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Jim Six reviews this BLI ...

SP&S 4-8-4 Northern

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October
MRH
inside!

ALSO in this month's edition:

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- DCC upgrade for an Atlas GP38
- Build a structure with 3D printing
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Compiled by the MRH STAFF



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PUBLISHER'S WELCOME

introduction



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JOE FUGATE ON BETTER CONTROLLING
LAYOUT DUST ...

★★★★★
RATE THIS ARTICLE

NO MATTER WHAT SIZED LAYOUT YOU HAVE, we all have the same constant nemesis: dust. I certainly fought with dust build up constantly on Siskiyou Line 1.

Like most of you, I've borrowed the house vacuum cleaner for cleaning dust off the layout and it's not entirely satisfying. Have you found yourself sifting through the vacuum cleaner's dust bag, hoping to find that figure or tree that suddenly got whisked off the layout into the belly of the beast?

Using the house vacuum cleaner feels a bit like trying to drive a thumbtack with sledgehammer. It's meant for heavy duty cleaning and it's often overkill for vacuuming our layout scenes loaded with tiny detail that can inadvertently disappear in a flash due to the powerful suction.

When it comes to vacuuming the layout, I want something more appropriately sized for the job, giving me the ability to focus the task down to a couple square inches when needed, and has a more gentle suction.

After doing some looking around, I found the answer: a hand-held mini-vacuum intended primarily for office dusting around a computer. It's tiny size makes getting into tight quarters easy.

Along with this vacuum, I also picked up a soft fluffy anti-static brush meant for cleaning vinyl records. This brush works great in concert with the vacuum to loosen the dust for easy sucking

PUBLISHER'S WELCOME | 2

it up with the vacuum. I especially like using the brush to remove dust off rolling stock or structures without hurting the details. ☑

To get a shopping list for this article, visit the *MRH* website at this link: mrhmag.com/magazine/running-extra/2021-10/publishers-welcome#shopping



1. This ColorCoral detailing vacuum is just the ticket for more delicate focused dust and debris removal from the layout. The more gentle suction means I'm less likely to suck carefully placed details or shrubbery off the layout accidentally.

2. Another handy tool for layout dusting is this super soft anti-static brush meant for cleaning vinyl records. Using this brush in concert with the mini-vac makes removing dust from rolling stock and structures super easy.



THE LIMITED MODELER

column

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

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JIM SIX EXPLORES BROADWAY
LIMITED'S NP/SP&S BRASS-
HYBRID 4-8-4 NORTHERN WITH
PARAGON3 SOUND/DCC/DC ...



1. Engineer's side view of Spokane, Portland & Seattle Railway 702. I added some weathering, though not too much since it represents a well-maintained passenger locomotive. Otherwise, it is out-of-the-box.



DOING MORE WITH LESS

THE LIMITED MODELER | 2

IN THIS MONTH'S COLUMN, we look at the Broadway Limited Imports (BLI) Northern Pacific/Spokane, Portland & Seattle 4-8-4 Northern. The model is beautiful with perfect paint and fantastic detail [1]! The locomotive runs as well as it looks, and with a cast metal chassis and brass construction, it pulls like a beast.

I know, it is about time that "Six" addresses a railroad other than the New York Central or the Pennsylvania. Those are the railroads I model, but I agree that it's past time for models representing some different railroads. So then, we will look at some Northern Pacific and Spokane Portland & Seattle 4-8-4s.



J. Six

IMPROVEMENTS TO MODEL STEAM

Modeling steam locomotives was a struggle when I began model railroading in the 1960s. You could buy kits, which were expensive and required skills for assembly, or you could buy imported brass, which didn't require assembly, but was even more expensive.

Early model steam locomotives were "iffy" performers at best, and most did not run well. In short, modeling with steam locomotives back in the 1960s was for the well-heeled among us or for skilled craftsmen.

Because of these factors, I refused to consider modeling in the steam era until the 1990s. Model diesels were less expensive and ran better.

This has all changed for the good. A model steam locomotive still costs somewhat more than a diesel, though the gap has narrowed. If you consider that modeling a prototypical mainline train requires two or three diesels but only one steamer, model steam power even compares favorably to diesel.

Mechanics have improved, too. Athearn, Bachmann, Broadway Limited Imports, Märklin/Trix, and others now offer HO scale steam locomotives that look, sound, and run as well as their diesel counterparts right out of the box. No more replacing mechanisms.

So folks, check your excuses at the door for not modeling in the steam era!



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NORTHERN PACIFIC'S 4-8-4 LOCOMOTIVES

In the mid-1920s the Northern Pacific wanted larger locomotives for passenger service. Working with the Alco's design engineers, the NP designed a new locomotive with a massive firebox supported by a four-wheel trailing truck. This 4-8-4 wheel configuration became known as the "Northern Pacific" type, quickly simplified to "Northern."

Northerns worked very well for fast passenger trains and fast, heavy freight trains. Their larger drive wheels and higher-speed design made them less than ideal for drag service, which demanded small drive wheels that produced high tractive effort at slower speeds.

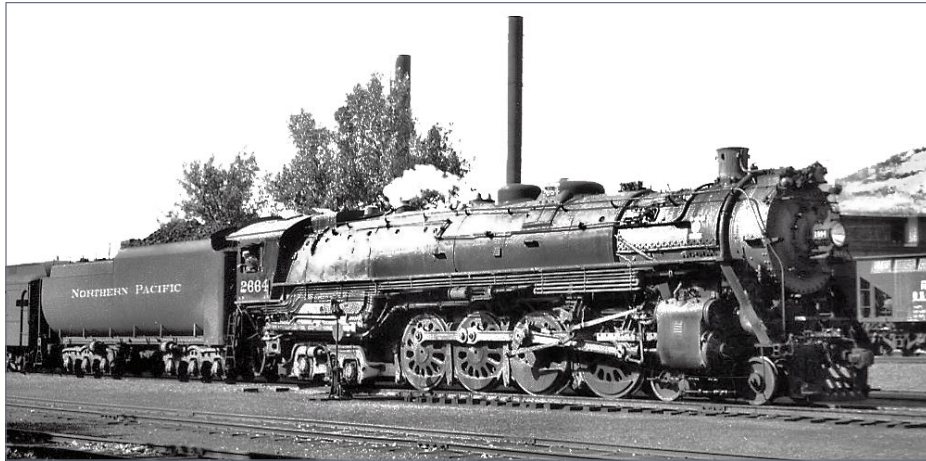


The Northern Pacific designated 4-8-4s as Class A. Alco delivered 12 to the Northern Pacific in 1926 and one more in 1930, designated A and A-1. Starting in 1934, Northern Pacific ordered its 4-8-4s from Baldwin, which produced another 36 for the railroad by 1943, forming classes A-2 through A-5.

The last 10 4-8-4s purchased by the NP were built by Baldwin in 1943. At 508,500 pounds, they were among the heaviest of all Northern type locomotives ever built. Only the Santa Fe Class 2900s weighed more. Sadly, today there are no surviving Northern Pacific 4-8-4s.

2. NP and the SP&S Northerns were nearly identical. The one major difference was that NP locomotives burned coal, and SP&S Northerns burned oil. You can see the coal heaped up on the tender of NP 2664, an A-3 class Northern.





3. Here is the engineer's side of NP 2664, another A-3 class. She is ready to depart town with an eastbound passenger train in this late 1940s photo.



4. Here is what appears to be a builder's photo of Northern Pacific 2651, an A-2 class. Describing it as long and lanky is an understatement. This is a large locomotive. *Ray Breyer collection*

SPOKANE PORTLAND AND SEATTLE E-1 CLASS 4-8-4

Baldwin Locomotive Works delivered three 4-8-4 locomotives to the Spokane, Portland and Seattle Railway in 1938, and the railroad classified them as E-1. The SP&S E-1 class locomotives were virtually identical to the Baldwin-built Northern of the NP, the major difference being fuel. NP's 4-8-4s burned coal, and the SP&S 4-8-4s burned oil.

SP&S donated one E-1 class locomotive – the 700 – to the city of Portland upon retirement, and scrapped the other two. In recent times, the Pacific Railroad Preservation Association has taken possession of the locomotive and restored it to operable condition. It runs on special trips once or twice each year. The locomotive has resided at the Oregon Rail Heritage Center since 2012 [5-7].





5. SP&S 702 built by Baldwin in 1938 rolls westward with 14 express and passenger cars at Wishram, WA on July 28, 1940. *Otto Perry photo, Denver Public Library*



6. This is a nice profile view of SP&S 700. Clean, long, and powerful describe the appearance of this locomotive. Baldwin delivered the 700 to the SP&S on June 21, 1938. The three SP&S E1 class locomotives were oil-burners. *Ray Breyer collection*



THE BROADWAY LIMITED MODEL

Broadway Limited Imports has become a godsend for collectors and operators who are interested in steam-era modeling. The company regularly expands its line of standard Paragon steam locomotives. They also continue to add to their line of brass-hybrid locomotives like the 4-8-4 Northern's featured here.

The model steam locomotives from Broadway Limited Imports represent a serious assortment of railroads to choose from. Sure, we need more locomotive size variety, especially smaller and medium, but we have a good start [8-13].

**Did you know
there's an
MRH/RE index
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7. (Left) SP&S 701 is a beautiful sight indeed. Large, clean, and powerful looking. SP&S class E1 consisted of only three locomotives, 700-702. All were very similar to the NP's A3 class of Northern's. Today, only the 700 survives. *Ray Breyer collection*

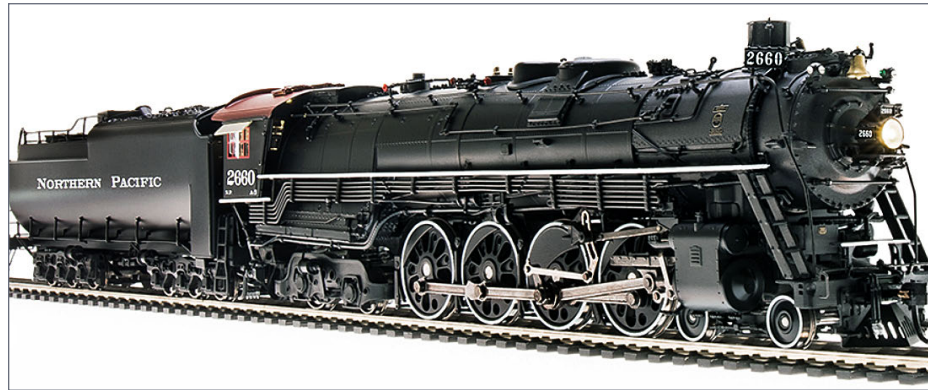


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BLI's model features its Paragon3 Sound & Operation System for DC and DCC operation, which links to BLI's proprietary Rolling Thunder sub-woofer system for extra bass sound. The locomotive sounds great! The locomotive includes a smoke unit with synchronized chuff and variable intensity and timing.



8. The Broadway Limited Imports Northern Pacific A3-class 4-8-4 is an excellent model. This is a large HO-scale locomotive. It isn't as large as a UP Big Boy, but it's big. Detail, paint, and running quality are excellent. *Broadway Limited Imports photo*



9. The Broadway Limited brass hybrid model of the Northern Pacific 2660, an A-3 class 4-8-4. Note the locomotive has a coal-bunker tender and "flying wing" number boards atop the smoke box. *Broadway Limited Imports photo*

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The locomotive features a brass body with die cast chassis and traction tires, so it is a solid puller. It can operate on a minimum radius of 22 inches, and code 70 rail. The locomotive features excellent, smooth running at any speed, and I found its slow-speed running is particularly impressive.



10. BLI's model of SP&S 700 in the same pose as the Northern Pacific locomotive in [8]. This SP&S model has no flying number boards, and the tender has an oil bunker. *Broadway Limited Imports photo*



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The locomotive is highly detailed, as one would expect for hybrid brass, and the paint is flawless. It even features a factory-installed crew. Good running, good detail, and good sound are all mandatory for me, and this model has it all.

WEATHERING YOUR MODEL

I have long held that ready-to-run models are still not ready for operation without weathering. Collectors may not need weathering, but for operations, weathering makes a hard-working locomotive look the part.

I know, taking an \$800 model and applying weathering can put a huge lump in your throat. I would recommend starting with smaller, less-expensive models to build confidence. I have weathered hundreds of locomotives over the years, so I did not hesitate to apply weathering to this model.



11. This photo of BLI's model of NP 2660 shows its large coal tender. *Broadway Limited Imports photo*

I used Polly Scale Railroad Tie Brown as a base for weathering. Poly Scale is an acrylic that has been discontinued, but I stocked up on key colors while they were still available. I applied the weathering paint using my trusty Paasche Model-H airbrush, taking care to use a light touch.



J. Regier

POLY SCALE TIE BROWN ALTERNATIVE

Poly Scale Railroad Tie Brown was a flat, earthy color, and there are alternatives available. See the *MRH Acrylic Painting Guide*, the eBook download is free

here at this link (register to access, but registration is free):

mrhmag.com/subscribers-only/painting/acrylics

As always, be sure to test any paint you choose before applying to your model.



12. Broadway SP&S 700 shows the tender fitted with an oil tender matching the oil-burning Spokane Portland & Seattle E1-class locomotives. *Broadway Limited Imports photo*





13. I have always liked the “going away” view of steam locomotives. This locomotive will look best hauling passengers and fast freight on club layouts or larger home layouts, though is too large to look right on small layouts. Its minimum curve radius is 22 inches, though I would recommend larger. *Broadway Limited Imports photo*

In my opinion, model railroaders frequently over-weather their railroad equipment. Too many models appear as though they are near end of “life” and/or have never been washed or repainted since being delivered. This is not actually a good representation of the prototype – at least not before modern times.

In the case of passenger locomotives, particularly steam locomotives, the model needs to be cleaner and appear better maintained than a freight locomotive. In December 2018, I did



14. I weathered this NYC K3q Pacific, but I left it too clean. I will add more weathering in the future.

an article for *MRH* about the Broadway Limited USRA 4-6-2 Pacific as a NYC K3q in passenger engine. In retrospect, I think I weathered it too clean [14].

The SP&S E1 featured here was primarily a passenger locomotive before WWII. Railroads took pride in keeping their passenger equipment clean for the traveling public. I wanted my model to appear used but well taken care of.

I concentrated my weathering on the trucks and undercarriage, which would constantly collect road grime. I also lightly weathered the top of the boiler, the cab roof, and the top of the tender. The result was a locomotive that was weathered, but well-maintained. ☑





15. Here is the completed model, viewed from the fireman's side. This is the last photo taken on the layout before it was finally torn down to remodel the basement and start working on a new layout.



16. This “going away” view highlights the weathering I applied. It is light road grime on the trucks and undercarriage, and atop the tender, cab roof, and top of boiler. I also applied road grime to the locomotive running gear.

★★★★★
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GETTING REAL

column

MRH Running Extra | October 2021

All photos by the author

JACK BURGESS SHARES HIS TECHNIQUES FOR SCRATCHBUILDING THREE UNIQUE CABOOSSES FOR HIS YOSEMITE VALLEY RAILROAD...



BACK IN THE EARLY 1970S I DECIDED TO MODEL THE Yosemite Valley Railroad circa August 1939. I obtained information about the equipment YV operated during that month/year. I set a goal to build or acquire models of all of it, with the only exceptions being to accommodate reasonable operating limits – I needed only 10 of 51 rock hopper cars, and 14 of 175 log cars.

By now, I have built or acquired all the equipment, except for a combine and three passenger coaches. While thinking about how to scratchbuild those four cars, I decided to also build three of the first five cabooses the YVRR acquired between 1906 and 1914.

The original three cabooses, 15, 16, and 17, were identical. The railroad replaced 15 and 16 sometime between 1912 and 1919 with cabooses also numbered 15 and 16. YV had the practice of reassigning numbers of retired equipment to replacements.

I chose to build the first No. 15 and the second No. 15 and No.16. Information and photos for these cars are limited, but I learned that YV made four of its cabooses from second-hand boxcars and it built the second No. 16 in-house.

GETTING REAL | 2

I knew the first four cabooses had an inside length of 30 feet and an inside width of 8 feet, 4 inches. I used a drawing of a boxcar of the same era to determine the thickness of the ends and sides to determine exterior measurements.

RESEARCH

I start these projects by drawing CAD plans based on prototype photos. This allows easy changes when my assumptions don't work out. I use the drawings to cut the sides, ends, and roofs of the cars.

The only photo I found of the first three cabooses is undated, and shows the car in a work train [1]. While it might have been a crew sleeping car, a couple of details suggest it is a caboose. First, there is an iron step below the door to help crew members get in and out, and there appears to be a vertical handrail to the left of its door.



1. An undated photo of one of the first three identical YVRR cabooses—first car behind the tender. The track has no ballast yet, so it was most likely taken around 1906 or early-1907, since the railroad was opened in May 1907.



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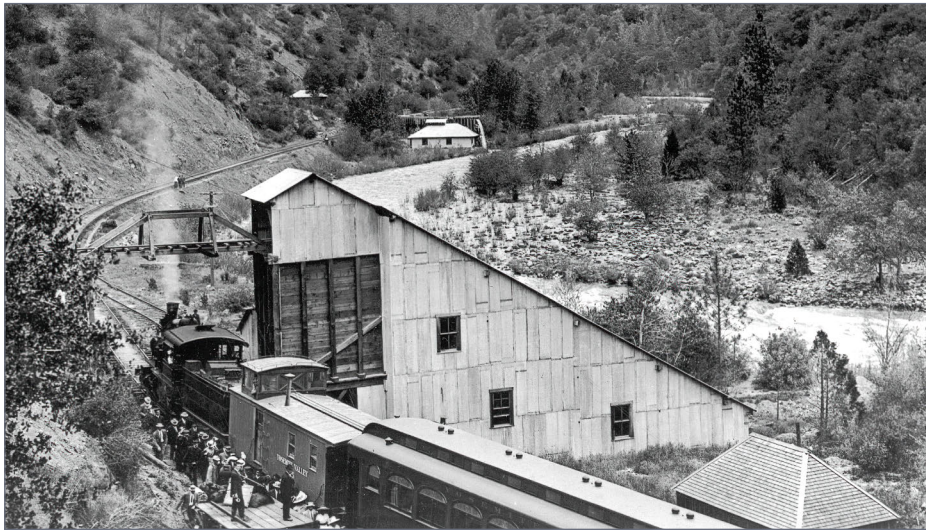
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Since the publication of my book, I have acquired a few more photos of the other two cabooses. One was a new-to-me photo of the second No. 15 at the Clearinghouse station [2].

Zooming-in on that photo [3] confirms it is the second No. 15, but the near end of the roof extends beyond the end of the car, and there is a curved grab iron on the side.

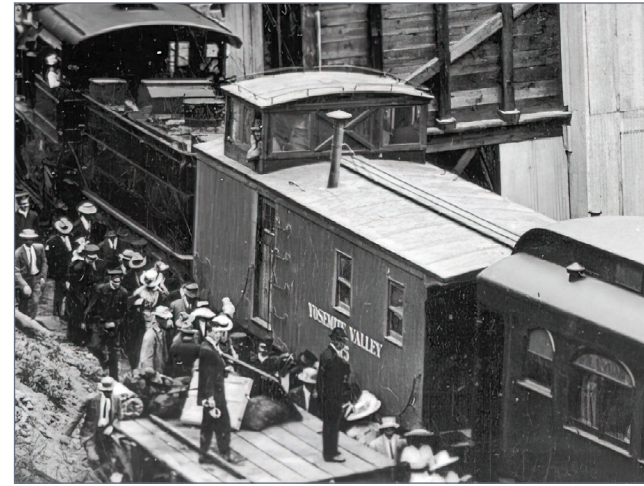
These two details convinced me that this caboose had a platform on that end (but not the other end). The roof also appears to be rounded rather than like a typical boxcar.

I also had a great photo of the second caboose No. 16 which, unlike the first No. 16, had a cupola. But then I acquired another photo of this caboose [4]. Zooming-in on this photo confirms that it is No. 16 but it also shows that the cupola was narrower than the roof [5].



2. This undated photo was taken at Clearinghouse, a gold mine six miles west of the end of the line at El Portal. This appears to be a special train, but it is unclear why the caboose, without markers, is between the locomotive and a YV passenger car.

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3. This closeup of [2] shows a couple interesting details that convinced me this caboose had a platform on the near end. The roof extends beyond the near end wall, and there's a curved grab iron on the side of the car.



4. Another early undated photo. The lettering on the caboose shows that it is YV 16 which would have been the second No. 16.



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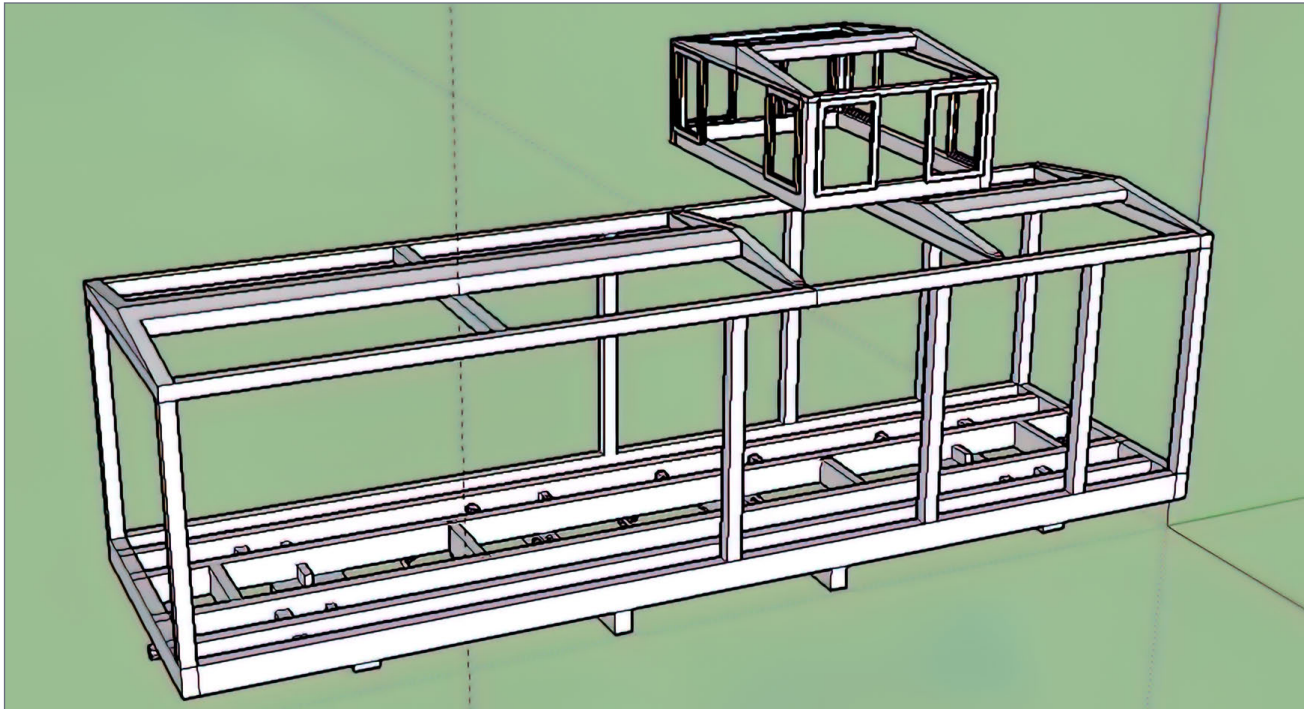
5. The cupola does not extend the width of the roof.

GETTING STARTED

Years ago, I drew 3D plans for the underframe, bolsters, and all the brake gear and piping for the nine YV 36-foot flat cars I needed to build. However, these cabooses were only 31 feet long, so I needed to shorten the frame and move the bolsters inward.

Once I made those changes, I added corner posts and supports for the roofs. Because I wanted to use 0.020" styrene for the walls, I reduced the length and width of the frame by 0.040" to compensate. This let me easily add the sides and ends to the 3D prints for these cars.

For the second No. 15 and second No. 16, I added cupolas as separate 3D parts [6]. I also modified the 3D drawing for the second caboose No. 15 to add the forward platform.



6. My 3D drawing for the frame, corner posts, and roof supports for the second No. 15. When finished, I joined the cupolas for the second No. 15 and second No. 16 with sprues for 3D printing.



Each of the three cabooses had different windows and doors. While I could ignore that fact and substitute Grandt Line windows and doors, I chose to draw them in 3D and have Shapeways print them.

With the 3D parts printed and cleaned, I drilled and tapped holes through the bolsters for screws to attach the trucks.

Charts listing tap drill sizes are for steel or other metals. When working with styrene, you want a slightly smaller hole, and even smaller for 3D-printed resin.

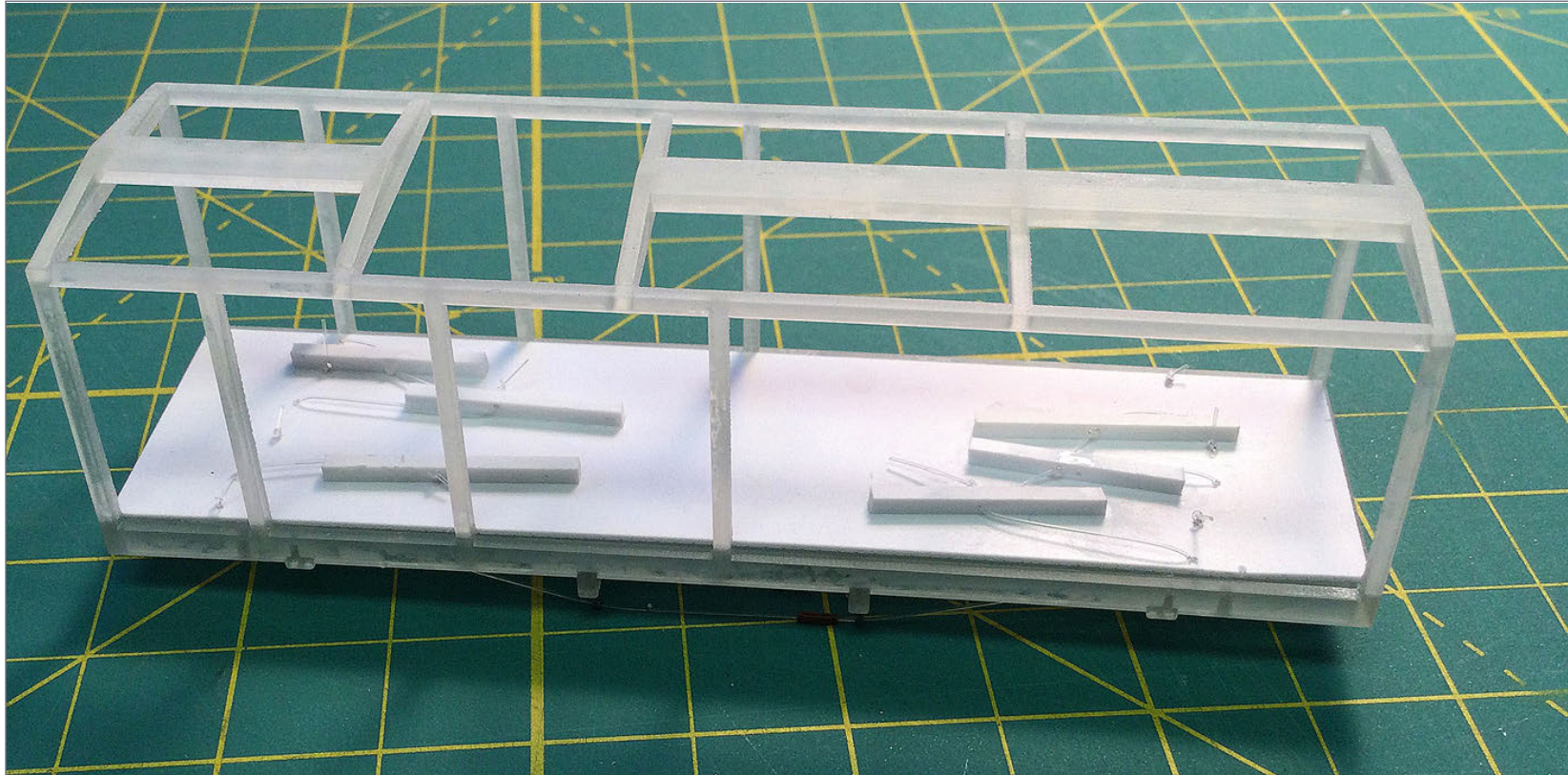
For example, the tap drill size for a 2-56 screw (correct for Tahoe Model Works trucks) in metal is a no. 50. I use a no. 52 bit for

styrene, which works fine. For these cars with 3D-printed resin bolsters I use a no. 51.

TRUSS RODS

The next step was to add the queen posts, truss rods, and turnbuckles to the frame. I started by cutting and bonding a styrene floor inside the car on the top of the resin frame. My 3D prints included holes for the queen posts, so it was easy to glue them in place.

While brass truss rods and brass turnbuckles are a great way to duplicate these details, I typically use fishing line and Tichy



7. All six truss rods have been installed and the styrene strips have been bonded to the floor to keep the rods tight.



Train Group styrene turnbuckles. Here is how I duplicated those truss rods:

I first drilled no. 78 holes through the floor of the car, in line with the queen posts, a couple of scale feet past the bolsters. After drilling those holes, I cut six pieces of 6x6 styrene about half an inch long, and drilled a no. 78 hole through the center of each one.

Next, I cut a piece of fishing line 4-5 inches longer than the length of the car for each truss rod. I used 10-lb. clear fishing line, which is about 0.010" in diameter, just over $\frac{3}{4}$ " in HO scale. I tied a simple overhand knot at one end and added a drop of CA to make sure it didn't come undone.

As soon as the CA was dry, I threaded the other end of the fishing line through one of the holes next to a bolster from inside the car. I ran that line under the bolster and threaded it onto a turnbuckle. Then I passed it over both needle beams, under the other bolster, and up through the hole in the floor in line with the hole where I started.

