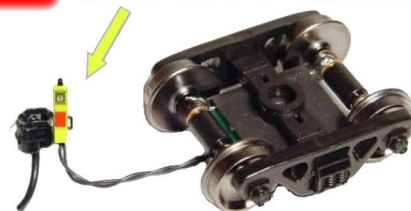
The rest of the RDG SW1500s will be getting this treatment as soon as the funds become available. Straight out of the packet, TCS WOW decoders are virtually plug-and-play. I only needed to solder the speaker and the wires (see the sidebar on the following pages).

The TCS WOW decoder's features are outstanding, with many lighting and sound features to choose from. You simply must hear the sound from these decoders to appreciate their CD quality.

See the short video on the last page demonstrating the TCS Wow decoder's motor, horns, bell, and manual notching sounds. Once I become familiar with the decoder's functions, I'll post another video of the switcher under load using manual notching, and switching Reading. ☑

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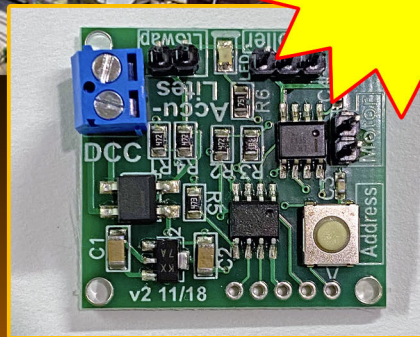
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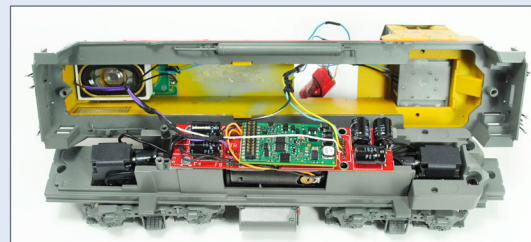
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TCS WOW 101 | 6

REMEMBER THIS!

Since this article was written, TCS, Athearn, and others have made several developments in their products. Especially if you are handy with a soldering iron, you should consider some of them for your installation.

TCS has a range of 21-pin locomotive-specific TCS WOWKits available that include a WOW121 decoder, a speaker, and a motherboard with built-in Keep-Alive. A Keep-Alive is a good idea for short-wheelbase locomotives, and there is no better way to fit one into the tight space [9].



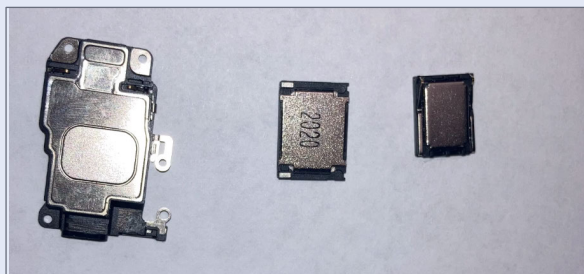
9. TCS installed a locomotive-specific WOW121 kit (no. WDK-ATH-11) in this Athearn MP15AC, which shares a chassis with the

SW1500. This installation not only has a full Keep-Alive capacitor, but it's small enough that you can leave the cab undisturbed. The kit includes a 1.5V regulator, which is important if you plan on keeping the original Athearn bulbs
TCS Photo

I would also upgrade the lighting to LEDs while the shell is off the chassis. There are a variety of upgrade kits available, including one from Athearn, that make changing to LEDs a simple, hassle-free process. It just makes sense to take care of this step during your sound install, rather than wait until the inevitable burnout, and dismantle the locomotive again.

Finally, I strongly recommend using smartphone speaker drivers instead of older oval speakers like the one the author recommends. In fact, I generally discard the oval speaker TCS includes in its WOWKit for that reason.

Many manufacturers market these cell phone speakers with baffles as sugar cubes. They vastly outperform their size in the sound they produce and are excellent for bringing out the full range of CD-quality sound in TCS's decoder [10].



10. Some common smart phone speaker driver sizes. From left: iPhone 7, 13x8, and 11x13. The iPhone has a

decent baffle as-is, but the others could benefit from a baffle. *James Regier photo*

I like designing and 3D-printing my own baffles. You can also find some premium custom speakers from Scale Sound Systems made to fit many specific locomotive models (www.scalesoundsystems.com). Not only does owner JT Burke sell speakers, but he also publishes his research into the subject for those interested in designing their own. ■

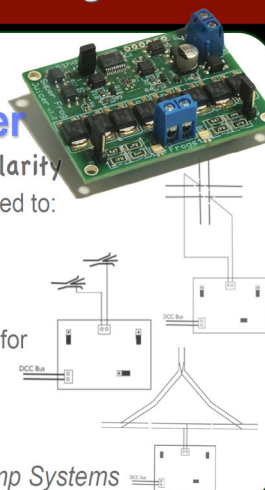


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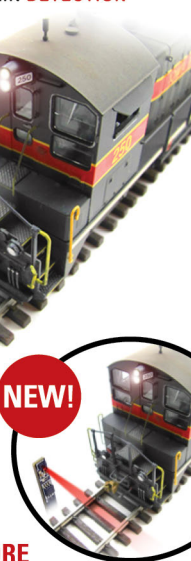
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11. Video demoing the loco in action on the layout after this install.



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JASON MILLER



Jason lives in Diamond Creek, Victoria, in Australia.

Jason has been a professional fire-fighter for 19 years. When not at work, he enjoys spending time with his family, coaching Toby's Australian Rules Football team.

Jason is married to Linden and has two sons, Lachlan, 13, and Toby, 10. ■



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[INDEX](#)

[TABLE OF CONTENTS](#)

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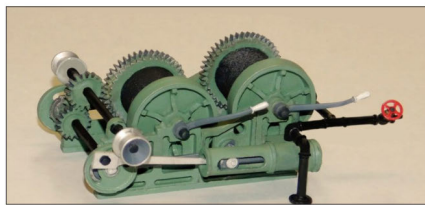
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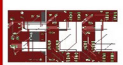
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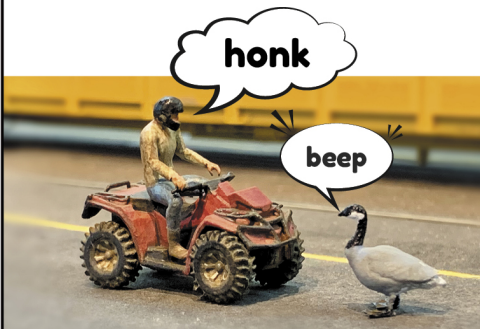
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[TABLE OF CONTENTS](#)

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[INDEX](#)

[TABLE OF CONTENTS](#)

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[INDEX](#)

[TABLE OF CONTENTS](#)

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[INDEX](#)

[TABLE OF CONTENTS](#)

Model Railroad Hobbyist | August 2021



PASSENGER TRAFFIC WAS NEVER PLENTIFUL ON THE MARSHFIELD AND OLD Colony Railroad.

Competition from the Nantasket Electric and Plymouth & Brocton Street Railways grew stiff just after the turn of the century. The end of World War One brought the construction of US Highway 3 and many more automobiles with it.

The M&OC's small passenger fleet was carrying much less LCL freight and even fewer people than ever before. Management could never justify the cost of refurbishing its aging passenger cars, but the ICC required the railroad to maintain passenger service.

The railroad addressed this problem by rebuilding five cabooses into a configuration like the western style "Drover's Caboose" which combined the functions of a passenger and baggage car with those of a caboose.

The five cars remained in service until the Hurricane of '39 severed the route at the North River. One caboose lasted long enough to operate on the Braintree end until the end of World War Two.

Until I get around to building passenger cars for my On30 version of the M&OC, a drover's caboose will provide a suitable alternative for the end of my train. My caboose is a composite of several designs from old magazines. Let's see how I did it. ☑



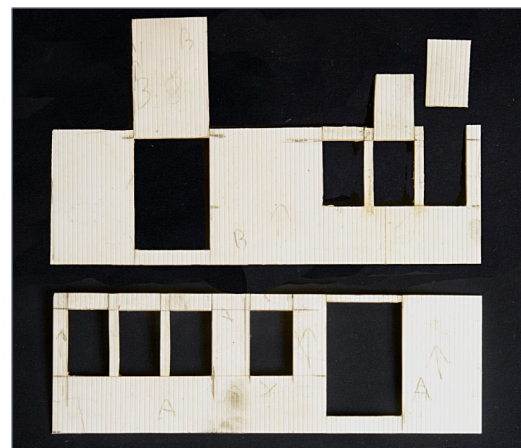
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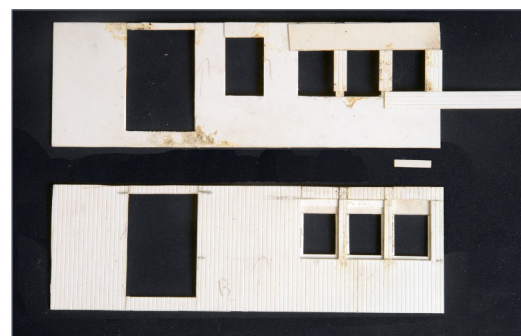
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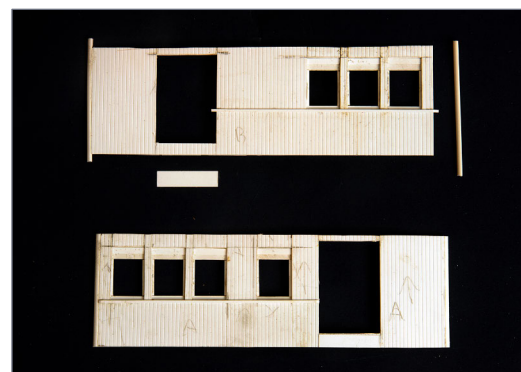
[TABLE OF CONTENTS](#)



opening proved easy using John Nerich's "snap and glue" technique. This cuts the piece out completely, then glues the necessary part back in place.



2. I fashioned the window sash from 0.020" strips (Evergreen 120). Styrene is strong enough to allow materials near prototype thickness.

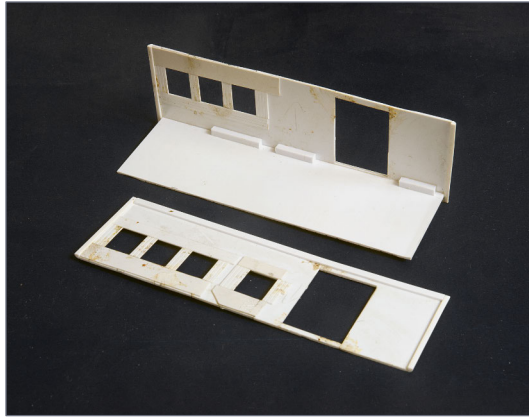


3. I added a styrene window sill and added corners using 0.060" quarter-round stock (Evergreen 248). I used .020" sheet for a baggage door kick plate (Evergreen 9020).

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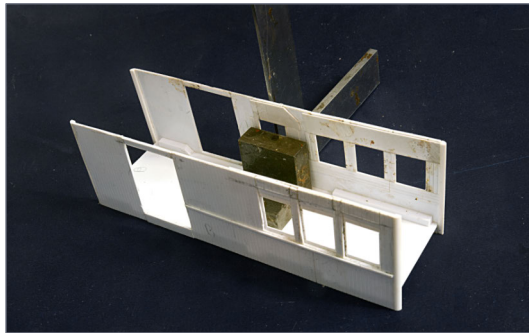
[INDEX](#)

[TABLE OF CONTENTS](#)

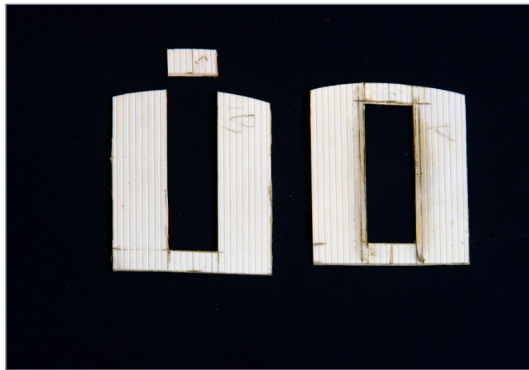


4. I assembled the sides to a floor of 0.040" sheet styrene (Evergreen 4250), using 0.125" square strips for bracing (Evergreen 186). I cut the floor a bit shorter than the walls so it would fit between the thicker corner posts and used strips of styrene to elevate the bottom of the floor 0.125" up from the base of the wall. The

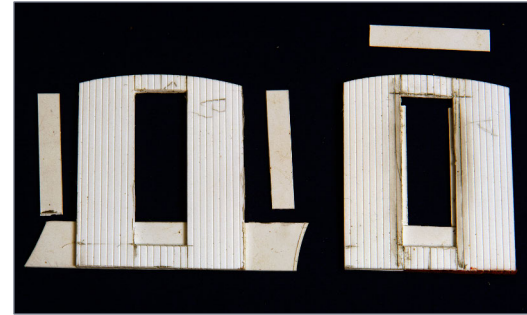
0.25" V-grooves on the underside of the floor will represent scale 12" floorboards on the bottom of the car.



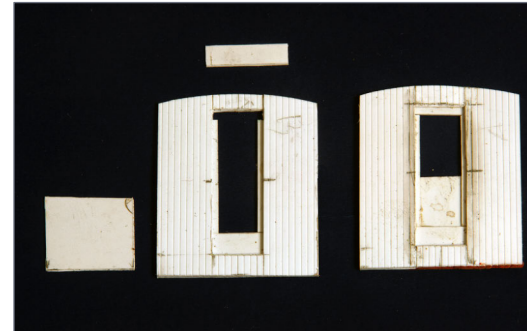
5. Using squares ensured a right-angle for the walls. I used MEK (Methyl Ethyl Ketone) from the paint store for glue. I allowed plenty of time for the glue to harden, since this was a major structural joint.



6. I built the ends in much the same way as the sides. I cut the rounded roof using an Olfa circle cutter. In most cases, the styrene snaps apart after a few score lines.



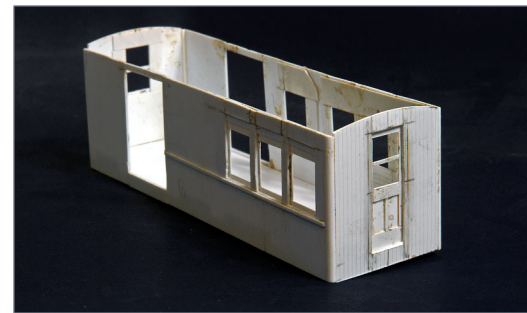
7. I built up the door from 0.020" sheet styrene. I cut the bottom piece to span the entire wall so that the wall's thickness matched the quarter-round and the floor.



8. I framed the sides and top of the door, and added a recessed panel on the bottom.



9. The final details for the door.



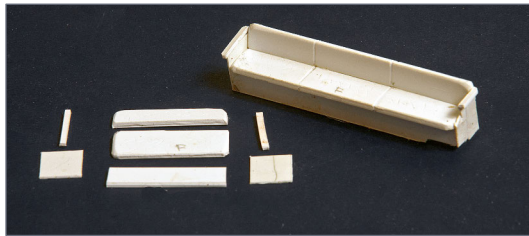
10. The ends are in place. The basic car body is assembled, but the fun has just begun.





11. I used four strips of 0.125" square stock to form the floor joists. With the V-grooved styrene of the floor and the timbers, this underframe has great detailing potential for brake lines. I decided my car would be one of those narrow-gauge cars

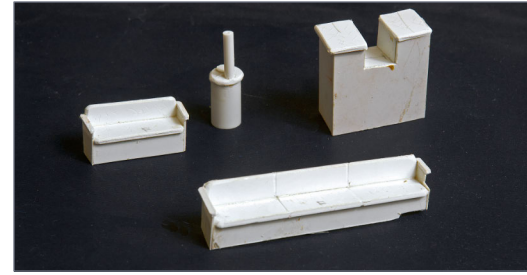
that never had air brakes installed. This might cost a few contest points, but it saves considerable work that is barely visible in operation.



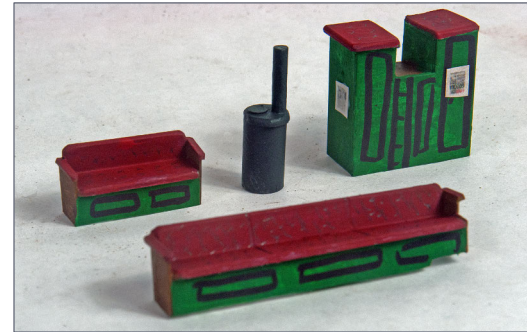
12. I fashioned the passenger seats from styrene. They needed very little fine detail. The prototype had long bench seats rather than the conventional 2x2 seating of most passenger cars.



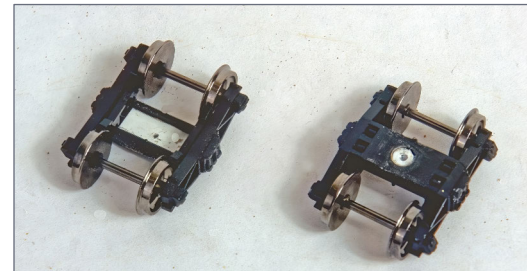
13. I made the crew storage lockers and cupola seats from styrene. On this narrow car, only one side had this feature.



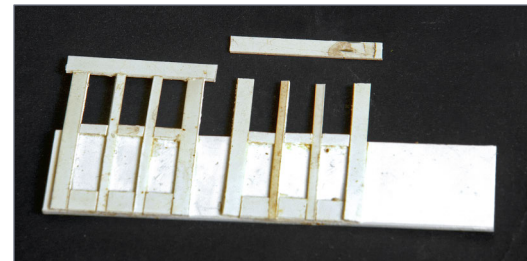
14. Finished interior details. I built the parts with minimal detail – the “potbelly” stove is an approximation – but they are more than adequate for viewing through the windows.



15. The interior assemblies came to life when I painted them.

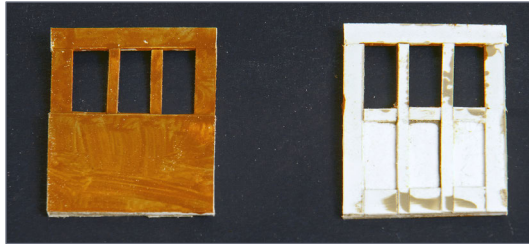


16. The Bachmann long arch bar trucks had an unusual mounting collar arrangement. I filled in the oversize hole with a plug I punched from styrene and redrilled it to clear a standard 2-56 screw. I installed a flat piece of 0.020" styrene into the underside of the frame (left) to prevent the plug falling out.

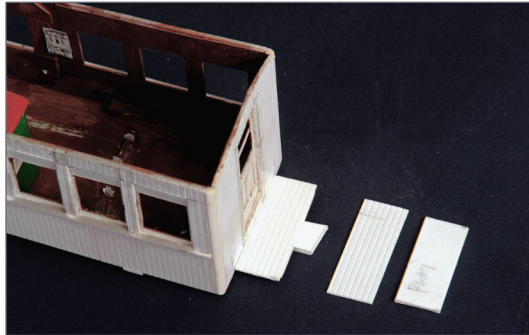


17. I assembled the baggage doors using 0.020"-thick strips cut from sheet styrene over the lower door panel. A NWSL Chopper made it easy to cut all parts to the correct length.

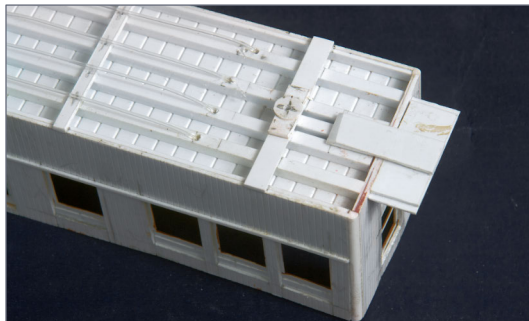




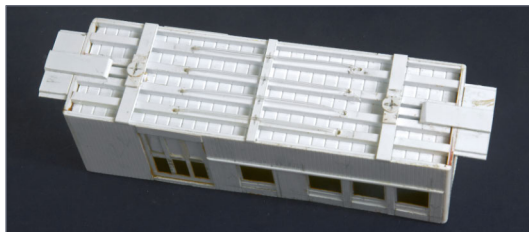
18. I painted the baggage door on the inside before glazing.