I threaded one of those pieces of 6x6 styrene onto the fishing line and tied an overhand knot on the end. That knot was

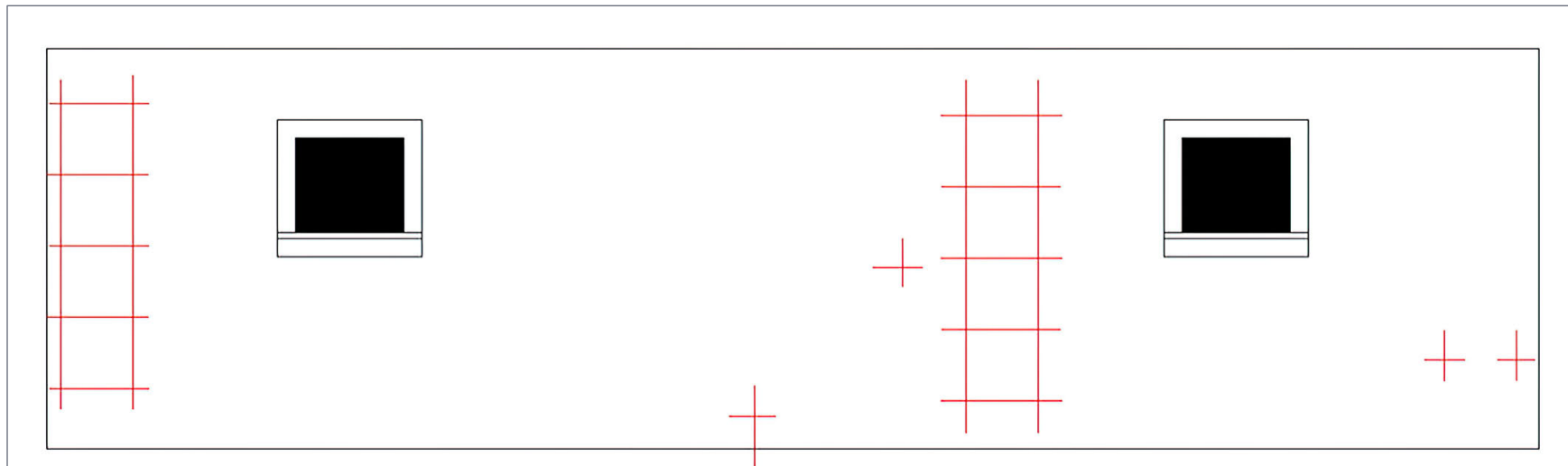
about a real half-inch of line between the hole in the floor and the styrene. I made sure the fishing line/truss rod were on top of the queen posts and that the turnbuckle was between the queen posts.

Then I slid the piece of styrene toward the center of the car to tension the line, but not enough to warp the frame or deform the queen posts. I bonded the styrene strips to the floor with the fishing line parallel to the sides [7]. I alternated from one end of the car to the other at the start of each truss rod so half of the styrene strips were at each end of the car.

This method sounds time-consuming, but the longest part was drilling. Once the holes are drilled, each truss rod took only a few minutes to finish.

SIDES

The next step was to add the sides and ends to the 3D-printed body. I could have transferred the dimensions of the sides and ends from the CAD drawing to the V-groove styrene siding being used for the car sides, but I used my Cricut machine instead.



8. This simple but accurate drawing helped me align the holes for the grab irons.



The Cricut machine, available at your local fabric store, can use several file formats – I prefer .svg files – to accurately cut various materials, including styrene up to 0.020" thick. This is strong enough for my purposes, especially when bonded to the frame and roof.

I began by making copies of the CAD drawings of the sides and ends of the car, simplifying the drawings so that they included only the outlines for the walls, windows, and doors. I resized the window and door outlines to match the dimensions of my 3D-printed windows and doors.

Since the sides overlap the ends, I resized the ends to match the width of the 3D frame. After these changes to the end and side drawings, I saved them as a single .svg file. I then loaded the .svg file and my sheet of 0.020" V-groove styrene into the Cricut machine and cut the parts.

INSTALLING THE GRAB IRONS

Once I had the parts for the sides and ends cut, I was ready to install the grab irons. To aid in grab iron alignment, I went back



9. One of the six curved grab irons on two cabooses.

to the set of drawings used for the Cricut machine and added red crosshairs to mark the drill locations for grab iron mounting holes [8]. I printed those drawings, cut them out, and taped them over the sides and ends of the caboos. I double-checked the alignment and then drilled the holes for each grab iron.

I installed the grab irons and then cut off the surplus wire flush with the back sides of the walls to prevent the ends of the grab irons from interfering with the 3D-printed frame.

Two of the cabooses needed curved grab irons. Although these are commercially available, I wanted to make my own. Figuring where to place the mounting holes was easy, but getting the curve to look right was more difficult.

A simple uniform arc connecting the two mounting holes was too large. Then I realized that those grab irons had a straight section on each end. The curve connecting these two straight sections had a smaller radius.

Once I got my drawing to match the photos, it was easy to fabricate the grab irons. I bent 0.015" brass wire 90° around a piece of brass tubing that matched the radius I needed. I then placed the wire over my drawing and bent the ends—they dropped right into the holes in the car sides [9].

As a final step in modeling the grab irons, I used Grandt Line No. 5045 1" NBW castings to replicate the bolts holding the grab irons in place. I discussed this technique in my article "Scratchbuilding a half-dozen YVRR boxcars" in the August 2020 issue of *Running Extra*.

WINDOWS

On the first of the three cabooses, I glued the windows in place after gluing the sides to the frame but before adding the roof. That is my common approach when scratchbuilding structures, since it is typically easy to add the roof later.

I realized that installing the glass in the windows would be problematic. I needed to install it before adding the roof, but I





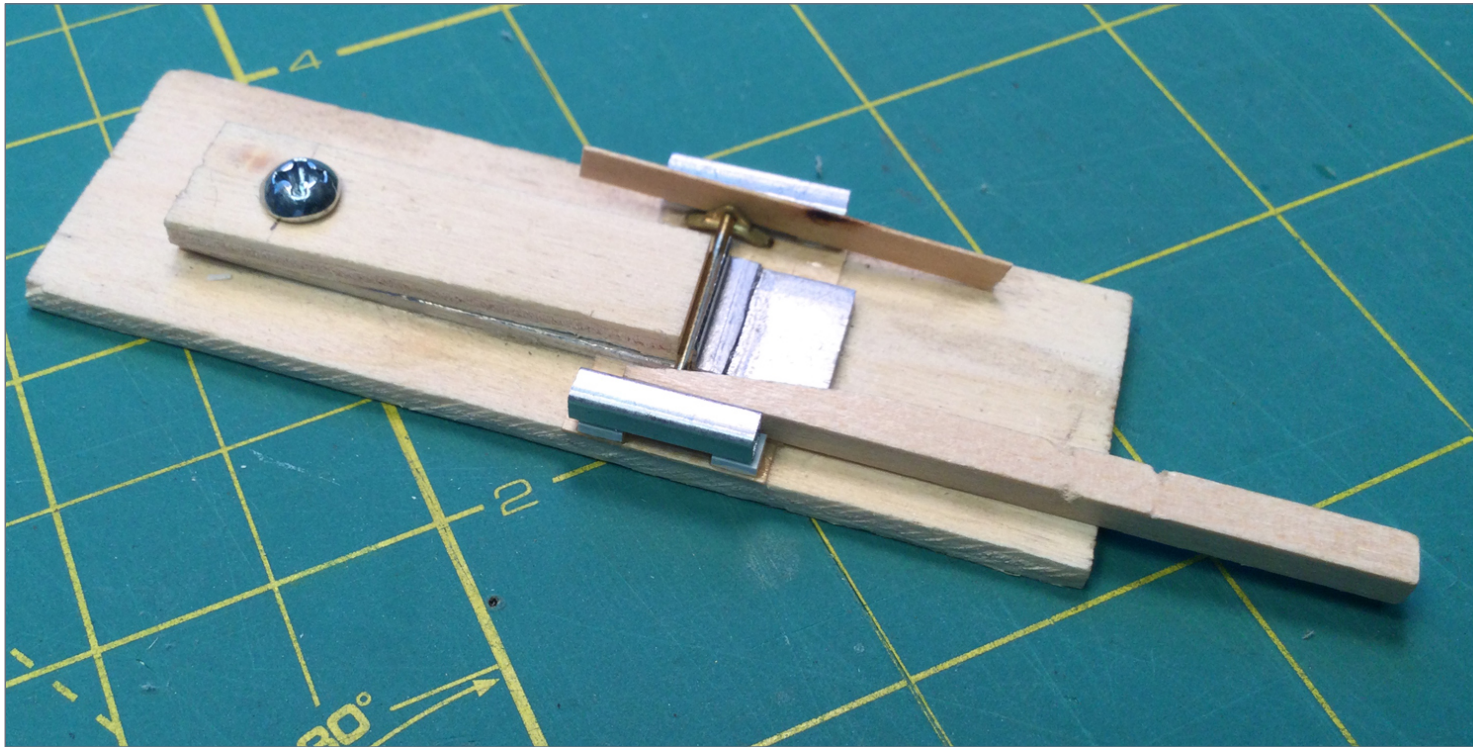
10. This photo of the second caboose No. 16 shows some of the details of the outside-hung brake shoes.

needed to bond the roof to the sides after painting. I didn't want to get paint on the glass.

My solution was to cut actual $\frac{1}{2}$ " squares of 0.010" clear styrene for each window, and glue them to the inside of sides with a drop of canopy glue at each corner. This allowed me to slip small pieces of paper between the glass and the window frames to mask the windows before airbrushing. The method worked, though inserting the paper masking took considerable effort.

For the other two cars, I airbrushed the cars and window frames separately. I bonded the glass in place on the inside of the frames after painting and glued the windows into the sides.

The second caboose No. 15 and second No.16 both had cupolas. My experience with the window glass made me realize that I



11. The first of two brake shoes soldered to the cross-member rod in my jig. A combination of spacers and fences held the brake shoe in line with the brass rod and a wedge pressed the rod tight to the shoe. The 1x12 stripwood behind the brake shoe compensates for the space between the "tab" and the outside of the shoe.



needed to 3D-print the cupolas separately from the frame/body. This was the only way I could install glass in the cupola windows after assembly and painting.

SETTING THE BRAKES

Late in the project, I realized all three of the cabooses were equipped with outside-hung brake shoes. The shoes were obvious in the prototype photos, but I missed that detail. A photo of the second No. 16 shows each brake shoe hung from the frame by a single steel wire, with a steel rod rigidly connecting the two shoes on each end [10].

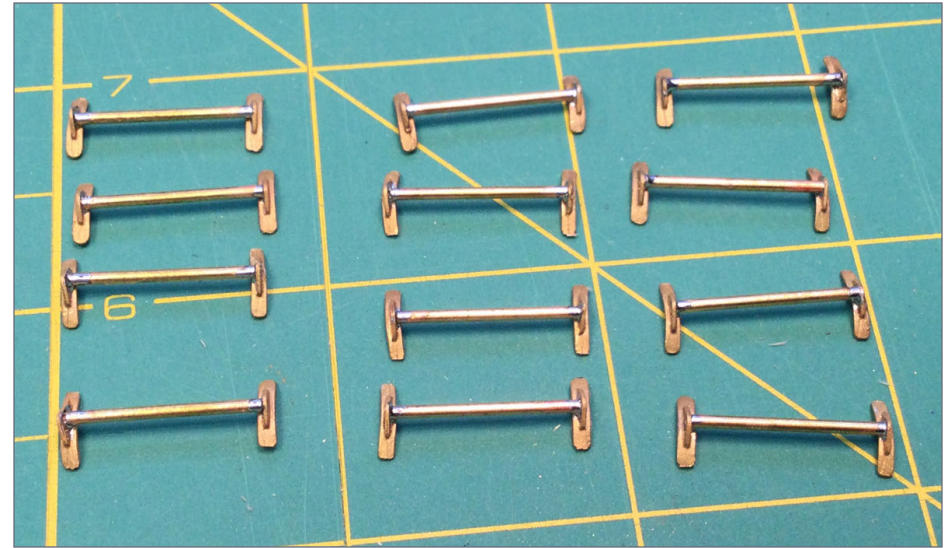
I purchased styrene brake shoes from Precision Scale, though they didn't look close enough to the brake shoes in the prototype photos. I purchased some brass brake shoes from Precision Scale instead, and they seemed much closer.

I spent quite a bit of time figuring out how to use these. I needed to connect the two shoes on each end of the trucks with a rod. Since the shoes were brass castings, that rod needed to be brass so I could solder both shoes to it.

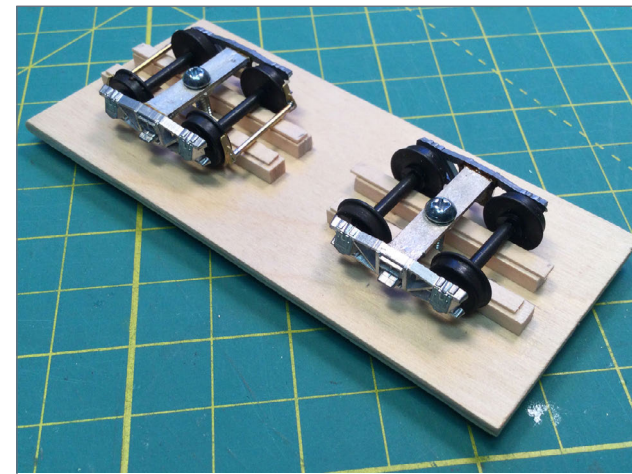
The rod needed to be long enough to connect the two brake shoes so they would line up with the wheel treads. After a day of thinking about this, I decided to temporarily glue a pair of brake shoes to a wheel set and measure the distance between their tabs. This gave me the length of the brass rod.

I needed to cut the cross-rods precisely for proper alignment with the wheels. I accomplished this by cutting the 12 brass rods slightly longer than needed, and squared one end of each on my bench disk sander.

I made a wooden jig for soldering the brake assembly. It held the very small brass brake shoes at a right-angle to the brass cross rods, which needed to line up with the top of the shoe tabs. I set up the jig so I could solder both brake shoes for an axle simultaneously [11].



12. The 12 completed brake assemblies ready to be bonded to the truck wheel sets.



13. I screwed the trucks for one caboose to this jig. The stripwood under each truck served as spacers. The rear truck has both brake assemblies bonded in place with the brass cross-members on the wood spacers and the brake shoes tight to the wheels.





14. The first caboose No. 15 which was only in service from 1906 to 1908. With only a single prototype photo of the first three cabooses, the lettering is a guess.



15. The second caboose No. 15 with the platform at one end.



The jig worked better than expected but it took quite some time to assemble all the brake shoe assemblies [12]. I then bonded all the wheelsets to the truck side frames.

I made another jig to bond the brake assemblies to the wheel sets at equal height above the top of the rail [13]. That spacer also let me add the rods that hung the brake shoe assemblies to the underside of the car frame. I cut the hanging rods long and made a very small hook on the end to connect to the brake shoe pads.

I inserted a hook into the hole in each brake shoe and squeezed it tight. I added a small drop of 5-minute epoxy to the four joints on that truck. I kept the four rods for each truck straight by continually realigning any non-vertical rods so that they were all vertical by the time the epoxy cured.



PAINT, DECALS, AND WEATHERING

The final steps were painting, decaling, and weathering. I typically begin by painting the underframe weathered black. But the second caboose No. 15 had (as far as I could determine) a curved roof, which suggests that it was a wood roof covered with canvas or some other material that might have been painted black.

I first painted the sides and wood roofs of the cars (and the cupolas) with weathered boxcar red, slightly changing the boxcar red/white paint mix between each car for variation. A few days later, I masked the sides and painted the underframes and roof of the second No. 15 weathered black.



16. The second caboose No. 16 with the curved roof and a cupola which was narrower than the roof.

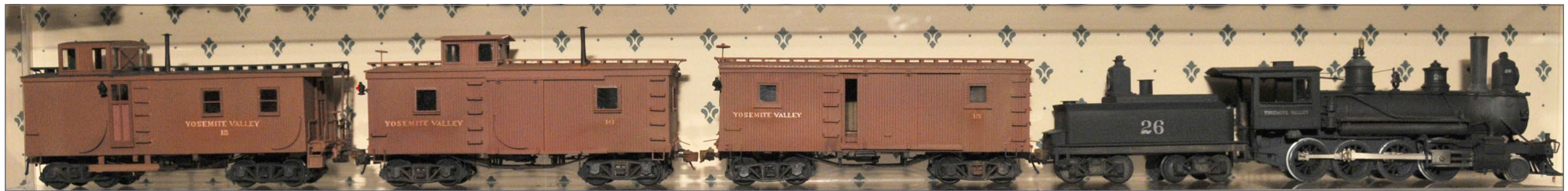


I applied a gloss coat before adding decals, followed with a flat coat. With that, I was ready to weather the cars. I don't usually weather my YV equipment heavily, since the prototype photos suggest that YV maintained its equipment well, especially in the 1930s and 1940s.

The prototype photos of these cars, however, indicated the YV didn't maintain its equipment as well in its early days. I usually begin weathering by over-spraying the lettering with the same color used to paint the car. Because I varied the colors slightly for each car, this was not easy to do.

Instead I used Bragdon Enterprises - www.bragdonent.com - weathering powders, beginning with a red powder to fade-out the lettering. I continued weathering the rest of the cars included the trucks. The Bragdon Enterprises sets that I used were FF-60 (rusts and soot) and FF-161 (grays and browns).

Even with some problems and challenges, building these three cabooses still was a fun project [14, 15, and 16]. Since these cabooses were scrapped long before my modeling date of August 1939, the models went directly into a display case and will never be on the layout. ✓



17. (Below) All three cabooses in the display case in the layout room. The locomotive on the right is another model built just for display. The prototype No. 26 was a 2-8-0 built for the Pennsylvania Railroad in 1899. They YVRR purchased it in 1905 and sold it again in 1917. I kitbashed it from a brass locomotive.

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Upgrading an Atlas GP38



MRH Running Extra | October 2021

1. This is the locomotive as it came in the box more than 20 years ago.

NICK SANTO SHOWS HOW HE UPGRADED A "DUAL MODE" GP38 WITH A 21-PIN DECODER AND A DECODER BUDDY ...



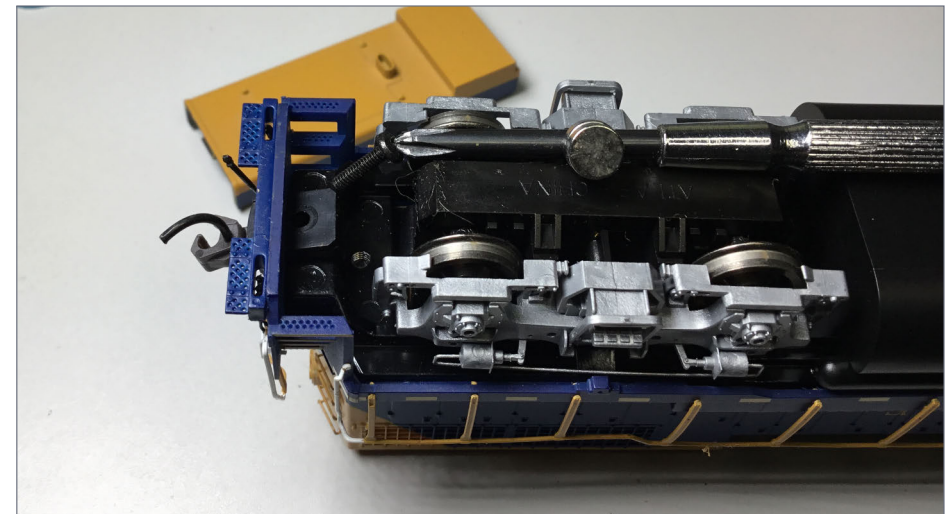
ATLAS LOCOMOTIVES HAVE BEEN VERY POPULAR, and hence very plentiful. I chose an Atlas GP38 because it's one of the most popular, but also one of the most challenging to convert to DCC with sound. It turned out to be straightforward with a Decoder Buddy V5.

If you are not into sound and want to upgrade to a non-sound 21-pin decoder, this would still be a very good method. If you decide that sound is a good thing later, a decoder change and a speaker addition, and off you go. Most of the work has been done.

UPGRADING AN ATLAS GP38 | 2



2. Remove the dynamic brake hatch by wiggling it side-to-side, and gently pulling up toward the rear (left). You can see the decoder in the engine compartment.



3. Remove the screws from the coupler assemblies. Note the two neodymium magnets on the screwdriver's shaft to magnetize the screwdriver to hold the screw.



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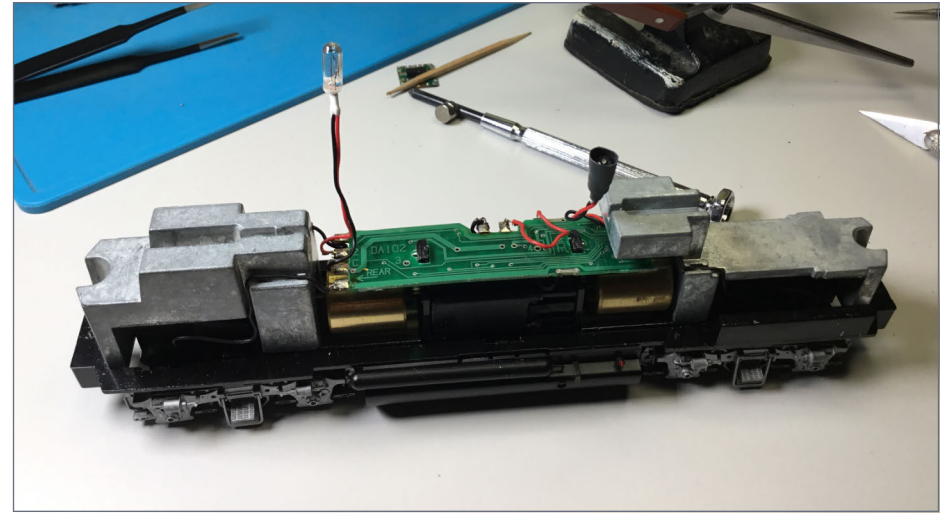


4. Insert a dull hobby knife between the handrails and cab body to gently pry the handrails off. Remove of the cab by wiggling it from side-to-side, and lifting gently.



5. Three yellow tabs on each side of the locomotive shell hold it firmly to the frame. Wiggling, prying, cajoling, cursing or whatever method you can figure out may allow you to separate the shell from the frame without breaking the tabs.

UPGRADING AN ATLAS GP38 | 4



6. Remove the Phillips screws holding the weights to the frame, and remove the weights. Be careful not to disturb the wiring. We will modify the weights. The front weight is on the right. This locomotive came with grain-of-wheat lamps. We will replace them with LEDs.



7. Next we need to create channels for the rear truck wires. Draw lines on the sides of the rear weight, put it in a bench vise, and use a motor tool with fiberglass cutoff wheel to score a groove.



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UPGRADING AN ATLAS GP38 | 5

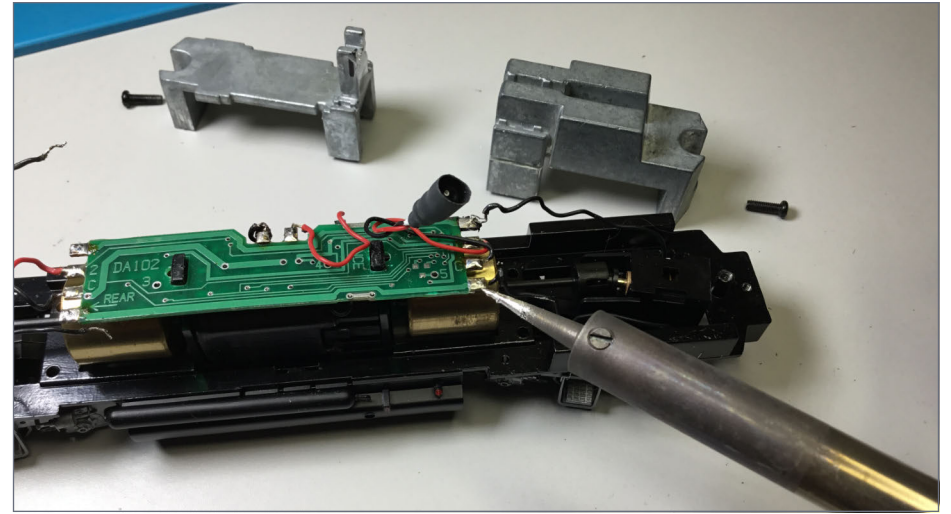


8. Completed channels. Use Goo or rubber cement to hold the wires in place when reassembling.

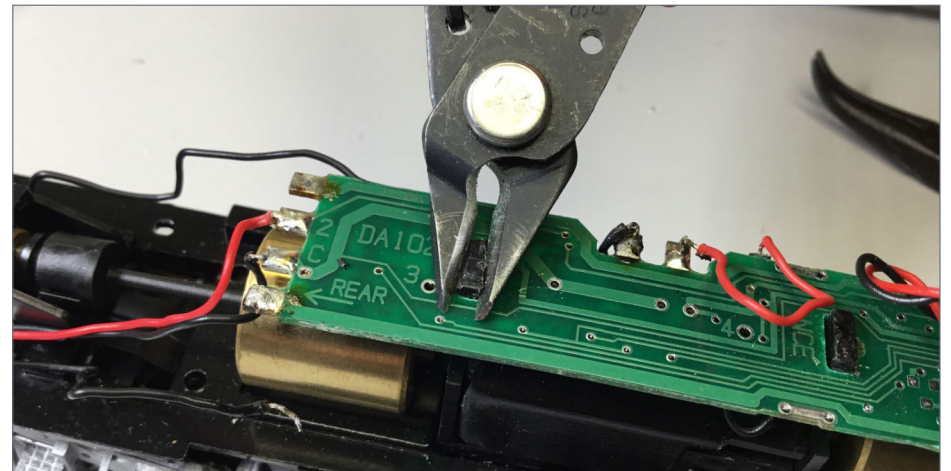


9. Atlas put a “shelf” on its front weight as a mounting point, and a heat sink for its grain-of-wheat bulb, but we don’t need the shelf since we are upgrading to LEDs. Use a hacksaw to cut the shelf off the front weight for easier access to the Decoder Buddy and decoder. Be sure to file the area smooth when finished to protect fingers and wires from sharp edges.

UPGRADING AN ATLAS GP38 | 6



10. Unsolder the four track wires and two motor wires from the old decoder, and remove it. I don’t usually cut the wires so they are ready to solder onto the Decoder Buddy pads, and it is easy to cut them too short.



11. The Decoder Buddy does not use the mounting tabs on top of the electric motor, so there is no need to preserve them. Clipping the tabs off will make removing the old decoder easier.



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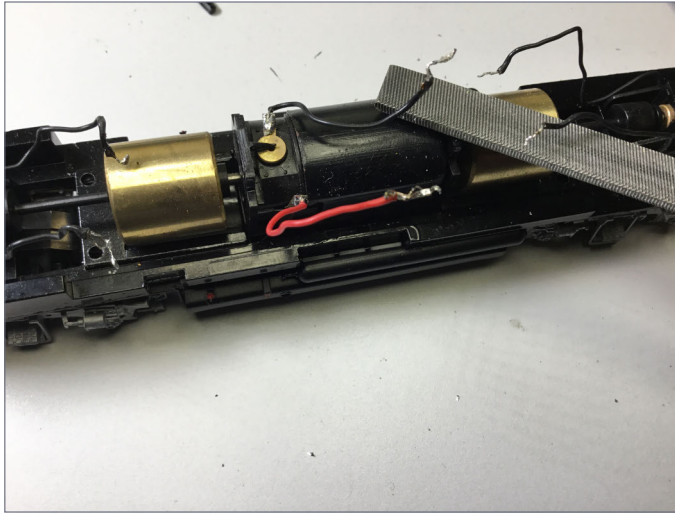
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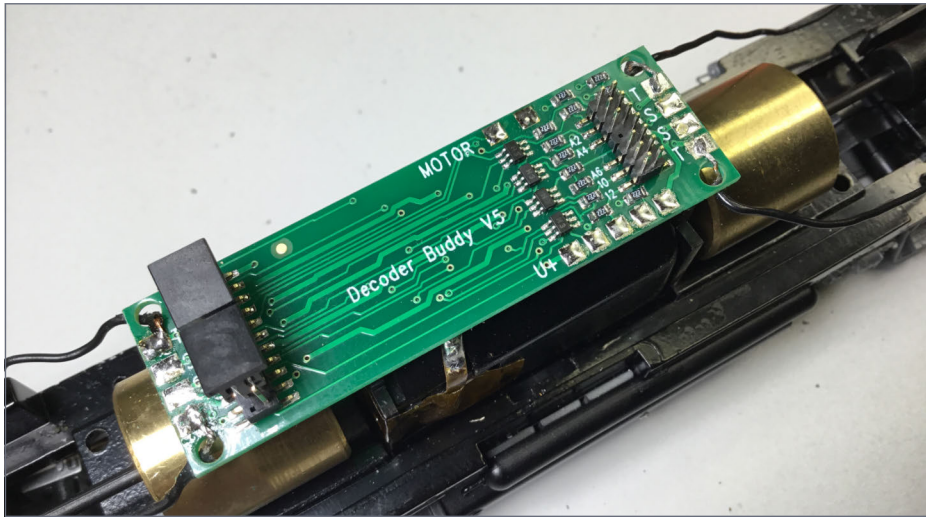
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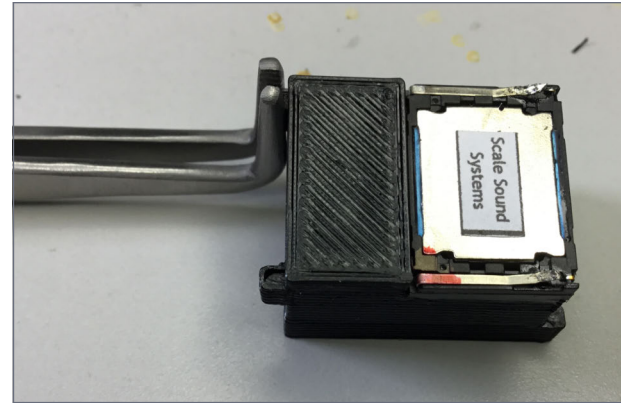


12. Clip the remainder of the decoder tabs flush with their base and file the surface smooth. This creates a flat surface on both sides of the motor for a solid Decoder Buddy mount.



13. Begin reassembly by mounting the truck wires to the Decoder Buddy, taking care that the wires are not crossed. Test the directional polarity of the motor wires and solder in place so that “forward” is in the desired direction. Note that the wires are all routed up through the bottom of the board.

UPGRADING AN ATLAS GP38 | 8



14. I chose a Scale Sound Systems speaker for its sound quality and ease of installation. The speakers are designed to snugly fit specific locomotives. The two tabs protruding on the left go on either side of the

Atlas motor mounts, while the “shelf” on the right is designed to fit to the forward face of the rear frame weight.

You can substitute sugar cubes or other speakers, though some may require further modification to the weight. Whatever speaker you use, be sure to anchor it securely to a solid surface before soldering any wires – note the tweezers – to avoid grief and frustration. Speakers are magnetic and soldering irons have iron cores.



15. Apply Goo to the edges of the speaker that will rest against the weight. Walthers Goo attaches most substrates firmly, but allows for easy detachment later, which is important for maintenance. I am a firm believer in detachable glues.