19. I built the end platform from 0.040" styrene overlaid with 0.020" V-groove styrene for finish. I glued these to the coupler drawbar support.



20. This is the end platform from the underside. I trimmed the drawbar support flush with the platform. The drawbar support will also support the end sill.



21. I made truss rods from 0.020" fishing line threaded through holes in the floor as tightly as possible. When the queen posts – in this case a single king post

– are in place, they will tighten the slack and make the rods lie straight.



22. I threaded the single strand of fishing line through holes in the car floor to make the trusses, and tied it tight on the inside of the car.



23. I used weights and interior details to obscure the fishing line inside the car. I will hide the weights in plain sight by painting them to look like baggage.

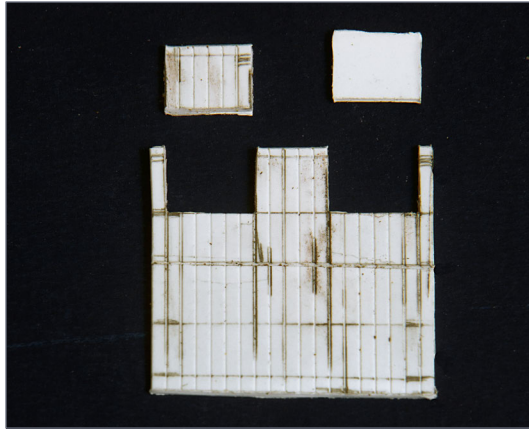


24. I made round roof supports from 0.40" V-groove styrene and rolled the material to form the roof. The spacing of the grooves is not important, but they help in rolling the curve. I used spring clothespins to hold the curve as the solvent cured.

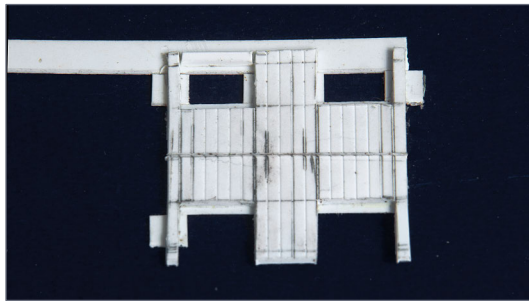


25. I drilled the end sill for the railings and the truss rod ends (NBW castings). There is no real pressure on this piece. Butt-gluing the sill to the coupler mounting was a strong enough joint.

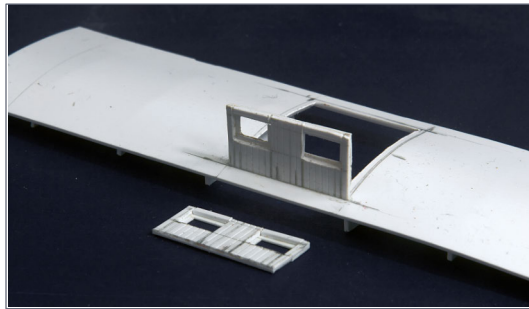




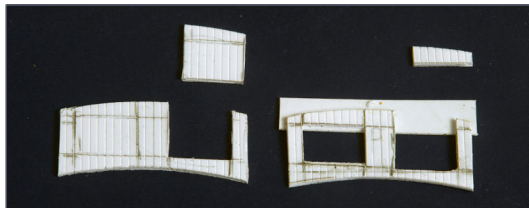
26. I built the cupola using the same snap-and-glue methods as for the car body.



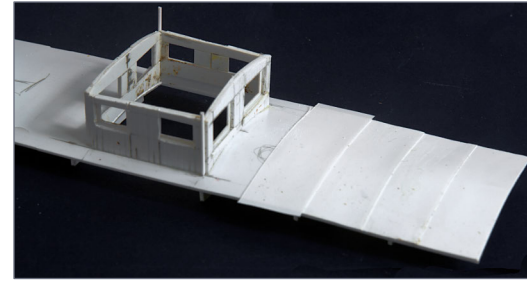
27. I cut two pieces the same to ensure accuracy while framing the cupola windows.



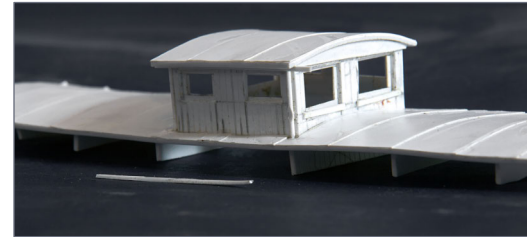
28. I glued the cupola sides to the roof.



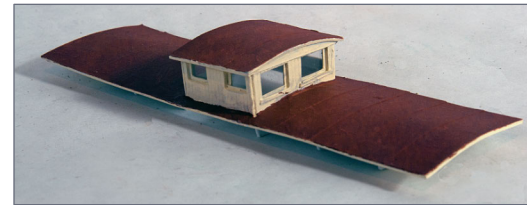
29. I cut and framed cupola ends and the windows. The window sashes are cut from sheet styrene.



30. I glued the cupola in place and began sheathing the roof with .005" sheet styrene strips.



31. The completed roof. I used strip styrene to create a standing seam.



32. I painted the roof dark red oxide to give a bit of color to the car and help reinforce a family resemblance with the locomotives.



33. I glued the roof to the car body and used rubber bands to hold it while it was setting.



34. I used the Olfa circle cutter to cut the end fascia from 0.020" styrene.





35. I made the side fascia boards from 0.020" x 0.100" strip (Evergreen 125). I carefully cut notches for the baggage door and the ends. I left the ends oversize and will cut

them flush with the end trim when I install that.

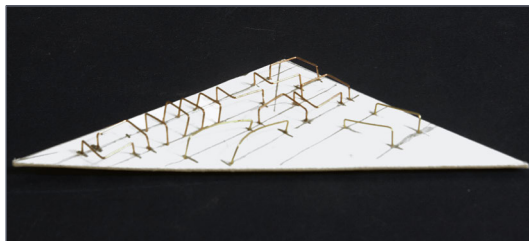


36. I made the end trim from 0.100" square strip (Evergreen 175). Although 0.100" was much too thick, it allowed me to curve the piece to match the roof easily, and clamp it with a clothespin. This is not

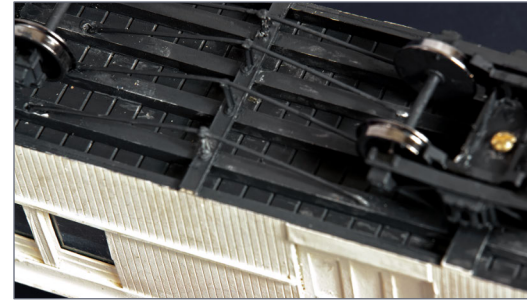
a good trick for a contest model, but it's something few people are likely to see.



37. The finished car body, ready for hardware, which is usually the most tedious part of the project.



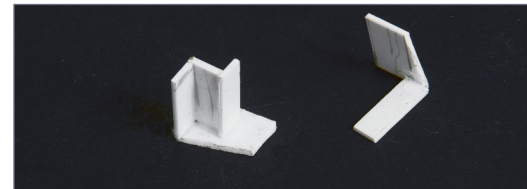
38. I bent the grab irons from 0.019" brass wire using a temporary jig. In this photo, I have lined them up on a piece of cardstock for painting.



39. I stretched the truss rods onto the king post for a snug fit. I did this late in the project to avoid damaging this detail while working on other parts.



40. Templates for bending the end grab irons come in handy as a locator for the mounting holes.

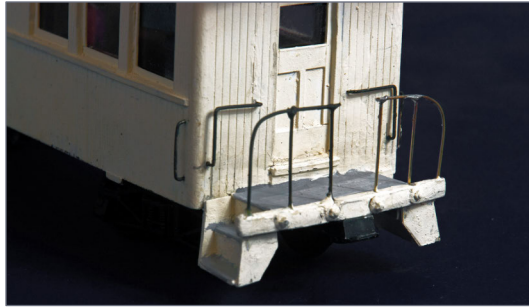


41. I built the end steps from styrene strips.



42. The steps glued in place.





43. I drilled holes for the platform railings before mounting the end sill to make the work easier. I used NBW castings to simulate the ends of the truss rods.



44. Finally, I made running board brackets from strip styrene, which I glued in place before trimming. Note the window under the cupola. The crew storage lockers and seats are on the other side of the caboose,

allowing for an extra window on this side.



45. I masked the window glazing to protect it from decal surface sprays. I used Testors Glosscote to give the model a smooth finish to match the sheen of the decals. The cupola seats and crew lockers are on this side

of the caboose, so there is no window under the cupola.



46. I drew my decals using CorelDraw 2019 software, and printed them on Microscale clear Thinfilm decal paper. Once the decals had dried, I used Walther's Solvaset to help the decals conform to the V-

grooves to give it a painted look. I followed this with several applications of Testors Dullcote.



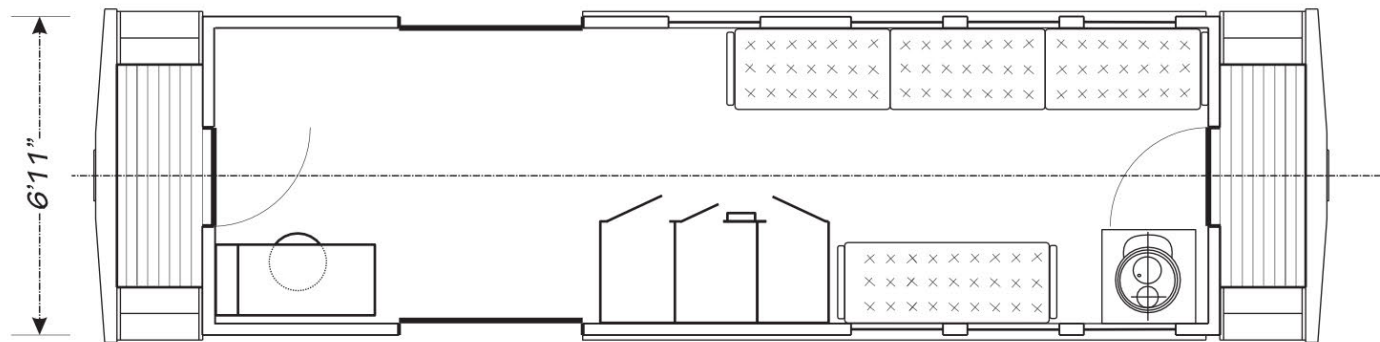
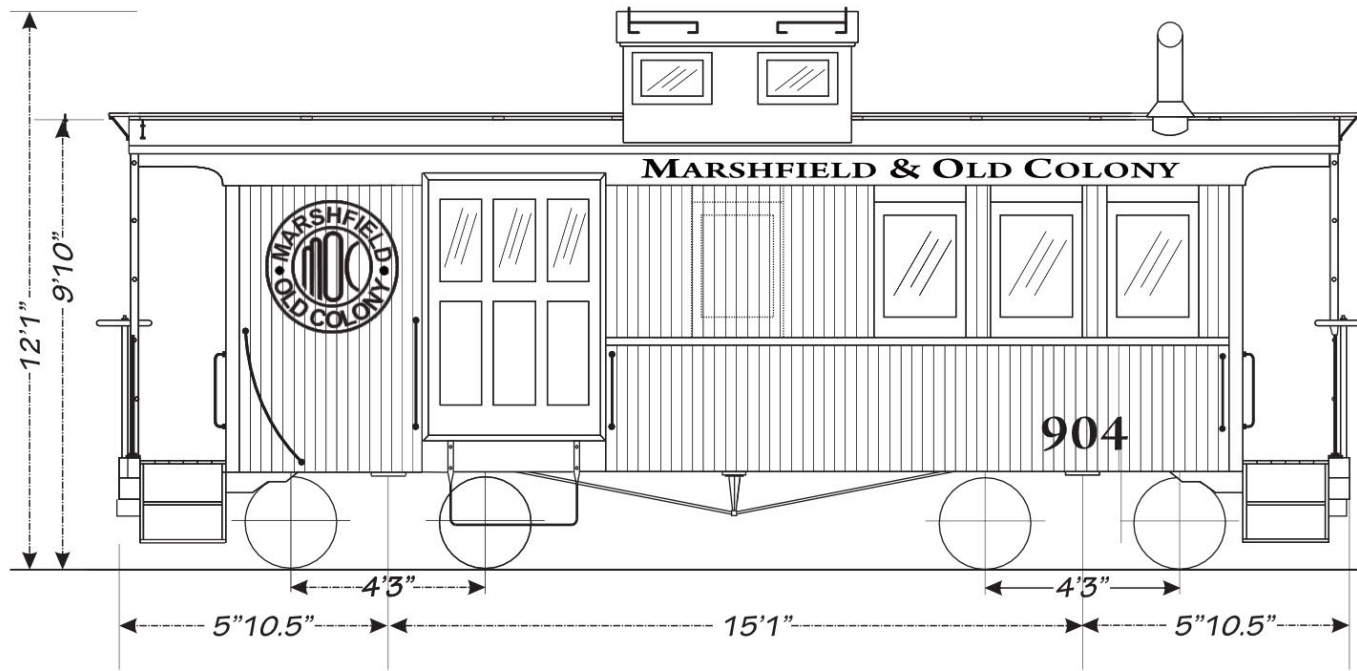
47. The finished caboose from the crew locker side.



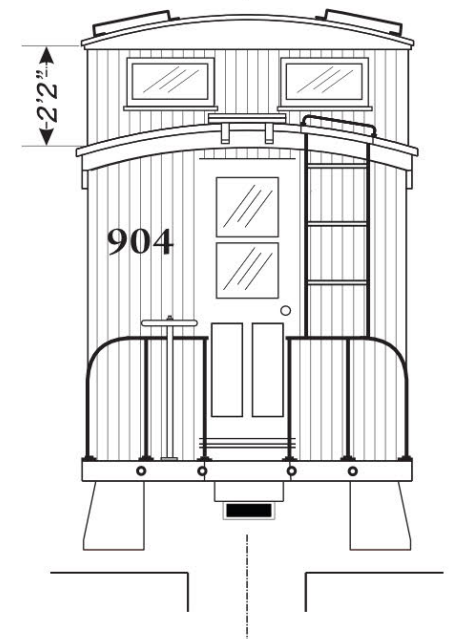
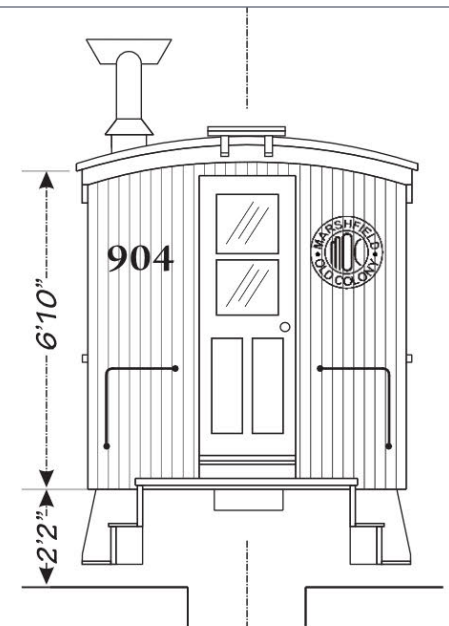
48. The other side of the completed car. The passageway and luggage storage area permits a fourth window on this side.

49. (next page) Scale drawings of this caboose, drawn by me. →





Marshfield & Old Colony Caboose
Michael Tylick



DROVER'S CABOOSE | 19



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50. Decal master drawings made by me.

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[INDEX](#)

[TABLE OF CONTENTS](#)

[MRHMAG.COM](#)

[INDEX](#)

[TABLE OF CONTENTS](#)



51. After a little weathering, I put the caboose on the layout. Here, we see it parked in front of the Parker and Tremont Nail Company. ☑



RATE THIS ARTICLE

MICHAEL TYLICK, MMR



Michael has been fooling with electric trains for as long as he can remember. Never one to commit to a

single large project, he has instead built a number of small layouts of various types and in various scales over the years. A retired inner-city art teacher, Mike has been a long-time contributor to many publications.

Railroad interests are leaning toward prototype rail and architectural photography. Much of his hobby time is now spent employed as a custom builder specializing in railroad structures and rolling stock.

Michael now lives in eastern Massachusetts and has an On30 railroad. He was awarded the honor of being named Master Model Railroader #523. ■



REGISTER
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[INDEX](#)

[TABLE OF CONTENTS](#)

[MRHMAG.COM](#)

[INDEX](#)

[TABLE OF CONTENTS](#)



Scratch-building a small miner's shack

1. Kris Blackmarr's finished Miner's Shack.

Model Railroad Hobbyist | August 2021



KRIS BLACKMARR EXPLORES PAINTING AND WEATHERING TECHNIQUES ON A PROJECT BASED ON **PAT HARRIMAN'S** *EARLY WOOD FRAME AND STONE STRUCTURES* BOOK IN THE **MRH** STORE...

I RECENTLY DID AN HO SCALE SCRATCHBUILDING PROJECT BASED ON plans for the "Small Miner's Shack" from Pat Harriman's book *Early Wood Frame and Stone Structures*. I wanted to develop my wood weathering skills and stone carving/coloring techniques, using some new techniques, and honing others to fit my modeling style.

SCRATCHBUILDING A MINER'S SHACK | 2

In this article, I describe the effects I am aiming for and discuss my techniques, including the tools and processes I used, and my analysis of the results. My aim is to include enough details that others can reproduce the effects. Because I did this project as a learning exercise, I welcome any feedback in this article's comment section.

MY BUILD GOALS

I want to recreate the raw, old wood colors of Chuck Doan's 1:16 scale Fordson Tractor Diorama in HO scale [5]. Since a lot



J. Fugate

A BETTER ALTERNATIVE TO WOOD GLUE

The old standby for cardstock and stripwood modeling has been white glue and/or yellow glue. Both are a form of what the folks in Europe call PVA, or polyvinyl acetate glue.

I recently discovered Deluxe Materials' Rocket Card glue as a PVA glue alternative for this kind of modeling. Full disclosure: Deluxe Materials is an MRH advertiser, but as a modeler, I am most impressed with Rocket Card glue for my own cardstock and stripwood modeling projects.

Instead of waiting for the white or yellow PVA glue to set up, Rocket Card glue is an instant superglue for cardstock and stripwood. Moments after I apply the Rocket Card and position the pieces together, the glue has set, and I can move on to the next step in the construction process.

I tend to use less Rocket Card than I do PVA for the same joint, so a bottle of Rocket Card glue should last longer than the same sized bottle of PVA. In the places the author mentions yellow PVA in this article, consider using Deluxe Materials' Rocket Card glue instead.