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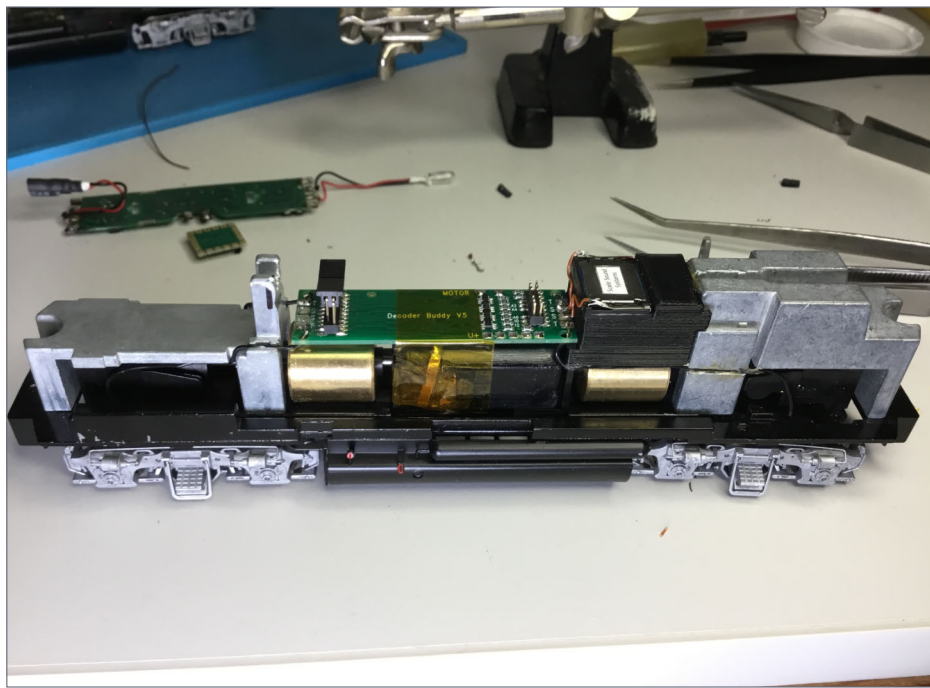
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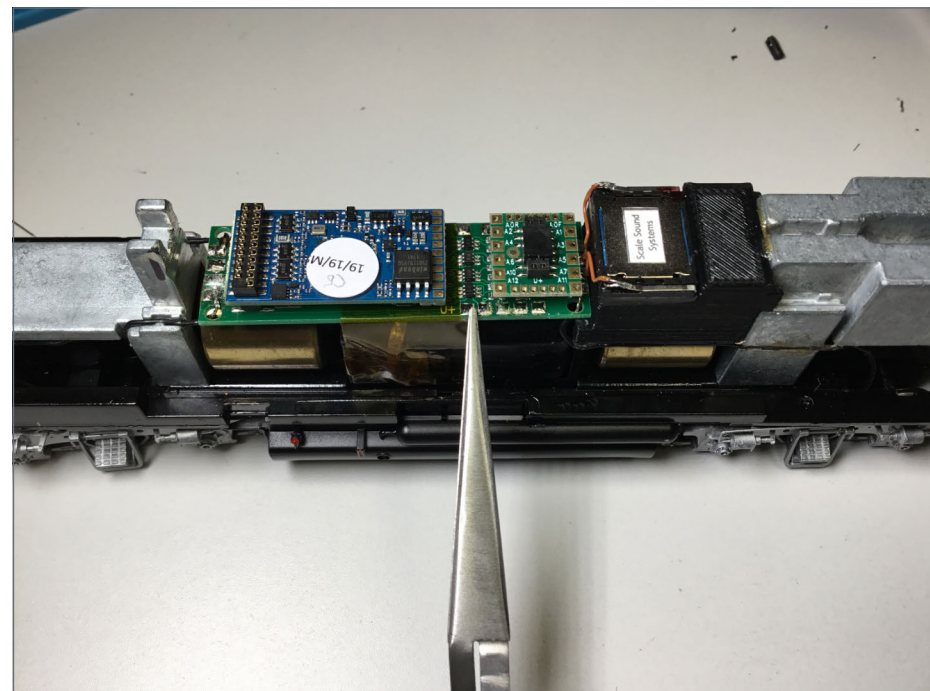
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16. This is where it all comes together. The speaker attaches snugly between the frame weight and the motor mount, with two tabs on the front gripping the motor mount. The rear of the Decoder Buddy mounts nicely on the wide, flat surface formed by the motor mount and speaker prongs.

The two speaker wires route neatly to solder pads on the motherboard immediately in front of the speaker. The truck wires fit neatly into the channel grooves.



17. The final step is to install the 21-pin decoder onto the Decoder Buddy (left). It just snaps in with no wires to solder! I don't use a stay-alive circuit, but the Decoder Buddy has attachment pads for one.

Note the small 12-position connector board to the right of the decoder. This will accommodate up to 12 lighting functions in the locomotive, while allowing easy separation for maintenance. In this case, you can take the locomotive to the programming track and test it even as you keep the shell on your desktop to work on installing lighting functions.





J. Regier

A GREAT IDEA, EVEN WITH A FACTORY 21 PIN MOTHERBOARD

In a recent upgrade project, I was working on upgrading the lighting on an Atlas model of a Frisco U23B to give it the full Frisco lighting package. This included a Pyle gyalight on the nose and a rotary beacon on the cab roof. The locomotive had come from the factory with LED lighting and a 21-pin motherboard with what appeared to be extra pins to connect additional lighting functions.

Unfortunately, the motherboard did not include resistors for anything beyond the forward and reverse headlights. Although there were solder pads for SMD resistors to serve the other circuits, those circuits were left open. I had to solder-in the resistors in addition to the LEDs just to complete the circuit.

This project could certainly have benefited from a Decoder Buddy. Nick has designed them so that you only need to solder-in the LEDs, program the decoder, and you're set. Plug and play simple.

PARTS

Decoder Buddy or V5 Decoder Buddy:

www.nixtrainz.com

Scale Sound Systems speaker:

www.scalesoundsystems.com ☒



RATE THIS ARTICLE

NICK SANTO



Nick Santo was an environmental analytical chemist and a flight instructor and flight school coowner in his working life. Later he was briefly a student conductor and student engineer on GP38 and GP40 locomotives. He is now "retired."

He works-out most days in a gym or on his bicycle. Electronics and photography are his major hobbies. In the winter, Nick and his wife of 42 years enjoy traveling the warmer parts of the United States in their motor home.

Travel and meeting people on the road is his favorite winter pastime, especially when it involves trains. Real trains and model trains have been a lifelong passion.

A Marx figure-eight layout on plywood at age 4 and living on Depot Street listening to steam locomotive whistles were undoubtedly the seeds of Nick's interest in trains. ■

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Building C&EI's SX Tower

with 3D printing



MRH Running Extra | October 2021

DAVID FORBES SCRATCHBUILDS A TOWER USING 3D PRINTING AND DETAIL PARTS ...



I MODEL THE SALEM SUBDIVISION OF THE CHICAGO & EASTERN

Illinois Railroad in the 1950s. While waiting to build my empire layout, I am collecting and building the trains and structures I plan to incorporate into my dream layout.

One of the structures that is high on my list is C&EI's interlocking tower in St. Elmo, IL. Named SX tower, it was built in the late 1890s to interlock the crossing of the north/south C&EI and the east/west Vandalia (PRR) railroad.

BUILDING C&EI's SX TOWER | 2

1. C&EI GP7 217 pauses at SX Tower. I built the model using 3D printing, commercially available detail parts, and scratchbuilding.

Note the construction of the tower. The first floor is brick, the second floor is wood clapboard, and the roof is tile. The various materials would make scratchbuilding a model of this tower daunting. A combination of 3D printing, commercial detail parts, and scratchbuilding made recreating this prototype structure easy.



2. In this westward view of the SX tower, the C&EI/PRR crossing is in the foreground. The C&EI tracks curve off toward Southern Illinois on the left. To the right are the PRR tracks, with PRR's St. Elmo station down the line, on the south side of the tracks.



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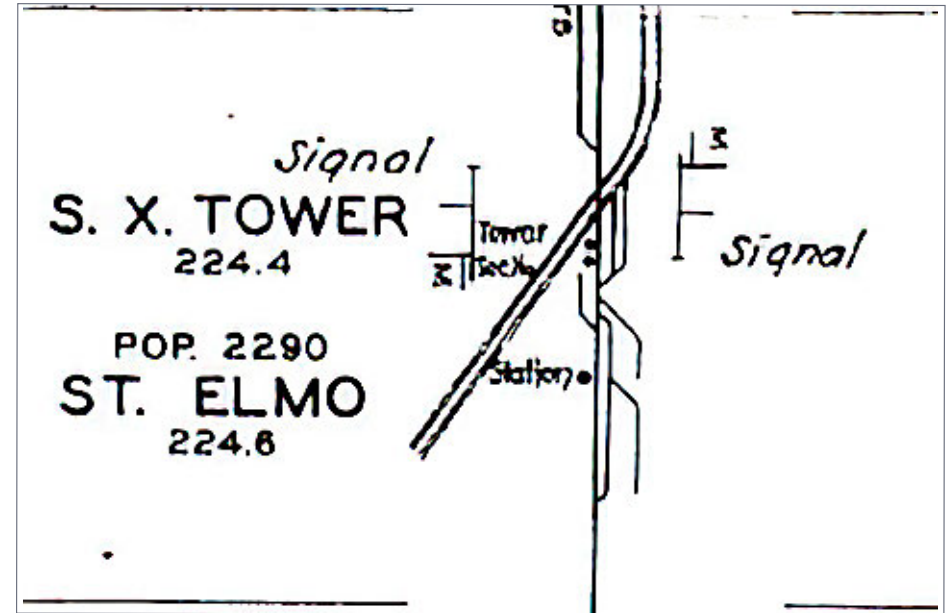


3. The C&EI served several industries in St. Elmo, including the Allied Oil Corporation, pictured here, looking north from 4th Street. The C&EI station is at far left in the photo. The interlocking tower and exchange with PRR are in the distance, centered beyond the black and white smoke towers.



4. This Topaz Gigapixel enhancement of [3] shows the south side of the tower. Although not a great photo, it provided the missing information needed to design a 3D print for SX Tower.

BUILDING C&EI's SX TOWER | 4



5. This 1950s track chart for St. Elmo showing the location of the tower. The C&EI is the vertical track in this diagram.



6. In the mid 1950s, SX tower was remodeled to replace the wood siding and skirting, and reduce window sizes. We are looking east down the PRR tracks. The C&EI enters from the right (south) and crosses the PRR tracks to turn east, running parallel to the PRR to Altamont, IL, where the tracks curve north to continue to Villa Grove, IL. The tank car to the left of the tower is sitting on the interchange tracks.



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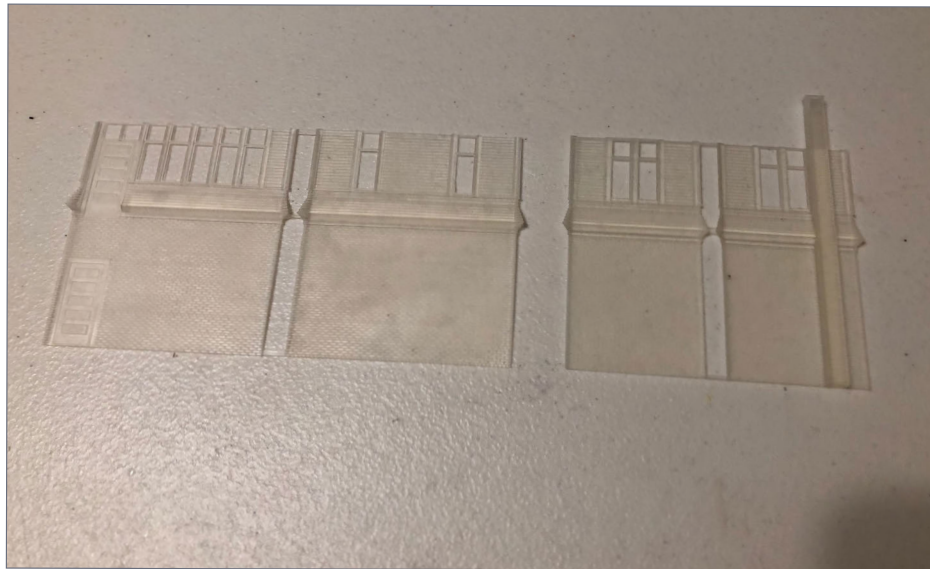
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3D PRINT

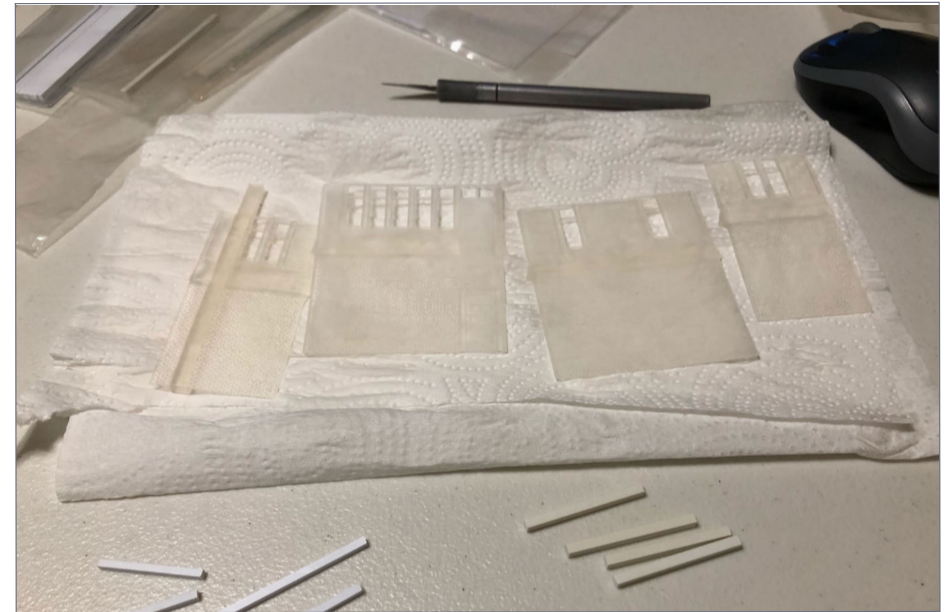
My initial plan was to scratchbuild the SX Tower using styrene. Evergreen offers brick and clapboard styrene, but trying to replicate the angled-out portion of the clapboard siding was daunting. I also couldn't find a good reproduction of the windows commercially available.

Fortunately for me, my brother Doug Forbes does 3D graphics design. He used the images and information I provided to design SX tower's four walls. I ordered the four walls from Shapeways for about \$40. I would have spent similar on materials to scratchbuild the tower. 3D-printing the base of the tower saved a lot of time.



7. I ordered the 3D-printed models through Doug Forbes' Shop on Shapeways. The prints came well-packaged in bubble wrap. I gave the edges a 45-degree bevel with a file where the sprue connected the two pieces.

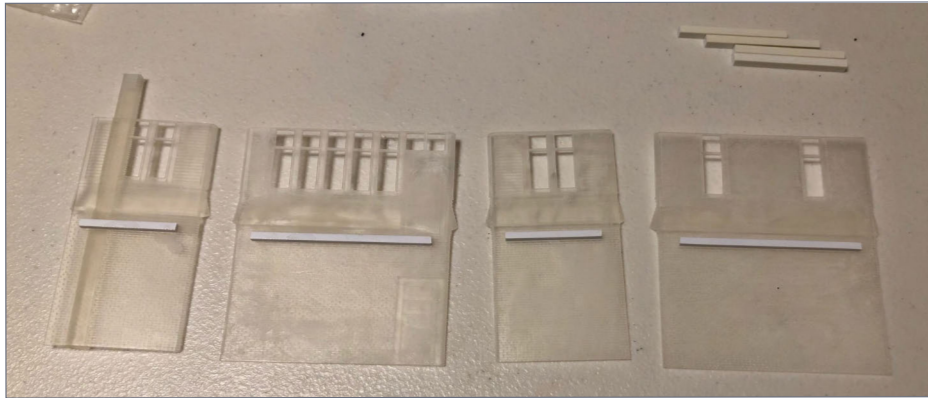
3D prints can have a residual resin film. I soaked the parts in Simple Green cleaning solution overnight to break up any residual material, and scrubbed them with an old toothbrush. After a final rinse, I let the walls dry for a day.



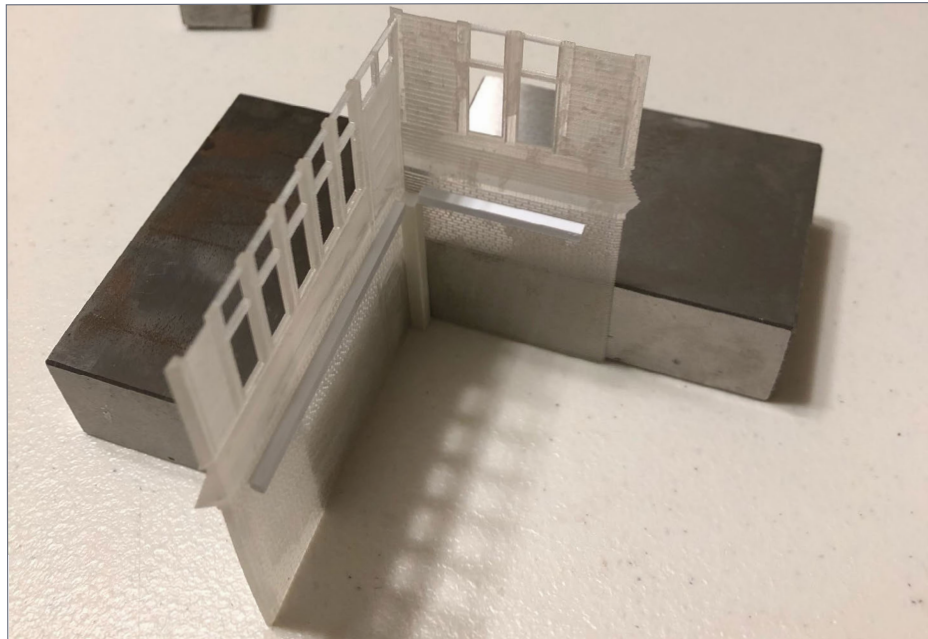
8. Before I assembled the four walls, I installed the support bracing for the second floor. I used 0.100" x 0.100" Evergreen strip styrene for both the wall bracing and second floor supports. I have found Testors Liquid Cement for Plastics compatible with 3D-printed plastic.



BUILDING C&EI's SX TOWER | 7

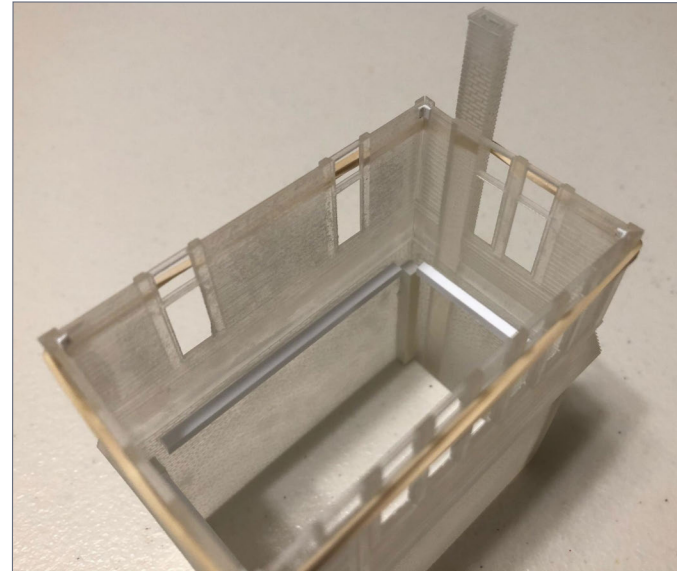


9. I glued the second-floor bracing to the walls. I was sure to cut the styrene short of the ends to avoid overlap.



10. I used 1-2-3 blocks to keep two sides square. I again used 0.100" x 0.100" styrene to brace the lower edges. I did the same with the other two sides.

BUILDING C&EI's SX TOWER | 8



11. After two sets of side/end were glued together, I brought the two sub-assemblies together to create the tower. I used 0.060" Evergreen angle cut to brace the walls near the top. I wanted the bracing to be minimal near the top, where windows might reveal it. I used rubber bands to hold the model together while the glue dried.



12. I cut a second floor from 0.080" sheet styrene.



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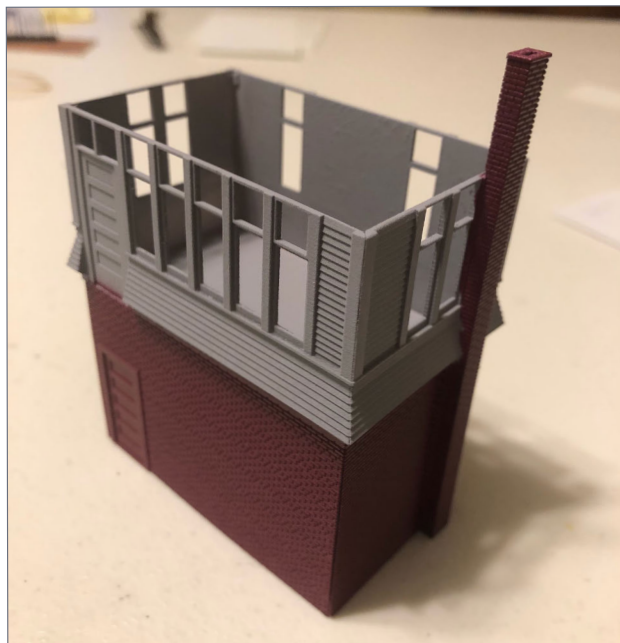
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13. I primed the model with Rustoleum gray automobile primer. This initial coat of primer made the details on the model pop. Every fifth row of the masonry has bricks on their end, which is meant to represent that the brick is structural, rather than the running bond pattern of cosmetic brick.

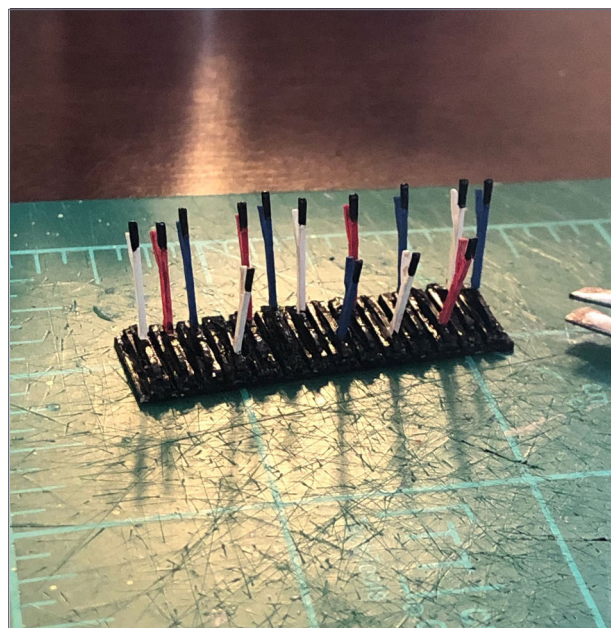


PARTS

I used a stair kit from American Model Builders for the stairway. I had Doug design stairs for the tower, but I wanted the actual look of wood. I also used a Bar Mills interlocking lever kit to help detail the interior of the model.



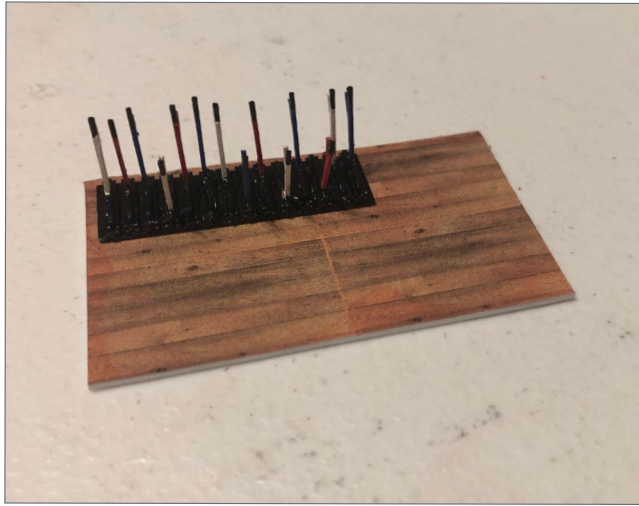
14. The Bar Mills kit for an Armstrong Interlocking Machine comes in a nice little package. Adding this detail gives credence to the interior of the tower. I used a hobby knife to cut the components from the carrier sheet, and assembled them to the base with wood glue.



15. I used craft paint on the interlocking levers, following prototype practice of painting levers different colors to represent signal, turnout, and interlocking levers. Not having the prototypical arrangement for SX Tower, I randomly varied the colors from examples I have seen in other interlocking towers.

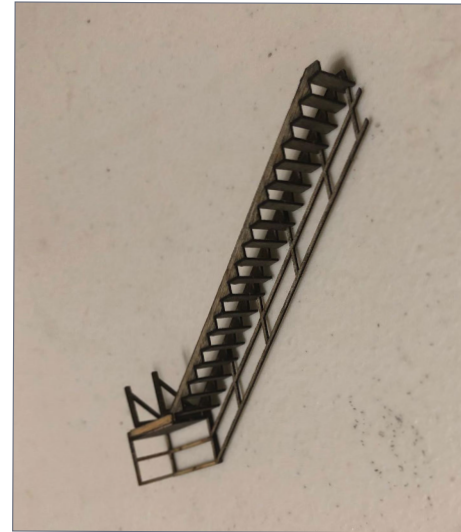


BUILDING C&EI's SX TOWER | 11



16. I used an image of a wood floor pattern from the internet to make an interior floor for the tower. After sizing it, I printed the image on a color printer and glued it to 0.060" styrene. I used superglue to attach the interlocking machine to the floor.

BUILDING C&EI's SX TOWER | 12



18. The completed stairway. I modified the kit with a stringer on the inside edge of the stairs for more gluing surface between the stairway and the tower.



17. Before I assembled the stairway, I weathered the parts of the American Model Builders stairway kit with a stain of brown India ink and rubbing alcohol. I applied the stain to both sides and applied 1-2-3 block weights to minimize warping.



19. I painted the brick first with a red brick color from a rattle can. Painter's tape and paper towels mask the areas not painted red.



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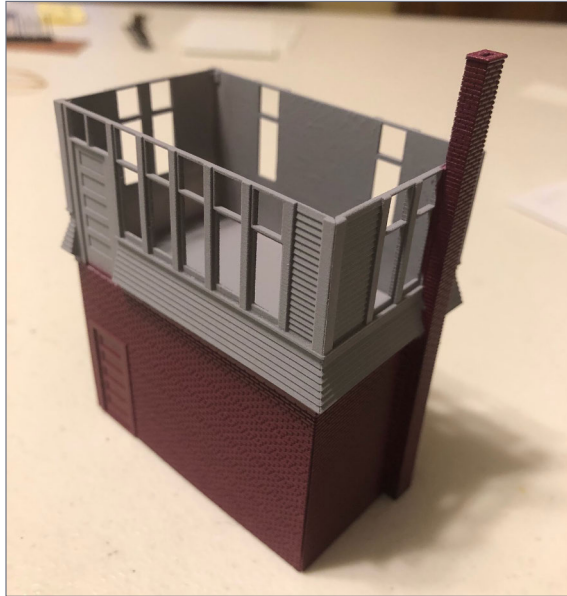
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PAINT



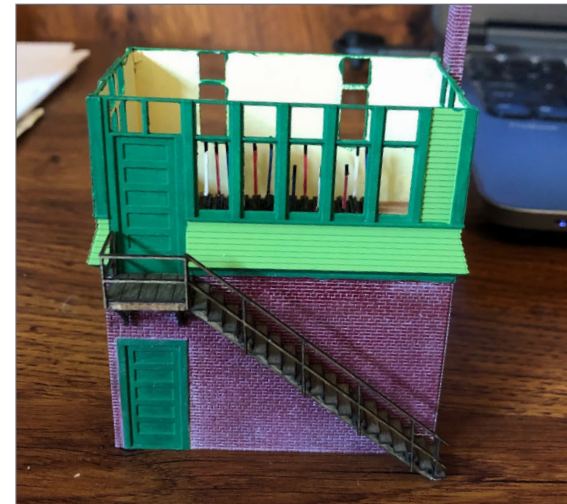
20. I removed the masking tape and paper towels when the paint was dry. Using a rattle can is effective if you don't have an airbrush, or if a suitable color is not available.



21. To paint the second story of the tower I used craft paint from Walmart. Before the mid-1950s, C&EI often used a paint scheme of light green clapboards and dark green trim. I painted the interior walls of the tower light tan.



22. The east side of the prototype tower had a doorway that had been filled in with brick of a shade that didn't match the rest of the brickwork. I replicated that detail by painting the newer brick lighter red.



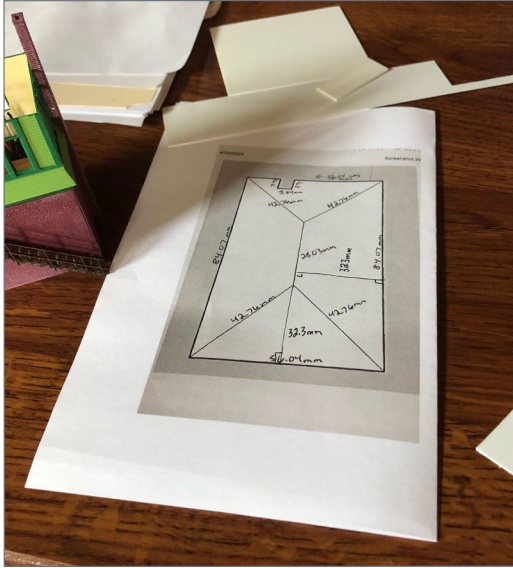
23. I painted the trim dark green to match prototype C&EI colors. I used a small-tipped brush and worked slowly to ensure good paint coverage.

To create the mortar lines, I thinned white craft paint with water and applied the mixture to the brick with the wall horizontal. I allowed the paint to settle for a

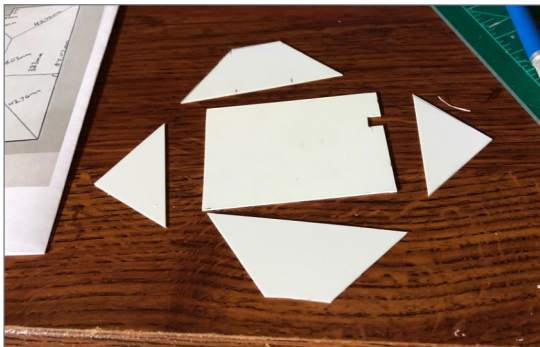
minute and wiped the brick face with a paper towel. I allowed each side to dry thoroughly before proceeding with the next.



ROOF



24. Because the model has a tile roof, I scratchbuilt the roof. Doug supplied an image with the dimensions.



25. I cut the pieces for the roof from 0.060" Evergreen styrene, and used the model as a template to mark and cut the hole for the chimney. I added styrene strips to the edge of the roof to mimic the eaves in the photos. I cut the strips just a tad bit

longer than the base of the roof, then trimmed the pieces to exact size once the glue had dried. This fascia strip added the overhang that can be seen in the prototype photos.