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[INDEX](#)

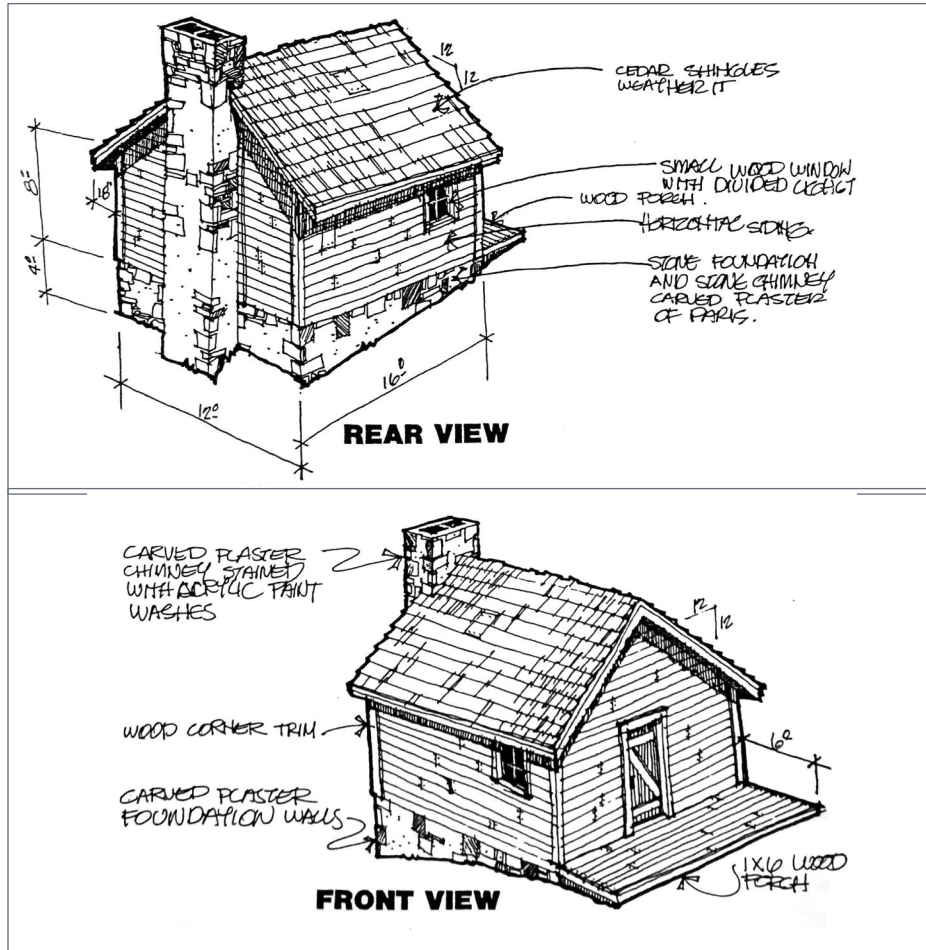
[TABLE OF CONTENTS](#)

[MRHMAG.COM](#)

[INDEX](#)

[TABLE OF CONTENTS](#)

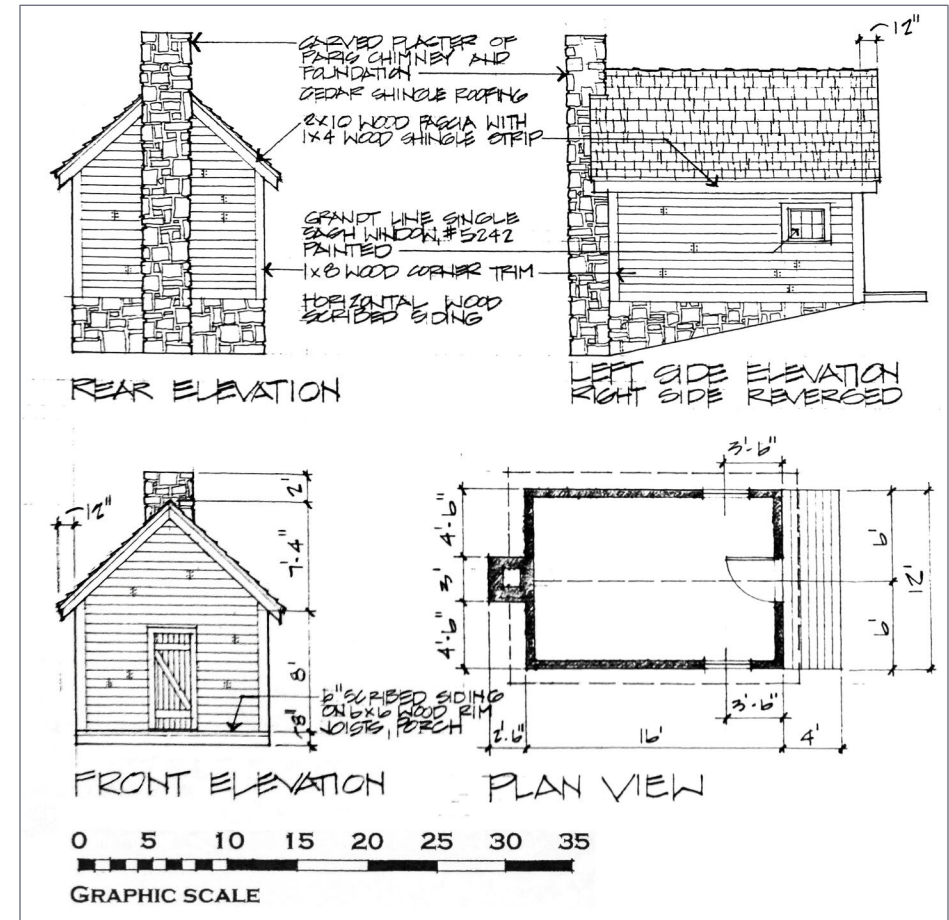
of the detail may not show up well in HO scale, I'm only looking at finding a variation of the base color weathering technique Chuck used.



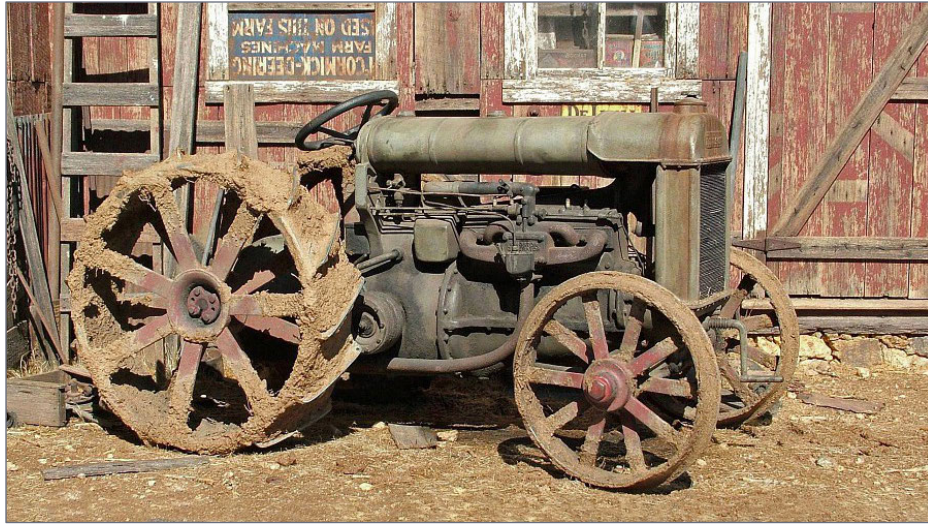
2, 3. "Miner's Shack" elevation drawings from *Early Wood Frame and Stone Structures*, available in the *MRH* store. Architect and modeler Pat Harriman has included 44 of his architecturally correct structure plans, small to large, specifically for model railroaders.

MY BUILD GOALS

I also want to test techniques for achieving the look of peeling paint on wood. Others online have described a resistance technique involving mineral spirits and acrylic paint that I would like to try.



4. "Miner's Shack" plans from the from *Early Wood Frame and Stone Structures*.



5. Chuck Doan's 1/16 scale Fordson Tractor diorama – Chuck Doan, photo (images15.fotki.com/v1669/photos/7/777399/2910037/1DSCF4073copydark1-vi.jpg)

I want to develop my stone carving and coloring techniques as well. I will use Plaster of Paris (POP) to create a stone chimney and foundation for the shack. I want to find a way to create or carve a hole in the top of the casting without damaging it.

I want to color the casting to fit into the Colorado rocky mountain hues found in the Clear Creek, Colorado area [6].

For the construction of the shack itself, I want to use HO scale lumber board-by-board siding over a matboard template. Instead of the horizontal boards used in Pat's drawings, I will go with the vertical boards of Chuck's diorama.

I want to shingle the shack's roof with cedar shakes. For added effect, I want to board-up one window of the shack using scale lumber or plywood.

BUILDING THE BASIC MODEL SHELL

I used an 8x10 sheet of 4-ply matboard to build the basic shell of the model (Crescent Manufacturing # 948). I killed the bright white color of matboard with two applications of my alcohol-India ink wash. For the alcohol-India ink wash, I added 2 teaspoons of India ink to 8 oz. of 70% isopropyl alcohol.

I used HO scale feet and inches for my measurements, as per the drawings [2, 3, 4]. I cut one long strip of mat board 16' wide for easy management. I measured and cut two 16' pieces and two 12' pieces from the strip and squared the cut edges using my NWSL True Sander.

I cut the two 16' pieces in half to create four 8x16 side wall pieces and squared the edges. Two of the wall pieces would be the sides of my shack, the other two were spares. I marked the tops of the walls.

I narrowed the two end pieces a scale 6" to compensate for the thickness of the side walls and squared my cuts. I marked the end walls at 8' height using the side walls as a template. Then I drew and cut the peak portion of the end walls.



6. These stones lining the banks of Clear Creek illustrate the hues I want to re-create for my projects – Jefferson County, CO website photo (www.jeffco.us/1196/Clear-Creek-Canyon-Park).



7. Here is a finished and weather-beaten wall. The peeling red paint exposes the silver-gray wood underneath. Look carefully and you can see rows of nails going horizontally across the wall, as well as pick out some knot holes in a few boards.

Finally, with all four walls cut, I located and cut out the door and window openings for the cabin. The wall templates were complete and ready for siding.

COLORING AND WEATHERING THE SIDING

I built the siding board-by-board using HO scale 2x8 and 3x8 stripwood that I affixed to the model with yellow glue. Because I liked the vertical siding of Chuck Doan's diorama, I decided to replicate it instead of the horizontal siding of Pat Harriman's drawings. Before I applied the siding, I distressed it and colored it to give it a faded, weather-beaten look [7].

I stained the siding stripwood with eight applications of Silverwood stain (Builders In Scale 106), allowing drying time between each application. Once the final coat was dry, I

roughed up the grain of the stripwood using a file card brush and sanded it lightly with a 3M Microfine green sanding pad.

With the initial treatment complete, I began working on color variance. I selected a quarter of the stripwood, made two applications of Silverwood using a ball brush, and sanded it with the microfine green pad when dry.

I added another quarter of the stripwood and did another two applications of Silverwood. With the applications complete, I roughed-up the wood again with the file card and sanded it with the microfine green pad.

I used a hot soldering iron needle to add a few knot holes, working sparingly. Too many knot holes would make the boards look unrealistically odd. After another application of Silverwood, I treated the knot holes with a wash of alcohol and Noodler's Kiowa Pecan Ink.

I sanded the wood with my green pad one more time after creating the knot holes. I did two more applications of Silverwood using the small brush. I then allowed the wood to dry before proceeding with the painting.

I brush-painted the dried stripwood with odorless mineral spirits, then with lightly thinned Barn Red acrylic paint from Delta Ceramcoat in a resistance technique. The idea was that applying mineral spirits would cause the surface to resist the acrylic paint, since the two mediums are not compatible.

After 2-3 minutes of drying time, I applied blue painters' tape to the stripwood using heavy pressure. I then lifted it from the stripwood, pulling off uneven bits of paint with it to simulate peeling.

I then flooded the stripwood with mineral spirits, using a #4 round brush and allowed three minutes for the mineral spirits to dry. I stippled the acrylic red paint mixture into the stripwood. After 2-3 minutes drying time, I again used the painters' tape to remove patches of paint.



8. Here you can see the stained and weather-beaten stripwood boards I'm gluing on top of the mat board.

APPLYING SIDING TO THE MATBOARD WALLS

Finally, with the wood stripwood weathered and painted to my satisfaction, I was ready to apply it to the matboard walls I had cut out. I used yellow glue and worked one board at a time, giving an 8' layer of siding to each of the four walls [8].

I added individual nail holes to the boards with a sharp needle scribe – a sewing needle in a pin vise would also work. I added a light India Ink wash over the wall face and edges.

I used an emery board to even up the board top edges, then distressed them with a wire brush. I applied a light India Ink wash to color the top board edges.

I still needed to do the peak area of the end walls. Starting at the center of the end all peak area, I applied siding using the bottom boards as a placement guide [9].

Before applying the individual siding boards, I treated the bottom edges with the light India Ink solution to cut colors, simply dipping them into some of the solution I had in the lid of the alcohol container.

Once I had applied the siding to the peak areas, I used the matboard edges as a guide to cut off the excess boards. I then sanded the edges with my emery board and colored them with the number 2 stain in this PDF: www.rustystumps.com/RSSMDownloads/Staining%20Stripwood.pdf.

ADDING DOORS AND WINDOWS

I roughed up the grain of some 1x4 and 1x6 stripwood for the door frame using the file card and sanded it with the green pad. I colored the wood with a Prismacolor French Grey 40% broad tip marker and sanded it again. I followed this same procedure to prime stripwood for the frame of the boarded window.

Instead of white trim, I opted for a faded blue, which I mixed using Vallejo Flat Blue #70962 and Vallejo Orange-Red #70910 in a ratio of 8:1. I dry-brush stippled the blue paint on with a #2 brush, aiming for a streaky, uneven application [10].

I used 1x6 stripwood to frame the door opening, first using three pieces to frame along the inside edge of the door opening, and then three more along the outside wall. I colored the cut ends of all boards with India Ink wash.



9. I applied the boards in the eaves end area, starting in the middle and working out.



K. Blackmarr

POST-PROJECT THOUGHTS: WOOD SIDING

After doing this project, here's what worked well and what did not work so well.

The peeling paint tape technique provided a "worn" paint effect but did not achieve the *peeling* paint effect I desired. Next time, I might try using stronger tack tape and possibly leaving a bit more drying time for the paint before applying tape.

The Silverwood base coloring lacks brown and orange-brown hues. I need to use pastel pencils in ocher and sienna hues to draw in color accents prior to the final two Silverwood applications.

I need to add some heavy tear graining around the oversize knot holes.

I like the effect of multiple applications of Silverwood. Six to eight applications may seem excessive, but it provided a good base color with natural variance in the gray tones. The color hues looked much more effective than with just two to three Silverwood applications.

Lightly sanding after every two to three applications of Silverwood seemed important in the final appearance of the coloring. Without the sanding, the final colors become too dark and muddled.

The nail holes look subtle, not overdone, and appear effective for a more detailed "contest build." But they're probably overkill for typical HO layout viewing since they can't be seen.

My choice of acrylic craft Barn Red turned out way too dark. It makes the structure a shadow when viewed under normal layout lighting. Ceramcoat Opaque Red #2507 might work better to get the preferred red hue.

For the door itself, I cut 1x4 stripwood to fit the door opening and used ¼" double-sided tape across the door opening on the inside matboard wall to align the 1x4s flush with the inside of the cabin and hold them in place for gluing. I cut the Z brace pieces from 1x6 stripwood and glued them into place on the door.

I wanted the frame of the boarded window to match the siding, with only a hint of blue paint that had long since worn off. Working in drops, I mixed a 2:4:1 ratio of water, Delta CeramCoat Barn Red, and Vallejo Pale Grey-Blue #70907. I stippled the paint on using a dry-brush method [11].

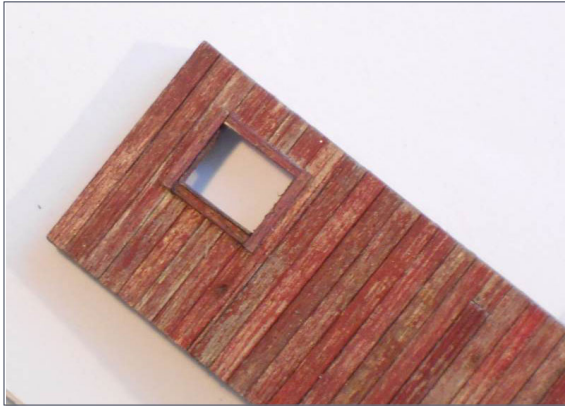
Once the paint dried, I framed the window using the same technique I had used for the door frame. I cut a painted 1x8 to size and placed it in the window to serve as a window sill.

I gave some unpainted 1x6 stripwood a heavy wash of Silverwood and cut four pieces to board-up the window. I glued them in place, then put in some nail holes as a finishing touch [12].

For the other window, I used a single window casting from Grandt Line (#5242). I primed the styrene casting with Buff (Vallejo #70976), then painted it using the same blue paint and stipple technique I did for the door. Though the window was styrene, the technique blended it nicely with the other materials, giving it a weathered wood appearance [13].



10. I used stripwood painted a faded blue to construct the door framing and the door.



11. On the one window I plan to board-up, I'm adding window framing to match the siding.



12. The finished boarded up window.

ASSEMBLING THE WALLS

I needed to add some internal bracing to the insides of the walls, both to add strength to the structure and to add gluing surface for the corners. I colored some 8x8 timbers with the French Grey 90% Prismacolor marker.

I cut them to size so that the timbers would follow the perimeter of the side walls' edges but have an 8" inset on either side of the end walls. I glued them to the back sides of the walls to serve as bracing [14].

I glued the walls together using a jig made of magnets (www.kjmagnetics.com), small metal squares, machinist blocks, and 2x2 metal plates. (Joe Fugrate described the process for making these jigs from parts readily available on Amazon (store.mrhmag.com/store/p226/RE2020-10.html-ed)). The jig made a good, square fit as the glue dried [15].

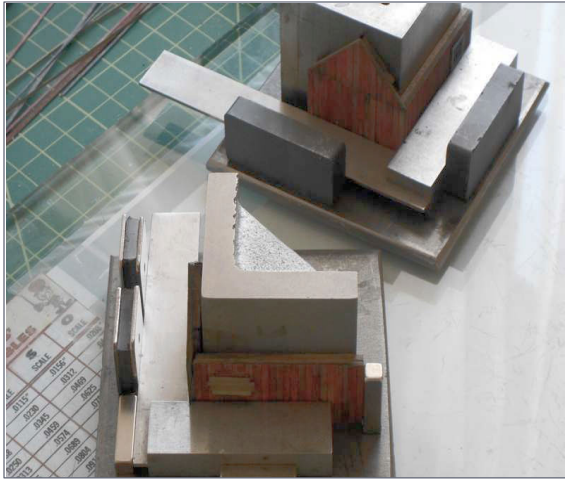
After I had the walls assembled, I added corner strips of 1x8 stripwood colored and stressed to match the fading of the walls.



13. The other window.



14. 8x8 timbers formed the bracing. Note the inset on the sides of the end wall to maintain fit with the side walls.



15. My metal block-and-magnets jig made nice, square corners while gluing.



16. Hand-carved stone on the plaster chimney. Unfortunately, the brushed-in texture does not show up well in the photo.

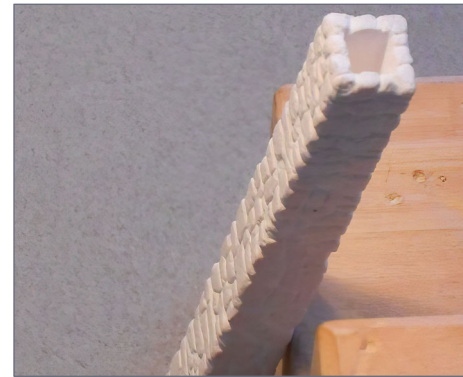
BUILDING THE STONE CHIMNEY AND FOUNDATION

I used POP to form blanks for the scale 3' square chimney and the stone foundation for the shack. I used a single casting for the chimney and three ¼" - thick casting blanks for the foundation walls.

After the plaster blanks had set, I marked them with horizontal pencil lines every half-inch to serve as a guide for hand-carved stone. I carved the stone, working for the look of natural stones. For added texture, I used a stiff wire brush to lightly stipple, then lightly brush the casting in a circular motion [16].

Once I had the chimney carved, I drilled a small hole into the top of the casting ½"-deep to represent the flue. I filed it to make the opening square. In the end, the outer walls of my chimney opening were about 1/16" thick, which made for the realistic appearance I was after [17].

I glued the foundation walls together and applied more POP in the corner seams once the glue was dry. After the plaster set, I sanded and carved the corners to match the existing grout lines and gave the whole foundation another wire-brush treatment. I made sure I supported the corner joints well and proceeded carefully to avoid breaking them [18].



17. The completed chimney flue.



18. The hand-carved plaster foundation consists of three flat walls glued together.



19. This prototype photo served as a reference for my stone coloring efforts.

COLORING THE STONE

With the chimney and foundation assembled, I was ready to begin painting the structure. I wanted to see if I could capture the speckled, textured coloration of rocks found in the Clear Creek area of Colorado [19].

Randy Pepprock from Downtown Deco has a complete how-to on using plaster castings available online (www.downtowndeco.com/site/assemble-paintweather-Hydrocal-structure-kit). I followed his technique of using a base of Krylon Flat White spray paint, followed by paint washes thinned about 75%.

I began with three very light coats of Krylon Flat White to quasi-seal the castings. I made quick passes at about arm's length from the castings to create an "orange-peel" texture on the surface. As it turned out, the orange-peel texture I achieved looked out-of-scale, so I wouldn't repeat this for future projects.

When the spray paint had dried, I applied a wash of Silverwood using a #4 soft round brush in quick, light, circular strokes. This provided a nice, off-white base color for the stone.



20. Variation of colors on the chimney casting.



21. With a smoky-colored flue and soot powder, this chimney looks used.



22. My completed foundation and chimney, with a penny for scale. Note the square stripwood bracing.

When the Silverwood had dried, I applied washes of Delta Ceramcoat Raw Sienna to some of the squarish stones, beginning with a 4:7 ratio of paint to water. I modified the ratio and continued painting similar stones, then added a drop of Americana Burnt Sienna to the mix and continued.

I coated and re-coated at random to maximize variation, modifying the mix to include Burnt umber. Finally, I mixed a Sandstone wash and applied it to the remaining stones. I misted the castings and repeated the process until I had a satisfactory mix of colors [20].

I applied my India Ink wash to the grout lines using a Winsor & Newton Galeria Round-S #1 brush and capillary action. I colored the chimney interior and feathered the crown with Lifecolor Smoke acrylic smoke paint. Soot weathering powder completed the weathered look [21].

I had used yellow glue to assemble my foundation, and all the moisture and motion in painting the foundation made my joints unstable. I resolved this using $\frac{1}{4}$ " square stripwood to create corner braces for the foundation and a cross brace at the open end. I used 5-minute epoxy for the application and will be using epoxy instead of yellow glue for future plaster projects [22].

ROOF CONSTRUCTION AND FINAL ASSEMBLY

I cut out the whole roof in one piece from 14-mil cardstock. I drew shingle placement guidelines, cut a notch for the chimney, and



23. The assembled structure. Only the porch and porch roof remain.

and scored a center line for the peak. I colored the bottom and edges with a French Grey 50% Prismacolor marker.

I placed Rail Scale Models Cedar Shakes (#D5002) along the marked lines. I trimmed the excess, allowing for a 1/16" overhang on the sides.

I cut 2x4 strips for the long sides of the roof, which I colored and distressed to match the sides of the building, using the same processes, and glued them under the long bottom edges of the cardboard roof. I used the same materials and processes to create the eve fascia for the roof.

With the roof completed, I used 5-minute epoxy to attach it to the structure, making sure that the chimney notch sat flush with the structured end wall. I then epoxied the structure to the foundation and the chimney to both, taking care that the chimney casting was plumb – I left one side of the chimney uncarved to aid in this process. Finally, I added the roof fascia to both ends of the building, gluing it flush against the roof cardstock under the shingle overhang [23].

WOOD PORCH AND FINISHING TOUCHES

I used 1x6 stripwood on a 4x6 stripwood frame to create a wood-planked porch. I weathered, distressed, and detailed the stripwood using the same processes described for the walls. I also scored the surface to show foot path wear.

I weathered a piece of 8x8 stripwood and cut it to fit across the open end of the foundation to support the porch. I glued the strip to the foundation with yellow glue, then affixed the porch to the base and structure with 5-minute epoxy.

I prepared the porch roofing and applied the shingles to 14-mil cardstock, using the same methods I used for the main roof. I framed the porch roofing with weathered 4x4s and used



24. The structure with the porch and porch roof added.

★★★★★
RATE THIS ARTICLE



25. The miner's shack with its final details.

weathered 2x4s to form additional porch roof rafters. I glued the porch roof to the structure front with yellow glue and added weathered 4x4s to serve as roof supports [24].

I applied gallery glass liquid leading around the chimney-roof joint to simulate a tar seal. While it was still damp, I dusted it with a medium-gray pastel powder.

I lightly weathered both roofs using various soft pastel powders set with Silverwood and Weather-All that I applied with a small fan brush. I drybrushed the structure with light gray craft acrylic. As a final touch, I dusted finely sifted dirt on the roof areas, and added a figure on the porch.

CONCLUSIONS

I see a real advantage to using several applications of Silverwood with light sanding every two-three applications. That process gives some great silver-toned wood.

I will continue to color-prime stone castings with Silverwood, that works great. I also like the India Ink wash to color mortar lines, but I'm going to discontinue the use of hairspray as a plaster casting fixative. Possibly use artist's pastel fixative instead.

Overall, the structure turned out better than I expected. I did, however, find it difficult to not add more details to the structure. I was forcing myself to "let go" and not super-detailing a structure destined for typical layout aisle-distance viewing rather than the contest room.

I suspect many folks, especially young modelers, may be intimidated by scratchbuilding. Most tend to run from anything using a "board-by-board" construction method. I decided to do this build so that anyone who wants to do the build can start the same day as they are reading the article. Obtaining the plans is



J. Fugate

FINDING STRUCTURE PLANS LIKE THIS

You can find the source of these structure plans here: store.mrhmag.com/apps/search?q=%22wood+frame%22.

This first book has 44 plans in all. These plans are drawn by Architect and model railroader Pat Harriman, MMR. Pat designed these structures deliberately to fit the space constraints of a model railroad, but they're also designed to be architecturally correct as if they were real prototypes.

A PDF download is available from the MRH Store for \$14.99. You can get the hardcopy version (printed on demand by Lulu) for \$29.99. The hardcopy version is high-quality spiral-bound so the plans lay open flat.

There's also a volume 2 with forty more plans, with many of the structures being larger and having more detailed plans.

often the stumbling block to construct a model, but as the plan book is available for purchase or downloading, there is no reason not to get a copy of the book and hit the modeling bench! ☑



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[INDEX](#)

[TABLE OF CONTENTS](#)

KRIS BLACMARR



Kris has been modeling railroads and related structures for about 50 years. He has always been fascinated by weathering. This interest actually resulted in him being grounded after his parents found a ashtray full of ashes in his room. He just could not convince them that he was using the ashes to weather his models and that he had not taken up smoking (as

he recalled, the magazine article called for cigar ashes however).

He was born and raised in Boulder, Colorado, and had a natural affinity for mountain railroading. He was particularly drawn to narrow gauge, so he model in HOn3 and On3 scales.

He focuses his modeling on dioramas, structure weathering and scenery, and has been a member of the Colorado Springs modular group Slimrails for several years. He has presented multiple clinics on weathering techniques, and has earned awards in NMRA Regional and other contests. ■



[MRHMAG.COM](#)

[INDEX](#)

[TABLE OF CONTENTS](#)



LOOK column

Model Railroad Hobbyist | August 2021

★★★★★
RATE THIS ARTICLE

THE MRH STAFF LOOKS AT NORTH AMERICAN RAILCAR'S 50-FOOT PULLMAN STANDARD 5077 SINGLE-DOOR HO BOXCARS ...

NORTH AMERICAN RAILCAR IS KNOWN FOR EMBRACING SOME OF THE more challenging model railroad car projects. NARC sells their cars through the Pacific Western Rail Systems (PWRS) website [www.pwrs.ca].

NARC has released one such project: the 50' Pullman Standard 5077 cubic feet single door box car. Pullman Standard built 4,301 of the 5077 cubic foot plate B box cars with sliding doors between October 1972 and August 1979 for seven original customers.

Throughout its production life, this car had two different body styles, five different side sills, three different roof versions, three different end variants, and eight different door styles as well as some minor road-specific modifications.

North American Railcar is bringing HO modelers many variations of this car: see for yourself in the following pages. ☑

FIRST LOOK: NARC PS 5077 BOXCAR | 2



1. Lot 9602 - PC 168000-168499 10/72



2. Lot 9832 - RBOX 21000-21599 6/76

These two photos represent just the beginning of the variations of this car produced. For a detailed accounting of all the variations made, visit the PWRS website link below.

WEB: www.pwrs.ca/announcements/view.php?ID=11796

LOT 9602 VERSION 1 – PENN CENTRAL



Body version 9602-1 with 12 side posts. *Photo courtesy of Ron Hawkins*

Pullman Standard built 500 of their original 5077 cubic-foot, plate B, single door boxcars at their Bessemer, Alabama plant during October 1972 (Lot 9602) for Penn Central in series PC 168000-168499 (PC class X-75). These cars were delivered in jade green paint with white italicized "Penn Central" to the left of the door and a large, white PC "worm" to the right of the door. Other features on the as-delivered version of Lot 9602 include:

- Type 1 body with 12 side posts (6 on each side of the 10-foot centered door) which includes a Z-post for the first post with the remaining posts being hat-section channels
- L-channel side sill unique to this lot
- Pullman's proprietary 15-panel "bow-tie" roof
- Pullman's N4/5 "sine-wave" corrugated ends (with narrow top corrugation)
- Pullman's embossed panel sliding doors
- Ajax hand brakes
- Type 1 stirrup steps



Lot 9602-1/PC boxcar. Click this image to view this HO model on a web page and spin it a full 360 degrees to study the details.

- Rigid (non-cushioned) underframe
- Horizontal-level brake gear
- NARCorp high performance/low friction 70-ton ASF Ride Control trucks with 33" diameter metal wheels
- Kadee #158 semi-scale magnetic couplers
- As-delivered jade green paint with large PC worm logo

This detailed replica of Pullman Standard's 5077 cubic-foot single door boxcar (Lot 9602) has been carefully researched and designed by North American Railcar. The plastic body shell has accurate details in plastic, wire, and etched metal. ■

WEB: www.pwrs.ca/view_product.php?ProductID=253932

LOT 9602 VERSION 2 – CONRAIL (YELLOW DOOR)



Body version 9602-2 with 12 side posts. *Photo courtesy of Grant Lowry*

Pullman Standard built 500 of their original 5077 cubic-foot, plate B, single door boxcars at their Bessemer, Alabama plant during October 1972 (Lot 9602) for Penn Central in series PC 168000-168499 (PC class X-75). These cars were later transferred to Conrail and were repainted boxcar brown with a block “Conrail” to the left of the door and a medium Conrail “can opener” to the right of the door. Other features on the as-delivered version of Lot 9602 include:

- Type 1 body with 12 side posts (6 on each side of the 10-foot centered door) which include a Z-post for the first post with the remaining posts being hat-section channels
- L-channel side sill unique to this lot
- Pullman’s proprietary 15-panel “bow-tie” roof
- Pullman’s N4/5 “sine-wave” corrugated ends (with narrow top corrugation)
- RCS replacement 6-panel sliding doors



Lot 9602-2/CR boxcar. Click this image to view this HO model on a web page and spin it a full 360 degrees to study the details.

- Ajax hand brakes
- Type 1 stirrup steps
- Rigid (non-cushioned) underframe
- Horizontal-level brake gear
- NARCorp high performance/low friction 70-ton ASF Ride Control trucks with 33” diameter metal wheels
- Kadee #158 semi-scale magnetic couplers
- Repainted Conrail livery with yellow door

This detailed replica of Pullman Standard’s 5077 cubic-foot single door box car (Lot 9602) has been carefully researched and designed by North American Railcar. The plastic body shell has accurate details in plastic, wire, and etched metal. ■

WEB: www.pwrs.ca/view_product.php?ProductID=253933

LOT 9602-1 VERSION 4 – CPR (EXTENDED ROOF)



Body version 9602-1 with 12 side posts. *Photo courtesy of Ron Hawkins*

Pullman Standard built 500 of their original 5077 cubic-foot, plate B, single door boxcars at their Bessemer, Alabama plant during October 1972 (Lot 9602) for Penn Central in series PC 168000-168499 (PC class X-75). Some of these cars were later transferred to Canadian Pacific Railway (CP) and were repainted red with their beaver logo and stacked block "Canadian Pacific Railway" to the left of the door. These cars were modified for pulp and paper service by raising the roof, adding a taller (plate C) door; adding vents along the roof and floor lines on both side of the door; increasing the capacity from 70 to 100-tons and replacing the original 70-ton trucks with 100-ton versions. Other features include:

- Type 1 body with 12 side posts (6 on each side of the 10-foot centered door) which include a Z-post for the first post with the remaining posts being hat-section channels
- L-channel side sill unique to this lot
- Pullman's proprietary 15-panel "bow-tie" roof with a roof extension
- Pullman's N4/5 "sine-wave" corrugated ends (with narrow top corrugation and reinforcing plates added between the corrugations)
- Prime replacement 8-panel sliding doors



Lot 9602-1/PC boxcar. Click this image to view this HO model on a web page and spin it a full 360 degrees to study the details.

- Upper vents along the roof line (separate parts)
- Lower vents along the floor line (separate parts)
- Ajax hand brakes
- Type 1 stirrup steps
- Rigid (non-cushioned) underframe
- Horizontal-level brake gear
- NARCorp low friction 100-ton Barber S-2 trucks with 36" diameter metal wheels
- Kadee #158 semi-scale magnetic couplers
- Bright red livery with Beaver logo

This detailed replica of Pullman Standard's 5077 cubic-foot single door boxcar (Lot 9602-1) has been carefully researched and designed by North American Railcar. The plastic body shell will have accurate details in plastic, wire and etched metal. ■

WEB: www.pwrs.ca/view_product.php?ProductID=253752

LOT 9794 VERSION 1 – RAILBOX



Body version 9794-1 with 10 side posts. Photo courtesy of Christopher Palmieri

Lot 9794 was Pullman's second order for their 5077 cubic-foot single door boxcars, built at the Bessemer, Alabama plant between January and March, 1975. Some 1000 cars were built for American Rail Box Car Company for general service and placed into series RBOX 14000-14999. Lot 9794 differed from Lot 9602 in several ways (different body, different side sill, different ends, different stirrup steps):

- Type 2 body with 10 side posts (5 on each side of the 10-foot centered door) with all 10 side posts being fabricated from hat-section channels
- Type 1 side sill
- Pullman's proprietary 15-panel "bow-tie" roof
- Pullman's N4/5 "sine-wave" corrugated ends (with narrow top corrugation and vents)
- Pullman's embossed-panel sliding doors



Lot 9794-1/RBOX boxcar. Click this image to view this HO model on a web page and spin it a full 360 degrees to study the details.

- Ellcon-National hand brakes
- Type 2 stirrup steps
- Rigid (non-cushioned) underframe
- Vertical-lever brake gear (hook and eye)
- NARCorp high performance/low friction 70-ton ASF Ride Control trucks with 33" diameter metal wheels
- Kadee #158 semi-scale magnetic couplers
- Original "early" Railbox paint scheme

This detailed replica of Pullman Standard's 5077 cubic-foot single door boxcar (Lot 9794) has been carefully researched and designed by North American Railcar. The plastic body shell will have accurate details in plastic, wire and etched metal. ■

WEB: www.pwrs.ca/view_product.php?ProductID=253935

LOT 9831 VERSION 1 – ATSF



Body version 9831-1 with 10 side posts. *Photo courtesy of Ron Hawkins*

Lot 9831 was Pullman's third order for their 5077 cubic-foot single door boxcars, built at the Bessemer, Alabama plant between August and November, 1975. Some 1500 cars were built for American Rail Box Car Company for general service and placed into series RBOX 15000-16499. In 1983, 676 cars from RBOX 15000-15675 were transferred to SOUTHERN ownership and put into the SOUTHERN 15000-15675 series, with only the reporting marks changed. 386 cars (RBOX 15676-16061) were transferred to ATSF 51336-51712, 218 cars (RBOX 16062-16279) to C&O 400305-400522 and 220 car (RBOX 16280-16499) to BN 249249-249460. Features include:

- Type 2 body with 10 side posts (5 on each side of the 10-foot centered door) with all 10 side posts being fabricated from hat-section channels
- Type 2 side sill
- Pullman's proprietary 15-panel "bow-tie" roof
- Pullman's N4/5 "sine-wave" corrugated ends (with narrow top corrugation)



Lot 9831-1/ATSF boxcar. Click this image to view this HO model on a web page and spin it a full 360 degrees to study the details.

- Pullman's embossed-panel sliding doors
- Ellcon-National hand brakes
- Type 3 stirrup steps
- Rigid (non-cushioned) underframe
- Horizontal-lever brake gear
- NARCorp high performance/low friction 70-ton ASF Ride Control trucks with 33" diameter metal wheels
- Genuine Kadee #158 semi-scale magnetic couplers
- ATSF 1980s circle/cross logo

This detailed replica of Pullman Standard's 5077 cubic-foot single door boxcar (Lot 9831) has been meticulously researched and designed by North American Railcar. The plastic body shell will have accurate details in plastic, wire and etched metal. ■

WEB: www.pwrs.ca/view_product.php?ProductID=253937

LOT 9831 VERSION 4 – CSXT



Body version 9831-4 with 10 side posts. Photo courtesy of Bill Gawthrop

Lot 9831 was Pullman's third order for 5077 cubic-foot single door boxcars, built at the Bessemer, Alabama plant 8-11/75. Some 1500 cars went to American Rail Box Car Company for general service into series RBOX 15000-16499. In 1983, 676 cars from RBOX 15000-15675 transferred to SOUTHERN ownership into the SOUTHERN 15000-15675 series, with only reporting marks changed, with 386 cars (RBOX 15676-16061) transferred to ATSF as 51336-51712. Another 218 cars (RBOX 16062-16279) went to C&O as 400305-400522 and 220 cars (RBOX 16280-16499) went to BN as 249249-249460. The 218 cars assigned to C&O later went to SBD 141306-141522 and then to CSXT 141306-141522. When shopped the CSXT cars had new doors installed and repainted into the CSX blue and yellow scheme with the large, underlined CSX to the right of the door. Features include:

- Type 2 body with 10 side posts (5 on each side of the 10-foot centered door) with all 10 side posts being fabricated from hat-section channels
- Type 2 side sill
- Pullman's proprietary 15-panel "bow-tie" roof
- Pullman's N4/5 "sine-wave" corrugated ends (with narrow top corrugation)



Lot 9831-4/CSXT boxcar. Click this image to view this HO model on a web page and spin it a full 360 degrees to study the details.

- YSD replacement corrugated-panel sliding doors
- Ellcon-National hand brakes
- Type 3 stirrup steps
- Rigid (non-cushioned) underframe
- Horizontal-lever brake gear
- NARCorp high performance/low friction 70-ton ASF Ride Control trucks with 33" diameter metal wheels
- Genuine Kadee #158 semi-scale magnetic couplers
- Dark blue livery with bold yellow CSX logo

This detailed replica of Pullman Standard's 5077 cubic-foot single door boxcar (Lot 9831) has been meticulously researched and designed by North American Railcar. The plastic body shell will have accurate details in plastic, wire and etched metal. ■

WEB: www.pwrs.ca/view_product.php?ProductID=253941

GOLDEN TYE KIT CAR VERSION 4 – B&O



Body version GT-4 with 10 side posts. *Photo courtesy of Alan Gaines*

Pickens Railroad purchased a number of kits from both Berwick Forge and Fabricating (BFF) and Pullman Standard to be assembled in Golden Tye's Pickens, SC shops. Between May and July, 1976, Golden Tye (GT) assembled 81 kits and put them into the PICK 55500-55580 series. In 1985, Chessie System took possession of 30 of those 1976- built kit cars, refurbished them and placed them in the B&O 401170-401199 series. Features include:

- Type 2 body with 10 side posts (5 on each side of the 10-foot centered door) with all 10 side posts being fabricated from hat-section channels
- Type 5 side sill (no jack pads, Golden TYE rivet placement)
- Pullman's proprietary 15-panel "bow-tie" roof
- Pullman's N4/5 "sine-wave" corrugated ends (with narrow top corrugation)
- Pullman's embossed-panel sliding doors with NRUC logo plate
- Ellcon-National hand brakes



Golden Tye-4/B&O boxcar. Click this image to view this HO model on a web page and spin it a full 360 degrees to study the details.

- Type 3 stirrup steps
- Rigid (non-cushioned) underframe
- Horizontal-lever brake gear
- Hennessy "Slide-Well" power-assist door opener with type 3 hand wheel
- NARCorp high performance/low friction 70-ton ASF Ride Control trucks with 33" diameter metal wheels
- Genuine Kadee #158 semi-scale magnetic couplers in semi-scale coupler boxes
- Chessie System blue and yellow B&O livery with blank NRUC logo panel on the door and Chessie kitten logo to the right

This detailed replica of Pullman Standard's 5077 cubic-foot single door boxcar (Lot 9831) has been meticulously researched and designed by North American Railcar. The plastic body shell will have accurate details in plastic, wire and etched metal. ■

WEB: www.pwrs.ca/view_product.php?ProductID=253940

LOT 9832 VERSION 1 – RAILBOX



Body version 9832-1 with 10 side posts. *Photo courtesy of Ric Hamilton*

Lot 9832 was Pullman's fourth order for their 5077 cubic-foot single door boxcars, built at the Bessemer, Alabama plant between April and June, 1976. 600 cars were built for American Rail Box Car Company for general service and placed into series RBOX 21000-21599 (class XPF11A). In 1983, 360 cars from RBOX 21000-21359 were transferred to Union Pacific ownership and put into the UP 130800-131159 series, while RBOX 21360-21599 (240 cars) were transferred to UP 130400-130637. Features include:

- Type 2 body with 10 side posts (5 on each side of the 10-foot centered door) with all 10 side posts being fabricated from hat-section channels
- Type 2 side sill
- Pullman's proprietary 15-panel "bow-tie" roof
- Pullman's 5/5 "sine-wave" corrugated ends
- Pullman's embossed-panel sliding doors



Lot 9832-1/RBOX boxcar. Click this image to view this HO model on a web page and spin it a full 360 degrees to study the details.