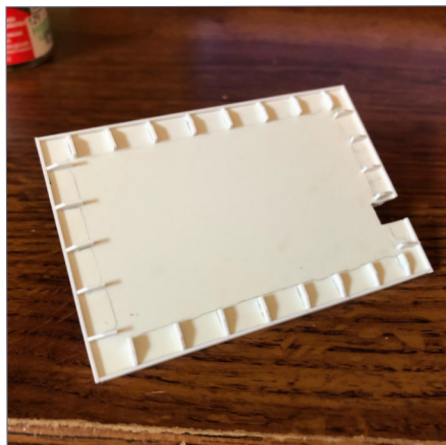


26. I scraped the edges of the roof for a better bonding surface.

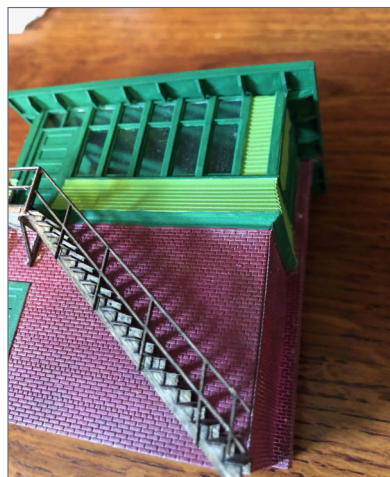


27. The roof on the model. Comparing the model with the prototype photos, I noticed the lack of roof brackets under the eaves.





28. I wanted to replicate the tower's roof brackets. I traced the top of the tower on the styrene roof base to help me size the brackets, and used an NWSL Chopper to cut HO 2x4 styrene to length. I angled the end of each to match the prototype's taper, and glued them into place.



29. I painted the sides and base of the roof to match the dark green trim.



30. I painted the roof a terracotta color.

★★★★★
RATE THIS ARTICLE

DAVID FORBES



David is a high school math teacher in Robinson, IL.

His modeling focus is the C&EI's Salem Subdivision. He is the current secretary for the Chicago & Eastern Illinois Historical Society and writes articles for their publication, the Flyer.

Find out more at www.ceihs.org ■

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Climax rebuild

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MRH Running Extra | October 2021

**JEFF PALMER FINISHES HIS
REHABILITATION OF A
ROUNDHOUSE CLIMAX ...**



IN THE PAST THREE INSTALLMENTS, we began with an old Roundhouse Climax locomotive, cut it apart, lowered the boiler, and detailed it. We also removed the chassis from a Bachmann 44-ton switcher and prepared it for mating with the Climax body. This month, we mate the chassis with the body, finish the detailing, and prepare it for operating on the layout.

MATING THE 44-TONNER TO THE CLIMAX

A couple months ago, I cut off the bottom ¼" of the 44-tonner's shell – I'll call it the "base" – resized it, and detailed it to fit nearly seamlessly with the Climax body (July 2021 RE). With the detailing I completed – especially those details where we

CLIMAX REBUILD | 2

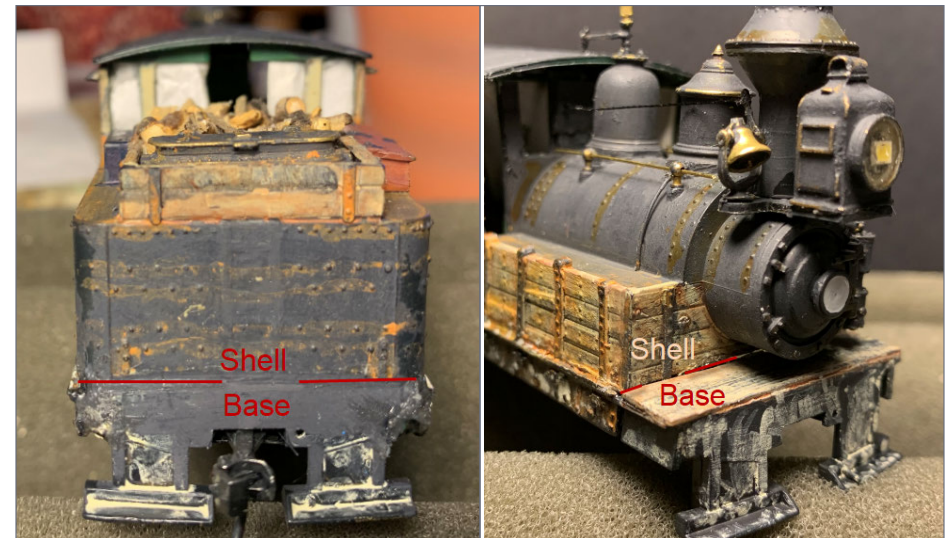
needed access to the inside of the Climax body – I was ready to mate the base to the Climax [1].

I used epoxy for the job, since it provides the strongest, most durable bond. I mixed up some with a toothpick on aluminum foil and added alcohol – about six or seven drops – until it had the consistency of honey.

I used the toothpick to spread the epoxy onto the surfaces I wanted to glue [2]. I then pressed the base into place on the Climax body and clamped it together. I set it aside to cure for 24 hours.

I used gel super glue to fill gaps around the joints. Although this method is not as fast as putty – you must build up the fill slowly, in layers – I think the sanded finish is worth the time and effort.

Once I had the shell and the base mated, I could add the ladder to the bunker. I chose the Caboose Ladder from Grandt Line



1. I modified the 44-tonner body's base to fit the Climax body.



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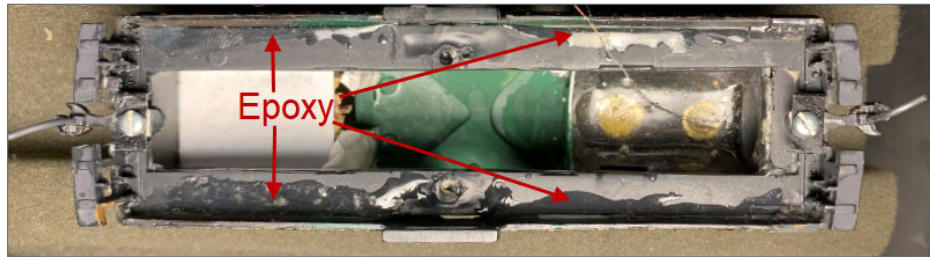
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(#5238). I trimmed it to size and placed it on the bunker, making certain it was plumb [3].

INSTALLING THE HEADLIGHT

The Bachmann 44-tonner chassis is DCC-equipped, and its circuit board is LED-ready, with built-in resistors. The LEDs that formerly served as the 44-tonner's forward and reverse headlights are soldered in place on the board [4].



2. Application points for epoxy on the locomotive frame.



3. This separately applied ladder from Grandt Line looks much better than the molded-on ladder. Note the modifications I made to the pilot steps as compared to [1].

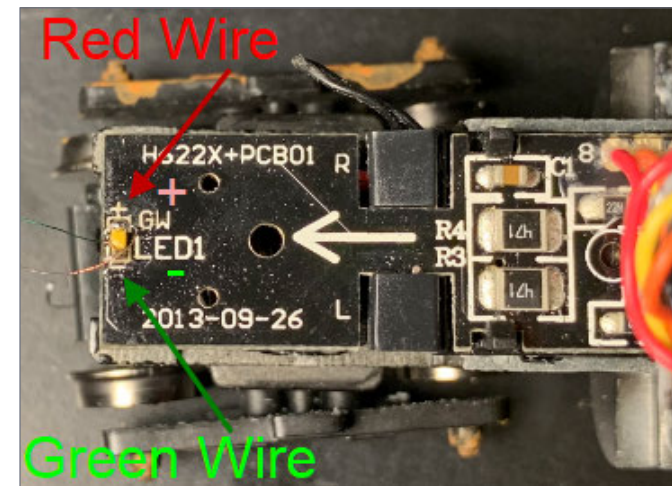
I unsoldered the forward headlight LED from the board and soldered the two leads from the Climax's LED to the pads, making sure I had the polarity correct. Note: I did not install a reverse headlight on my Climax because I could not find prototype references to back-up lights. Once I had the lights installed, I placed the locomotive on the track and tested it [5].

MODIFYING THE PILOT STEPS

Late in the project, I realized that the pilot steps of the Bachmann 44-tonner didn't quite look right for the Climax. The 44-tonner's steps were solid, meant to represent steel sheets. When the Climax was built, these steps would have been fabricated using angle iron, so they would not have been solid.

I decided to use my Wondercutter S to cut away portions of the steps, which required a steady hand. I found it helpful to make smaller cuts, rather than attempt a single larger cut, in order for everything to look even [3, 5].

With the pilot steps finished, the Climax's trucks were next. I used acrylic colors for dark, medium, and light rust. I finished



4. LED1 on the circuit board. The 44-tonner's headlight LED is soldered in place.



with AK Enamel Wash for Wood (#263), a dark enamel-based wash [6].

FINISHING THE DETAILS

I added an engineer to the cab for a human touch and to draw attention away from the non-existent interior. In addition to the engineer sitting at the controls, I added a fireman climbing into the door on the other side [7].



Rough terrain and the constantly changing nature of logging and mining railroads made maintaining convenient water tanks difficult. Mining locomotives were frequently equipped with siphon pumps that used steam through a venturi to create suction to draw water from rivers, creeks, or other natural sources along the way.

5. The LED headlight on the Climax glows. I modified the pilot steps to resemble angle iron construction.



6. Loco with weathered trucks.



7. Engineer and fireman details



CLIMAX REBUILD | 7

To reach these sources, the locomotives would typically use a fire hose. For my model, I sprayed a 5" length of brass wire with 3M Super 77 adhesive, wrapped it in old pantyhose, bent it in shape, then put on the tender [8].

Finally, I used Pan Pastel powders to add textures. I used Pearl Medium Black Fine (013) on the upper portion of the smokestack, on the tops of the domes, on the roof of the cab, and on any upper surfaces to represent cinders.

I followed-up with Black (800.5) to mute the pearl glare and add sooty texture. I streaked the sides of the steam dome with Raw Umber Tint (780.8) to represent scaling from the pop-off valves and whistle.



I find that rust, in the form of paint, is flat and lacks interest. I added a little Orange (280.5), Red Iron Oxide (380.5), and Red Iron Oxide Shade (380.3) to bring the rust to life.

With that, the model was complete and ready for the logging camps. It had come a long way since I got started [9]. ☑

8. The hose (left on tender) would have been used with a pump to fill the locomotive's tank from natural sources along the way.

CLIMAX REBUILD | 8



9a, 9b. Where we started (top), and where we finished (bottom).

★★★★★
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JEFF PALMER



Jeff spent 50 years developing software, and 25 years as a college professor. During that time, he was a modeler. He loves to build structures, bridges, scenery, and locos, and his interest is in logging and mining (narrow gauge). He enjoys the ruggedness of logging and mining railroads, and the scenery and landscape. 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 modelers he looked up to. He hopes to be a part of that group someday. ■



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THE AH-HAH MOMENT

column



MRH Running Extra | October 2021

JOE FUGATE FINDS A SUPERB SOURCE FOR
LOW TEMPERATURE SOLDER ...



STYRENE MELTS AT ABOUT 400 DEGREES FAHRENHEIT, AND COMMON ROSIN CORE SOLDER MELTS AT ~370 DEGREES F.

Due to heat transfer loss and the desire to not wait all day for the solder to melt, most soldering irons run at at least 200 degrees hotter, or 600+ °F.

As you've probably had happen when lingering on a track feeder joint too long with the soldering iron, those plastic ties can melt, ruining the look of your scale track.

Temperature-controlled soldering irons can be had now for a reasonable price – I've discussed that previously – see the January 2019 MRH Running Extra for some affordable options.

With a temperature-controlled soldering iron, that begs the question: what about solder that melts at a much lower temperature than the styrene? That would allow me to solder feeders to the track and never melt a tie, guaranteed.

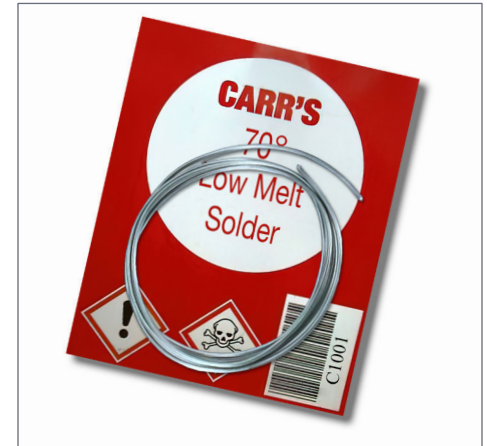
The trick though, is finding such low temp solder. I did a lot of online searches and I finally ran across Carr's solder [1]. Would you believe solder that melts at just 70° C (158° F)? *Ah-hah!*

Even with an iron set 100-200° F (50-100° C) hotter to compensate for heat transfer loss, that's still just 258-358° F, or 50-150° F below the melting point of styrene at 400°F.

Carr's sells a lot of different melting point solders, which can be especially handy if you're scratchbuilding in brass and don't want previous

THE AH-HAH MOMENT | 2

1. Believe it or not, you can get solder that melts at just 70°C (158°F). Carr's sells a large selection of solders for different temperatures. They're a virtual gold-mine of special solders for all your soldering needs.



2. I made this table below listing Carr's different solders and their melting points. I added suggested iron temps on the right. ↓

Carr's Solder melting points

Celsius	Fahrenheit	Product	Contains*	Iron temp C**		Iron temp F**	
				Low	High	Low	High
70	158	Carr's 70 (C1001)	Tin/Lead	120	170	258	358
100	212	Carr's 100 (C1044)	Tin/Lead	150	200	312	412
145	293	Carr's 145 (C1002)	Tin/Lead/Bismuth	195	245	393	493
179	354	Carr's 179 (C1003)	Tin/Lead/Silver	229	279	454	554
183	361	Carr's Speedy Solder (C1007)	Tin/Silver (rosin core)	233	283	461	561
188	370	Carr's 188 (C1004)	Tin/Lead	238	288	470	570
215	419	Carr's Zinc-Rich (C1013)	Tin/Zinc	265	315	519	619
224	435	Carr's 224 (C1005)	Tin/Silver	274	324	535	635
243	469	Carr's 243 (C1006)	Tin/Antimony	293	343	569	669

Tix solder melting point
67/37 tin/lead solder melting point
60/40 tin/lead solder melting point
Common silver solder melting point

* solders are predominantly tin/lead alloys, with the addition to small amounts of antimony, cadmium, and bismuth. Take care using solder containing cadmium. In newer stock, cadmium has been replaced with bismuth, which is a much safer element.

** You generally need to set your soldering iron temp at 100-200 degrees F higher (for celsius, 50-100 degrees higher) to counter heat transfer loss and get speedy flow for that temperature of solder.

parts you've already soldered falling off the model due to the heat from the iron when soldering on a new part. I made a table [2] showing all the temperatures of solder Carr's sells and marked them in color with the melting points of other solders we typically use as a reference point.

If you'd like to explore lower temp soldering, Carr's your source! ☑

To get a shopping list for this article, visit the MRH website at this link: mrhmag.com/magazine/running-extra/2021-10/ah-hah-moment#shopping



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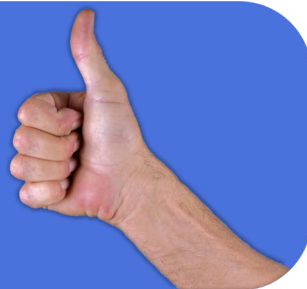
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PUBLISHER'S MUSINGS



Model Railroad Hobbyist | October 2021

JOE FUGATE NEW FORUM CONVERSION
DELAY UPDATE ...



IF YOU WERE WATCHING CLOSELY ON THE WEEKEND OF SEPTEMBER 25-26, THEN YOU KNOW THE CONVERSION TO THE NEW MRH FORUM FAILED. We've gone back to the old forum for now and the developers have been testing on the new forum to find the issue.

We did two test conversions, so we thought we were ready. But it turns out we were wrong.

Since the conversion failed, now what?

We deliberately set up this conversion so that we have a fallback if something goes wrong.

The new forum is now locked with a forum-wide password to keep folks out for now. Don't even try to login to the new forum because you will be locked out.

The developers have needed to test the forum without having to deal with folks logging in and trying to use it.

The developers have found the problem, so we will try another test conversion the week of October 18th and see how it goes. We do not need to lock the old forum for this test; we can just copy the data from the old forum database and then do a test load.



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Once we get a good test conversion, we will schedule another go-live conversion. It could be as early as the weekend of October 23-24, but we will see.

Whenever the new go live finally gets scheduled, we will let everyone know with a special email blast.

Remind me again why we need a new forum?

So what's wrong with the current forum? It seems to work fine – what happened to “if it ain't broke, don't fix it?”

You can't see it (thanks to some great contractors), but it turns out the old forum software is very broken and getting worse by the day.

Originally, we went with Drupal 6 for our website way back in 2008 because it's free open source software that was well baked-in at that time. Free is great for MRH since it keeps costs down.

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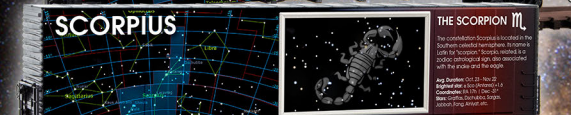
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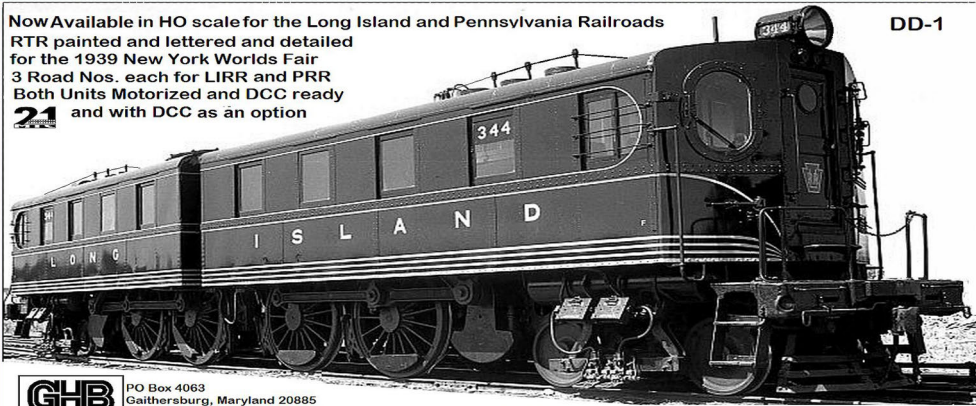
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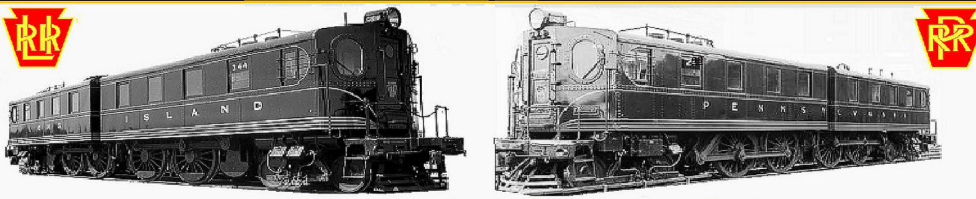


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PUBLISHER'S MUSINGS | 3

The Drupal 6 software was new in 2008, but Drupal 9 is the latest version, so we're now 3 releases in arrears.

Why does that matter? Our forum software is so old the only way we can keep it running is to pay contractors to keep it on life-support for us. They're great, but they're not cheap.

The biggest concern is security patches to keep the hackers at bay. Without these security patches, hackers would be able to get into our forum, steal your passwords, and trash the forum.

In short, our old forum software is a ticking time bomb, and at some point, we will no longer be able to add security patches to it because it's *just gotten too old*.

And as our old forum software ages, those contractors aren't getting any cheaper, either. We need to get off this old software before it ends up becoming too costly to maintain.

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Remind me what's in the new forum software again

The new forum software has a lot of new features in it, and it's a lot less costly than our current old forum.

Here's a short list of the most important new features we get with this new forum software:

- Works much better with tablets and smartphones.
- Easier than ever to post images.
- Easy ability to quote another post.
- Automatically post a video player inline by just pasting in the link to the video.
- The ability to follow a thread and get notified.
- Private messaging other forum members that works well (the old forum private messaging had become unreliable).
- Ability to like threads and posts with a single click, and the ability to see just the threads and posts you have liked.
- Real time online chat. If you want to ask someone a question in real time, you can use chat. If you don't want to be bothered by folks trying to chat with you, you can set yourself offline to chat.
- Email notification of post activity. If you follow a thread and you want notified by email, you can do that.
- Ability to respond by email. If the forum sends you an email of something you're following, you can reply via email and it will become a post on the forum thread. *Nice!*
- Online event calendar. You can post events to a public event calendar and get notices about those events.

But watch out on the email notification! It's easy to think you want notified on everything, but you will find your email being bombarded with emails from the new forum.



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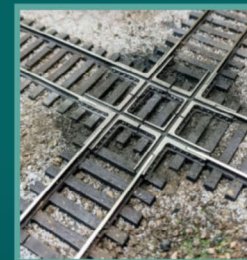
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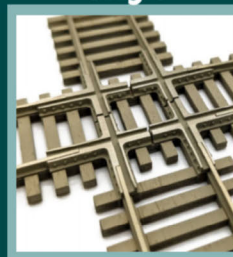
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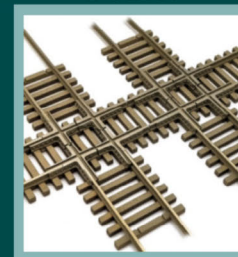
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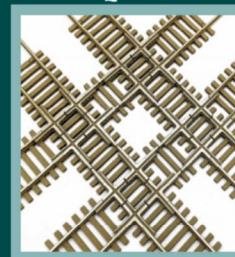
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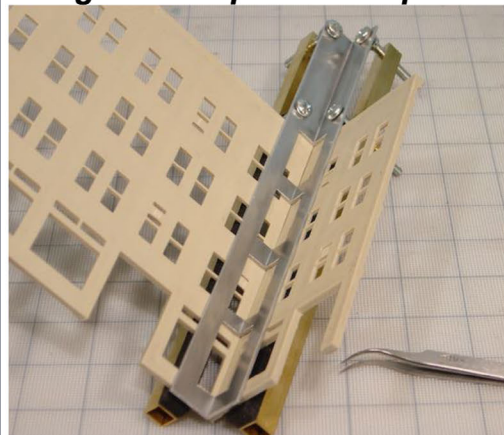
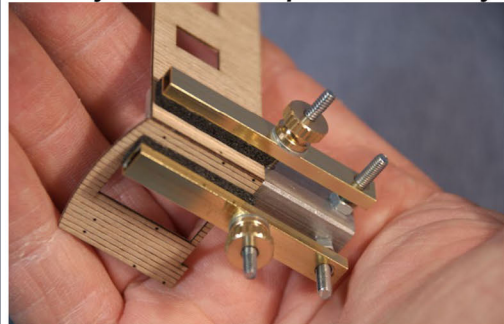
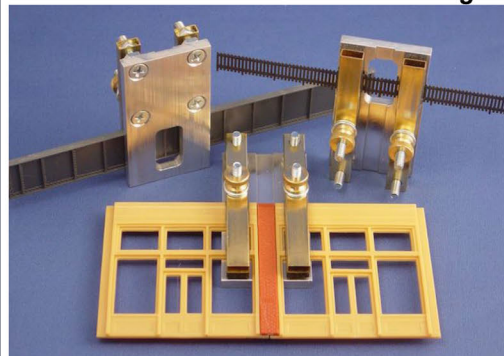
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PUBLISHER'S MUSINGS | 5**What's go-live look like?**

Once we have a good conversion test, we will schedule a new go-live.

When the go-live weekend comes, at 11:59pm Pacific time on the Friday of conversion weekend, we will lock the old forum.

You can still read the posts, but you can't make new posts.

Come the following Monday if the conversion was successful, you will automatically go to the new forum if you select Recent posts on the side menu.

The login will be removed from the old forum and you will need to login to the new forum instead.

After a few days to make sure the new forum is working well, then we will delete all the old posts.

Will old forum links go bad once we move?

One very relevant question: what happens to the old forum links once the new

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forum replaces it? Will bookmarks to the old forum give a 404 not found error?

The short answer is no, all old forum links will automatically go to the same thread on the new forum. The pros who do web site updates know moving things around is common, so there is a best practice way of dealing with pages that have moved.

This best practice method also keeps Google searches happy. If Google finds search results point to pages that are now missing, they will penalize you in searches. Not good!

The key to updating website links to they keep working even when stuff moves is to use what's called a 301 redirect. That's what we're doing for all 40,000+ threads on the old forum – we're putting 301 redirects in place to the same thread on the new forum.

This way, all the old forum thread links still work.

Let's look at an example. First, here's the link to the old forum thread *Enhancing HO scale turnouts with magnetic point locking*:

model-railroad-hobbyist.com/node/31686

And here's this same thread's link to the new forum:

forum.mrhmag.com/post/enhancing-ho-scale-turnouts-with-magnetic-point-locking-11955143

Essentially, we need to build a new table of 301 redirects for 40,000+ threads from the old forum. But once we do this, all old forum bookmarks and links will still work – they will not go dead as not found.

This is yet another example of how we have thought through every part of the conversion to the new forum to make it as seamless as possible.



The Shay locomotive was the most widely used geared steam locomotive. The locomotives were built to the patents of Ephraim Shay, who has been credited with the popularization of the concept of a geared steam locomotive. Although the design of Ephraim Shay's early locomotives differed from later ones, there is a clear line of development that joins all Shays. In 1884, they delivered the first 3-cylinder (Class B) Shay.

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PUBLISHER'S MUSINGS | 7

In summary

The go-live to the new forum September 25-26 failed so we have gone back to the old forum for now.

The developers have located what went wrong and corrected the conversion code, so we're ready for a new test in late October.

Once we get a good test, we will schedule a new go-live and we will email everyone to let you know when the new go-live will be.

Hopefully, we have found all the bugs and this new go-live will finally take and we'll be on the new forum! ☑



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LAST ISSUE RATINGS

Top rated articles in the [September 2021 issue](#) of MRH are:

- 4.8 Desert scenery on the 8th Sub
- 4.7 Google Maps for layout research
- 4.7 September 2021 news

Issue overall: **4.0**

Top rated articles in the [September 2021 issue](#) of *Running Extra* ...

- 4.8 Getting Real: Modeling traffic on your layout
- 4.7 More realistic scale logs
- 4.6 Aluminum foil boxcar details

Issue overall: **4.7**

Rate the articles! Click the comments button on each article and select the star rating you think it deserves. ■

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Run Loco: Recall the loco or press Loco and enter #, ↓. Adjust Speed: Use knob or press +1/-1. F0-F9: Press 0-9. F10-28: Press Shift, then two digits. Delete Loco: Press & hold Del. Stop: Press Stop. Turn on/off layout: Press & hold Stop. Speed Steps: Press Spd Step to select 14/28/128, ↓. Yard mode on/off: Press Sys, 3. Accessory: Press Accy, enter #, ↓. Press 1/2 for on/off. Route: Press Route, enter #, ↓. Fast Clock: Press Time. Program on Prog Track: Press Prog to select Prog Prog Track, ↓. To program following items, enter #, ↓. To skip press ↓. Adr = Address, SV = Start Voltage, Acc = Accelerate, dEc = Decelerate, TV = Top Voltage, CV # prompt for CV. Enter CV#, ↓. Then CV data, ↓. Program on Main: Press Prog to select Prog Main, ↓. For Current Loco press ↓, or enter Loco #, ↓. Then same way as above. Read on Prog Track: Press Prog to select ↓. To read data press ↓. To skip Shift. Err = error. Set Consist: Consist to select SET, ↓. Enter consist # (1-127), ↓. To add loco enter #, ↓. Now use consist # as loco # to run the group. Clear Consist: Press Consist to select CLR, ↓. Enter consist #, ↓. Set Old Consist: Press Consist to select Old SET, ↓. Enter lead #, ↓. To add loco enter #, ↓. Run old consist group: Press Consist, Loco. Enter lead #, ↓. Clear Old Consist: Press Consist to select Old CLR, ↓. Set Cab #: Press Sys, 6. Enter cab #, ↓. Each cab must have unique #. Cab #1 is master and has following features. Set last cab allowed to program on Main or Prog track: Press Sys, 7 or 8 respectively. Enter #, ↓. Set Route: Press Sys, 5, ↓. Enter route #, ↓. To add accessory enter #, ↓. Clear Route: Press Sys, 0, ↓. Enter route #, ↓. Set Time: Press Sys, 1. Enter, time, ↓. Set Rate: Push Sys, 2. Enter rate (how many seconds for a minute), ↓. Select AM, PM, or Military Time: Press Sys, 4.

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mrhmag.com **THIS MONTH**

Model Railroad Hobbyist | October 2021

Compiled by **JOE FUGATE**



Kitbashing a Walther's Grocery Distributor

MRH forum member **LyndonS** (Lyndon Spence) needed a structure he could fit into an odd space:

"I needed a building for a triangular site on my layout formed by a main road, side street, and a siding. Doing a net search, the Walther's Grocery Distributor seemed the right size ... I cut some walls and here is the result."

Lyndon posted lots of photos on the full thread, so check it out!



View the full thread on the MRH website

► **MRH'S MONTHLY GREAT MODELER POSTS**

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BEST OF THE MRH WEBSITE | 2



1. Randy Seiler has started holding regular op sessions on his layout and has been blogging about his experiences.

The dark side of ops

MRH forum member **RSeiler** (Randy Seiler) has a long-running popular blog on the MRH forum about his layout, the B&O/PC Cincinnati West.

Randy has discovered a dirty little secret about operations:

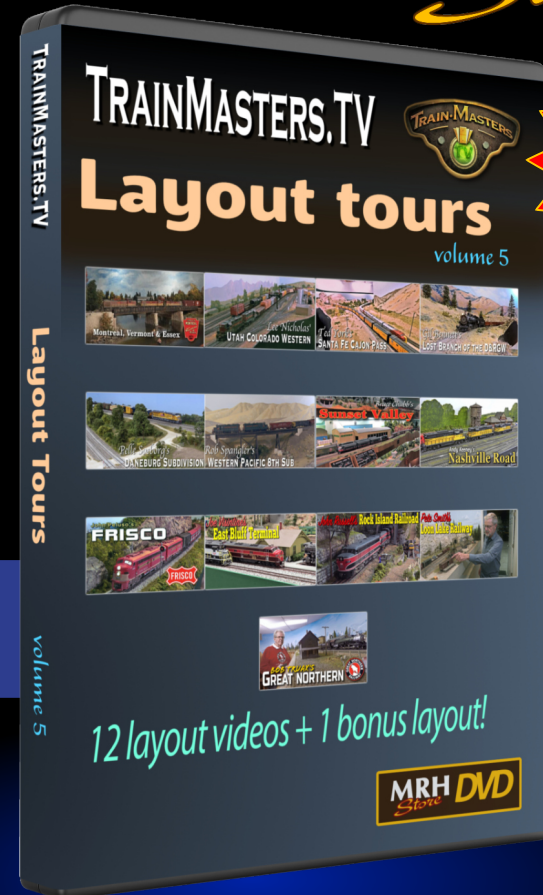
"Op sessions are like torture tests for your layout and equipment. It's like the Indy 500 of model railroading. The Baja 1000 of 1:87. The Isle of Man of HO. When you run all out, the weak are exposed. There will be victims. The photo shows my bad order lot from a recent session."

If you have a layout and run regular operating sessions, then you become quite familiar with bad ordered equipment. But take heart, this part of the hobby is likewise quite prototypical!