- Universal hand brakes
- Type 3 stirrup steps
- Rigid (non-cushioned) underframe
- Horizontal-lever brake gear
- NARCorp high performance/low friction 70-ton ASF Ride Control trucks with 33" diameter metal wheels
- Body-mount Micro-Trains couplers
- "Late" Railbox livery (small logos) with black doors

This detailed replica of Pullman Standard's 5077 cubic-foot single door boxcar (Lot 9832) has been meticulously researched and designed by North American Railcar. The plastic body shell will have accurate details in plastic, wire and etched metal. ■

WEB: www.pwrs.ca/view_product.php?ProductID=253648

LOT 9832 VERSION 2 – MRL (LIONS HEAD)



Body version 9832-2 with 10 side posts. Photo courtesy of Eric Larson

Lot 9832 was Pullman's fourth order for their 5077 cubic-foot single door box cars, built at the Bessemer, Alabama plant between April and June, 1976. Some 600 cars were built for American Rail Box Car Company for general service and placed into series RBOX 21000-21599 (class XPF11A). In 1983, 360 cars from RBOX 21000-21359 were transferred to Union Pacific ownership and put into the UP 130800-131159 series, while RBOX 21360-21599 (240 cars) were transferred to UP 130400-130637. In 1997 UP 130800-131151 were transferred to MRL 21457-21599 and to SSAM 41500-41599. During 1998, 55 cars were transferred to MRL 21620-21674 and painted into MRL's blue livery with the large white "Washington Group" logo with the lions head. Features include:

- Type 2 body with 10 side posts (5 on each side of the 10-foot centered door) with all 10 side posts being fabricated from hat-section channels
- Type 2 side sill
- Pullman's proprietary 15-panel "bow-tie" roof



Lot 9832-2/MRL boxcar. Click this image to view this HO model on a web page and spin it a full 360 degrees to study the details.

- Pullman's 5/5 "sine-wave" corrugated ends
- RCS replacement 6-panel sliding doors
- Universal hand brakes
- Type 3 stirrup steps
- Rigid (non-cushioned) underframe
- Horizontal-lever brake gear
- NARCorp high performance/low friction 70-ton ASF Ride Control trucks with 33" diameter metal wheels
- Genuine Kadee #158 semi-scale magnetic couplers

This detailed replica of Pullman Standard's 5077 cubic-foot single door boxcar (Lot 9832) has been meticulously researched and designed by North American Railcar. The plastic body shell will have accurate details in plastic, wire and etched metal. ■

WEB: www.pwrs.ca/view_product.php?ProductID=253945

LOT 9832 VERSION 3 – UP



Body version 9832-3 with 10 side posts. *Photo courtesy of James Kirkman*

Lot 9832 was Pullman's fourth order for their 5077 cubic-foot single door boxcars, built at the Bessemer, Alabama plant between April and June, 1976. Some 600 cars were built for American Rail Box Car Company for general service and placed into series RBOX 21000-21599 (class XPF11A). In 1983, 360 cars from RBOX 21000-21359 were transferred to Union Pacific ownership and put into the UP 130800-131159 series, while RBOX 21360-21599 (240 cars) were transferred to UP 130400-130637. Features include:

- Type 2 body with 10 side posts (5 on each side of the 10-foot centered door) with all 10 side posts being fabricated from hat-section channels
- Type 2 side sill
- Pullman's proprietary 15-panel "bow-tie" roof
- Pullman's 5/5 "sine-wave" corrugated ends
- EZ-Roll replacement 7-panel sliding doors
- Universal hand brakes
- Type 3 stirrup steps



Lot 9832-3/UP boxcar. Click this image to view this HO model on a web page and spin it a full 360 degrees to study the details.

- Rigid (non-cushioned) underframe
- Horizontal-lever brake gear
- NARCorp high performance/low friction 70-ton ASF Ride Control trucks with 33" diameter metal wheels
- Genuine Kadee #158 semi-scale magnetic couplers
- Mineral red livery with small UP shield

This detailed replica of Pullman Standard's 5077 cubic-foot single door boxcar (Lot 9832) has been meticulously researched and designed by North American Railcar. The plastic body shell will have accurate details in plastic, wire and etched metal. ■

WEB: www.pwrs.ca/view_product.php?ProductID=253942

LOT 9962 VERSION 1 – NSL



Body version 9962-1 with 10 side posts.

Lot 9962 was Pullman's fifth order for their 5077 cubic-foot single door boxcars, built at the Bessemer, Alabama plant in September and October, 1977 and April 1978. Some 300 cars were built for The National Railway Utilization Corporation (NRUC) for general service and placed into series NSL 101600-101899. This order was unique to all the other PS 5077 orders in that these cars were equipped with diagonal-panel roofs instead of the typical PS bow-tie roof. Features include:

- Type 2 body with 10 side posts (5 on each side of the 10-foot centered door) with all 10 side posts being fabricated from hat-section channels
- Type 2 side sill
- Stanray 15-panel "diagonal panel" roof
- Pullman's 5/5 "sine-wave" corrugated ends
- YSD 5/6/6 sliding doors with separate NRUC logo panels
- Hennessey "Slide Well" power-assist door openers
- Ellcon-National hand brakes



Lot 9962-1/NSL boxcar. Click this image to view this HO model on a web page and spin it a full 360 degrees to study the details.

- Type 3 stirrup steps
- Rigid (non-cushioned) underframe
- Horizontal-lever brake gear
- NARCorp high performance/low friction 70-ton ASF Ride Control trucks with 33" diameter metal wheels
- Genuine Kadee #158 semi-scale magnetic couplers
- As delivered St. Lawrence Railroad distinctive red, white & blue National Railway Utilization Corp. livery with logo panel and door opener

This detailed replica of Pullman Standard's 5077 cubic-foot single door boxcar (Lot 9962) has been meticulously researched and designed by North American Railcar. The plastic body shell will have accurate details in plastic, wire and etched metal. ■

WEB: www.pwrs.ca/view_product.php?ProductID=253946

LOT 1059 VERSION 3 – CNW



Body version 1059-3 with 10 side posts. *Photo courtesy of Stephen Borleske*

Lot 1059 was Pullman's seventh and final order for their 5077 cubic-foot single door boxcars, built at the Bessemer, Alabama plant in July and August, 1979. Some 300 cars were built for Chicago and North Western for general service and placed into series CNW 163000-163299. This car represents a car shopped and repainted with black ends, yellow car body with a small red and black "System" logo and a Rail Car Specialties replacement sliding door. Features include:

- Type 2 body with 10 side posts (5 on each side of the 10-foot centered door) with all 10 side posts being fabricated from hat-section channels
- Type 3 side sill
- Pullman's proprietary 15-panel "bow-tie" roof
- Pullman's 5/5 "sine-wave" corrugated ends
- RCS 6-panel replacement sliding doors complete with latches, handles and other fine detail



Lot 1059-3/CNW boxcar. Click this image to view this HO model on a web page and spin it a full 360 degrees to study the details.

- Universal hand brakes
- Type 3 stirrup steps
- Cushioned (15" end-of-car cushioning) underframe
- Vertical-lever brake gear (hook and eye)
- Brand New NARCorp high performance/low friction, super detailed 70-ton ASF Ride Control trucks with 33" diameter metal wheels with spinning bearing caps
- Genuine Kadee #158 semi-scale magnetic couplers
- Repainted yellow CNW livery with "system" logo

This detailed replica of Pullman Standard's 5077 cubic-foot single door boxcar (Lot 1059) has been meticulously researched and designed by North American Railcar. The plastic body shell will have accurate details in plastic, wire and etched metal. ■

WEB: www.pwrs.ca/view_product.php?ProductID=253947

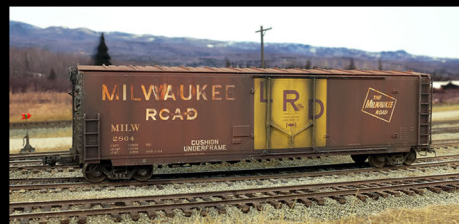
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Model Railroad Hobbyist | August 2021



Painting an HO scale Preiser figure

The YouTube channel **Wiley's Scale Modeling** (Brett Wiley) has this superb how-to on painting HO scale Preiser figures. These figures include a lot of molded details, but unless you know some tricks, those details can go un-noticed. Brett shows how to paint these figures and make sure those details can be seen.

Watch this 12-minute video and paint your own HO figures like an expert! ☒



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AUGUST NEWS

column

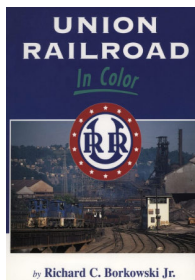
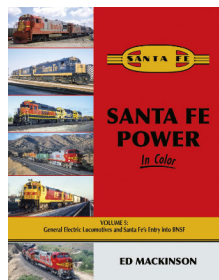


Model Railroad Hobbyist | August 2021

RICHARD BALE AND JEFF SHULTZ
REPORT THE LATEST HOBBY
INDUSTRY NEWS ...



NEW PUBLICATIONS

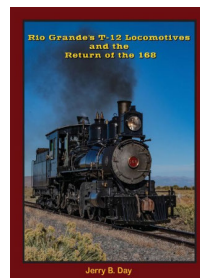


Morning Sun has published Volume 5 of *Santa Fe Power In Color*. Authored by Ed Mackinson, this final volume features General Electric locomotives operated by the great southwestern railroad as it assimilated into the BNSF system.

A downloadable PDF version of *Union Railroad in Color*, by Richard C. Borkowski, Jr., is available as a reprint from Morning Sun. The seldom-photographed Union Railroad fed the blast furnaces of Pittsburgh, PA with its fleet of EMD switchers and so-called Buffalos. Steel mills and heavy industry get extensive coverage in this book that was originally published a decade ago. For additional information contact a dealer or visit www.morningsunbooks.com.

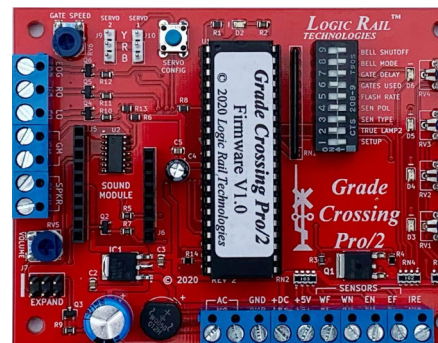
THE LATEST MODEL RAILROAD PRODUCTS, NEWS & EVENTS

AUGUST NEW PRODUCTS MULTIPLE SCALES | 2



The **Rio Grande Modeling & Historical Society** has announced the publication of its first book, *The Rio Grande T-12 Locomotive and the Return of the 168* by Jerry Day. The book covers the history of each of the Rio Grande's twelve T-12 4-6-0 narrow gauge passenger locomotives. The book also details the restoration and return to service of No. 168 by the Cumbres & Toltec Scenic RR. A two-page color foldout shows the engine backhead. To purchase visit rgmhs.org/store.

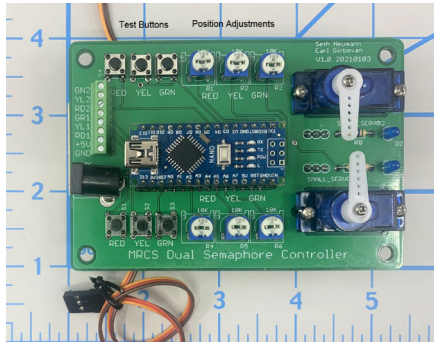
NEW PRODUCTS FOR MULTIPLE SCALES



Logic Rail Technologies has released Grade Crossing Pro/2 (GCP/2), the second generation of its Grade Crossing Pro. The new GCP/2 provides train detection and prototypical control of a grade crossing with outputs for signals and slow motion switch motors or servos.

Logic Rail now offers its own line of grade crossing bell sound modules that plug directly onto the GCP/2 circuit board. Train detection is accomplished using photocells, IR components, or third-party detectors. The sensitivity of IR detection has been improved over the original GCP. For additional information visit www.logicrailtech.com.

Model Railroad Control Systems has released the Dual 3-Position Semaphore Servo Controller. Designed to control train order boards or paired semaphores in ABS/APB territory, the board has two SG90 servos mounted facing each other. The board can be mounted below benchwork and operate either



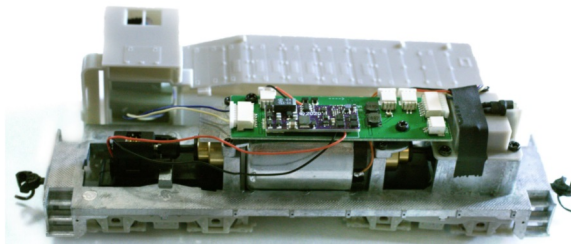
two blades on one mast or two single arm masts. The servos are controlled by an Arduino sketch written by Jon Schmidt and is downloadable and modifiable subject to the Creative Commons license. Due to the power used by the servos, a separate power supply from that used for the

Arduino Nano is recommended. For more information visit www.modelrailroadcontrolsystems.com/dual-semicolon-servo-controller.



Model Train Technology has introduced Pennsylvania 3 aspect color position signals in N, HO, S and O scales. They include a small adapter that allows them to be used with any of Model Train Technology's LED signal

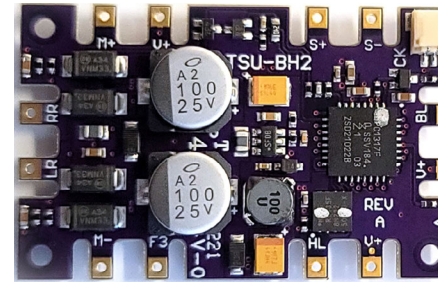
controllers. Photos are of the N scale signals. For more information visit modeltraintechology.com.



SoundTraxx has introduced the TSU-N18, a new, small (25 x 10.5 x 4.1mm) Tsunami2 decoder that is well-suited for N scale and small HO scale models with a

NEXT 18 socket. The Tsunami2 family of digital sound decoders offers a full-featured sound system, Hyperlight

lighting effects, Hyperdrive2 advanced motor control, and a sound DCC decoder, all in a single package. Additional features include 20-plus lighting effects, reactive dynamic digital exhaust, and functioning locomotive and train brakes. Selectable sound effects for specific prime movers include steam, EMD, GE, ALCO, Baldwin, and electric locomotives.



Also new from SoundTraxx is a replacement decoder for Bachmann HO scale Sound Value steam locomotives. Identified as TSU-BH2, the new device offers 8 function outputs. The TSU-BH2, which provides all of the features of

Tsunami2 technology, is specifically designed to replace the board in Bachman HO scale Sound Value steam models 2-6-0, 2-8-0, 4-6-2, 4-8-4 Class J, and 4-8-4 GS4. It is reported to be an easily installed replacement for the Bachmann OEM decoder. For additional information contact a dealer or visit www.soundtraxx.com.

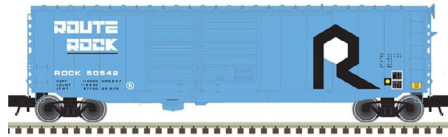
O SCALE PRODUCT NEWS



Atlas O has opened preorders for a new Premier Series model of the EMD GP40 locomotive. With an estimated 2nd Quarter 2022 arrival, the locomotives will include directionally

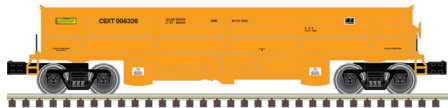
controlled headlights, metal wheels, axles, and gears; die-cast truck sides, pilots, and fuel tank; remote controlled Proto-Couplers, flywheel equipped motors, and spinning roof fans. Control is provided through Proto-Sound 3.0 DCS. The locomotive

will operate on O-31 curves. Road names in this first release are CSX-Bright Future, Penn Central, Port Harbor "1st Responders," Rio Grande, and Union Pacific. Additionally, an Operation Lifesaver 50th Anniversary limited edition paint scheme will be offered, and a portion of the proceeds from that model will be donated to Operation Lifesaver.



Also scheduled for a 2nd Quarter 2022 release is this Master Series 50' PS-1 (Modernized) double-door

boxcar, being offered in the above Rock Island, Chesapeake & Ohio, Detroit & Mackinac, Norfolk & Western, Western Pacific, and undecorated. The models come with prototype appropriate 50-ton Bettendorf or 70-ton roller bearing die-cast trucks, Youngstown or Pullman Standard style doors, and separately applied grab irons, ladders, and brake line details. Two-rail cars come with Kadee-compatible scale couplers and 3-rail cars come with die-cast articulated couplers.



Another new model from Atlas O is this Premier Series operating side dump car. Constructed of die-cast metal,

the model includes an operating dump with shake action, decorative brake wheels, metal wheels and axles, and operating die-cast metal couplers. Roadnames for this 2nd Quarter 2022 release are CSXT (seen above), Amtrak, BNSF, Missouri Pacific, Norfolk & Western, SCL, and Southern Pacific.



The final Atlas O product on the 2nd Quarter 2022 schedule is this Trainman

52'6" flatcar with load. Based on cars that were built by the Canadian Pacific Railroad around 1953, the cars feature rivet detail and fishbelly sides. Each car comes with a pipe load that

includes tie-downs. Roadnames are the above Union Pacific, British Columbia, Grand Trunk Western, Western Maryland, Burlington Northern, Conrail, and CP Rail. Both 2- and 3-Rail versions will be available. For more information visit a dealer or <http://atlaso.com>.

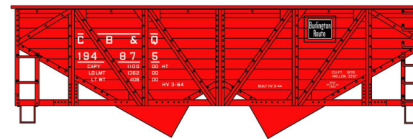
HO SCALE PRODUCT NEWS



New HO scale car kits from **Accurail** include a 3-car set of 36' Nickel Plate boxcars, including one single-sheathed and two double-sheathed cars. The outside bracing of the SS car includes a ladder. Both DS cars have individual grab irons. The models represent prototypes built before WWI.



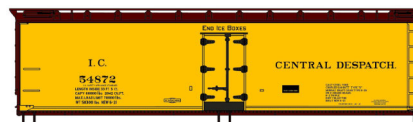
Also new from Accurail is a kit for a Burlington Northern twin-bay ACF Plate C Center Flow covered hopper.



This Chicago Burlington & Quincy twin-bay hopper is based on a prototype built during WWII with wood sides.



The red shield on this Canadian Pacific 40' steel boxcar reads *Newsprint Service Only*.



Completing the list of new HO scale car kits from Accurail is a 40' Illinois Central

Despatch wood reefer built by Pullman in June 1921. All Accurail HO car kits include Accumate couplers and appropriate trucks with Delrin plastic wheelsets. For additional information contact a dealer or visit www accurail.com.



R. Bale

AMD 103 LOCOMOTIVES

GE's Genesis AMD103 is a series of passenger diesel locomotives. Unique among recently manufactured North American passenger locomotives in that it uses a single, monocoque car body, that makes it lighter, more aerodynamic, and more fuel efficient than traditional designs. In 2004, Amtrak began installing bolt-on nose cones on its AMD103s for easy replacement in the event of a grade crossing collision. Until the introduction of the Siemens Charger, the GE's Genesis series were the lowest North American locomotives, which allowed them to be used through the low profile tunnels on the Northeast Corridor.



Genesis AMD103/P42 diesel locomotives. The HO scale model will be offered in five Amtrak commemorative paint schemes.



years as America's Railroad, each with a different design.



Athearn has announced its production schedule for September 2022. At the top of the list is a run of

Amtrak's five 50th Anniversary P42 locomotives were created to celebrate 50

The lineup includes earlier Phase I and Dash 8 Phase III schemes, a present-day

Phase V version, and two new designs; Midnight Blue and Phase VI.