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

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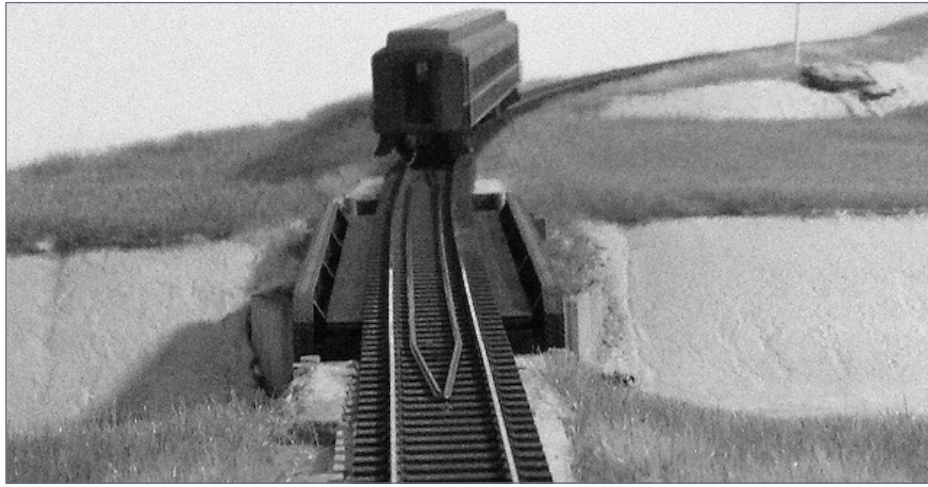
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2. MRH forum member and regular MRH contributor **Robert DeMeros** asked for advice on how to place guard rails on his 1950s bridge.

How to place guard rails on a bridge

Many forum members post some very thought provoking questions and that includes regular MRH contributor **Deemiorgos** (Robert DeMeros). Robert's latest post asks about bridge guardrails:

"I can find modern pictures of railroad bridges with guard rails, but I'm not sure how guard rails should be placed on my 1950's era bridge."

Then after many helpful posts, Robert said:

"Thank you all for your replies. I found some code 55 rail. Not measuring yet; just placing it to test fit it [2]."

The discussion continued, covering how to best fasten down the guardrails to the track. Read the full thread and follow the discussion for useful ideas on adding guard rails to a bridge.

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



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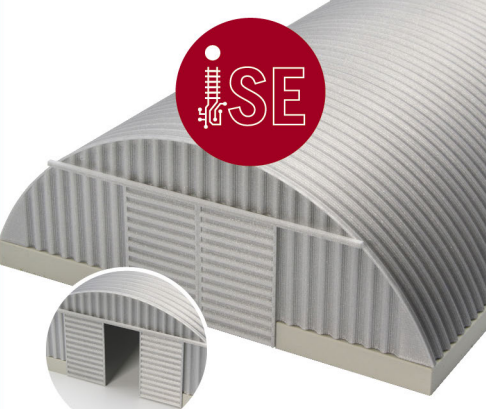
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3. *MRH* forum member **tbirdfour** asked about how adapt this depot to properly model the freight room door in the open position.

Open doors on freight depot type structures

MRH forum member **tbirdfour** asked about how to properly model freight room doors in the open position on this depot [3].

"I have an HO freight depot that I am building and I want to add an interior kit from ITLA Models but I am not sure how the doors on the kit should be positioned. Should they swing out, swing in, or slide open?"

Great question! Many *MRH* forum members stepped in to help him decide which way these freight room doors move. Along the way, the responses also help provide more insight on how to model freight room doors in general.



4. Freight room interior kit available from ITLA Models.

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

Monthly *What's on your workbench* photos!

Besides the Weekly Photo Fun thread, the *MRH* forum also hosts a monthly what's on your workbench thread. The photos provide some great inspiration for your own workbench projects, plus it's just plain fun to see what others are up to!

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



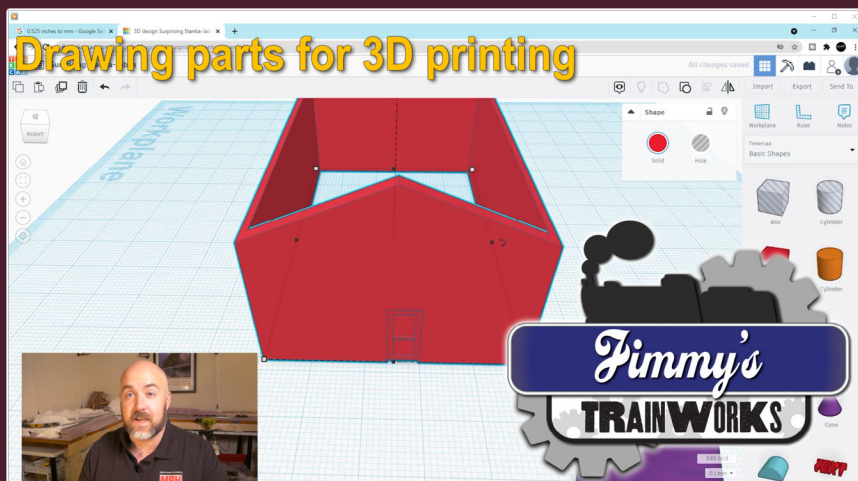
5,6. *MRH* forum member **TomO** (Tom O'Connell) has 23 (!) pulpwood cars destined for the weathering bench. He's adding couplers, new wheels, and aging the decks to show working cars.

★★★★★
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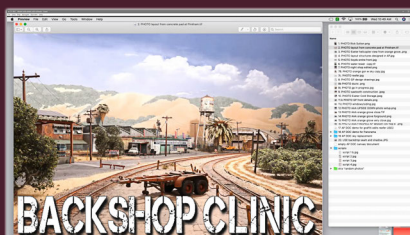


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WHAT'S NEAT

column



Model Railroad Hobbyist | October 2021

KEN PATTERSON
COVERS THE 2021 ST.
LOUIS RPM MEET ...



THIS MONTH KEN, Joshua, and Daniel attend the 14th Annual St. Louis Railroad Prototype Meet in Collinsville, Illinois, interviewing many of the people there. The RPM set a record for with over 700 people in attendance.



click to play video

PHOTOS AND VIDEO OF SUPERB MODELS

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The St. Louis RPM



1. Over 700 people attended the 2021 St. Louis RPM, with nearly 3000 models on display.



2. Bill Denton, holding a ProtoThrottle, brought his 12' N scale Milwaukee Road Kingsbury Branch layout to the RPM.



3. The N scale Kingsbury Branch layout, a Milwaukee Road switching layout based on an article in a 1975 *Model Railroader* magazine, features code 40 track with scratchbuilt and Micro Engineering turnouts.



4. Ken interviews Joseph Blevins, who 3D prints modern structures.



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5. Joseph models vehicles and says that the Whataburger seen here is his favorite structure. He also 3D-prints his roads.



6. Steve Hurt builds a new model in large scale for the RPM each year. He also had a model to present to Ken and "What's Neat."



7. Steve's model this year is a Freightliner Yard Spotter decorated for Frisco. The frame, chassis, and body are all scratchbuilt.



8. Pete Munger shows off three HO scale modules to display different eras of kits he built, and he and his friends weathered. He uses textured paint for his roads.





9. Ken interviewed Dave Hussey of Cannon & Company about the new gondola kits he is releasing in HO scale.



10. Cannon & Co. debuted six new gondola kits at the show. The kits feature laser-cut sides, ribs and ends. The modeler will need to provide trucks and couplers and other detail parts. The models are built with a double floor to hide a weight.



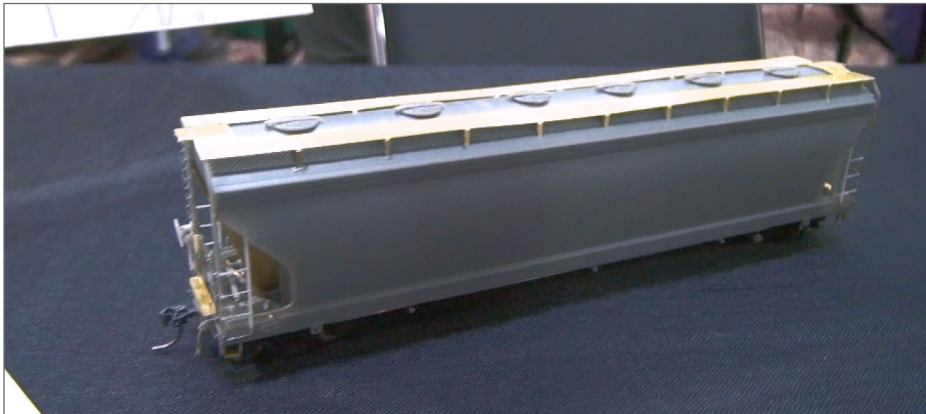
11. Ken interviewed Tony Cook (right) and Shane Mason (center) of White River Productions. Tony is an editor or contributor to *Model Railroad News*, *Diesel Era*, *HO Collector Quarterly*, and *Railroad Model Craftsman*, and Shane is an associate editor for *Model Railroad News*.

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12. Blaine Hadfield founded Arrowhead models three years ago and has released both a Committee Design Hopper and a Railgon gondola, both in HO scale. Arrowhead also has scale wheelsets with accurate axle and wheel contours.



13. Arrowhead's third model will be an ACF 4600 cu. ft. covered hopper, which will be released in several phase variations for Chicago & Northwestern, Rock Island, Burlington Northern, Missouri Pacific, Union Pacific, Milwaukee Road, and BNSF.

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14. Ryan Matthews of Iron Planet Hobbies is the importer and distributor for Digikeijs DCC systems and accessories for North and South America.



15. The Digikeijs DR-5000 supports throttles and accessories from many different manufacturers, as well as having built-in WIFI support. See the June 2019 issue (model-railroad-hobbyist.com/magazine/mrh2019-06/dr5000) of MRH for a First Look article on the DR-5000 command station.



16. Thomas Kelly collects, builds, and kitbashes cranes and other construction equipment, some of which is comparable in value to a brass locomotive.



17. Thomas' diorama is a crane shop and yard, which allows him to display his cranes in a prototypical environment.





18. Joshua interviews Chris Brimley of ExactRail, who explains about new products en route, and the shipping delays that everyone is enduring.



19. Chris also showed the model of the completely scratchbuilt Burlington, Iowa station that he built for a friend in Georgia. The station was to be exchanged at the RPM. It includes a full interior.

To see the interviews as well as more videos of the models on display at the RPM, watch the full video linked at the beginning of this article. ✓



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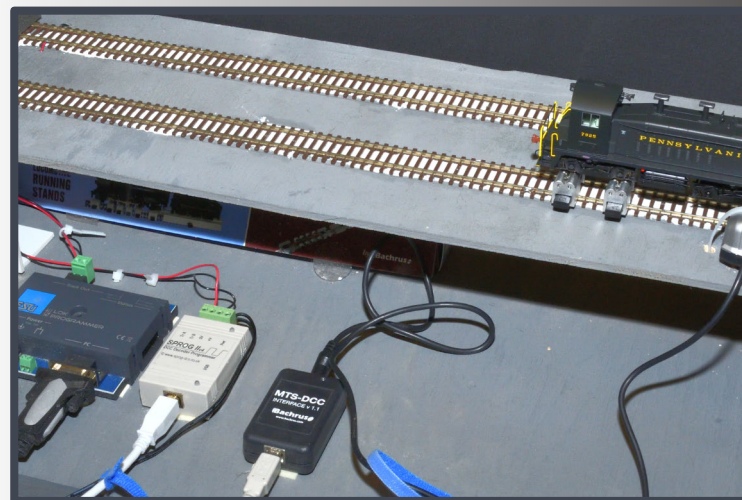
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PROGRAMS SUCH AS JMRI (JAVA MODEL RAILROAD INTERFACE) HAVE MADE programming DCC decoder-equipped locomotives and rolling stock much easier, though you need a computer and a DCC system to use them. If your workbench is not in the same room as your

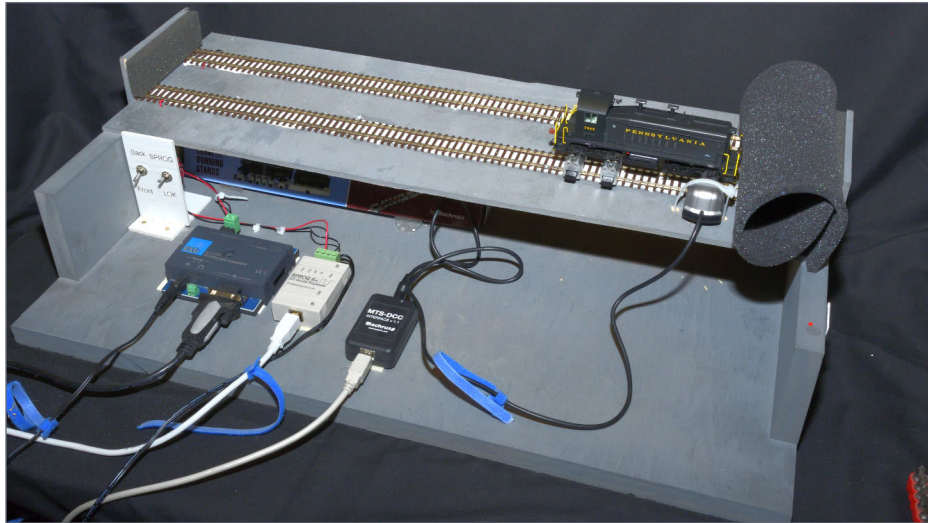
BUILD A PORTABLE PROGRAMMING STATION | 2

layout, taking your project to the layout, programming, returning to the workbench for adjustments, and repeating gets inconvenient. Especially if you must lug the computer to the layout and connect it each time.

I built a portable, self-contained programming station to address this issue. It consists of a small box to mount and house a small DCC system, programming accessories, and a pair of tracks for programming. With building materials and a few inexpensive devices, you can fabricate your own.

BUILDING THE BOX

The first step in setting up the portable programming station is building the box. The base and lid of the box are 1/8" plywood, and the three sides are 1x4 lumber. Two tracks will go across the entire length of the box's top, and I added safety walls of



1. The completed programming station. The locomotive is sitting on a built-in speedometer to facilitate speed matching. The foam on the right holds the locomotive's position on the speedometer.



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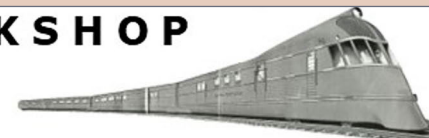
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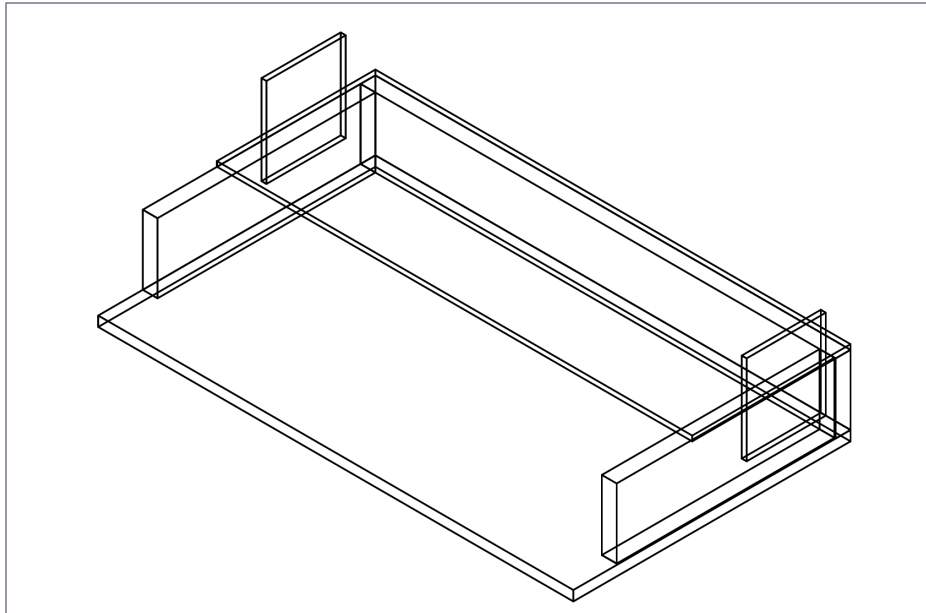
BUILD A PORTABLE PROGRAMMING STATION | 3

1/8" plywood on either ends of the tracks to prevent roll-off accidents [2].

I needed the top of the box to be long enough to accommodate my longest locomotive and wide enough for two tracks, with ample room for handling. The sides needed to be tall enough to store all necessary equipment and wires. I wanted the bottom of the box to extend about 6" forward from the top to allow for easy equipment mounting [3].

First, mount the walls to the base using flat head screws and do the same for the top. Give the completed box a coat of paint.

Draw parallel lines on the top to determine track spacing, and use caulk to secure the tracks in place. Secure the 4.5" x 4.0" plywood safety walls to either end of the track with 1/2" round



2. A three-dimensional diagram of the components for the programming station's box.

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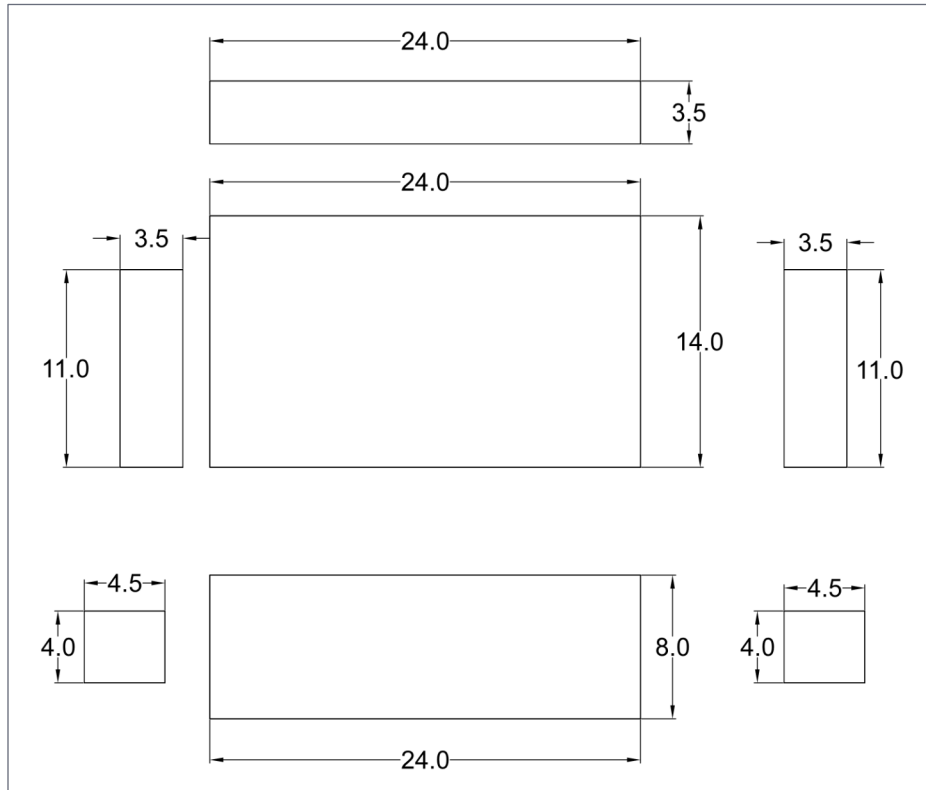
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BUILD A PORTABLE PROGRAMMING STATION | 4

head screws. Line the insides of the safety walls with foam to cushion any locomotive impacts and prevent coupler damage.

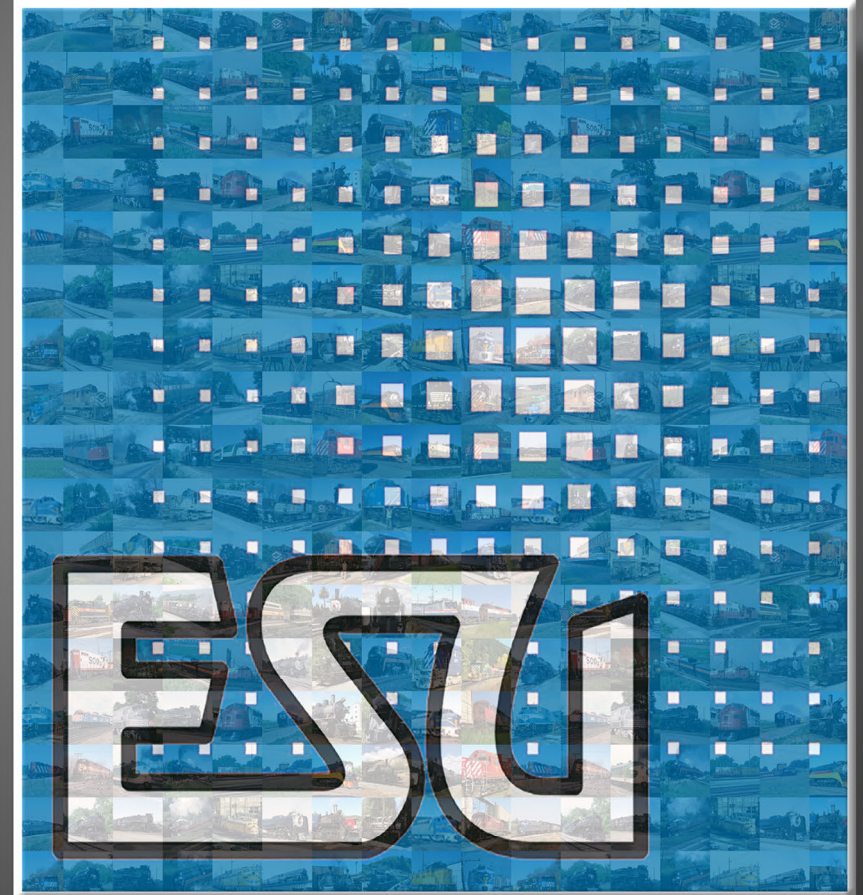
Drill holes next to each rail toward one side of the box and solder feeder wires to each rail. Route the feeder wires into the box. They will eventually be routed to a switch panel to connect the tracks to various devices.



3. This diagram shows the dimensions for the top, bottom, and sides of the box. I designed my box to accommodate two standard-gauge HO scale tracks on top, with programming equipment on the bottom. Adjust the dimensions as needed for your modeling scale and equipment.

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CHOOSING A DCC SYSTEM AND ACCESSORIES

You could use any command station for your DCC system. I chose a SPROG II DCC system for mine (sprog.us.com/SprogIIV4UserGuide.pdf) because of a few significant advantages over other systems.

SPROG is an inexpensive, complete command station designed for use with a computer running JMRI. It includes a built-in USB interface for easy computer connection.

SPROG has only one set of track power outputs, so it uses the same track for programming mode and operations mode. You can switch between these using JMRI software. Most command stations require a separate, dedicated programming track.

In JMRI programming mode, SPROG can read and write CVs to the decoder of a single locomotive. Unlike many other systems, SPROG offers the ability to run the locomotive while still in programming mode, to test its functions.

SPROG will work with any computer running JMRI, including Windows, Mac, or Linux. All this makes SPROG an excellent option for a mobile programming station.

I also included an ESU LokProgrammer for my station since I have quite a few locomotives equipped with ESU LokSound. The ESU LokProgrammer is not strictly necessary, but is much faster reading ESU decoders than JMRI, requiring less than a minute for a full readout vs. over an hour with JMRI. Note that so far, the LokProgrammer operates only with Windows.

I use the LokProgrammer to save ALL my ESU decoders' CV values and to allow a reset to the original state. I also find that I can more readily make function modifications to my ESU decoders.

If your primary decoder type requires a lot of manufacturer-specific actions and the decoder manufacturer offers a proprietary programmer, I recommend including that in your mobile programming station.

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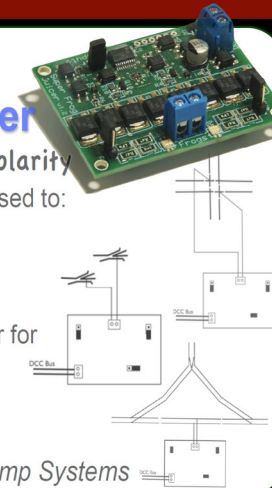


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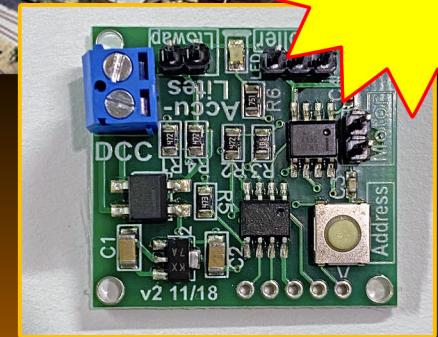
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Finally, I wanted to include a Bachrus Speedometer with the station. The Bachrus Speedometer uses rollers to power the locomotive and measures speed based on roller rotation. I chose the version that includes a USB interface and uses JMRI to provide an output display.

A roller-based speedometer is a valuable tool for the mobile command station because it can facilitate speed matching faster than any other option. Simply move through the speed steps, record speed, and adjust the corresponding CV. No calculations based on layout distance or waiting for the locomotive to pass through a photo gate.

Unfortunately, the Bachrus company is no longer in business, and the speedometer is no longer manufactured. You may still be able to find it used, or you can build your own – see the sidenote.



J. Fugate

BACHRUS SPEEDOMETER ALTERNATIVE

The Bachrus Running Road Speedometer is no longer available – but the October 2020 issue of *Model Railroad Hobbyist* has an article on how

those with a technical bent can make their own:

model-railroad-hobbyist.com/magazine/mrh2020-10/electrical-impulses

CONNECTING THE DEVICES

To connect the SPROG and the LokProgrammer to the tracks, we need a set of two DPDT toggle switches [4]. The first switch toggles between the front and rear tracks, with the wires from the rear track connected to the top and the wires from the front track connected to the bottom. The middle terminals connect to the middle terminals of the second DPDT toggle switch.

The top terminals of the second switch connect to the SPROG and the bottom terminals connect to the LokProgrammer. If you have more DCC programming devices to connect, you'll need additional switches.

I mounted the switches in a 2" x 3.5" styrene panel. I glued the panel vertically on a 2" x 3" styrene base, which I screwed to the base of the programming box. I added a triangle of styrene to one side for additional support [5].

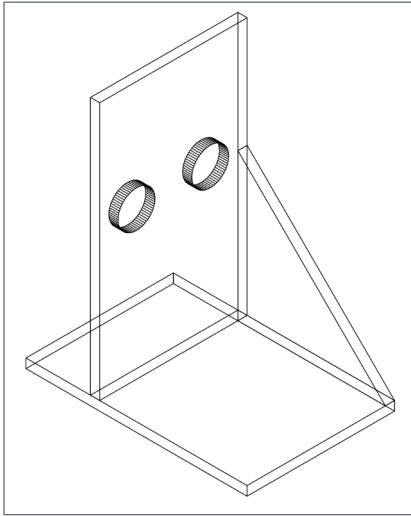
I used double-sided foam tape to fix the programmers in place. The portable programming station is now complete [6].



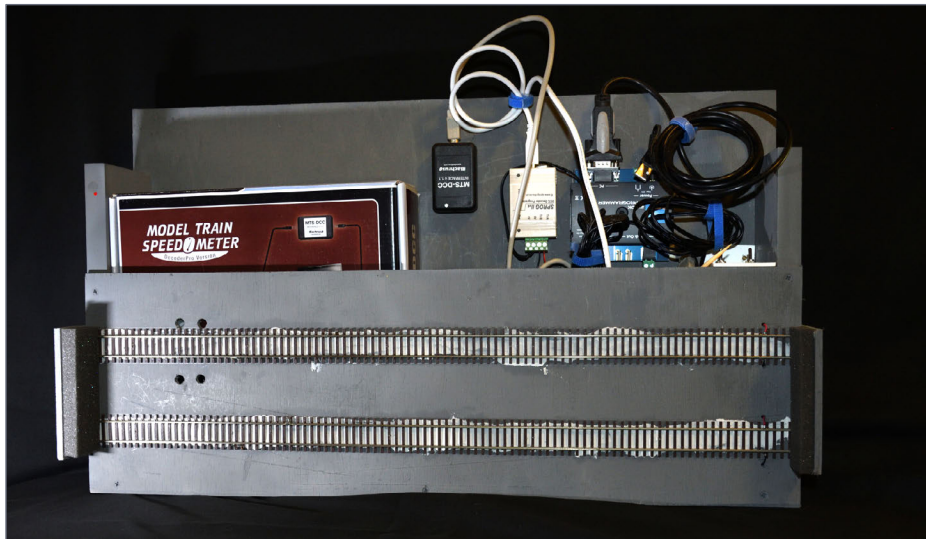
4. The switch panel.



CONNECTING YOUR COMPUTER TO THE STATION



5. Diagram of the styrene switch panel structure.



6. Top-down view of the completed programming station.

If this is first time you have used JMRI for your station's programming setup, you will need to choose a new profile and add the command station and connection. A SPROG must be defined as "SPROG DCC" to JMRI to use as a programmer (don't choose "SPROG Command Station"). Be sure to choose the appropriate COM port from the menu for the SPROG, the Bachrus Speedometer, your LokProgrammer, or any other device you might use with the command station.

JMRI is port-sensitive. Once you have the connections established, be sure to write down the port numbers and remember the specific USB port you used for each device. This can save a great deal of grief later.

PROGRAM YOUR LOCOMOTIVES

Finally, you are ready to run JMRI with your portable programming station. Place the locomotive on a track and select that track and your SPROG (or other command station). When you click on "Identify," JMRI should begin sending commands to the command station to identify the locomotive on the programming track.

If you are using the Bachrus Speedometer for the first time, you will find that getting the locomotive onto the rolling wheels, and keeping it in good contact with them is tricky. It helps to position the locomotive so that it is trying to "climb" the speedometer wheel, or you can position the locomotive and block it from moving forward. Note that in [1], the foam presses against the front of the locomotive, keeping it in contact with the speedometer.

Good luck with you programming station. You will find it useful be able to make programming adjustments quickly and without disturbing your railroad. ☑

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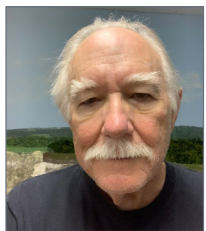
J. S. Walton

SHARING A JMRI LIBRARY ACROSS COMPUTERS

If you should have a dedicated layout computer in addition to the computer you are using with your mobile programming station, you will likely want to share a common library between the two. Even better, you may want to have changes made in one programming station show up in the files on your layout or elsewhere.

This is possible with the use of a network drive or a cloud-based service such as DropBox. Simply make sure that the JMRI User Files Location location is in DropBox or a shared network drive for both computers.

J. SCOTT WALTON



Scott retired in 2019 after over 50 years in the computer business as an application programmer, database administrator, trainer and operating system support specialist.

He is still involved with computers, but mostly because of his model railroad. That's because of the amount of wire used to put detection and signaling on the layout (and of course that takes a computer and JMRI).