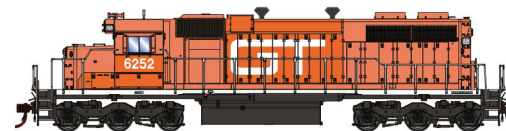
Athearn reports that it will produce the AMD103/P42 from new Genesis tooling. Details include flexible rubber MU and trainline hoses, wire

handrails, photo-etched metal radiator fan grilles, and LED lighting including operating ditch lights and red marker lights. A redesigned diecast frame features the Genesis multi-link drivetrain with a 5-pole skew wound motor with machined flywheels.



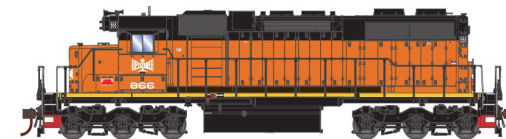
Athearn's September 2022 schedule includes an RTR HO scale version of an SD38 diesel locomotive as

built by EMD between 1967 and 1971. Aside from the 3-axle trucks and a longer frame to accommodate them, the SD38 was identical to the GP38.



The list of road names for Athearn's SD38 includes Reading, Blue Mountain & Northern No. 2003, and an

ex-DTI/GTW unit with front and rear ditch lights and a small front plow.



Two Grand Trunk Western versions will be available including one in the road's familiar red, white and blue scheme, and one in faded Primed for Grime red.



REGISTER
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[INDEX](#)

[TABLE OF CONTENTS](#)

MRHMAG.COM

[INDEX](#)

[TABLE OF CONTENTS](#)



A Primed for Grime Bessemer & Lake Erie SD38 will have a cab-mounted gyra-light, dynamic brakes and a large paper air filter box.



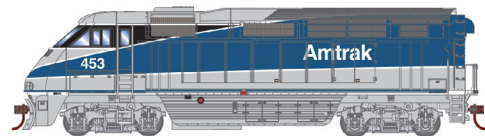
Additional SD38 road names include CCGX-CANDO Rail Services, Conrail, Norfolk Southern (ex-Conrail), and Detroit, Toledo & Ironton in a Primed for Grime scheme.



R. Bale

F59PHI LOCOMOTIVE

The F59PHI diesel locomotive was designed for Amtrak California intercity service and began production in 1994. It is distinguished from the F59PH by its streamlined cab. The enclosed body provides protected walkways for access to the engine room. This arrangement allows routine maintenance while the locomotive is in service. The noteworthy aspect of this locomotive's exterior is the use of composites to present a streamlined appearance. The F59PHI was built originally by EMD, but is now built by the successor company Progress Rail, a division of Caterpillar.



Athearn has included an RTR F59PHI in its September 2022 production schedule. The HO scale ready-to-run model will have LED lighting and see-through radiator and dynamic brake fans.



Decorating schemes will be Amtrak No. 453 and 461, and Amtrak No. 457 with the *Be Track Smart* slogan.



The Amtrak California scheme complements Athearn's Genesis Surfliner cars (see MRH July 2021).



Metra's Heritage program honors various railroads that made Chicago the rail hub of America. Athearn will offer Metra F59PHI locomotives decorated for CNW Heritage, MILW Heritage, and RI Heritage. The paint schemes are preliminary and are not currently applied to real Metra locomotives.



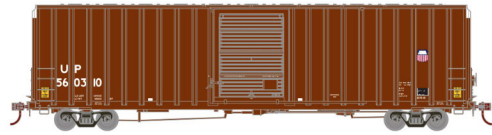
Additional decorating schemes on Athearn's F59PHI locomotives include North Carolina DOT City of Salisbury and City of Asheville. A Southern California Metrolink version will have decorative corrugated panels on each side.



All of the Athearn locomotives mentioned in this report will be available with a Soundtraxx Tsunami2 sound decoder. Analog DC versions will be DCC-ready with Athearn's Quick Plug plug-and-play technology that includes a 21-pin NEM connector.



Freight cars coming from Athearn in 2022 include this RTR 62' tank car. In addition to the General Dynamics car shown here, road names will include American Car & Foundry, General Electric Rail Services, Praxair, San Angelo, General American Marks, and Wisconsin Southern. The HO scale ready-to-run model will have separate wire grab irons and 33" machined metal wheels.



This RTR HO scale version of an FMC 60' hi-cube boxcar with exterior posts is also coming from

Athearn late next year. The model will have separately applied grab irons and 10' Youngstown sliding doors. Road names will be Grand Trunk Western, Milwaukee Road, CP Rail, Western Pacific, and three Union Pacific schemes.



An RTR 60' bulkhead flatcar decorated for Columbia & Cowlitz, CP Rail, Milwaukee Road, Pacific

Great Eastern, Trailer Train, and Western Pacific is included in Athearn's September 2022 production schedule.

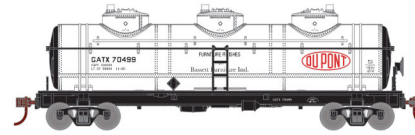


Roundhouse brand models coming from Athearn in September 2022 include this 40' single sheathed boxcar. The economy priced ready-to-run model will ride on appropriate trucks with machined metal wheels. In addition to Seaboard Coast Line, road names will be Canadian Pacific, Ann Arbor, Great Northern, Southern Pacific, and Western Pacific.

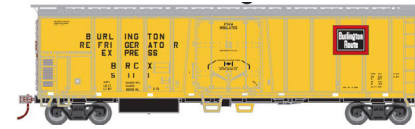
This Roundhouse Eastern-style 4-window caboose will be equipped with Barber-Bettendorf swing motion caboose



trucks with 33" machined metal wheels. Road names on the September 2022 production run will be Chicago & North Western, Conrail, Louisville & Nashville, Penn Central, Reading, and Western Maryland.



Completing the list of freight cars coming from Roundhouse in September 2022 are a 3-dome tank car and a 50' mechanical reefer with exterior posts. The tank car will be available for American Car & Foundry, East Jersey Railroad, DuPont, Ambrose Wine, De Soto Chemical, and Warner Quinian Co.



Road names for the ex-post reefer with plug doors will be Burlington, Burlington Northern, Great Northern, Canadian Pacific, Pacific Fruit Express, and Union Pacific. For additional information contact a dealer or visit www.athearn.com.



Atlas has announced another run of its Master series GP40 locomotive, with several new paint schemes and ditch lights on some roadnames. Ditch light equipped units are CP Rail, CSX, CSX (MOW), Port Harbor, and Susquehanna. Non-ditch light equipped roadnames are Main Central, MKT, Penn Central, Rio Grande, Santa Fe, Union Pacific, and undecorated.



All models feature golden-white LED lighting, a five-pole skewed armature motor with dual flywheels, Accumate knuckle couplers, separately installed scale windshield wipers, metal

AUGUST HO SCALE NEWS | 13

grab irons, fine scale handrails, and multiple unit hoses and trainline hoses, as well as other details.

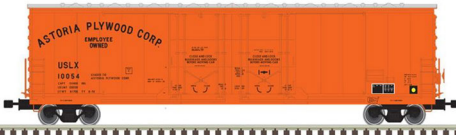


Gold models are equipped with ESU Sound DCC decoders and Silver models are DCC ready with an NMRA 8-pin plug.



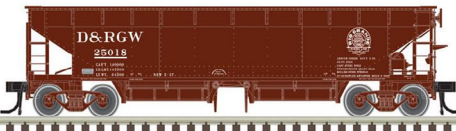
Also from Atlas in the 2nd Quarter of 2022 is a new run of Evans 53' double plug door insulated boxcar.

Primarily used to haul produce, wood, paper products, and canned goods, the prototype is classified as an RBL.



The Master series models are equipped with 70-ton roller bearing trucks, Accumate couplers, and blackened

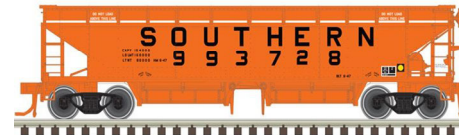
metal wheels. Roadnames in this run are British Columbia, Missouri Pacific, Astoria Plywood (USLX), Burlington Northern, PET Inc. (USLX), Plywood Marketing Associates (USLX), Ralston Purina (as delivered), Simpson Timber (USLX), and undecorated.



The Atlas Master series HO scale 70-ton Hart ballast hopper will be available in new paint schemes and road

numbers. Built by ACF between 1940 and 1953, the car had the ability to dump ballast to either the sides of the rails, the center of the rails, or both simultaneously. The model features a die-cast body, 70-ton friction-bearing trucks, a fully detailed interior, and separately applied grab irons, coupler cut lever, train line hose, and air brake piping detail. The model comes with Accumate couplers.

AUGUST HO SCALE NEWS | 14

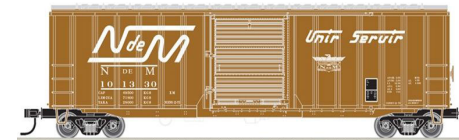


Road names in this run are Conway Scenic, Southern, British Columbia, Canadian National, Erie, Rio Grande, Santa Fe, and undecorated. Southern, British Columbia, Erie, Rio Grande, and Santa Fe will be available in 3-packs.



Atlas Trainman is also releasing a new run of its 50'6" ACF boxcar model.

Road names in this run are the Canadian National seen above, Burlington Northern, CSX, Ferrocarriles Nacionales de Mexico (below), PanAm, Railbox, Union Pacific, and undecorated.



The model has non-terminating corrugated ends, a diagonal panel roof, and a single 10' Youngstown door.

It is equipped with Accumate knuckle couplers.



The final HO scale item in Atlas' 2nd Quarter 2022 schedule is the Trainman HO C&O cupola caboose. An all-steel caboose, it was built for the C&O by Magor in 1937. Similar cabooses were built for the C&O by Magor, St. Louis Car Company, and ACF through 1949.



Roadnames in this run are Alaska (top), Chesapeake & Ohio (above), Chicago & Illinois Midland, Detroit Toledo and Ironton (below), Richmond, Fredericksburg & Potomac; General Electric, Metro North, Black River Western, and undecorated.



The Trainman model includes free rolling metal wheels, Accumate knuckle couplers, clear window inserts, and separately applied side railings. For information on this or other Atlas products, see a dealer or visit shop.atlasrr.com.



R. Bale

SCALE TEST CAR

Loaded freight cars are weighed to verify the amount of cargo it is carrying. The information is used to determine how much the railroad's customer is to be charged for handling the freight.

It is essential that the track scales be accurate. A scale test car, aka test weight car, is a unique maintenance of way car of precisely known weight that is used to calibrate the accuracy of the scales used to weigh loaded railroad cars.

Scale test cars require special handling to prevent damage which might alter their weight. They are reweighed periodically on accurate scales at the railroad's shops. The weight of the scale car can be adjusted by adding or removing small amounts of lead in a compartment accessed through a small door on each side of the car.

Very early scale test cars were small, old railroad cars carrying heavy metal weights. In 1917 the Pennsylvania Railroad, in conjunction with the US Department of Commerce, developed a 13' scale test car with an 80,000 lb cast body riding on four 36" wheels. The design was used by numerous railroads into the 1980s.



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wheels with non-magnetic blackened-brass axles.



A black unlettered model is also available.

The unique scale test car is available decorated for Burlington Northern, Canadian National, Union Pacific, Santa Fe, Milwaukee Road, New York Central, and Pennsylvania Railroad.



Bachmann has included two new road names in the second production run of its HO scale Siemens Charger SC-44 locomotive.

Bachmann has included two new road names in the second production run of its HO scale Siemens Charger SC-44 locomotive.



New decorating schemes for the Tier 4 compliant diesel-electric locomotive include ACE-Altamont Corridor Express, and San Diego's North County Transit District Coaster. Popular schemes reissued in this run include Amtrak Cascades, Amtrak Pacific Surfliner, and two Amtrak Midwest locomotives.

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Bachmann's SC-44 comes with a TCS WOWSound decoder and a Keep-Alive device for uninterrupted operation. Additional features include directional headlights, interior corridor work

Bachmann's SC-44 comes with a TCS WOWSound decoder and a Keep-Alive device for uninterrupted operation. Additional features include directional headlights, interior corridor work



REGISTER
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[INDEX](#)

[TABLE OF CONTENTS](#)

MRHMAG.COM

[INDEX](#)

[TABLE OF CONTENTS](#)

lights, roof-mounted white and emergency red strobe lights, marker lights, flashing ditch lights.



Bachmann has announced several new HO scale items scheduled for release during the final quarter of

this year. Four old time gondolas will be released in October. The truss-rod era cars will be decorated for Virginia & Truckee, Santa Fe, Eastern & Atlantic, and Union Pacific. The model will be equipped with knuckle couplers and arch bar trucks with machined metal wheelsets.



HO scale versions of Siemens ALC-42 Charger locomotives are scheduled for release in

November. The models will be available decorated in Amtrak's Phase VI scheme as well as in Amtrak's one-off 50th Anniversary scheme applied to locomotive No. 301.



Bachmann plans to release an 85' smooth side dining car in December. Decorating schemes for the HO scale model will be Baltimore



& Ohio, Union Pacific, Pennsylvania Railroad, PRR Fleet of Modernism, and Southern Pacific Daylight. An aluminum, unlettered car will be included in the release. Additional HO scale models coming in December include a 55' steel coil car and a 50' express reefer. For additional information contact a dealer or visit www.bachmanntrains.com.



ExactRail has announced another production run of its highly regarded HO scale Bethlehem 3737/3716

quadruple bay hopper car. The HO scale coal hopper will be available in five paint schemes and as an undecorated kit. Decorating schemes include EWSX-Indianapolis Power & Light schemes in both the 1973 Reddy Kilowatt and the 1975 bold IPALCO schemes.



The 1980 Missouri Pacific scheme will be available in nine road numbers. The unique MP car emblazoned with Union Pacific on its side will be available in just one prototypically correct road number.



Models decorated for INLX-Inland Steel and Soo Line will be available exclusively through TrainLife.com, ExactRail's in-house retail outlet.



Features of the accurately detailed model include wire coupler cut levers, grab irons, brake rods and lever hangers; single door Wine locks, welded top chord gussets, etched-metal slack adjuster, equalized 100-ton ASF Ride Control trucks with machined metal wheelsets, and Kadee #158 couplers. Availability is expected in September. For additional details visit www.exactrail.com.

★★★★★
RATE THIS ARTICLE



R. Bale

PRR DD-1 ELECTRIC LOCOMOTIVE

Beginning in the early 1900s, steam locomotives were prohibited from operating in tunnels under New York City. The Pennsylvania Railroad designed and built the DD-1 electric locomotive in conjunction with the opening of Pennsylvania Station in Manhattan in 1910. The DD-1s shuttled passenger trains between the new Penn Station, a transfer yard in New Jersey, and to the PRRs Sunnyside Yard in Queens.

A total of 66 DD-1s were constructed in 1910-1911 at the Pennsylvania Railroad's Juanita Locomotive Shop in Altoona, PA. They were equipped with Westinghouse DC motors connected to 72" drivers through a jackshaft and side rods. Despite their ungainly appearance, DD-1s ran quietly and smoothly, with a minimum amount of rod clanking. In 1924 some DD-1s were moved to the Pennsylvania-owned Long Island Railroad, which had substantial electrified commuter rail operations. The Long Island RR used DD-1s to haul long distance trains between Penn Station and its major hub Jamaica Station, where steam locomotives were used beyond the electrified branches. DD-1s on the LIRR were sometimes used for freights, milk trains, and racetrack specials. DD-1s were last used in 1951.



The **GHB International** HO scale DD-1 electric locomotives are available for order. The models are decorated and detailed for

the Pennsylvania or the Long Island railroads in the 1939 New York World's Fair scheme that many operating DD-1s wore until withdrawn from service in 1951.



Both units are powered with a flywheel drive. The models are available for DCC-ready operation or with a factory installed

ESU LokSound 5 DCC decoder that controls both units. A very slight side rod clank has been incorporated into the sound units. For additional information visit www.ghbintl.com/DD-1_PRICE_LIST.png or email GHB at geoghb@erols.com.



InterMountain has released an HO scale 1958 cu. ft. twin bay covered hopper in 14 road names. Cars with open sides are available

for Denver & Rio Grande Western, Frisco, NAHX-Plybor-Chlorate, Monon, Elgin, Joliet & Eastern; Chicago & Eastern Illinois, Missouri Pacific, Great Northern, and Missouri-Kansas-Texas.



Cars with closed body sides are available decorated for ATSF, Northern Pacific, Colorado & Southern-Burlington, Chicago &

North Western, and Chicago, Burlington & Quincy.



Both body types come with machined metal wheels and metal knuckle couplers.



InterMountain is booking advance reservations for a new production run of 4750 cu. ft. triple-bay covered hopper cars. Delivery is planned for spring 2022.



Ten road names will be produced in this run including The Rock, C&NW, Illinois Central Gulf, Terminal Grain,

CN/Chicago Central & Pacific, DGHX, Missouri Pacific, Morrison-Quirk Grain, Rocky Mountain Brokerage, and Frisco-BN.



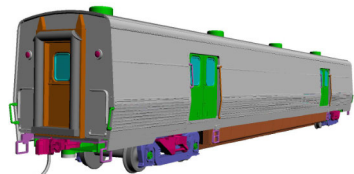
Features on the HO scale ready-to-run models include etched metal roofwalks, machined metal wheelsets, and metal couplers. For additional information contact a dealer or visit intermountain-railway.com.



Kadee has released a 40' PS-1 boxcar decorated for Maine Central. The HO scale ready-to-run model accurately replicates a prototype Pullman-Standard PS-1 built in 1947 with 7' seven-panel Superior sliding doors. Like the prototype, Kadee's version is painted boxcar red with a black roof and ends. The model comes with Kadee couplers and Kadee Bettendorf-style solid-bearing trucks with metal wheels.



Kadee has announced the availability of a 75th Anniversary Edition of its Twin "Rail Spiker". Identified as Gen 3.0, the deluxe version of the patented spiker comes with two boxes of spikes and can be converted for use on code 70, 83, or 100 rail. The Gen 3 edition, which features a gold anodized aluminum body, uses the same internal parts as the original. For additional information contact a dealer or visit www.kadee.com.

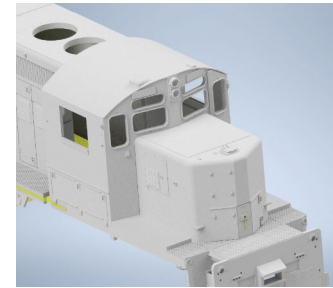


Kato has announced pre-orders for a new HO scale Amtrak Viewliner II Baggage car, with delivery in early 2022. Features of the car will be tubular style diaphragms, prototypical trucks with rotating bearing caps, Kato knuckle couplers, and optional illuminated marker and interior lights. Separately applied parts include handrails, steps, doors, and

vents. The model will be decorated in Amtrak's Phase III Heritage paint scheme. Pre-orders close on August 30th, 2021. For more information visit a dealer or www.katousa.com.



Maple Leaf Models has released a kit for an HO scale GP9RM detailed for locomotive No. 2008 of the Massachusetts Coastal Railroad (Mass Coastal). Specific details include cab with louvers on the right side, cab headlight, blank classification light housings, anti-climbers with ditch lights, etched-metal details (fan blades, grilles, stanchions, windshield wipers), and etched-metal steps with both diamond and rounded treads.



3D printed details include brake wheel, bell, battery boxes, and clear number boards and headlight lenses. Maple Leaf's GP9RM body kit is designed to fit a Walther's Mainline GP9 chassis which is not included. For additional details visit www.mapleleaftrains.com.



New releases and reissues of 1:87 vehicles from **Oxford Diecast** include a 1955 Buick Century coupe decorated for the California Highway Patrol.



The DeSoto Suburban, capable of seating eight people, was introduced in 1946. It was popular with families and taxi companies. Oxford's version features a non-working TAXI roof sign.



Oxford's 1965 orange Chevy Stepside pickup features bumpers, front grille and wheels in simulated chrome.



Completing Oxford's summer 1:87 release is a 1950 Chevrolet panel truck colorfully decorated as Hank's Country Diner. For additional information contact a dealer or visit www.walthers.com.