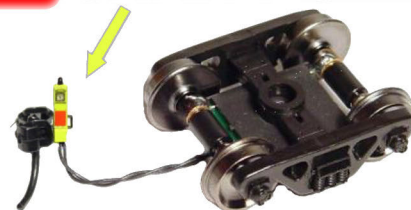
Scott models the Pennsylvania Railroad in the late '40s, somewhere in western Pennsylvania. The main loop (double track) circles an inner peninsula which contains the yard. Temporary signals are in place (and working), but the double-head Pennsy position light signals are in place in only a few locations.

His other hobbies are biking, reading, and cooking. ■

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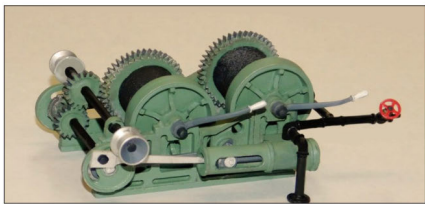
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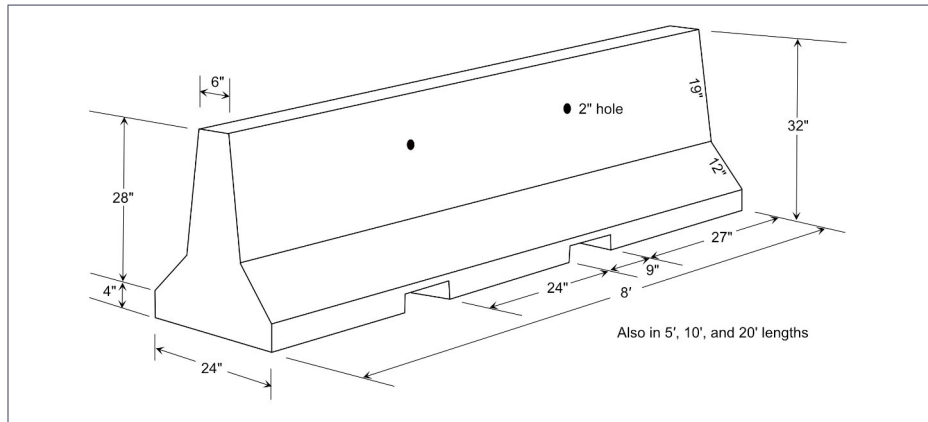
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JERSEY BARRIERS, from New Jersey and K-Rails, from California, first appeared around the same time in 1950s as a reinforced concrete “wall” to prevent cars from crossing the center median, resulting in head-on collisions. Originally, the installation involved pouring them in place rather than being a movable modular design.

By the 1960s, the design changed to a modular style that could be moved around with a forklift. The standard design is 32” tall, 24” wide, and made in 5’, 8’, 10’, and 20’ lengths. These barriers can be seen along roads, at constructions sites, or anywhere vehicles need prohibited from entering.

Drive any distance and you will see these barriers frequently.



1. Jersey Barriers come in a variety of dimensions with various other attributes such as holes and notches in the base or end.



2. Here’s a prototype photo of a Jersey Barrier. It’s 8’ long and has notches and holes. This version also has a curved slope rather than an angular one as seen in [3], as well as end holes and hook detail.

REAL JERSEY BARRIERS

Let’s look closer at some prototype Jersey Barriers. As I mentioned, they come in many lengths, but let’s look at the 8-foot length [1]. Here are some prototype photos that show the variations [2, 3, 4].

I want to model an 8’ Jersey Barrier with notches on the bottom, holes above the notches, and smooth ends. I’m aiming a more rounded look as in [2].

Styrene is not an ideal material to represent worn concrete. It simply does not chip or crack in the same way. I want to use the styrene barriers as masters for plaster castings, which crack and chip just like concrete [5].

MAKING THE STYRENE MASTERS

I used 0.040” styrene, which equates to roughly 4 HO scale inches, just about right for the thickness of the Jersey Barrier’s



3. This version of the Jersey barrier is also 8' long, has notches and holes. Also note it has smooth ends and angular sides.



4. Here's an 8' long Jersey Barrier with notches on the bottom, smooth ends, but no holes. Also note it has a smooth curved side, rather than an angular one.



5. Real Jersey Barriers often get beat up and chipped as shown here.

base. Gluing two sheets together at the top of the barrier produces a thickness of 8". With some sanding to give the top a taper, it comes to about 6".

I made the base out of two 24" x 27" squares on the ends, and added a 24"x24" piece in the middle. I cut a one foot wide strip 8' long and sanded it into a shallow triangle shape (like a roof angle). Then I glued the two 27" pieces on the ends and eyeballed centering the 24" square piece in the middle [6].

I also cut two 8'x31" strips. I lightly drew a line 12" from one side to denote where I needed to make my bend.

I used a hand brake from Harbor Freight to control the bend [7]. I put the fat end of the styrene on a short piece of 2x4 that I keep on my workbench and pressed down on it with my scale ruler.

I gently bent up the styrene using the handbrake, taking care not to snap it [6]. I sanded the bottom of the side pieces into a

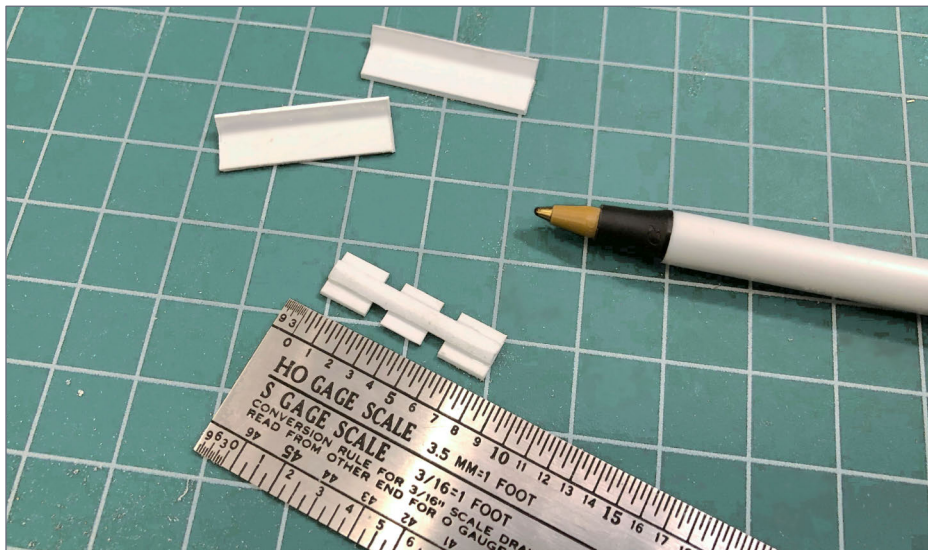
MAKE YOUR OWN JERSEY BARRIERS | 6

sharp taper with an emery board so they would sit flat on the bottom. I also sanded the top of the sides to narrow the top and give it a slight taper.

Once I had glued everything together, the ends had some gaps I needed to fill to make the master look like one solid piece [8]. I applied flexible vinyl spackling with a small palette knife and let it dry overnight [9, 10].

I sanded the ends flat the next day. I drilled a #74 hole above each notch about 12" down from the top of the barrier, measuring to the top edge of the hole.

As I looked at my masters [11], I decided they needed more curve to the bottom taper, so I used carpet tape to attach 150-grit sandpaper to the side of a 1/4" dowel and sanded more curve into the bottom [12]. Be careful to avoid sanding the bottom of the upper sides, or you will give your barrier an hourglass profile when viewed from the end!

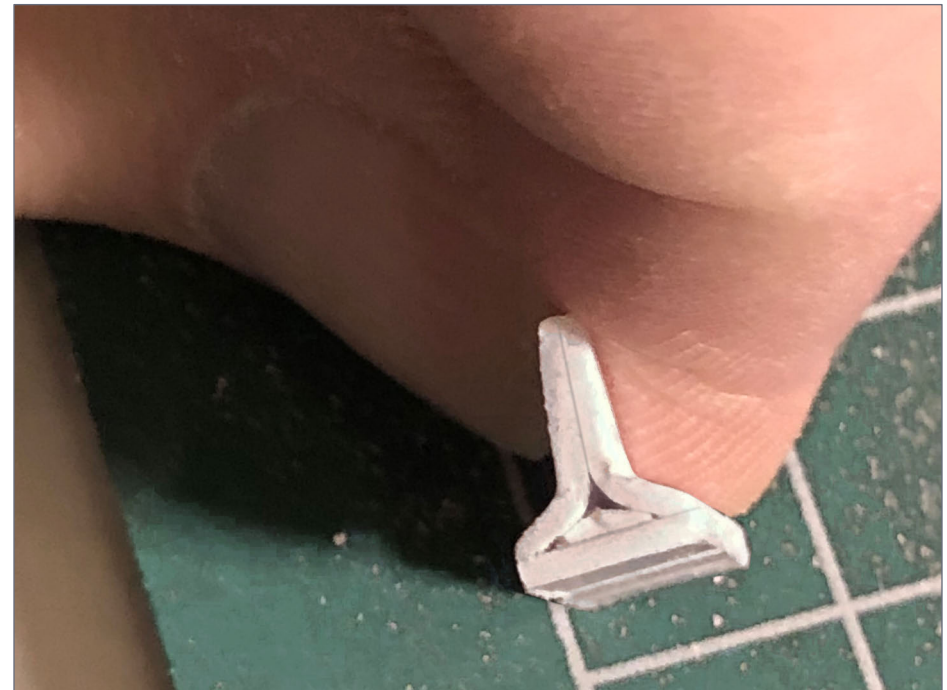


6. I'm assembling the base of my styrene master here. You can see the sides in the back, already bent with the hand brake. Next will be to glue the sides on.

MAKE YOUR OWN JERSEY BARRIERS | 7



7. You can get this hand brake from Harbor Freight for just \$19. It makes bending the styrene sides much easier. It's also handy for a lot of bending we need to do with sheet stock when modeling.



8. End-on view of the assembled styrene master. The gaps need to be filled to make the master into a solid piece.



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MAKING THE MOLD

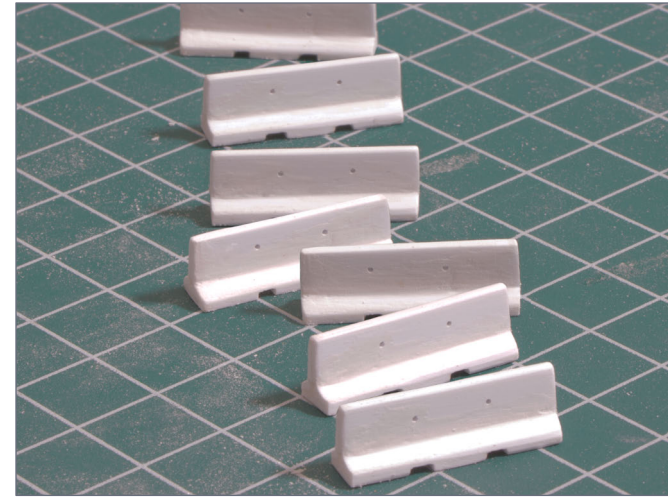
When I had enough masters for a good variety of barriers, I turned my attention to building a mold. I had not done much mold building, so I watched videos online to better understand the process.



9. I used flexible spackling to fill any gaps on my barrier masters.



10. I applied spackling with a small plastic palette knife.



11. Here are my finished styrene masters. After studying them, I decided they could use a bit more curve on the bottom, so I sanded them further [12].



12. I used double-sided carpet tape to stick sandpaper to a 1/4" dowel and sanded some additional curve into the bottom.

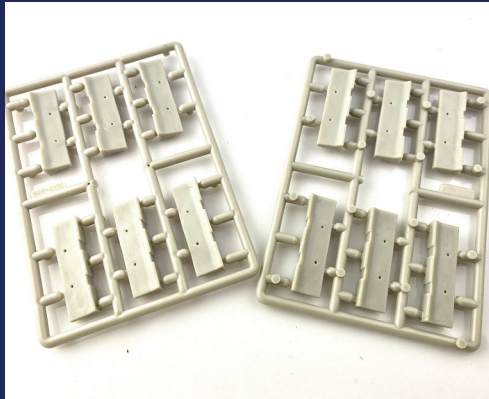




G. Baker

BUY RATHER THAN BUILD

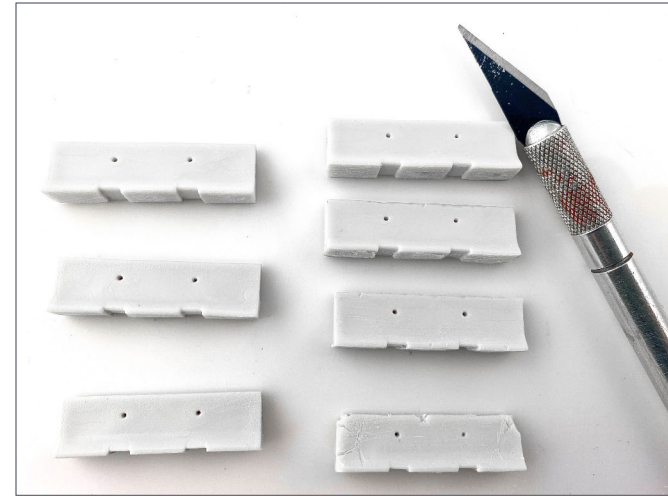
Recently Walthers Trains offered Jersey Barriers as an injection-molded detail part in their Scenemaster series (949-4175). If you would rather buy than build your barriers and you are fine with them looking like new, then the Walthers barriers make a great option.



13. Walthers Jersey Barriers. The kit comes with 24 Jersey Barriers molded in a gray plastic, great for creating a section of new barriers.



14. I used a 150-grit sanding block to rough-up the sides of my masters to represent older concrete.



15. I used a sharp hobby knife to cut away any burrs from sanding, and a flush cutter to nip a few corners off some of the barricades. I cut notches in the top edge to represent dings and damage. I scribed cracks

and scrapes into a few barriers with the knife tip.

I used Smooth-On Oomoo 30 Pourable Silicone Rubber, a two-part mix, to create a rubber mold that captured fine detail [17].

So that's how I am able to mass-produce Jersey Barriers for my layout. I realized after I made the masters that I didn't really need to do the notches in the bottom, since they're not reproduced in the castings. If I do want notches in the bottom of my castings, it's easy enough to use a small needle file to add them back in.



16. I found a "three-pack of long storage trays" from Target work well for creating molds.



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17. I glued the barriers to the tub with Bob Smith's CA, leaving enough space to allow the castings to be removed later. Use only enough glue to secure the item. Too much can create a mound or puddle underneath that affects the look of the casting.



18. Smooth-on Oomoo 30 Tin-Cure Silicon rubber produces enough material to make molds in three of my Target plastic tubs, up to 2" thick.



19. After mixing equal parts of the A and B materials thoroughly, I poured the mixture over my plastic masters. Pouring slowly and allowing the material to settle reduces the likelihood of air bubbles around the masters. The product cures in about six hours, so I let the mold cure overnight.



20. The next day I flipped each plastic tub upside-down and gently pulled it away from the mold. The mold dropped right out, taking the masters with it. I carefully removed each master and, if needed, cut away excess material around the top of the mold to allow the masters to release cleanly. The molds were ready for casting.



21. I recommend using plaster intended for making castings. I planned to color it with Charcoal Quikrete Liquid Cement Color, a heavily concentrated material normally used to dye concrete. A little bit goes a long way!

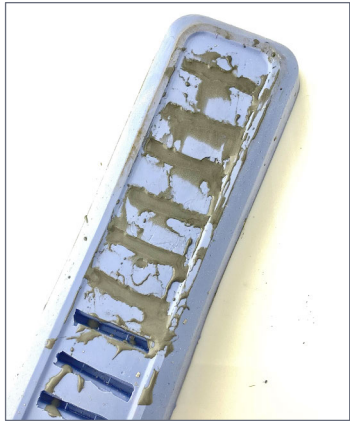


22. I followed the directions on the plaster bag to mix it in a small container. I then added a few drops of Charcoal color.





23. I mixed-in the color as evenly as possible. This product dries lighter than what you mix.



24. With the plaster mixed, I slowly poured it into the mold, working it into the edges of the mold with a paint palette knife.



25. Once I had all cavities filled, I used the palette knife to push the excess material to one end of the mold, where I wiped it up with a paper towel. This made cleaning-up the casting easier afterward.



26. Once the plaster set enough to handle, I used tweezers to carefully remove the castings from mold. I put them in a safe place to finish curing.



27. When the pieces cured, I cut off the excess plaster and sanded the bases level. The color lightened during curing to look like concrete. The various chips, cracks, and breaks resemble the real thing nicely.



28. I dry-brushed the barriers with Vallejo Off-White. This gives the look of barriers that are sun-faded from years of service.





29. Here's the finished barriers added to a scene on my layout.



30. The finished barriers add a great element to the layout scenery. I encourage you to try molding your own barriers.

Now you can easily make as many of this common detail as you need for your layout! ☑

GREG BAKER



Greg Baker has been “seriously” model railroading since 2000, but as long as he can remember he has always been fascinated by trains. Greg’s main interest is the Spokane Portland & Seattle Railway and its operations in Oregon in the late 1960s. He enjoys the operations along the Oregon Trunk, but has recently started a modeling project based on Astoria, Oregon.

Greg lives in the Portland, Oregon area, and has started a job with a local transit agency there. He is excited to be back in Oregon and to enjoy everything it has to offer, while spending time with his wife and two kids. He is currently working on remodeling his garage into a workshop and layout room. ■

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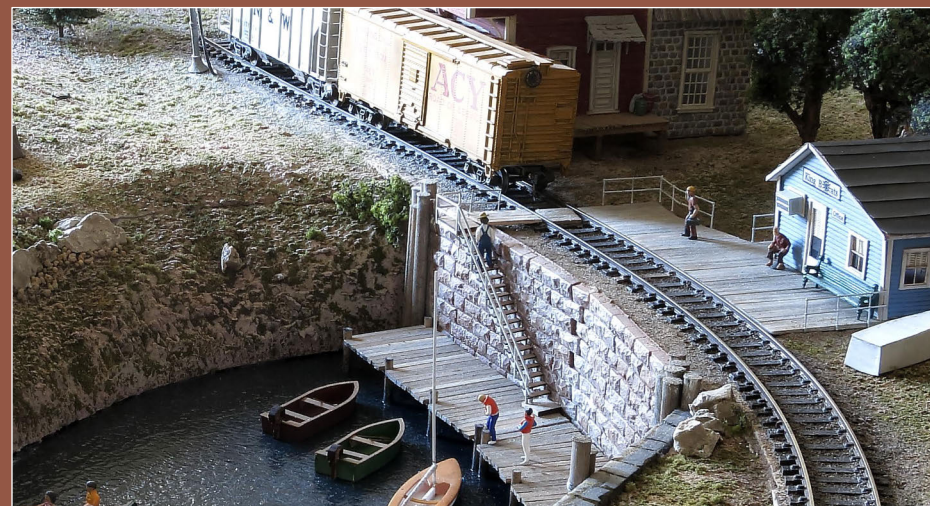
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Model Railroad Hobbyist | October 2021



PETER VASSALLO PRESENTS HIS TINY HO LAYOUT THAT HAS IT ALL ...

TUCKED IN A CORNER OF MY APARTMENT STANDS A SMALL 4x6' HO scale layout I've enjoyed operating for two years now. I call it the Northspur and Tiburon railroad, loosely based on two California prototypes (California Western and Northwestern Pacific). I'm proud of the design, particularly how it offers both mainline running and switching potential [1].



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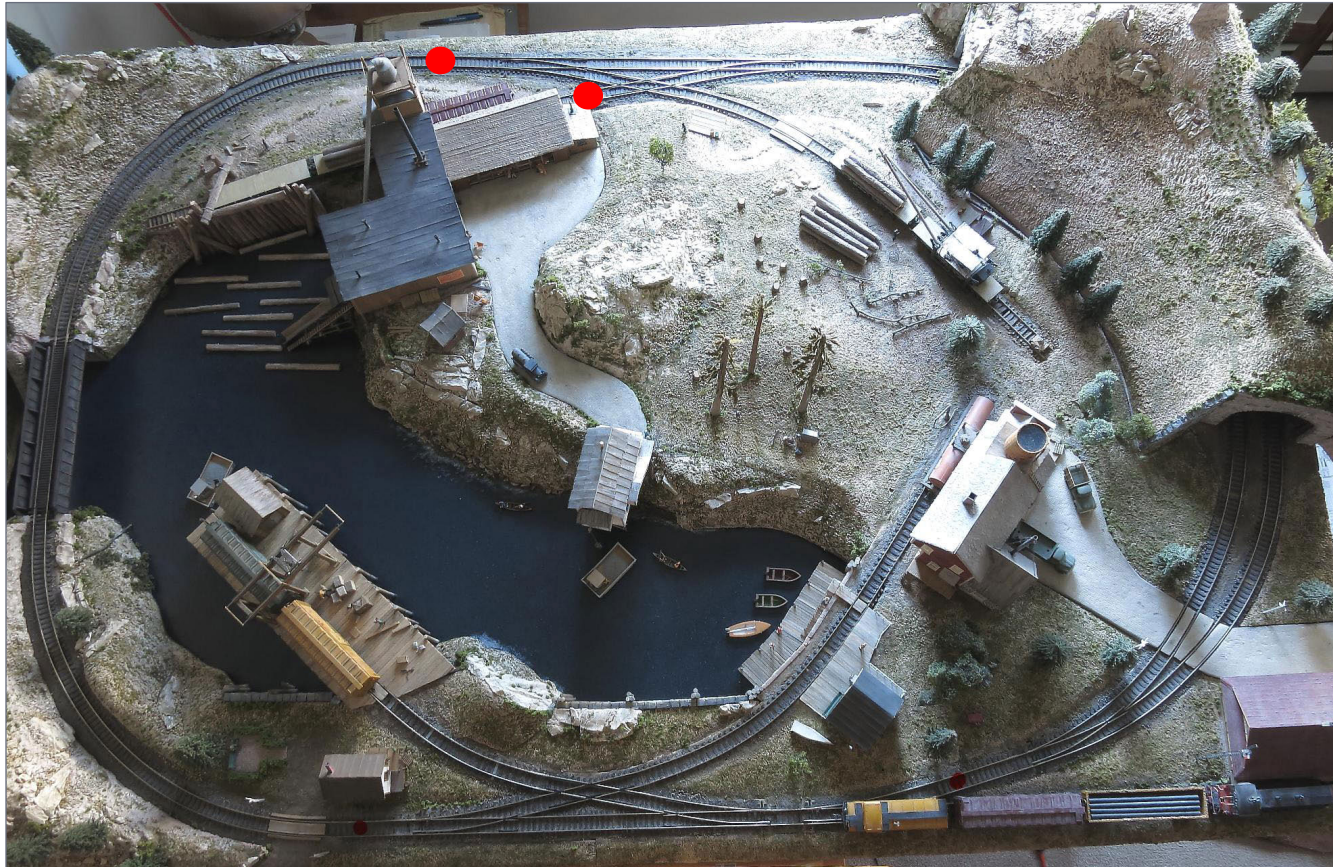
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24 SQUARE FEET OF RAILROADING FUN | 2

Although I enjoy switching, I get bored if that's the only thing possible on a layout. I prefer to switch one location – even if it's just swapping a single car on a spur. Then I might run along the mainline for a while, and stop and switch another location.

On such a small layout, the mainline running consists of taking laps along the outer loop, but that's fine by me. I enjoy watching the trains traverse the loop (I keep the trains short at three or four cars).



1. Top view of layout highlighting track plan. Red dots indicate hidden uncoupling magnets. The mountain in the upper-right corner is easily removable for access.

24 SQUARE FEET OF RAILROADING FUN | 3

I think most negative views on roundabout model railroads come from layouts that lack finish. I agree that running circles on a layout that is little more than a sheet of plywood would quickly get boring, but running circles on a densely scenicked, attractive layout is another matter. I find it relaxing and fun.

I took lots of pictures during construction of this layout, and eventually turned it into a book, *Build Your First Layout* [2].

Despite its title, I think the book offers plenty to interest old pros as well: tips on working with foam to create scenes, tips on building structures, how to model a harbor, a pier, a sawmill, etc.

I like to do things as simply (and as cheaply) as possible while still ending up with something that's visually appealing.

Most layouts are built to be viewed from one side only. This layout can be viewed from three sides, so it had to be detailed accordingly. I like the different views afforded by simply walking from one side to the other.

I designed the layout to be operated from either side [3-4]. A single operator would run trains from the conductor's side (to readily handle the turnouts when switching). With two operators, the engineer would run the train from the side opposite the conductor.

A third person could handle dispatching duties on a simple track panel installed at one end of the layout. The only backdrop on the layout is at the end against a wall opposite the dispatching end.



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2. Book describing construction of Northspur and Tiburon layout.

The trains are operated as turns. The Fort Bragg Turn runs from the station at Willits to the log loading site at Northspur, then on to Fort Bragg to switch the sawmill/lumberyard. From there, the engine runs around the train for the return trip, first to Northspur and then to Willits [5].

The Tiburon Turn runs from Willits to the brewery at Petaluma, then on to the pier at Tiburon. Again, the train reverses and returns to Willits, stopping at Petaluma along the way [6].

Each trip takes about one half-hour. I created simple train orders to govern the movements [5, 6]. The passing track on the end of the layout underneath the mountain may be used for any of the spurs (i.e., towns) on the layout.

I have a schedule of six turns that cycles a total of 13 freight cars, including four flat cars, four box cars, a tanker, reefer, gondola, covered hopper and open hopper. I usually run one train a day –



3. Conductor's side for switching Petaluma and Tiburon.





4. Engineer's side for switching Northspur and Fort Bragg.

Fort Bragg Turn #2			
Arrival-Departure (actual minutes)			
0	Willits		Depart westbound with empty hopper for Fort Bragg
3	Northspur		Pickup 2 loaded flats, leave gondola in place
10	Fort Bragg		Drop hopper and 2 loaded flats, pickup loaded box and 2 empty flats, reposition engine and caboose for return trip eastbound
20	Northspur		Drop 2 empty flats, pickup empty gondola
31	Willits		Return with loaded box and gondola

5. Train orders for the Fort Bragg Turn.

Tiburon Turn #2			
Arrival-Departure (actual minutes)			
0	Willits		Depart southbound with loaded tank for Petaluma and empty gondola for Tiburon
3	Petaluma		Drop loaded tank, pickup loaded box, leave reefer in place
11	Tiburon		Drop gondola and loaded box, pickup empty box, reposition engine and caboose for return trip northbound
21	Petaluma		Drop empty box, pickup loaded reefer
30	Willits		Return with reefer

6. Train orders for the Tiburon Turn.

alternating between Tiburon and Fort Bragg turns – to complete the entire schedule in one week.

For each train, I consult my train order, manually place the cars on the station track, add a caboose, then go. I made log loads that I place on the flat cars at the Northspur loader and remove at the Fort Bragg mill. I also have loads for the gondola and open hopper.

I use four permanent under-the-track magnets to facilitate uncoupling (indicated as red dots in [1]). I like being able to push the cars back into the spurs for delivery without having to reach over and uncouple by hand. To prevent accidental uncoupling, I add resistance to the wheels when necessary to keep the couplers taut when traveling over the magnets.

My locomotive has an uncoupling sound effect that works well with the delayed action. After pressing the appropriate button on my DCC controller (Prodigy Explorer), I can hear the “clang” of the couplers opening as I reverse the engine and pull away from the released car.

I used Peco track, including Insulfrog turnouts. This allows me to run the entire layout using only two feeder wires connected to either a DC or DCC power pack, depending on the type of locomotive I’m using.

The DC locomotive operates with no electrical issues integral to the track (i.e., it will stall only if the track is dirty).

The DCC loco, on the other hand, experiences occasional electrical “hitches,” particularly when traversing the crossover tracks. Perhaps the DCC loco is more sensitive to the “steadiness” of the current and can have potential issues at track joints, turnouts, or crossovers. Although I don’t like the hitches, the overall experience of operating the DCC loco is better, so I generally use it.

I hope you enjoy the pictures [7-14] and the story of my little layout.



7. The Willits station, built from an AMB Northern Pacific Class C Depot kit. Trains depart here en route to Fort Bragg or Tiburon. The color scheme of this station bears an interesting resemblance to Ridgway’s on the Rio Grande Southern.



8. It’s late afternoon at the Petaluma harbor. The main industry here is Brett’s Brewery (from Campbell Scale Models) with a loading track adjacent to the back dock.

Neighboring King’s Boats does a healthy business renting boats to interested parties.



9. This is the front side of the brewery, showing freight being transferred by truck. Having a walk-around layout means both sides of a structure can be seen and detailed.



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hardboard covered with dabs of Mod Podge.

10. Dockworkers at Tiburon prepare to unload a boxcar—one that's a long way from home! I scratchbuilt the pier in place using wood dowels and basswood strips. The water is painted



11. Flat cars are positioned for loading at Northspur. The McGiffert log loader is a Rio Grande Models kit. The trees are from Grand Central Gems.



12. The sawmill/lumberyard complex at Fort Bragg. Flat cars are being unloaded at the poke at right. Wood chips in the elevated bin may be loaded into hopper cars, and finished lumber may be loaded into box cars, making this a versatile spur for switching.





13. Southern Pacific No. 2476 exits tunnel 2 with a short freight on its way to Fort Bragg.



14. A westbound train passes through the Noyo Canyon hills on the way to Willits. ☑

PETER VASSALLO



Peter lives in Schenectady, NY and works part-time as a mechanical engineer.

He became interested in trains as a boy after discovering his father's N scale models in a box in the basement. He currently models in HO and HO_n3 scales. His favorite railroads are from the old West, particularly Colorado and California narrow gauge.

To this day, he continues to find inspiration in the works of John Allen, John Olson, Malcolm Furlow, Dave Frary, Bob Hayden and George Sellios, among others. ■

in the **OCTOBER 2021 MRH RUNNING EXTRA!**

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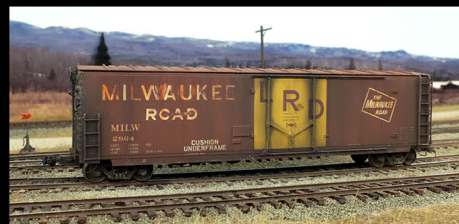
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JEFF SHULTZ REPORTS ON EAST COAST CIRCUITS FIRE APPARATUS ...

GO TO A MODEL RAILROAD SHOW THAT INCLUDES LAYOUTS, and you almost certainly will see a fire scene, complete with fire trucks surrounding it, many of which will have lights flashing. East Coast Circuits (ECC) has released a selection of fire apparatus that have been equipped with LED lights – up to 42 in one model, that glow or flash in patterns.

ECC specializes in model railroad electronics, including a crossing gate circuit (“First Look: East Coast crossing circuit,” *MRH*, July 2019), signals, and many aftermarket LED additions to vehicles (“First Look: HO police car,” *MRH*, December 2020). Now they have added LED lighting to animate Walther’s HO scale SceneMaster Fire Apparatus, which is manufactured by Boley. *MRH* got an early look at the Pumper Fire Truck and the Hazmat Truck.