Rapido Trains has announced a Procor 5820 covered hopper in HO scale. Suitable for the late 1970s to today, approximately 1700 cars were built for Procor and Dow Chemical to carry plastic pellets. Secondary owner

Essex Hybrid has also used them in seed service. The model will feature three styles of roof hatches, two styles of outlet gates, etched roof walks and end walkways, factory installed grab irons, and full end cage details. Two styles of trucks are available in this run, the Barber S-2 and Dofasco. Additionally, spare hatches and different outlet gates will be included with the model to enable the modeler to modify the car to fit their era. Roadnames in the first run include PROCOR – Blue (UNPX stencil), PROCOR – Blue (UNPX solid), Union Carbide (UNPX blue), BF Goodrich (UNPX blue), PROCOR – low logo (UNPX black), PROCOR – mid logo (UNPX black), PROCOR – no logo (UNPX black), Dow Chemical, Essex Hybrid, and an undecorated version. Visit rapidotrains.com for more information.



New resin cast details from **Rusty Rail** include this 1:87 scale 1934 Ford pickup truck with an optional load. The unpainted resin castings include wire wheels.



Also new are castings for a 1926 Mack Bulldog truck. It is available with a bare frame and with an optional log load. The cast resin parts come with assembly instructions. For additional information visit <http://www.rustytrain.com>.



ScaleTrains.com is accepting reservations through August 23, 2021 for a group of ET44 GEVO locomotives decorated as Canadian National Heritage and Military units. Availability is scheduled for March 2022.



Decorating schemes for the HO scale Rivet Counter models will be CN-British Columbia Railway, CN-Illinois Central, CN-Elgin, Joliet & Eastern; and CN-Wisconsin Central.



In addition to the Heritage units, two CN Veterans locomotives will be available in a special camouflage scheme honoring both Canadian and American

Veterans. One side of the locomotive reads *Thank You For*



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

MRHMAG.COM

[INDEX](#)

[TABLE OF CONTENTS](#)

Your Service, in French, while the same phrase is repeated in English on the opposite side.



Additional road names in this production run will be BNSF, CSX, Kansas City Southern,

Norfolk Southern, and Union Pacific. For reservations contact a dealer or visit www.scaletrains.com. Previously announced Operator and Rivet Counter ET44 locomotives are expected to arrive this month.



Photo courtesy of Jim Kinkaid Collection

Smoky Mountain Model Works is booking orders through the end of August for a prototypically accurate HO scale kit for a 12-post PS 5277 cu. ft. boxcar. Pullman-Standard built the prototype cars exclusively

for Southern Railway and the original Norfolk Southern starting in early 1973.



Southern/NS PS 5277 12-post (HO)
"DESIGN NOT COMPLETE"
(C) 2021 Smoky Mtn. Model Works, Inc.

The kit will consist of a one-piece urethane body with a separate urethane underframe. Detail parts will include a 3D SLA printed brake system, separate door

castings, Accurail trucks, Kadee 33" wheelsets, Kadee #158 Whisker couplers, and Mask Island decals. A mini-CD with detailed instructions and photos comes with the kit. For additional information visit smokymountainmodelworks.com.



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R. Bale

THE GENERAL

The Pennsylvania Railroad's General was an important name train that operated on the railroad's vital Chicago-New York corridor. Launched in 1937, the consist of the original General included both coaches and sleepers plus head-end equipment to expedite lucrative mail and express service. The General was only minutes slower the PRR's extra-fare Broadway Limited. The General received some lightweight equipment in 1938 and became all Pullman in 1942. By 1948 all of the heavyweight sleepers had been replaced with modern lightweight equipment. The General lost its all-Pullman status in 1951 when lightweight coaches were added. In 1967 the General also lost its name when it was merged with the PRR's Broadway Limited.



Walthers next complete HO scale name train will be The General, a long-standing member of the Pennsylvania

Railroad's New York-Chicago fleet of passenger trains. Walthers will create a 1960s edition of the classic train that includes a mix of mail, coaches, and sleepers.



Individual cars will be released on a monthly basis beginning with a 50' class R50b express reefer in June 2022, followed in July by a 60' class B60b baggage car.



An ACF-built 85' baggage/dormitory car will be released in August followed



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

MRHMAG.COM

[INDEX](#)

[TABLE OF CONTENTS](#)

a month later by a PRR Rapids-series 10-6 sleeper built to plan 4129.



scheduled for release in October.



It will be followed by a 12-4 Creek-series sleeper in December.



diner is scheduled to arrive in late February.



Appropriate motive power for The General will be provided by Walther's Proto EMD E8A units detailed for PRR class EP-22 prototypes in both single and five-stripe Tuscan schemes. E8A sets and single A units with a choice of LokSound or standard DC operation are planned for release in March 2023.

A Budd-built 21-roomette sleeper with a PRR Trainphone roof antenna is

This PRR Falls-series sleeper with six double bedrooms will be available in November.

The 2023 releases begin in January with an 85' kitchen/dormitory car. A 68-seat

Eighty-five foot class P85 coaches based on Pullman-Standard prototypes are due in March. A buffet-lounge-observation car scheduled for release in April 2023 will complete Walther's series of cars for the PRR General.



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REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)



R. Bale

PRR X29B BOXCARS

In an attempt to compete with trucking companies for the lucrative less-carload-lot (LCL) freight traffic, the Pennsylvania Railroad introduced Merchandise Service in 1954. To handle the expedited service, PRR launched a major rebuilding of a group of its 40' X29 boxcars. The result was a larger capacity car with a bigger body mounted on the original underframe. Classified as X29b, the rebuilt cars were given a distinct paint and lettering scheme that clearly identified the cars and promoted the Merchandise Service program. The X29B cars, often running in blocks, operated on expedited schedules between 11 of PRR's major destination cities.

Trucks eventually won the fight for LCL freight and by 1958 the dedicated Merchandise Service program had been dropped and the distinctly decorated X29B boxcars, like all PRR freight cars, were seen throughout the North American interchange system.



Walther's has announced plans to produce a limited-run freight train based on the PRR's Merchandise Service of the 1950s. The special set will include 12 Walther's Proto X29B boxcars in the Merchandise Service paint scheme, and a PRR class N6B wood cabin car.



Motive power will be available in upgraded versions of FP7 and F7B diesel units based on PRR class EFP-15 units. Two schemes will be available.



Walther's has scheduled a late September release date for a new production run of 40' PS-1

[MRHMAG.COM](#)

[INDEX](#)

[TABLE OF CONTENTS](#)

boxcars. Details on the HO scale models include Pullman-Standard proprietary ends, and a bowtie roof with a flat panel at the ends. Commercial details include a see-through Apex steel running board and 6' seven-panel Superior sliding doors.



Road names will be Ann Arbor, Green Bay & Western, Chicago & Illinois Midland, Lake Superior & Ishpeming, New York Central,

Vermont Railway, and a Southern Pacific car with T&NO reporting marks.



Walthers will offer the 40' PS-1 boxcars decorated for Santa Fe in special 4-packs.

One side of each car will display the *Santa Fe All The Way* slogan with the opposite side promoting one each of the Super Chief, El Capitan, Grand Canyon Line, and The Chief passenger trains. Three separate 4-packs with different combinations of slogans will be available later this month.



will handle 20' to 40' containers in the well with 40' to 53' containers on top. Five variations of the TTX-DTTX car will be available including the old logo, new logo, Forward Thinking logo, and Railbox logos.

Also coming from Walthers in August is a Gunderson rebuilt 40' well-car. The HO scale model



detailed brake gear. All of the Walthers PS-1 boxcars and

The Proto series model features authentic body weld line details, wire grab irons, and

Gunderson well-cars mentioned in this report will come with ProtoMAX metal knuckle couplers and 33" machined metal wheelsets.



Walthers has just released an HO scale 60' NSC 5150 cu. ft. triple-bay covered hopper. The economy priced Mainline series model is

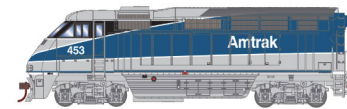
based on a design introduced by NSC in 1996. Features include raised welding seams on the side panels, trough-style roof hatches, metal knuckle couplers, and 100-ton roller-bearing trucks with 36" machined metal wheelsets.



Road names include Union Pacific, ADM, Canadian National, BNSF, Canadian Pacific, Canadian Pacific Soo, Illinois Central, and FURX-First

Union Rail. For additional information contact a dealer or visit www.walthers.com.

N SCALE PRODUCT NEWS



Athearn has included an F59PHI in its September 2022 production schedule. The N scale ready-to-run model will have see-through radiator

and dynamic brake fans, and LED lighting. DC models will be DCC-ready.



Decorating schemes will be Amtrak No. 453 and 461, and Amtrak No. 457 with the *Be Track Smart* slogan. An Amtrak California

scheme is included in this production run.

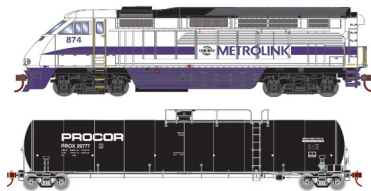
Metra's Heritage program honors various railroads that made Chicago the rail hub of America. Athearn will offer Metra



F59PHI locomotives decorated for CNW Heritage, MILW Heritage, and RI Heritage. The paint schemes are preliminary and are not currently depicted on real Metra locomotives.



Additional decorating schemes on Athearn's F59PHI locomotives will include North Carolina DOT City of Salisbury and City of Asheville, and Southern California Metrolink with decorative corrugated panels on each side.



A 33,000-gallon LPG tank car is included in Athearn's September 2022 production schedule. Separately applied details on the N scale model will include a manway, outlet, ladders, brake rigging

detail, safety rail supports, tank saddles, and a photo-etched walkway platform.



In addition to the two Procor schemes shown here, the N scale ready-to-run model will be available decorated for Union Tank Car, Union Tank Car with flat panel, Greenbrier Leasing, and Andrews Company. The model will come with screw mounted 100-ton roller-bearing trucks with machined metal wheels. For additional information contact a dealer or visit www.athearn.com.



Atlas has opened pre-orders for several N scale models with an estimated arrival of 2nd Quarter 2022. The first of these is a new run of GP40 locomotives in new paint schemes and road numbers. Several of the road names come equipped with ditch lights.



Roadnames in this run with ditch lights are CP Rail, CSX (Bright Future), CSX (MOW), Port Harbor "1st Responders," and Susquehanna. Non-ditch light equipped road names are Main Central, MKT, Penn Central, Rio Grande, Santa Fe, Union Pacific, and undecorated, both with and without dynamic brakes.



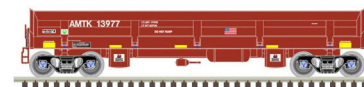
Gold series locomotives are equipped with ESU LokSound DCC and Silver series DC locomotives are equipped with a speaker for easy conversion to sound. All locomotives come equipped with blackened metal wheels and Accumate knuckle couplers.



The next N scale model on Atlas' 2nd Quarter 2022 schedule is the Master series 1932 ARA boxcar. Over 14,500 1932 ARA boxcars were produced for 23 railroads during the 1930s.



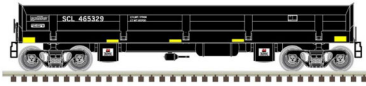
The car features accurate painting and printing, friction bearing trucks, and Accumate couplers. Roadnames in this release are New York Central, Maine Central, Missouri Pacific, Central of Georgia, NC&STL (Dixieland), Ferrocarriles Nacionales de Mexico, Nickel Plate Road, Linde Air Products, and three undecorated body styles – long tab body, Murphy panel roof, and 4/4 Dreadnaught ends; long tab body, 11 panel flat riveted roof, and flat riveted ends; and long tab body, 11 panel flat riveted roof, and 4/4 Dreadnaught ends.



Atlas has also announced a new run of the N scale Difco side dump car. A common maintenance of way car from the 1960s through today, the model represents a 50 cubic



yard car with the capability of dumping its load on either side of the tracks.



Road names in this run are Amtrak, BNSF, CSXT, Missouri Pacific, Norfolk & Western, SCL, and

Southern Pacific. The model features Accumate couplers and 100-ton roller-bearing trucks.

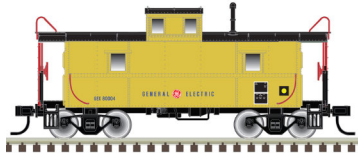


Atlas Trainman is also releasing a new run of its N scale 50'6" ACF boxcar model. Road names in this run are the

Burlington Northern seen above, Canadian National, CSX, Ferrocarriles Nacionales de Mexico, PanAm (below), Railbox, Union Pacific and undecorated.



The model has non-terminating corrugated ends, a diagonal panel roof, and a single 10' Youngstown door. It is equipped with Accumate knuckle couplers.



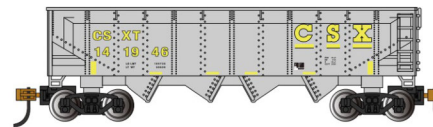
The final N scale item in Atlas' 2nd Quarter 2022 schedule is the Trainman HO C&O cupola caboose. An all-steel caboose, it was built for the C&O by Magor in 1937. Similar cabooses were built for the C&O by Magor, St. Louis Car Company, and ACF through 1949.



Roadnames in this run are Alaska, Chesapeake & Ohio, Chicago & Illinois Midland, Detroit Toledo and Ironton, Richmond, Fredericksburg & Potomac; General Electric, Metro North, Black River Western, and undecorated.



The Trainman model includes Accumate knuckle couplers and window glazing. For information on this or other Atlas products, see a dealer or visit shop.atlasrr.com.



New N scale models scheduled to arrive from **Bachmann** late this year include a 40' quadruple-bay hopper due in

November. Road names will be CSX, Pennsylvania Railroad, Norfolk & Western, and Peabody Coal Co.



Also due in November is an N scale 52' flatcar decorated for Santa Fe, CSX, Pennsylvania Railroad, and Union Pacific. Both the hopper and flatcar will be equipped with appropriate trucks with machined metal wheelsets.



Bachmann's 2022 production schedule of N scale models includes a streamlined PRR K4 4-6-2 Pacific steam locomotive.

For additional information contact a dealer or visit www.bachmann-trains.com.



Eastern Seaboard Models has a kit to enhance an N scale

Wheels of Time 53' flatcar. The ESM kit consists of five laser-cut plywood deck pieces and two laser-cut cardstock assemblies that mount above the bolster position. The kit upgrades one flatcar which must be supplied by the modeler. For additional information visit www.esmc.com.



InterMountain is booking advance reservations for a new production run of 4750 cu. ft. triple-bay covered hopper cars. Delivery is planned for spring 2022.



Ten road names will be produced in this run including The Rock, C&NW, Illinois Central Gulf, Terminal Grain, CN/Chicago Central & Pacific,

DGHX, Missouri Pacific, Morrison-Quirk Grain, Rocky Mountain Brokerage, and Frisco-BN.



Features on the N scale ready-to-run models include etched metal roofwalks and machined metal wheelsets. For

additional information contact a dealer or visit intermountain-railway.com.



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R. Bale

UNION PACIFIC FEF STEAM LOCOMOTIVES

The Union Pacific received its first 4-8-4s in 1937.

Introduced a decade earlier, the popular wheel arrangement was known by numerous names, with Northern being the most common. The UP added to the lexicon by calling their new 4-8-4s, FEF for the four eight four wheel arrangement. By any name, 4-8-4s had enough pulling power for fast freight trains and enough speed for passenger service. Until diesels took over, the FEFs pulled a variety of premier UP passenger trains including, the Overland Limited, Los Angeles Limited, Challenger, and the Portland Rose. UP received a second batch of 15 FEFs in 1939. Dubbed FEF-2, they had several improvements, including larger cylinders, better tractive effort, taller driving wheels, and large smoke deflectors on the sides of the smokebox. The greatest change, however, was the inclusion of a 14-wheel centipede tender.

UP's final group of 10 FEF-3s, delivered in 1944, were nearly identical to the FEF-2. They were the last steam locomotives acquired by the Union Pacific. After WWII, UP converted the 800 series FEFs to oil burning, and a 6,000 gallon tank was installed in the bunker of the tender. They were also painted in a stunning gray livery to compliment the UP's Overland fleet of lightweight passenger equipment. Today, FEF-3 No. 844 survives to pull excursion trains as a publicity locomotive for the Union Pacific. Since availability of water is unreliable in today's diesel-era, No. 844 is always accompanied on excursions by one or two UP water tenders.

Kato USA has announced plans to produce an N scale version of Union Pacific FEF-3 steam locomotive No. 844 in the two-tone gray Overland color scheme. Along with the new paint version of the FEF-3, Kato will be re-releasing the Union Pacific



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

MRHMAG.COM

[INDEX](#)

[TABLE OF CONTENTS](#)



water tender set to accompany it. They are scheduled for release in January 2022.



Standard DC versions of the FEF-3 will also be available in January. Locomotives with TCS DCC, and special order FEF-3s with ESU Loksound Sound DCC are scheduled for

release in February. A video showing Kato's Greyhound FEF-3 in operation can be viewed at www.youtube.com/watch?v=x8nuvTZCAQ. For additional information contact a dealer or visit www.katousa.com.



New N scale models from **Micro-Trains** include this modernized heavyweight business car. It is decorated

in Amtrak's original Phase I paint scheme on one side and the current Phase VI livery on the opposite side.



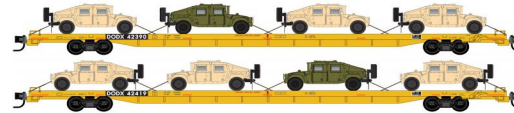
Micro-Trains has released this 33' twin-bay hopper car with offset sides to dealers. The N scale model is decorated for the St. Louis & San Francisco Railroad with a *Frisco Fast Freight* slogan.



This Union Pacific 4750 cu. ft. triple-bay covered hopper is painted aluminum with red and black lettering. The N scale model comes with Barber roller-bearing trucks.



Two different road numbers are available for this Southern Pacific 50' steel gondola.



Micro-Trains is selling an N Scale 89' DODX flatcar with four Humvee military vehicles. The

model comes in a 2-pack with different road numbers. Contact a dealer for additional information on Micro-Trains models.

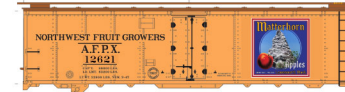


Rail Smith Models is booking reservations for an N scale

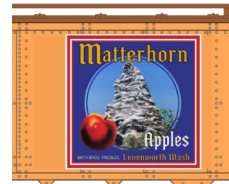
Northern Pacific duplex sleeper. The model is based on Pullman-Standard Plan 4119 with eight duplex roomettes, six regular roomettes, three bedrooms, and one compartment. NP ordered the lightweight cars for their new streamlined version of the *North Coast Limited*.



Matterhorn Apples is the latest addition to Rail Smith's series of American Fruit Packers reefers. The N scale model of a 50' Northwest



Fruit Growers steel refrigerator car, produced exclusively for Rail Smith by Micro-Trains, is scheduled for release this fall.



The reefer is decorated with a multi-color herald promoting Matterhorn Apples of Leavenworth, Washington. For additional information contact lowellsmith.net.

Showcase Miniatures continues to expand its selection of 1:160 scale kits for well-detailed fire and rescue vehicles. The newest kit is based on a Pierce F-M2 crew cab pumper truck.





The model features a resin cast body, several cast pewter and stainless-steel photo-etched detail parts. The pumper can be assembled with the tool doors closed or left off to reveal detailed fire-fighting apparatus. For additional information visit www.showcaseminiatures.net.

NEW STRUCTURES



Conowingo Models has released several new structure kits, beginning with the HO scale Whitby's Mill. A near replica of a mill built by John Allen and located at Phillips Lake on the Gorre & Daphetid Railroad, the mill utilizes modern construction techniques, including corrugated roofing and, Rail Scale cedar shake roofing, a working lamp, and an optionally motorized waterwheel.



The Whispering Chapel is an Americanized HO scale replica of the Maroltova Kapelica in Smartno, Pohorje Hills, Slovenia. Its footprint is approximately 2" x 2". It comes with optional stained-glass windows. The cross is also optional.

St. Mary's Gate Lighthouse is based on the East Channel Lighthouse on Lake Superior in Munising, MI. The HO kit is expected to be available mid-September.



The last of Conowingo's new releases is the O scale Molly's Trolley Station. Approximately 4" x 4" in size, the kit was inspired by the trolley shelter at the Seashore Trolley Museum



in Kennebunkport, ME and could easily be repurposed as any sort of small structure. For more information visit conowingomodels.com.