The SceneMaster Pumper Fire Truck was labeled as an S&S truck, and it shares features with modern Pierce and Spartan

fire trucks, including a raised roof on the rear part of the cab. Painted in a solid fire engine red paint scheme, there are no markings for the modeler to remove to customize it for a location on the layout. ECC has added 28 LED lights to this model. There are six white LED scene lights, plus amber LEDs in the side. The truck has clearance and hazard lights, and red LEDs on the front light bar. It also has rear beacons, bumper, cab, and rear perimeter lights. There are six flashing patterns for the LEDs, and alternating headlights.

The SceneMaster Hazmat Truck shares a cab with the pumper truck, but has a body configured for equipment storage and a



1. The modified vehicles come in Walthers original packaging.

command center, accessible through a door on the rear. It is also painted solid fire engine red but has "HM-1" and a license plate on the rear. ECC has equipped this model with 42 LED lights, including:

- 12 white scene lights
- amber hazard lights
- red LEDs on the light bar
- perimeter warning lights

On the prototype the scene lights can be raised on poles above the truck to illuminate a wider area, but on the model the lights are fixed to the roof. Modifying them to raise might be an interesting project for a vehicle modeler.

ECC's website includes a SceneMaster Ladder Truck with 30 LEDs, and an ambulance with 24 LEDs. All the ECC LED-equipped vehicles are configured for 9-12V DC, and may be damaged by higher voltages. I used a 9V battery without any difficulty. Power is provided through green and red magnet wires that exit the trucks near the rear axle, allowing the tires to obscure them from view. The red wire goes to the positive (+) side of the battery and the green goes to the negative (-) side.

ECC's LED lights add a neat touch of animation to the Walthers SceneMaster models, and according to Campbell Rice on Episode #169 of What's Neat This Week in Model Railroading (www.youtube.com/watch?v=fVrkJqfYpMA) the lights are 100% accurate per National Fire Protection Association standards.

The pumper fire truck retails for \$85 and the Hazmat truck [1] is \$90. They are available through East Coast Circuit's website at: eastcoastcircuits.com



2. An extended exposure of the front of the pumper truck to capture most LEDs on.



3. Side of the pumper truck with most lights on.



4. Pumper truck rear with most lights on.



5. Hazmat truck with most LEDs on.



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6. The Hazmat truck rear with most LEDs on.



East Coast Circuits Fire Trucks

October MRH companion video



click to play video

Video 1. Both vehicles with their lights on, rotating 360 degrees. ☒



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Scratchbuilding with styrene

Youtuber Kaustav on his **Trains and Dioramas** channel shows step-by-step how he scratchbuilt a grain barge from styrene. Follow along with this 22 minute video to learn many expert tricks and tips for how to scratchbuild with styrene. The insights Kustav shows can apply to any styrene scratchbuilding project for your layout.

This is a fun project to watch taking shape and even experts may learn something! ☒



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OCTOBER NEWS column



Model Railroad Hobbyist | October 2021

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



INDUSTRY NEWS

IC chip shortage

Today, integrated circuit (IC) chips are in everything from automobiles to iPhones, from refrigerators to DCC decoders. But there's not enough to go around – it's a shortage that shows no sign of abating. The automobile industry has been hit particularly hard with some experts believing the shortage could last until 2023. While IC applications in the model railroad industry is a small segment of worldwide use, model railroaders are no less concerned about how the shortage may affect their hobby.

Nancy Workman, CEO/owner of SoundTraxx, told MRH that parts are coming in more or less regularly, but everything is behind schedule. *"Lead times for nearly every microprocessor have stretched out to 66 weeks. We're cautious about making promises to our OEM partners, because we currently have no guarantees of availability from our own sources."* Workman noted that availability is not the only problem. *"The bigger issue has been rising prices and the uncertainty about whether parts that have*

THE LATEST MODEL RAILROAD PRODUCTS, NEWS & EVENTS

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been ordered will actually arrive. At present, SoundTraxx has been able to receive most of the parts we need for the foreseeable future, but we expect these issues and the uncertainty to continue well into 2022 and perhaps beyond."

Delays are apparently a thing of the past for some manufacturers. Jason Shron of Rapido noted, *"Delays were an issue in the spring and early summer, but (are) mostly resolved now"*.

ESU spokesperson Matt Herman said the chip shortage at his company has been minimal. *"Maybe 10% of our total partner projects had a small delay. We received a very large shipment of ICs in the last few weeks and this should eliminate all chip decoder delays for the foreseeable future. We did have some delays on retail decoders so we could be sure that the OEMS were not delayed. But we are also receiving retail decoders, so that logjam will be cleared shortly."* Herman added, *"I can't speak for other DCC companies, but ESU is in good shape" ...*

Kadee's Sam Clark retires

Sam Clark, the longtime problem-solver and R&D expert at Kadee Quality Products, has retired after 26-years of service. Sam's extensive knowledge and affable personality have combined to answer questions and soothe upset customers for many years. We wish him many happy years of retirement. Kadee has not announced a replacement ...



Walthers is starting a new subscription program called the Build-A-World Modeling Kit. Intended to introduce model railroading to hobbyists by sending it straight to their door, the subscription consists of six individual projects, shipped monthly, that will combine into a 12" x 24"

diorama. Three themes are available for subscription: American Farmstead, Mainstreet USA, and Northwoods Retreat.



The first kit contains the materials for the project, a 12" x 24" foam base, track, cork roadbed, and ballast, as well as tools and additional materials for the remaining five kits. Those kits include the parts for the individual projects, such as structures and scenery materials. Instruction books and how-to videos are also included.

Modeling skills that will be learned include structure building and painting, scenery and landscaping, track laying and ballasting, creating rock formations, roads, and ponds; and adding figures and details. The first kits are scheduled to ship in January 2022.

Info: walthers.com

NEW CLUB CARS

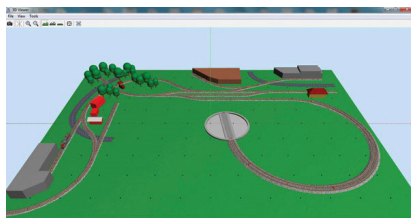


The Kankakee Model Railroad Club is selling Pullman-Standard triple-bay covered hopper cars decorated

for J.R. Short Milling Co. The HO scale kits were developed by Accurail. Info: accurail.com/accurail/ART/CUSTOM/Kankakee/Kankakee.pdf

NEW PRODUCTS FOR ALL SCALES

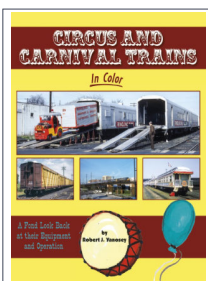
Atlas has updated its Track Planning Software to version 1.9.0. New features include an option for making semi-transparent figures in the 3D viewing mode, useful for representing the walls, doors and windows in the layout room without hiding



the layout itself. Also new is an improved alignment dialog which now enables users to align selected figures by their 3D vertical position and height properties. To download the

upgraded software, go to:

shop.atlasrr.com/t-software.aspx?mc_cid=895dfd39f5&mc_eid=6bff0ec9ce



New publications from **Morning Sun** include *Observation Car Color Portfolio Volume 2*, and *Circus and Carnival Trains in Color*. In the observation book, author Robert J. Yanosey

covers a wide range of tail end cars with reporting marks from CG, CGW, CHP, CN, CNJ, CP, CR, CRR, CS, CSX, D&H, DL&W, D&M, D&RGW, DM&IR, DO, DT&I, EBT, EJ&E, EL, ERIE, FCP, FdeC, FDS, and FEC.

Circus and Carnival Trains presents more than 200 color images of circus train equipment and operations from 1946-2017. Color images of unique rolling stock such as Elephant Stock Cars, Pie Cars, Tunnel Cars, and repurposed passenger cars are featured and explained in great historical detail.

Info: morningsunbooks.com



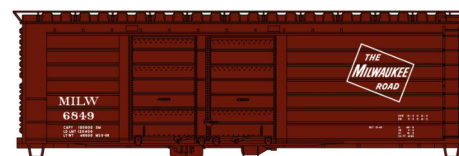
HO SCALE PRODUCT NEWS



R. Bale

MILWAUKEE ROAD RIBBED SIDE CARS

The Milwaukee Road's first major construction of cars with ribbed sides was a group of 50' automobile cars built in late 1937. Although the ribs appear to be separate pieces, they are actually corrugations pressed into the bottom edge of narrow longitudinal side sheet panels. The narrow panels are then welded together to form a rigid car side that resists twisting. The concept of ribbed sides was developed by Karl Nystrom, Milwaukee Road's chief mechanical officer. The distinctive feature became a standard on the Milwaukee Road's home-built house cars, cabooses, and passenger cars. In 1943, Milwaukee Road built 500 40' 50-ton cars (6600-6899) with Youngstown sliding steel doors covering a 12' 6" wide opening with a removable center post. The cars were equipped with wood running boards, a Murphy double-panel welded roof, and an Equipco geared hand brake. The welded 5/5 Dreadnaught steel ends of the prototype were fitted with a Bettendorf pressed-steel lumber doors.

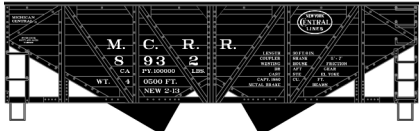


New HO scale car kits from **Accurail** include this Milwaukee Road 40' 50-ton ribbed-side automobile car with double offset doors. The

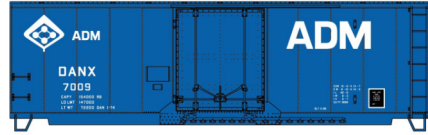
kit assembles into an accurate model of a group of prototype cars built with double doors in 1943.



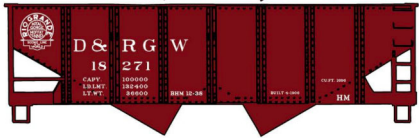
Accurail's kit for this Union Pacific twin-bay covered hopper is based on an ACF Center Flow prototype.



The full size version of this 30' Michigan Central/New York Central twin-bay open hopper was built in 1913 with wood sides.



Also new from Accurail is this Archer Daniels Midland 40' insulated steel boxcar with an 8' plug door. The HO scale kit is based on a prototype built in March 1968.



Accurail is offering this Denver & Rio Grande Western twin-bay hopper in a 3-car set with different road numbers. The D&RGW class HM open hopper shows a built date of 1906.



The prototype of this Texas & Pacific 40' steel boxcar was built in 1924 with riveted sides and Youngstown sliding doors.



Pullman-Standard delivered the prototype of this 4750 cu. ft. triple-bay covered hopper to the Richmond, Fredericksburg & Potomac Railway in April 1980. All Accurail HO car kits include Accumate couplers and appropriate trucks with Delrin plastic wheelsets.

Info: www.accurail.com



R. Bale

BLOMBERG TRUCKS

EMD's Two Axle Outside Swing Hanger truck, popularly known as a Blomberg truck, first went into service in 1939 under the FT series of diesel locomotives.

Named for EMD designer Martin Blomberg, the Blomberg truck is identified by a prominent swing hanger on each side which widens the spring base and provides a better ride. Although designed for freight service the original Blomberg B truck performed well at all speeds thanks primarily to a combination of leaf springs and both stiff and soft coil springs that provided a good balance of dampening and shock absorption. Over time and changing operational demands, the original B version evolved into Blomberg M, and Blomberg X trucks. The Blomberg M (modified) truck uses hydraulic shocks on opposing ends of each journal box and rubber pads replace the leaf spring suspension system. Additionally, the M version was simplified by using only four efficient brake cylinders instead of eight. The Blomberg X (express) truck, introduced in 2007, evolved from the Blomberg M, but is longer and not rebuilt from older Blomberg frames.



Athearn's production schedule for November 2022 includes a new run of Genesis GP38-2 diesel locomotives. Road names include two Louisville & Nashville schemes and an ex-L&N unit decorated for Southern Pacific. All of these units will have Bloomberg M trucks.



Athearn has included a CSX unit in this release. It will have Bloomberg M trucks and both front and rear plows.



Grand Trunk Western GP38-2s will be available decorated as shown here and also in an Operation Lifesaver scheme.



Missouri-Kansas-Texas GP38-2s and both GT locomotives have Bloomberg B trucks and an

88" nose (vs the standard 81") to accommodate an expanded electronic control system.

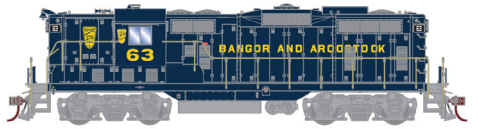


Two decorating schemes will be available for Florida East Coast units which will also be equipped with Bloomberg B trucks. Both FEC units will have 3,800 gallon fuel tanks.



Completing this release is an ex-Texas Mexican Railway GP38-2 decorated for HLCX-Helm Leasing. The

HO scale Genesis model will have a 3,800 gallon fuel tank, front ditch lights, and Bloomberg B trucks.



Athearn has included a GP7 road switcher in its November 2022 production schedule. The Genesis model

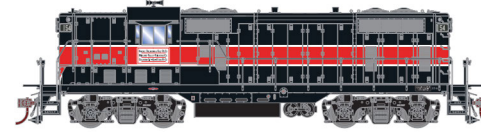
replicates the more than 2600 GP7s built by EMD beginning in 1949. All of the prototypes, and all of Athearn's HO scale versions, ride on Blomberg B trucks.

Road names include two Bangor & Aroostook versions with a winterization hatch, unique sloped pilots with footboards, and square MU boxes. In addition to the scheme shown here, a BAR unit will be available decorated in a 1776 red, white and blue commemorative scheme.



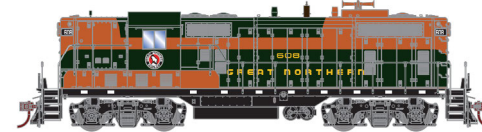
Three Frisco road numbers of the GP7 will be available. They will have a firecracker antenna, canvas

window sunshades, spark arrestors, and a Stratolight beacon light that will flash on DCC-equipped models.

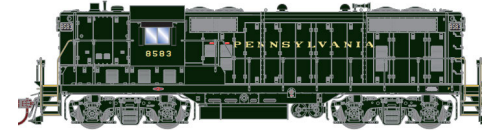


GP7s decorated for Midland Valley and Kansas Oklahoma & Gulf are included in the November 2022 release.

The nearly identical units were painted in a standard factory scheme developed by EMD's styling department.



Great Northern GP7s, set up for operation with the long hood forward, will have early-style winterization hatches and the unique tall exhaust stacks favored by GN.



Three GP7s decorated for Pennsylvania Railroad are included in the November 2022 release. The PRR

Genesis models will have high MU stands and will be arranged for long hood forward operation. 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 system that includes a 21-pin NEM connector.

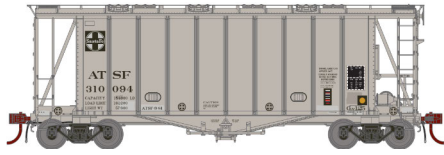


A Genesis model of a 2600 cu. ft. Airslide covered hopper is included in Athearn's November 2022 production schedule. Variables include

three different body styles, both rectangular and oval shaker brackets, and gravity or gravity-pneumatic outlets.



Details include see-through metal roof walks, individually applied round roof hatches, underbody fittings including outlet piping, wire grab irons and brake piping, and coupler cut levers and train air lines.



Additional road specific details include roller-bearing or solid-bearing Bettendorf-type trucks with machined metal wheelsets. Road names on the

November 2022 release will be Frisco, Southern Pacific, Rock Island, Seaboard Coast Line, GACX, and Santa Fe. See the N scale section of the News for a brief history of Airslide cars.



Athearn plans to make another run of its HO scale 57'

Trinity 3-unit spine cars. The ready-to-run model is based on 70-ton class FAF30A cars operated by TTX. Road names scheduled for the November 2022 release include TTX, TTX (Primed for Grime), and BNSF.



The spine structure of the model is die-cast

metal. Details include separately applied brake components and piping, etched metal walkways, and appropriate trucks with 33" machined nickel silver wheels. Trailer hitches come separately in raised and collapsed configurations allowing the consumer to add them to the model as desired. The HO scale model requires a minimum track radius of 20".

Photo courtesy of Janek Bringle

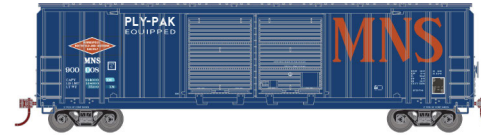


Also coming from Athearn in late 2022 is a group of 40' low-cube corrugated containers. Decorating schemes will include Yang Ming (two schemes), K-Line, Nedlloyd, Overseas Containers Limited, Beacon, and Hanjin. The HO scale models will be available in 3-packs.

Athearn's November 2022 production scheduled includes a **Roundhouse**



brand 50' boxcar as built in the mid-1970s by FMC. Spotting features include exterior posts, non-terminating ends, and double Youngstown sliding doors.



Road names will be two Southern Pacific schemes, Burlington Northern, BNSF, Canadian National, and Minneapolis, Northfield & Southern.

Info: athearn.com



Atlas has released to dealers an HO scale version of the Fairbanks-Morse H15-44/H16-44 switch engine. Road names representing the early production units with curved cab

windows will be available for Rock Island, Long Island, New Haven, New York Central, Southern Railway, and Union Pacific. Models with square framed windows representing the second phase of H-16-44 production will be available decorated for Jersey Central, Milwaukee Road, and Pennsylvania Railroad. The units have etched-metal radiator grilles, painted crew members, directional lighting, and bi-directional red and green LED marker lamps that function in both DCC and DC analog modes.



R. Bale

FAIRBANKS-MORSE H-16-44

F-M introduced the 1500 hp H-15-44 diesel switch engine in 1947. In 1950 the locomotive was upgraded to 1600hp and designated H-16-44. The external appearance was unchanged until the early 1960s when square windows replaced the original curved windows designed by Raymond Lowey. The general appearance of the switcher was similar to F-M's larger Trainmaster, but with four axles rather than six. Internal upgrades during production centered on replacing the Westinghouse electrical system with a more robust control system supplied by General Electric. The final H-16-44 was built in 1963 for the Ferrocarril de Chihuahua al Pacifico Railroad. It was the last locomotive produced by Fairbanks-Morse.



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The windshield wipers, fine scale handrails, fuel tank skirts, coupler cut levers, and trainline hoses are all separately applied details. The models come with AccuMate knuckle couplers and

either AAR-B or FM-style truck sideframes as appropriate to the prototype railroad being modeled. Atlas Gold series models are sound equipped with ESU Loksound. Atlas Silver Sound Ready models are equipped with a speaker for easy conversion to sound with the addition of an aftermarket decoder.

Info: atlasrr.com



Broadway-Limited has released to dealers a new EMD GP20 diesel locomotive. The HO scale model comes with the Paragon4 sound and operating system.



Features include a dual-mode decoder with back-EMF for slow speed operation in DC and DCC. The drive mechanism includes a 5-pole can motor with skew wound

armature, all wheel electrical pickup and Kadee-compatible metal knuckle couplers.



Road names available on this release are Santa Fe, Burlington Northern, Conrail, EMD Demo, New York Central, Southern Pacific, Union Pacific, and Chicago, Burlington & Quincy.

An unpainted model is also available.

Info: broadway-limited.com



October 31, 2021 is the closing date for reservations for

InterMountain Railway's next production run of Santa Fe refrigerator cars. Developed in association with Longs Drug Store more than 20 years ago, the HO scale model remains the most accurate replica available of the Santa Fe prototype.



The model is based on class RR-32 all-steel reefers built by Santa

Fe's West Wichita Shops in 1940-41. The new steel bodies were built on the underframes of old USRA wood-bodied reefers, which accounts for the deep fishbelly center sills.



InterMountain will offer eight schemes including two versions

of the Super Chief, an 8' cross-and-circle herald, and undecorated. The opposite side of the reefers displays a straight or curved Santa Fe system map and Ship and Travel slogan. Six road numbers will be available for each paint scheme.

Info: intermountain-railway.com

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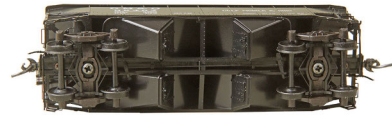
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Kadee's latest release is a 50-ton standard AAR twin-bay open hopper decorated for Gulf, Mobile & Ohio. The HO scale ready-to-run model accurately represents a prototype built in 1949.



Like the full size car, Kadee's HO version features finely detailed grab irons and ladders, see-through brake steps, authentic brake rigging, and an

accurately detailed brake wheel with proper curved contour. The model comes with Kadee metal couplers and self-centering Bettendorf-type plain-bearing trucks with metal wheels. A removable load of lump coal is included.

Info: kadee.com



MAC Rail LLC sells a selection of roof-mounted PTC (Positive Train Control) antenna housings including both black and white track-type Short Antenna

(MAC-830B) as shown on this CN diesel. An open style of PTC antenna (right) is available from MAC Rail as item MAC-853.



The Top Box style of PTC favored by Union Pacific is available from MAC as item MAC-857.

Info: macrailproducts.com

★★★★★
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R. Bale

PTC-POSITIVE TRAIN CONTROL

Positive train control is a global system for monitoring and controlling train movements. The principal goal of PTC includes collision avoidance by maintaining separation, speed restriction enforcement, blind spot monitoring, and rail worker safety. Equipment in the locomotive receives information about its location and where it is allowed to safely travel. The on-board system then enforces the information to prevent unsafe movement.



Accurate models of 50' RBL boxcars with a 10' offset plug door are available now from **Moloco Trains**. This is the second production run of the HO scale model that is based on a prototype built by PCF in the early 1960s.



Road names in this release include NITX (D&RGW), NITX (C&IM), and two versions of NITX (Hubinger).



Additional road names include four repaints from the 1970s; two each for Southern Pacific and SSW Cotton Belt.



Moloco Trains is accepting reservations for a group of 50' XM double-door boxcars that accurately replicate the prototype built at Great Northern's St. Cloud shops in the mid-1950s.



Details include Stanray ends and roof panels, and two Youngstown sliding doors; one 8' the other 7'.



Road names include Great Northern in boxcar red and Big Sky Blue scheme.



Additional decorating schemes include Burlington Northern, Spokane, Portland & Seattle; and

GN No. 35140, a one-off car decorated to celebrate the 750,000th car over the Gavin Yard hump.



The HO scale ready-to-run model is expected to be available during the fourth

quarter of 2022.

Info: www.molocotrains.com



National Scale Car has reissued its resin mini-kit for an HO scale

Grand Trunk Western war emergency gondola. Although most roads opted for drop ends, the GTW cars were built with fixed ends, using a car builder style end of Pressed Steel Car design. The wartime wood side panels were replaced with steel plate on most, but not all, GTW cars in the mid-1950s.



The NSC mini-kit supplies all parts needed to convert a Tichy Train Group War Emergency Gondola kit (not included) into an accurate model of the GTW gondola. Additional items recently reissued by NSC include HO resin kits for CN and CP 10'6" AAR

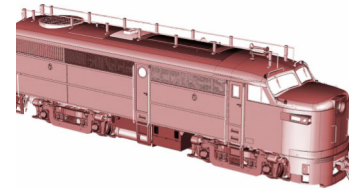
boxcars with NSC3 ends, and CMO 1937 AAR modified boxcar with Duryea Z26 underframes.

Info: nationalscalecar.com



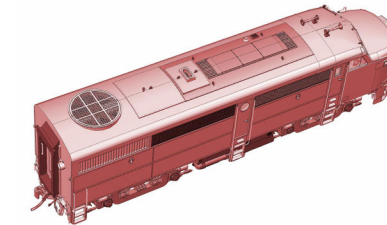
With the successful launching of accurate HO scale models of Alco FPA-4, FA-2 and PA cab units, **Rapido** is now focusing on producing all-new Alco FA-1 and FB-1 freight locomotives. Between January 1946 and

October 1950 a total of 440 FA-1s and 240 FB-1s were built by Alco and their Canadian subsidiary, Montreal Locomotive Works (MLW).

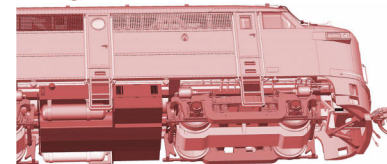


The new HO scale models will feature authentic nose and windshield contours scanned from a FPA-4. Special details include etched metal fan and side screens, separate grab

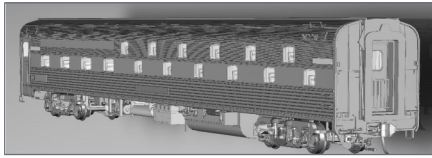
irons and handrails, operating head, class and back-up lights; full underbody piping and conduit, diecast metal chassis, and a 5-pole motor with dual flywheels.



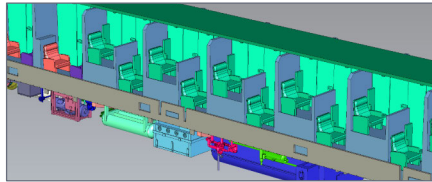
Road specific variables include flat or angled number boards, and dynamic or non-dynamic brake fittings.



Road names will be Canadian National, Canadian Pacific (both block and script lettering), Erie, Great Northern, Lehigh & New England, New Haven (two schemes), Reading, Pennsylvania, and Union Pacific.



Rapido is preparing final tooling for an HO scale version of the Slumbercoach cars built by Budd beginning in 1956. Rapido is utilizing original Budd blueprints to develop the ready-to-run model.



Details on Rapido's HO scale version will include full underbody detail, multi-color interiors including roomette doors, etched-metal end gates

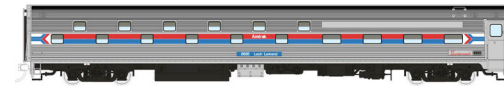


R. Bale

BUDD SLUMBERCOACHES

The Slumbercoach is an 85' 24 single room, eight double room lightweight sleeping car built by the Budd Company. The Slumbercoach was an effort by the railroads to recapture market share lost to airlines, buses and the automobile by providing upgraded accommodations for non-first class passengers. Slumbercoaches had a central aisle flanked on each side by one-person and two-person rooms with one or two narrow, six-foot-long beds provided with basic sheets and blankets. Each room featured a fold-away wash basin and private toilet similar in design to contemporary standard Pullman, but on a smaller scale. To maximize the number of rooms per car, the designers chose a duplex or staggered design for the single rooms such that every other room was accessible by a small flight of steps. This allowed beds in the car to either overlay or underlay the room in front of it and resulted in the unique staggered pattern of the view windows. Budd built the first Slumbercoaches in 1956 for the Chicago, Burlington & Quincy for service on the Denver Zephyr. Subsequent orders were placed in 1958 and 1959 by Baltimore & Ohio, Missouri Pacific, Northern Pacific, and New York Central. A total of 18 Slumbercoaches were built. In the 1970s and 80s, the entire fleet of Slumbercoaches went to Amtrak where they were upgraded for head end power. Most lasted into the mid to late 90s when they were finally retired and replaced with more modern equipment such as the Superliner II and Viewliners.

and sprung diaphragms. Constant track-powered interior lighting in both DC and DCC modes, and accurate GSC 41-NDO-11 trucks with disc brake detail.



Road names will include Amtrak in both Phase I and Phase 3 schemes.



Additional road names will be Baltimore & Ohio, Burlington Northern, CB&Q-

NP, Northern Pacific, Missouri Pacific, and New York Central.



A painted but unlettered car will also be available.

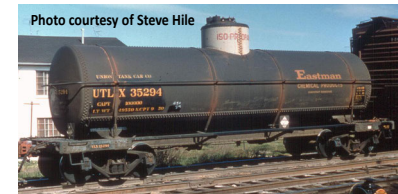
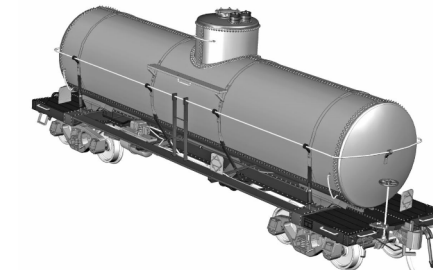


Photo courtesy of Steve Hile

Rapido is booking advance orders for an all-new Union Tank Car 10,000 gallon X-3 single dome tank car. Recognized tank car expert Steve Hile is assisting in the

design of the HO scale model. From the 1920s onward, Union Tank Car (UTLX) operated the largest fleet of tank cars in North America, and the 10,000-gallon X-3 accounted for nearly 13,000 of them.



Rapido is producing both the K-brake equipped versions with Andrews trucks and the AB-brake equipped cars with Bettendorf-type trucks.



Additional details worth noting include accurately modeled tank bolster pads, UTLX-style



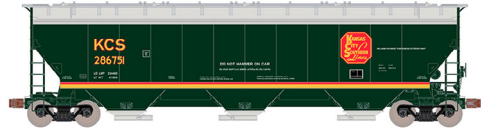
warning placard holders, correct end platforms, coupler cut bars, and hand brake mountings.



Decorating schemes on the initial release will include UTLX (1920s, 1930s, and 1950s versions), PX-Products Tank Car, Atlantic Refining, Procor Limited, Eastman Chemical, Seaboard Air Line, and Northern Pacific.



Undecorated cars will be available with both K and AB brakes.
Info: rapidotrains.com



ScaleTrains has scheduled a mid-winter delivery for a new run of Operator series 5188 cu. ft. covered hoppers. HO scale

Operator models have the same body as Rivet Counter models but fewer road specific details.



Road names on this run will be Norfolk Southern, Kansas City Southern, BNSF, CSX, and Union Pacific.

This past spring, ScaleTrains.com announced a new production run of HO scale Rivet Counter GE C44-9W locomotives with an expected release date of fall 2022. Now, the list of road names for the Dash 9 units has been significantly increased. Note that the preorder deadline date is October 25, 2021.

Two Canadian National units will be available with the signature Tear Drop cab windows. In addition to an as



visors, and integral red marker lights.

delivered unit, a CN unit in the road's later scheme will have deck-mounted ditch lights,



A Dash 9 in the Heritage I scheme of the BNSF Railway has been added to the run.



Chicago & North Western in an Operation Lifesaver scheme.

Units with nose-mounted number boards will be available for Union Pacific and



Additional road names include Southern Pacific, GE Demonstrator, and Norfolk Southern in the Horsehead scheme.
Info: scaletrains.com



1940s and early 1950s. New York Central's Despatch Shops (DSI) and the St. Louis Car Co. (SLCC) built nearly identical prototypes of this caboose.

Tangent has released ten HO scale cabooses with riveted steel sides and offset bay windows. The HO scale models are based on prototypes built in the late

Tangent's version of the DSI caboose with running boards and end ladders is available decorated for Boston & Alton Railway



and New York Central in both original brown and the 1964 jade repaint.



DSI cabooses with the running boards and end ladders removed are available from Tangent for Penn Central in a 1975 green repaint, and two blue Conrail

schemes. A similar caboose Alton & Southern acquired from Penn Central rides on roller-bearing trucks and wears a 1981 red repaint job.



The cabooses built by St. Louis Car lacked end windows and had different roof panels, but were otherwise identical. They are available in three unique

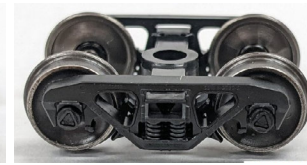
Illinois Terminal paint schemes. Two of the IT cabooses have running boards and end ladders.