The Electric Wallpaper Co. has released two new Roomettes kits that provide detailed interiors to commercial HO scale structures.



The new Roomettes kits include Greystone Bus Terminal that is designed to fit Walthers Silver Springs Bus Terminal (item 933-2934). The interior kit has five laser-cut rooms, including a snack bar, ticket office, counter-tops, posters and exterior signs.



The second new kit is Hughes' House that fits a variety of generic HO scale residential buildings. This kit features designs styled after bedrooms from two popular movies: Ferris Bueller's Day Off and Pretty in Pink.

All Roomettes kits include LEDs with plugs compatible with lighting systems from Woodland Scenics Just-Plug, Model Train Technology, and NCE. For more information visit www.roometteslighting.com.

Fos Scale Models has reported that The Flat Iron District, a limited run kit, has sold out. It is an extensive HO scale craftsman kit that builds into an eight-structure diorama with a footprint of approximately 18" x 36". The multiple structure kit features laser-cut walls, laser-engraved brick walls, laser-cut parts and details, and numerous new metal cast details, color signage, building templates, and detailed instructions for assembly. The kit also includes Tichy injection molded windows and doors.



The eight buildings are Willet Coat & Uniform, Willet Annex Building, Pendleton Plumbing, Sackett Welding, Kintner Marine Products, Connie's Market, Kargol Chainsaw & Tools, and a Traffic Shanty.

The bird's eye photo gives an indication of the wedge shape of the Flat Iron District buildings. For full details visit fosscalemodels.com.



scale lumber, corrugated metal, and signage. The buildings

Frenchman River Models Works has released a new O scale structure kit, The Barn Find. Designed by Thomas Yorke, the kit is composed of resin parts and is partially stick built. Details included are the car, assorted junk, a 1940's tractor kit, assorted

dimensions are 6.50" x 7" with a lean-to shed, and 4" high. For more information visit frenchmanriver.com.



The Great Northern Railway Historical Society store is now selling the Touhey, Washington elevator kit. The 20,000-bushel crib-style elevator was originally built in 1913, with the construction style dating back to the 1880s. The HO scale kit includes the elevator structure, a covered scale and unloading pit with ramp, and a machinery shed. The finished kit has a footprint of 12" x 7" x 8.75" tall. For

more information visit gnrhs.myshopify.com.



Monster Models has released both HO and S scale craftsman kits for the historic Whitley & Whitley Building in Placerville, Colorado. The structure was built in 1920 to serve mining operations in the San Juan Mountains including the narrow gauge Rio Grande Southern Railroad.

The location became known as Placerville after the RGS constructed a depot and several passing sidings west of the original settlement. Historical information and accurate drawings for the building were provided by Steve Harris, Michael Blazek, and Jake Johnson.



Components in the kit include 3D laser-engraved block stone and block stone coping and corners, laser-cut doors and windows with glazing, metal roofing

material, and signage. When assembled, the S scale structure has an approximate footprint of 5.6" x 7.5". The HO version measures 4.5" x 6.75".



Monster Models has released An HO scale craftsman kit for this Brick Pumping Station. The model is based on the Rutland Railroad Pumping Station, a historic facility built in 1903 in the town of Alburgh,

Vermont. The kit includes 3D laser-engraved American Bond brick walls, brick corner pieces, and shake shingle siding; laser-cut peel & stick asphalt roofing and windows with glazing, laser-cut front door, rooftop exhaust pipes, large 3D printed water pipes, metal roofing, and printed signage. When assembled the structure has a footprint of 4.25" x 5.75". For more information visit www.larkspurlaserart.com.



Motrak Models has announced pre-orders for Earl Smallshaw's Tenement Row kit, previously a Northeastern Scale Models product, in HO and N scales. The kit will include laser-cut walls, railings, porch floors, window shades, and

roofing material, Northeastern Scale Lumber stairs, and other detail parts and templates. The HO scale model will have laser-cut windows and doors, with plastic windows available, and the N scale kit will have plastic windows and doors. The size of the HO diorama is 13" x 15" and the N scale version is 6" x 7.5". S and O scale background kits are planned. For more information visit motrakmodelsusa.com.

Walthers Cornerstone has announced two new HO scale kits for modern steel engine houses. A single track engine house is 4.25" wide. The double track version is 7" wide. Both are 11"



long. Parts are included to build them as run-through or single-ended structures.



They can also be customized for left or right entry with two styles of front and rear walls included in the kit. Details include non-working security lights and separate gas and electric meters.



Walthers plans to release an HO scale kit for this vehicle maintenance garage late this month. The structure is well suited for servicing buses, modern mass transit systems, highway department, railroad maintenance, or as a trucking company garage. Details include a vending machine, covered wastebasket, air compressor, two styles of modern gas pumps, parts for two dry hydrants, electric and gas meters, and nonworking lights. When assembled the structure has a footprint of approximately 6.125" x 3.375".



Walthers also has an HO scale Chicken Coop and Sheds kit expected this month. Containing parts to build a chicken coop, a machine shed, a lean-to and a

fuel tank, the kit combines with other kits to create a full farm scene. The machine shed features positionable doors. The chicken coop has a footprint of 2.125" x 1.25" x 1.375", the machine shed is 2.875" x 3.875" x 2.875" with the lean-to adding 3.5" x 1.875" x 1.5". The fuel tank is .68" x .6" x 1.5".



Finally in HO scale is the Cornerstone Machinery Storage Shed. Representing a modern steel structure, it has an open front and interior frame details. It measures 9.75" x 4.5" x 2.75".



The newest N scale Cornerstone kit from Walther's is a set of Trackside Structures that includes an interlocking tower, a speeder shed, and a crossing shanty. Details include

positionable crossing gates, and a speeder/motor car. All items are molded in gray plastic and require assembly and painting. For additional information contact a dealer or visit

www.walthers.com.



Woodland Scenics is preparing to release Carver's Butcher Shoppe. The Built & Ready structure will soon be available in N, HO and O scales. For additional information visit

woodlandscenics.com/show/item/BR5872.

NEW DECALS, SIGNS, AND FINISHING PRODUCTS



Great Decals has reissued HO scale decals for The Virginian Railway's EL-C (E-33) rectifier electric locomotives, in yellow and white. The set includes the

white end heralds and yellow striping, and the yellow side road names. The decals are suitable for decorating HO models produced by Alco, Bachmann, and Overland. For additional information visit www.greatdecals.com.

! BRIEFLY NOTED AT PRESS TIME ...

AtlasO has released a video that features its O scale 44-ton center-cab diesel switcher scheduled for release during the 4th quarter of this year. To view the video go to youtu.be/PaleDAcrbs4.

A new venture named **Home Shops** plans to offer limited editions of quality HO rolling stock decorated for well-known model railroads. The initial offering is a Tangent PS-4750 covered hopper decorated for Arkansas Valley, Copper State Railway, Kansas Pacific, Gulf & Ship Island, Michigan Interstate, Texas & Great Northern, and West Falls Northern. Details at homeshops.net ...

Mask Island has issued new HO scale decals for PC, NYC, and P&LE mill gondolas, and two Southern cars: an as-delivered 50' PS-1, and a deluxe gold REA car. Details at maskislanddecals.com.

Early next month **Morning Sun** plans to release volume 3 of *Canadian National Power: Covered Wagons*. This edition covers both passenger and freight engines produced by GMD and EMD, as well as Canadian Locomotive Company and Montreal Locomotive Works ...

Tangent has completed the third release of its prototypically-accurate Greenville 86' auto parts car with double plug-doors. New road names available now are B&O, CB&Q, EL, MP, Penn Central, and Wabash. Reruns with new numbers are available for Conrail, DT&I, and Southern ...

A new production run of 72' Centerbeam flatcars will be released by **Walther's** in late September. Both opera window and open braced styles of the HO scale Mainline series model will be offered ...

New HO scale projects underway at **Rapido** include a USRA SS boxcar with a Hutchins roof, a Canadian Pacific clone of the same car with 7/8 Murphy ends, and another release of its 52'6" mill gondola... ■

SELECTED EVENTS



Model Railroad Hobbyist | August 2021

AUGUST

Due to COVID-19 restrictions, please check with any organization hosting an in-person event for the latest status of the event.

Ongoing 2021

ONLINE, Zoom, dates vary, see website. Operation Special Interest Group Meetups – limited attendance available. For more information visit www.opsig.org/Virtual. Past meets are available online at www.opsig.org/Virtual/Past.

ONLINE, Zoom & YouTube, Wednesday & Saturday, see Facebook page. “New Tracks” Meetup, hosted by Jim Kellow, MMR. See newtracksmodeling.com for more information.

ONLINE, Facebook & YouTube, dates vary, see Facebook page. “NMRax” organized by Gordy Robinson, Martyn Jenkins, Gert Muller, Jordan Kramer. See www.facebook.com/groups/nmraxgroup for announcements.

ONLINE, YouTube, every other Saturday. 4th Division, Pacific Northwest Region, NMRA hosts online layout tours and clinics. Archive available at www.youtube.com/c/4DPNRMovies.

ONLINE, Zoom, Second Tuesdays, 8pm EST. “Off the Beaten Track” featuring Narrow Gauge layouts, clinics and manufacturers. For more information visit groups.io/g/NNG.

SELECTED EVENTS | 48

August-September 2021

ARKANSAS, JACKSONVILLE, August 21-22, 11th Annual Jacksonville Train Show. Jacksonville Community Center, 5 Municipal Drive. For more information www.facebook.com/JacksonvilleTrainShow.

CALIFORNIA, IRVINE, September 8-11, Pacific Southwest Region/NMRA Convention, “Orange Blossom Special.” Hilton Irvine/Orange County Airport Hotel, 18800 MacArthur Blvd. Visit www.psrconvention.org/OrangeBlossomSpecial2021 for more information.

FLORIDA, MELBOURNE, September 4, December 4, Original Melbourne Train and Toy Show, sponsored by Schultz Space Coast Trains, Azan Shrine Center, 1591 W Eau Gallie Blvd. For more information visit schultzspacecoasttrains.com.

GEORGIA, ATLANTA, September 9-12, Anton’s Antique Toy & Train Show, hosted by Scott Antique Markets. South Building, Atlanta Exposition Centers, 3650 & 3850 Jonesboro Rd. SE. For more information visit www.scottantiquemarket.com.

ILLINOIS, WHEATON, September 12, October 10, November 14, December 12, Great Midwest Train Show, Dupage County Fairgrounds. For more information visit trainshow.com.

CANCELLED - MARYLAND, LINTHICUM HEIGHTS (BALTIMORE), September 10-11, 2021, Mid-Atlantic Railroad Prototype Modelers Meet, Doubletree by Hilton – BWI, 890 Elkridge Landing Rd. For more information visit www.marpm.org.

MISSOURI, SPRINGFIELD, August 21, 2021, Ozarks Model Railroad Association Train Show, Oasis Conference Center, 2546 N Glenstone Ave. For more information visit www.omraspringfield.org/train-shows.html.

MONTANA, MISSOULA, September 21-25. Annual Convention of the Northern Pacific Historical Association. Big Sky High School, 3100 South Ave. West. For more information go to www.nprha.org/Pages/NPRHA.aspx.

NEW JERSEY, EDISON, August 14-15, 2021, Greenberg's Train & Toy Show, New Jersey Expo Center. For more information visit trainshow.com.

NORTH CAROLINA, DENVER, September 23-25, Sipping and Switching Society of NC modular display. Salem United Methodist Church, 378 N Pilot Knob Rd. For more information visit www.facebook.com/Sipping-Switching-Society-of-NC-352084328982.

NORTH CAROLINA, HICKORY, September 1-4, 2021, 41st National Narrow-Gauge Convention, Hickory Metro Convention Center and Crowne Plaza Hotel. For more information visit 41nngc.com.

OHIO, DAYTON, August 14-15, 2021, Great Train Show, Montgomery County Fairgrounds. For more information visit trainshow.com.

PENNSYLVANIA, KUTZTOWN, August 28. Renningers Model Train Meet, 740 Noble Street. For more information see renningers.net/events/model-train-meet.

PENNSYLVANIA, OAKS (Philadelphia area), August 21-22, 2021, Greenberg's Train & Toy Show, Greater Philadelphia Expo Center. For more information visit trainshow.com.

SOUTH CAROLINA, GREENVILLE, September 9-12, 2021. 2021 NMRA Southeast Region Convention, the Swamp Rabbit Express. Greenville Hilton, 45 West Orchard Park Drive. For more information visit swamprabbitexpress.org.

TEXAS, STAFFORD (GREATER HOUSTON), August 14, 2021, Greater Houston Train Show, Stafford Centre, 10505 Cash Rd. For more information visit sanjacmodeltrains.org.

Future 2021-2022 by location

AUSTRALIA, SYDNEY, October 16-17, 2021. Great Train Show, sponsored by the Epping Model Railway Club, Grand Pavilion, Rosehill Gardens Racecourse, James Ruse Drive, Rosehill. For more information visit www.eppingmodelrailway.org.au/exhibition.

FLORIDA, PLANT CITY, October 14-16, 2021. Sunshine Express II, Sunshine Region Regional Convention. 2102 Park Rd. For more information visit www.sunshineregion.org/region-convention.

GEORGIA, CARTERSVILLE, October 2-3, 2021. Piedmont Division Model Train Show, Clarence Brown Conference Center, 5450 GA-20. For more information visit themodeltrainshow.com.

ILLINOIS, BELLEVILLE, October 2-3, 2021. Great Train Expo. Belle-Clair Fairgrounds and Expo Center, 200 S Belt E #2650. For more information visit bcfairgrounds.net/belleville-great-train-expo.

ILLINOIS, WHEATON, September 12, October 10, November 14, December 12, 2021. Great Midwest Train Show, Dupage County Fairgrounds. For more information visit trainshow.com.

INDIANA, NAPPANEE (Elkhart), October 16, 2021. Elkhart Model Railroad Club Annual Train Show. Claywood Event Center, 13924 N W (County Line Road). For more information visit www.emrrc.com/index.php/2021-train-show.

MARYLAND, HUNT VALLEY, October 21-24, 2021, Mid-Eastern Region Convention – Mount Clare Junction Model Railroad – NMRA membership not required, Delta Hunt Valley, 245 Shawan Road, mtclarejct.com.

MASSACHUSETTS, GARDNER, October 2, 2021. O Scale Model Train Show sponsored by The Southern New England Model Railroad Club. Chestnut Street United Methodist Church, 161 Chestnut Street. For more information visit www.snemrr.org.

MASSACHUSETTS, WESTFORD, October 8-11, 2021, Mill City 21, the NER Convention. Westford Regency Inn, 219 Littleton Rd. For more information visit millcity21.org.

MICHIGAN, WYOMING (GRAND RAPIDS), October 9, 2021. The Greater Grand Rapids Train Show, presented by the Grand River Valley RR Club. HSB Inc., 5625 Burlingame Ave. SW. For more information visit grvrrc.org.

MISSOURI, KIRKWOOD, October 9-10, 2021. 30th Annual Greater St. Louis Metro Area Train Show, sponsored by the Mississippi Valley N Scalers. Kirkwood Community Center, 111 S. Geyer Rd. For more information visit mvns.railfan.net.

MISSOURI, St. LOUIS, August 7-14, 2022, NMRA National Convention and National Train Show.

NEW ZEALAND, CHRISTCHURCH, October 2-3, 2021, The BIG Model Train Show, Pioneer Stadium, Lyttelton Street. For more information visit trainshow.co.nz.

NEW ZEALAND, LOWER HUTT (Wellington), November 14-15, 2021, RailEx Model Train Show, Walter Nash Centre, 20-22 Taine St., Taita. For more information visit www.railex.org.nz.

NEW YORK, BATAVIA, October 17, 2021. The Great Batavia Train Show, Richard C. Call Arena at Genesee Community College, 1 College Rd. For more information visit gsme.org.

OHIO, CAMBRIDGE, October 17, 2021. Third Annual Buckeye Division Train Show, Pritchard Laughlin Center, 7033 Glenn Hwy. For more information visit div6-mcr-nmra.org/trainshow.html.

OHIO, TOLEDO, October 21-24, 2021. Black Swamp Junction – NCR 2021 Convention, hosted by the NMRA, open to all, featuring clinics, tours, layouts, op sessions, and door prizes. Radisson Hotel at the University of Toledo, 31100 Glendale, Ave. For more information visit www.divisiononencr.com/2021.

OKLAHOMA, TULSA, October 6-10, 2021. 2021 Tulsa Union Convention, Indian Nations Division, Mid-Continent, and Lone Star Regions joint convention. Embassy Suites by Hilton Tulsa I-44, 3332 S. 79th East Avenue. For more information visit www.2021tulsaunion.com.

OREGON, EUGENE, May 10-14, 2022. PNR 2022 Regional Convention, Valley River Inn.

PENNSYLVANIA, ALLENTOWN, October 8-10, 2021. 25th National Trolley Meet, Agriplex at Allentown Fairgrounds, 17th and Chew Streets. For more information visit www.eastpenn.org.

PENNSYLVANIA, KUTZTOWN, July 17, August 28, 2021. Renningers Model Train Meet, 740 Noble Street. For more information see renningers.net/events/model-train-meet.

UNITED KINGDOM, DERBY, October 22-24, 2021. 75th+1 Grand Junction Convention, British Region regional convention. Derby Conference Centre. For more information visit www.black-diamonds.org.uk/convention.

WASHINGTON, CHEHALIS, October 9-10, 2021. Lewis County Model Railroad Swap Meet. Blue Pavilion, Southwest Washington Fairgrounds, 2555 N. National Ave. For more information contact TedsTrains@LewisCounty.com.

MICHIGAN, WYOMING (Grand Rapids), October 9, 2021. The Greater Grand Rapids Fall Train Show, presented by the Grand River Valley RR Club. HSB Inc., 5626 Burlingame Ave SW. For more information visit gyrrc.org. ■



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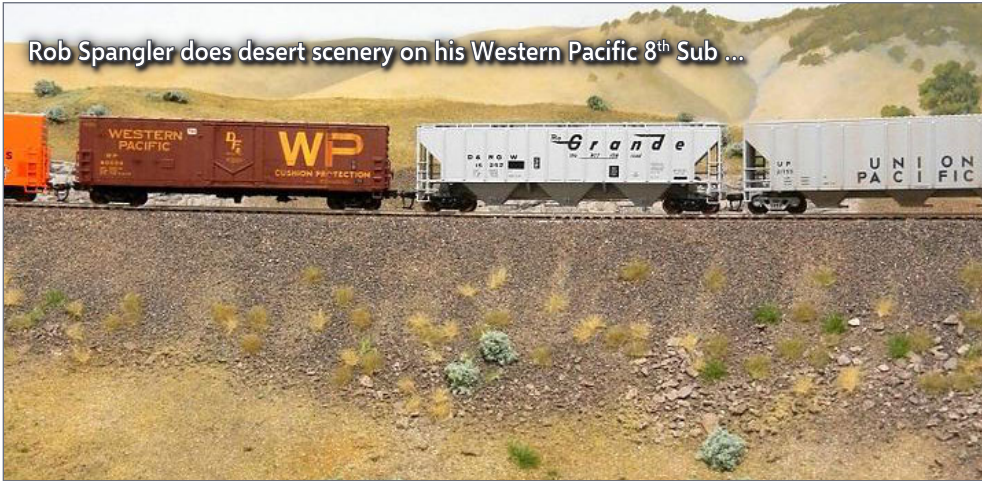
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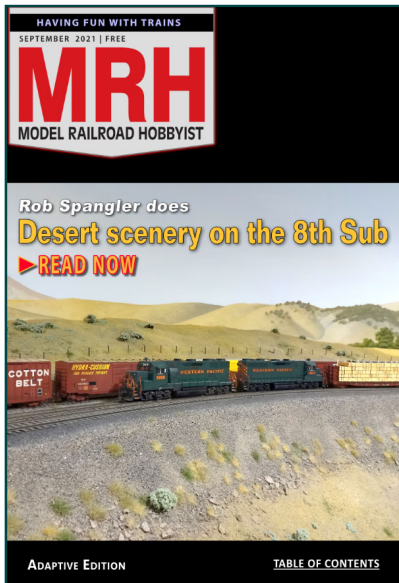
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