The models have full interior details including DC/DCC compatible track-powered interior and marker lighting. Additional prototype-specific details include a variety of

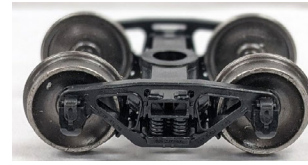
roof details including locker vents, radio antenna, toilet vents, and wood or metal Apex see-through running boards.

Underbody detail includes Kadee couplers, and 70-ton Gould solid-bearing or Barber 70-Ton Gould roller-bearing trucks with 33" machined metal .110 tread wheels (.088 tread wheels are available as an option). Undecorated kits are also available from Tangent.



Tangent has released four new HO scale 50-ton trucks. Roller-bearing trucks

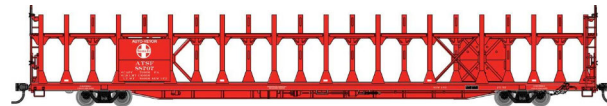
include Barber S-2-A (above left) and ASFA A-3 Ride Control trucks. Both come with rotating Timken axle caps and separate brake beam detail.



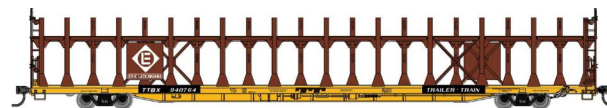
ASFA A-3 Ride Control plain-bearing (far left) and Barber S-2

plain-bearing trucks come with separate brake beam detail. The trucks come with 33" machined blackened wheels with .110" (RP-25) tread. The trucks are also available with a choice of either blackened or nickel plated wheels with .088" semi-scale tread. All of the wheels have prototypically accurate front and back contour.

Info: tangentscalemodels.com



Walthers is selling an 89' flatcar with an open bi-level auto rack. The Mainline series model is based on a prototype from the early 1970s that was designed to carry large vehicles including light trucks.



The HO scale model features a diecast metal underframe with a Paragon II rack, bridge plates, and a swinging drawbar that allows operation on 24" radius curves. The model rides on 70-ton roller-bearing trucks with 33" machined metal wheels.



In addition to Santa Fe, Railroad/Trailer-Train combinations

include Baltimore & Ohio, Erie Lackawanna, Norfolk & Western, Pen Central, Union Pacific, and Pennsylvania Railroad.



This 50' ACF exterior post boxcar decorated for RailBox with a Burlington Northern patch is scheduled for release by Walthers next month.



Additional road names for the all-new Mainline series HO scale model include four numbers each for Railbox, Southern

Railway, Green Bay & Western, Wisconsin Central, and Richmond, Fredericksburg & Potomac.



The model is based on a prototype that measures 15' 2" tall by 10' 8" wide.



An upgraded version of Walthers 89' channel-side flatcar is scheduled for

release in December. The heavy diecast metal underframe features C-shaped steel channel side sills. With various fittings, the Mainline HO scale model, like the F89F Trailer-Train prototype, can handle 28', 40', 45', 48' and 53' trailers.



Road names will be Trailer-Train (1960s brown, 40' trailer service), Trailer-Train (yellow, 45' trailer

(yellow, 40' trailer service), Trailer-Train (yellow, 45' trailer

service), Trailer-Train (1960s, brown, 45' trailer service), and Trailer-Train (general service).

Info: walthers.com



Wheels of Time is selling HO scale Southern Pacific bulkhead flatcars based on prototype

cars with 57' loading beds built in the 1960s.



Both straight tapered (left) and stepped tapered (right) are available. The models feature individual grab irons and ladders, coupler lift bars, brake hoses, Kadee couplers, and appropriate trucks

with metal wheelsets.

Info: www.wheelsotime.com

N SCALE PRODUCT NEWS



Athearn's November 2022 production schedule includes an N scale model of a 2600 cu. ft. Airslide covered hopper.

Variables include rectangular or oval shaker brackets and gravity or gravity-pneumatic outlets.



Details include see-through metal roof walks, individually applied round roof hatches, outlet piping, and wire grab

irons and brake piping.

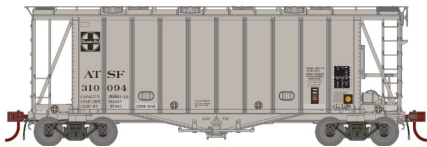
Additional road specific details include roller-bearing or plain-bearing Bettendorf-type trucks with machined metal



R. Bale

AIRSLIDE COVERED HOPPERS

For the first half of the 20th century, bulk goods were usually bagged and carried in boxcars. By the late 1940s the use of covered hoppers greatly simplified the process of shipping bulk material. However, flour, starch, sugar, and plastic pellets do not flow readily from a standard hopper bay. The Airslide concept, developed by the Fuller Co., solved the problem. In the patented Airslide system, the discharge bays are formed into two narrow, steep-sided troughs with a layer of air-permeable material at the bottom. Air is pumped through the material causing the lading to fluidize and flow easily through the hopper outlets. General American Transportation began building Airslide covered hoppers in 1953. One of the two original configurations was a 2,600 cu. ft. single-bay car with 70-ton capacity. Larger Airslide cars quickly followed. To increase the usefulness of the original 2600 cu. ft. cars, some were permanently connected in 2-unit drawbar sets.



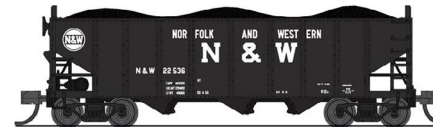
wheelsets. Road names on the November 2022 release will be Frisco, Southern Pacific, Rock Island, Seaboard Coast Line, GACX, and Santa Fe.

Also coming from Athearn in late 2022 is a group of 40' low-cube corrugated containers. Decorating schemes will include Yang

Ming (two schemes), K-Line, Nedlloyd, Overseas Containers Limited, Beacon, and Hanjin. The N scale models will be available in 3-packs with each container having a different number. Info: athearn.com



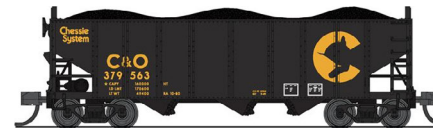
Photo courtesy of Janek Bringle



Broadway Limited has scheduled a December release date for a group of N scale triple-bay coal hoppers. The plastic injection molded model is based on a Norfolk & Western class H2a prototype.



The N scale model will be available in three N&W paint schemes, one Pennsylvania and one Baltimore & Ohio scheme.



The model will also be available decorated for Santa Fe, Chesapeake & Ohio, Western Maryland, and the

Appalachian Bituminous Railway; four railroad that operated coal hoppers similar in design to the H2a.



Broadway Limited also plans to release the car in four fantasy paint schemes; Consolidated Power & Light, Peabody Coal, and two Christmas holiday schemes.



All versions will come with a removable coal load and will be available in 2-packs.

Info: broadway-limited.com



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InterMountain's next production run of N scale Santa Fe refrigerator cars.

October 31, 2021 is the closing date for reservations for



Fe's West Wichita Shops in 1940-41. The new steel bodies were built on the underframes of old USRA wood-bodied reefers, which accounts for the deep fishbelly center sills.

The model is based on class RR-32 all-steel reefers built by Santa



of the Super Chief, an 8' cross-and-circle herald, and undecorated. The opposite side of the reefers displays a straight or curved Santa Fe system map, and Ship and Travel slogan. Six road numbers will be available for each paint scheme.

Info: intermountain-railway.com

InterMountain will offer eight schemes including two versions



New N scale containers released this month by **Jacksonville Terminal Company** include 20'

standard height containers decorated for Cho Yang and Kuang Ming.



New N scale 40' high-cube containers from JTC are available decorated for MOL, HIMM, CNC Line, Italia & Genstar.



N scale 48' containers with 3-42-3 corrugated sides are available in three APL schemes.



High-cube 53' 8-55-8 corrugated containers are available from Jacksonville Terminal decorated for Schneider, UPS, two JB Hunt schemes, and three Canadian Tire schemes.



Newly released JTC Visionary fantasy schemes include a 20' LaFarge container and a standard 48' container honoring

Labor Day.

Info: www.jtcmodeltrains.com



R. Bale

SOUTHERN PACIFIC DAYLIGHT LOCOMOTIVE

Lima Locomotive Works delivered the GS-4 passenger steam locomotive to Southern Pacific in the early 1940s. Spotting features of the GS-4 include an all-weather cab, skyline casing atop the boiler, skirting on the sides, and dual casing headlight with a Mars light on top. With 80" drivers fed by 300lbs psi boiler pressure, the GS-4 was capable of sustaining 110 mph. SP decorated the locomotives in the stunning red and orange Daylight paint scheme and assigned them to pull the road's name trains including the Coast Daylight, San Joaquin Daylight, Cascade, and Golden State. During wartime and the post-war era, some GS-4s were painted black, but by 1948 all were back in Daylight livery. Starting in 1947 most were painted black again and had their side skirts removed for easier maintenance. From 1975 to 1976, in celebration of the United States' 200th birthday, GS-4 No. 4449 was painted into a striking red, white, and blue paint scheme, and put into excursion duty pulling the American Freedom Train around the nation. In 2000, the No. 4449 was painted black and silver for a BNSF employee appreciation special.



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KatoUSA plans to release Southern Pacific's famous 4-8-4 class GS-4 steam locomotive beginning in November. The N scale model will be available in black and

in SP's famous Daylight colors. Two road numbers will be available for each scheme.



Electrical features on Kato's N scale model include illuminated number boards, a directional headlight, and operating

(simulated) Mars light. DC versions ready for installation of an aftermarket DCC decoder will be released in November. DCC models are scheduled for release in December. Locomotives will also be available with ESU LokSound DCC on special order through authorized dealers.

Info: katousa.com



Leadville Designs has N scale kits for Pullman-built lightweight cars of the Norfolk & Western's Powhattan Arrow.

Kits are available now for a 36-seat diner, two coaches, a locker (crews coach and dormitory) car, and a round end observation car. The N scale kits include etched brass sides, one-piece nickel silver window frame inserts, window glazing, an ALM injected styrene body core, and Shellscale decals.



The kit for the observation car includes 3D printed profiled roof and floor sections. 3D printed interior seats are available separately. Info: leadlilledesigns.com



Micro-Trains has released an 80' heavyweight diner decorated for two different railroads. The N scale model is available for Chicago & North Western yellow and green scheme as applied to CNW equipment in the 1940s and 50s.



The ready-to-run model is also available decorated for Chesapeake & Ohio's Fraunces Tavern car. Both versions ride on 6-wheel passenger trucks.



Also new is a 56' general service tank car decorated for SSW-Cotton Belt.



Micro-Trains N scale version of this 40' Florida East Coast double-sheathed wood reefer comes with a vertical brake shaft and arch bar trucks. Note the heavy steel underframe.



This 50' standard boxcar with 8' plug doors is based on a Chesapeake & Ohio car built in 1967. Designated class B-74A, it was used in general service.



Completing Micro-Trains list of new N scale models is a 61' Seaboard Air Line bulkhead flatcar with a load of lumber. Contact a dealer for availability.



Rail Smith is taking reservations for Green River, a ten-roomette, six-bedroom sleeper Pullman built for the Louisville

& Nashville Railroad in 1949. The N scale model is based on a prototype built to PRR standards, making it suitable for through service to New York on the Pan-American and PRR's Cincinnati Limited. Originally painted Tuscan red, the car later wore L&N's blue and gold livery. Availability is planned for the second quarter of 2022.



Rail Smith continues to develop cars for the 1947 edition of Northern Pacific's North Coast Limited. Reservations are being booked now for Missoula, an 8-6-3-1 (eight duplex roomettes, six roomettes, three double bedrooms and one compartment) lightweight sleeper built by Pullman-Standard. The N scale model closely follows the skirted smooth side prototype.



Reservations are also being taken for baggage car No. 401. Although the prototype North Coast Limited car was 82' long, Lowell Smith reports the 72' model will serve as a stand-in until such time as correct tooling is available. Both of the NP cars are decorated in the two-tone green scheme created by Raymond Loewy.

Info: lowellsmith.net

STRUCTURES & SCENIC SUPPLIES



Frenchman River Model Works is selling a cast resin kit for an O scale structure named Atlas Marine Salvage. The assembled structure measures 7" wide x 6.5" deep. The kit includes a deep sea diver and forklift which are also available separately.



The 1:48 scale forklift kit is composed of 29 unpainted resin parts. The model represents a rough terrain forklift based on a 1940's gasoline powered farm tractor. The forks and mast are positionable.



In HO scale, Frenchman River has released Iffy Tire, designed by Thomas Yorke. Based on a building seen in a Colorado ghost town, the building represents a neglected building that is still in use. The kit

contains seven resin wall sections, scale lumber, tar paper, corrugated metal roofing, window glazing, a smoke jack, decals, signage, and resin tires and tire rack. The structure measures 5.75" wide x 4.675" deep and 2.675" tall.

Info: frenchmanriver.com



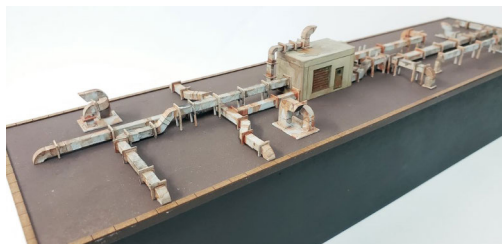
Interaction Hobbies has a new laser-cut kit called The Pork Store. The model was inspired by the store made famous in the Sopranos TV series. The HO scale kit includes a 3D laser-etched

front wall, clapboard siding, window and table cloth, decals and interior wall graphics. Exterior details include tables and chairs, signage, dumpster, pay phone, rooftop air conditioner and satellite dish. The assembled model has a footprint of 7.6" x 3.7".

An optional interior detail kit is also available. It includes coolers and freezer, refrigerated window display, 3D printed resin details and an LED strip lighting. Figures shown in the



illustration are not included.
Info: interactionhobbies.com



ITLA Scale Models is selling a laser-cut kit for a nicely detailed Heating / Ventilation / Air Conditioning (HVAC) system that can be applied to a roof top or walls or a combination of

both. It can also be applied to multiple structures. The kit is composed of laser-cut wood and laser board components including over 30 linear inches of ducting with more than 70 individual flanges and brackets. Three different sizes of ducting, elbows, cyclone vent assemblies, and vertical exhaust vents are all included. The kit is said to be suitable for both HO and N scale applications.

Info: itlascalemodels.com



Micro-Trains is booking advance reservations for a 1:87 scale Humvee M1151A1 Enhanced Armament Carrier. Details, such as mirrors, snorkel, windows, steering wheel, and seats, will be a combination of

plastic and etched metal. Humvees in the initial release, scheduled for 2022, will be available in desert tan, olive drab, and undecorated. This 1:87 scale model represents a significant product shift for Micro-Trains which has focused on N and Z scale products.

Info: micro-trains.com



Mine Mount Models has released two new products in HO scale. The first is a corrugated roofing material, made of heavy cardstock, that can be used for roofing, siding, fencing, or other applications. It comes in a silver color and cuts easily with hobby knives or scissors.



Also released as a separate part are the 1/16" laser-cut basswood sidewalks. They come in non-painted sheets of four 6" and four corner sections.

Info: minemountmodels.com



miniprints is selling a HO scale model of a Canadian National Fairmont S-2 Speeder Car. The 3D model is based on a prototype motorized speeder at the

Toronto Railway Museum. This is a static model with non-rotating wheels. The two figures are included with the model. For a little Halloween madness, miniprints has released an HO sized delicate sculpture called the Undead Rider on a Skeleton Horse. Only 20 of the limited edition pieces will be produced.

Info: www.miniprints.com



Monashee Laser Engineering is selling an N scale kit for a Canadian National Railway third class station with an enlarged freight room.

Info: go.mrhmag.net/monashee-1907-mag



The latest release of diecast models from **Oxford** includes a 1955 Buick Century 2-door hardtop coupe. The model features four fender holes, wide white wall tires and loads of chrome.



Also new is a 1949 Mercury Coupe painted Calcutta Green.



Oxford's newest version of a 1950 Oldsmobile Rocket 88 Coupe is painted black over Crest Blue. Note the standard black tires with a white wheel inserts.



Completing Oxford's list of new 1:87 scale vehicles is a 1959 Pontiac Bonneville Coupe wearing metallic copper paint. Features include thin white wall tires and flaring rear fenders.
Info: [walthers.com](http://www.walthers.com)

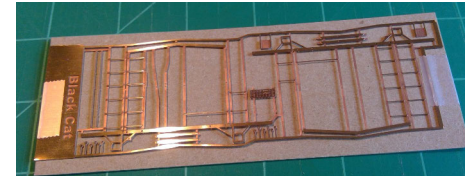


Walthers is quoting a March 2022 release date for a new Cornerstone kit that assembles into an HO scale Fertilizer Distribution Facility. The essential components include a pair of vertical storage tanks and two prefab metal structures; an office with a monument sign and a loading shed with inside racks.



Parts to build two trailers to transport liquid fertilizer are included in the kit. The trailers will also be available separately in a pack of four.
Info: [walthers.com](http://www.walthers.com)

NEW DECALS, SIGNS AND FINISHING PRODUCTS



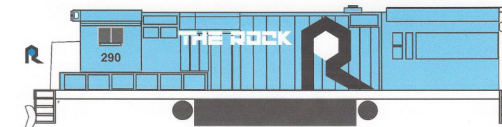
Black Cat Decals has a lettering set for HO scale Canadian Pacific slab side hoppers in both Script and block letters.



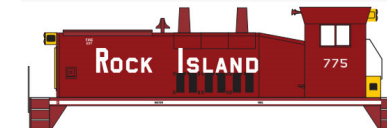
Black Cat also has an etched phosphor bronze kit that makes into a super detailed end cage for a CPR class 5-H slab side hopper car. The kit is specifically designed as a retrofit to the HO scale Sylvan or TLT slab side hoppers.
Info: www.blackcatdecals.com



Mask Island Decals offers a wide range of authentic water slide decals for a variety of railroads and equipment types.



For example, Mask Island currently offers nine different sets of HO scale decals for Rock Island locomotives. A similar selection is available for most popular, as well as many little-known, regional railroads.



Info: [maskislanddecals.com](http://www.maskislanddecals.com)

NEW DECALS, SIGNS & FINISHING PRODUCTS | 38



Monroe Models has repackaged its popular weathering powders in new 1 ounce containers. The new containers are reported to be easier to open and close, and cannot tip over. The original 22 shades of finely ground weathering powders are all available in the new packaging. Info: monroemodels.us



Precision Design Co. offers a complete range of custom decal service. PDC can produce high resolution opaque waterslide decals in basic white or full-color decals direct from files. Services range from creating complete artwork from a raw idea to minimal artwork touch-ups. PDC created all of the artwork and final decals seen here on Ryan Mendell's Algonquin Railway No. 502.

Info: pdc.ca



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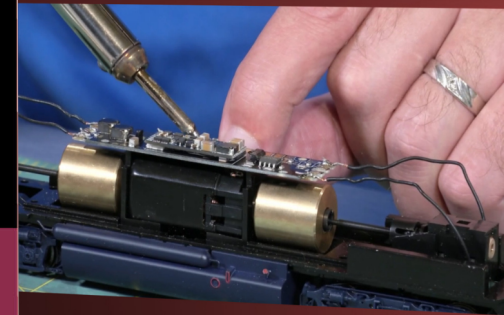
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! BRIEFLY NOTED AT PRESS TIME ...

Morning Sun Books is preparing to release *Electric Railways of North America In Color*, featuring the photography of Matt Herson, who presents a focus on major electrification projects of the Milwaukee Road, New Haven, and Chicago's North and South Shores; plus selected short lines and industrial operations ...

ScaleTrains.Com has released HO scale kits, yes kits, for Havelock 2566 52'6" gondolas. Fully assembled HO models ready for immediate shipment include both Operator and Rivet Counter versions of a TILX 31,000 gallon tank car ...

Walthers has a new run of 50' 100-ton quadruple-bay open hopper cars set for release in November. Road names for the HO scale Mainline Series model will be Burlington Northern, Chicago & North Western, Conrail, CSX, Denver & Rio Grande Western, and Norfolk Southern. Future items on Walthers production schedule include Proto series EMD F7 diesels and 85' P-S bi-level commuter cars. Also scheduled for release early next year is a Mainline NW2 Phase V switcher and a General American G85 flatcar. Watch for full details next month. ■



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SELECTED EVENTS



Model Railroad Hobbyist | October 2021

OCTOBER

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.

Info: www.opsig.org/Virtual

Archive: www.opsig.org/Virtual/Past

ONLINE, Zoom & YouTube, Wednesday & Saturday, see Facebook page. "New Tracks" Meetup, hosted by Jim Kellow, MMR. Info: newtracksmodeling.com

ONLINE, Facebook & YouTube, dates vary, see Facebook page. "NMRax" organized by Gordy Robinson, Martyn Jenkins, Gert Muller, Jordan Kramer.

Info: www.facebook.com/groups/nmraxgroup

ONLINE, YouTube, every other Saturday. 4th Division, Pacific Northwest Region, NMRA hosts online layout tours and clinics. Archive: www.youtube.com/c/4DPNRMovies

ONLINE, Zoom, Second Tuesdays, 8pm EST. "Off the Beaten Track" featuring Narrow Gauge layouts, clinics and manufacturers.

Info: groups.io/g/NNG



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AROUND THE USA, IN-PERSON, Various dates.
ScaleTrains.com Road Trip.
Info: www.scaletrains.com/roadtrip

October - November 2021

POSTPONED - 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.
Info: www.eppingmodelrailway.org.au/exhibition

NEW ZEALAND, LOWER HUTT (Wellington), November 20-21, 2021, RailEx Model Train Show, Walter Nash Centre, 20-22 Taine St., Taita.
Info: www.railex.org.nz

UNITED KINGDOM, DERBY, October 22-24, 2021. 75th+1 Grand Junction Convention, British Region regional convention. Derby Conference Centre.
Info: www.black-diamonds.org.uk/convention

CANADA, ONTARIO, OTTAWA, October 23, 2021. Capital Region Model Railway Tour, Virtual Tour of home layouts in the Ottawa area.
Info: capitaltrains.ca

ILLINOIS, WHEATON, October 17, November 14, 2021. Great Midwest Train Show, Dupage County Fairgrounds.
Info: trainshow.com

INDIANA, DANVILLE, November 20, 2021. Danville Train Show, presented by the Central Indiana Division-NMRA. Hendricks County Fairgrounds, 1900 E. Main St.
Info: cidnmra.org

INDIANA, FORT WAYNE, November 20, 2021. Model Railroad Show & Swap, sponsored by Maumee Valley Railroad Club, Inc. Coliseum Bingo, 911 W. Washington Center Rd.
Info: maumeevalleyrailroad.com

INDIANA, NAPPANEE (Elkhart), October 16, 2021. Elkhart Model Railroad Club Annual Train Show. Claywood Event Center, 13924 N W (County Line Road).
Info: www.emrrc.com/index.php/2021-train-show

MARYLAND, HUNT VALLEY, October 21-24, 2021, Mid-Eastern Region Convention – Mount Clare Junction – NMRA membership not required, Delta Hunt Valley, 245 Shawan Road.
Info: mtclarejct.com

MICHIGAN, EAST LANSING, November 14, 2021. Lansing Model Railroad Club and Sale. Michigan State University Pavilion.
Info: www.lmrc.org

MICHIGAN, SALINE, November 28, 2021. Rails on Wheels' annual Southeast Michigan Train Show. Washtenaw Farm Council Grounds, 5055 Ann Arbor Saline Road.
Info: www.railsonwheels.com

MISSOURI, SEDALIA, November 6, 2021. 9th Annual Sedalia Rails Trains Show, sponsored by the Pettis County Historical Society. Liberty Park Convention Hall.
Contact: klbird530@gmail.com, 660-668-0899

NEW YORK, BATAVIA, October 17, 2021. The Great Batavia Train Show, Richard C. Call Arena at Genesee Community College, 1 College Rd.
Info: gsme.org

NORTH CAROLINA, RALEIGH, November 6-7, 2021, NRV November Train Show, Jim Graham Building, North Carolina State Fairgrounds.
Info: nrvclub.net/november-model-railroad-show

OHIO, CAMBRIDGE, October 17, 2021. Third Annual Buckeye Division Train Show, Pritchard Laughlin Center, 7033 Glenn Hwy.
Info: 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.
Info: www.divisiononencr.com/2021

OHIO, TOLEDO, October 22-24, 2021, Public modular displays (HO Free-Mo and G scale) in the Toledo Union Terminal. Martin Luther King Jr. Plaza, Emerald Avenue. In conjunction with the NCR 2021 Convention (see above) but free for all to visit.

WASHINGTON, KENT, November 13, 2021, 42nd Annual Railroad Swap Meet, sponsored by the Boeing Employees Model Railroad Club, Kent Commons, 525 4th Ave N.
Info: bemrrc.com

Future 2021-2022 by location

COLORADO, LONGMONT, December 10-12, 2021, Boulder Model Railroad Club's 44th Annual Rock-n-Rails Train Show. Boulder County Fairgrounds, 9595 Nelson Road.
Info: bouldermodelrailroadclub.org/index.php/train-expo/44th-annual-train-expo-2022

FLORIDA, MELBOURNE, December 4, 2021. Original Melbourne Train and Toy Show, sponsored by Schultz Space Coast Trains, Azan Shrine Center, 1591 W Eau Gallie Blvd.
Info: schultzspacecoasttrains.com

ILLINOIS, WHEATON, November 14, December 12, 2021. Great Midwest Train Show, Dupage County Fairgrounds.
Info: trainshow.com

MASSACHUSETTS, MARLBOROUGH, December 4-5, 2021. New England Model Train Expo, sponsored by the NMRA HUB Division. Best Western Royal Plaza Trade Center.
Info: www.hubdiv.org/fallshow

MASSACHUSETTS, WEST SPRINGFIELD, January 29-30, 2022. Railroad Hobby Show sponsored by the Amherst Railway Society. Eastern States Exposition Fairgrounds, 1305 Memorial Avenue.
Info: www.railroadhobbyshow.com

MISSOURI, St. LOUIS, August 7-14, 2022, NMRA National Convention and National Train Show. St. Louis Marriott Grand Hotel, 800 Washington Avenue.
Info: gateway2022.org

OHIO, LIMA, December 11, 2021, Train Town Train Show and Swap Meet, sponsored by NMRA NCR Division 3. Allen County Fairgrounds, 2750 Harding Highway. Contact Jim Marquardt, 260-437-3844 for more information.

OREGON, EUGENE, May 10-14, 2022. PNR 2022 Regional Convention, Valley River Inn.

OREGON, RICKREALL, December 4, 2021. Willamette Valley Model Railroad Annual Train Show and Swap Meet. Polk County Fairgrounds, 520 S. Pacific Hwy. West.
Info: wvmrm.webs.com

PENNSYLVANIA, MALVERN, March 24-27, 2022, Valley Forge Railroad Prototype Modelers 2022. Desmond Malvern Conference Center.
Info: www.rpmvalleyforge.com

TEXAS, PASADENA (Houston Area), February 12, 2022, The Greater Houston Train Show, presented by the San Jacinto Model Railroad Club. Pasadena Convention Center, 7902 Fairmount Parkway.
Info: sanjacmodeltrains.org ■



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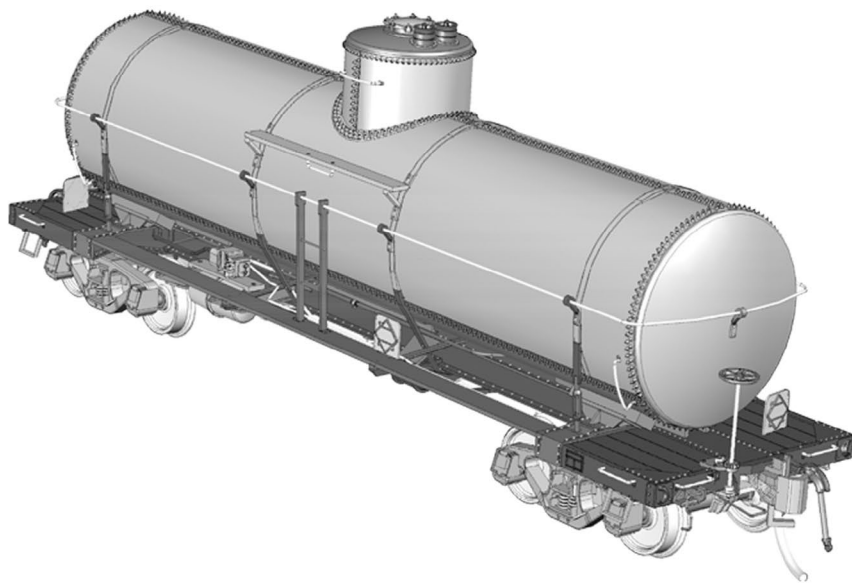
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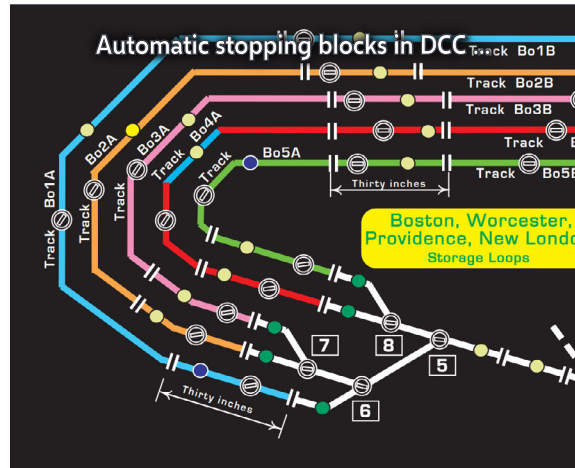
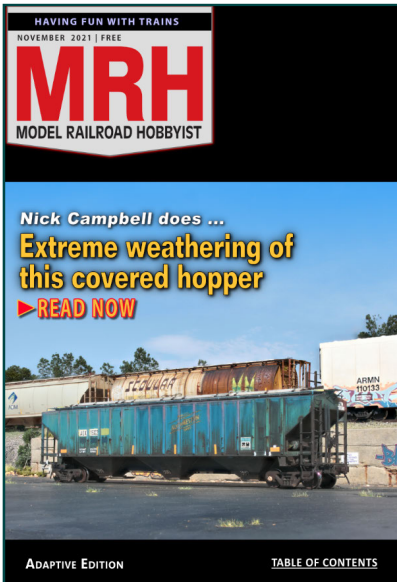
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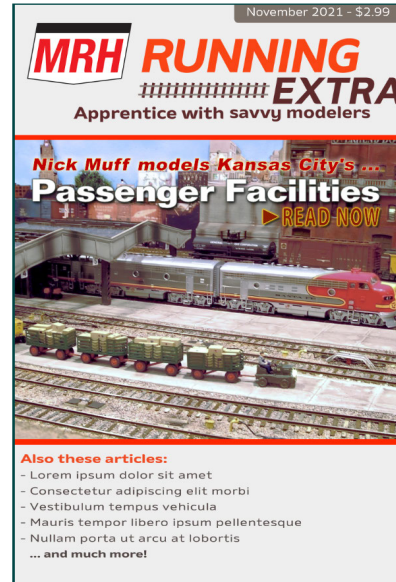
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