



RUNNING **EXTRA**

Apprentice with savvy modelers

Bernd Fanghanel shows how to ...

Improve P2K loco pickup

► READ NOW



Full
December
MRH
inside!



ALSO in this month's edition:

- Modeling from historical references
- Build a New England autumn scene
- Make running trains more fun
- Unclog those needle bottle dispensers
- ... and much more inside!**

ADAPTIVE EDITION
Landscape or portrait depending on screen size

[INDEX](#)

[TABLE OF CONTENTS](#)

This is the screen-adaptive PDF version of MRH magazine

This PDF will try to fill the screen. If the screen is wide enough, it displays two facing pages (emulating the old landscape format), otherwise it displays one page in portrait.

On mobile devices, if you change your device orientation, the PDF adapts to fill the screen with either a portrait or a landscape view as appropriate.

WORKS BEST WITH ...

- Windows: open with Acrobat or Firefox
- Mac: open with Preview, Acrobat, or Firefox
- Linux: open with Acrobat or Firefox
- Apple iPad or iPhone: open with SideBooks app (free)
- Android tablet or phone - open with SideBooks app (free)

If you're not seeing the PDF adapt, then your PDF viewer lacks the adaptive display feature. Please use one of the recommended free PDF viewing apps listed above to get the screen adaptive behavior. Or try the Wide Edition instead.

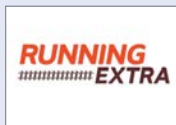
TABLE OF CONTENTS | RUNNING EXTRA

December 2021



RATE THIS ISSUE

Rate Running Extra issue ...



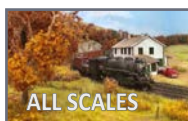
Publisher's Welcome: Tungsten steel scriber toolset

JOE FUGATE



Limited Modeler: Importance of a historial reference

JIM SIX



Getting Real: Recreating New England autumn

MARTY MCGUIRK



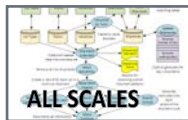
Modeling a scene with railroad ties

TED VAN PELT



Better P2K locomotive electrical pickup?

BERND FANGHANEL



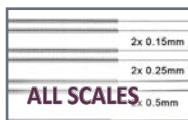
Computer-aided traffic generation

RICHARD KÜRSCHNER



Make running trains more fun

JOE FUGATE



Ah-Hah Moment: Blunt needle unclogging tool

JOE FUGATE



SUBSCRIBE

INDEX

TABLE OF CONTENTS

TABLE OF CONTENTS | MRH

December 2021



Publisher's Musings: Selectively compressing speed, ...
JOE FUGATE



ALL SCALES

MRH Website this month: The most beautiful locomotive, ...
Compiled by JOE FUGATE



ALL SCALES

What's Neat: Painting military equipment, ...
KEN PATTERSON



ALL SCALES

Toot-toot sound system for the layout room
BRIAN KRUPICKA



HO

Atlas covered hopper makeover
BOB RIVARD



ALL SCALES

Suction-operated semaphore signals
HENRY VAN WYK



N

First Look: New JTC intermodal offerings
JEFF SHULTZ



HO

Savvy Modeler online: Upgrade Blue Box to Genesis motor
Compiled by the MRH STAFF



December 2021 news and events
RICHARD BALE and JEFF SHULTZ

PUBLISHER'S WELCOME

introduction



MRH Running Extra | December 2021

JOE FUGATE FINDS AN INEXPENSIVE HOBBY SCRIBER SET ...



I'VE BEEN LOOKING FOR SOMETHING TO SCRIBE STYRENE

THAT DOES not leave a raised edge like an X-Acto hobby knife blade does.

After searching online a bit, I found this inexpensive scribe set online [1]. It comes with five hardened tungsten steel tips: 0.2mm/ 0.4mm/ 0.6mm/ 0.8mm/ 1.0mm (0.008" / 0.016" / 0.024" / 0.032" / 0.039").

The handle also includes a pop-off end, making it handy for storing the other four tips you're not using [2].

I like that these scribes actually remove material when you scribe with them. Using a knife blade cuts into the material and leaves a raised edge. When I use these scribes, I can rub my finger over the styrene and I feel no raised edge [3].

As an extra little perk, this set comes with some hard-edged marking tape. If you search YouTube on how to use these scribes, you will find videos showing how to use the marking tape to help guide the scribe along the line you want to scribe.

This is especially helpful when the styrene you want to scribe is not a flat object, such as a loco boiler.

Speaking of YouTube videos, I also found a video that reviews a scribe similar to this one with a red handle. The kit is almost



[SUBSCRIBE](#)

[INDEX](#)

[TABLE OF CONTENTS](#)

PUBLISHER'S WELCOME | 2

identical to the one I bought, although the price has gone up some in the almost two years since this video was made:

<https://youtu.be/d2rUXmtH3kk>

Check out the shopping list link for more details. ☒

To get a shopping list for this article, visit the *MRH* website at this link:
mrhmag.com/magazine/running-extra/2021-12/publishers-welcome#shopping

1. I wanted to get a real scribe for my modeling and I found this affordable scribe set, which includes 5 different tip sizes and some hard edge marking tape.



2. The end comes off the handle, allowing me to store the different tips there. Nice!



3. The scribe will scribe styrene without creating raised edges like a knife blade does.



RATE THIS ARTICLE

THE LIMITED MODELER

column



Note: This column refers to the prototype and to HO-scale models.

MRH Running Extra | December 2021

Model photos by Jim Six, prototype photos from Jim Six collection, graphics edited by Jim Six from Accurail website.



JIM SIX DISCUSSES THE IMPORTANCE OF HISTORICAL REFERENCE IN PROTOTYPICAL MODELING ...

I AM A PROTOTYPE MODELER OF THE NEW YORK CENTRAL Lines with a layout that represents Clyde, Ohio. All my locomotives, rolling stock, and operations represent the prototype, and I model everything based on railroad history.

I base everything on prototype photographs and prototype dates from the history of the New York Central Lines. Knowing the history of the railroad and of Clyde, Ohio is crucial to providing meaning to my modeling goals. Just researching railroad history and collecting photos would be a satisfying hobby, even without building models.

Photographs of old prototype scenes, structures, and railroad equipment provide historical record of what I model. Sufficient



DOING MORE WITH LESS



[SUBSCRIBE](#)

[INDEX](#)

[TABLE OF CONTENTS](#)

THE LIMITED MODELER | 2

historical information, data, and photographs are important to any model scene that is supposed to represent the “real” world – past or present.

How detailed and exact my models are doesn't matter. I don't count rivets or bother with individually formed wire grab irons and bolt heads for the most part. I just want a nice-looking layout with nice-looking models to operate in an enjoyable way. This might also describe you.

The Accurail boxcar pictured in [1] is a perfect example of the sort of car I look for. Note the oval herald says “Lines” and not “System” – NYC System did not exist until 1936. Accurail created the graphics on the model directly from actual prototype photographs.

Though lacking a few details, the model is a close replica of the USRA double-sheathed 40-foot boxcar right out of the box. When I get around to weathering it, the model will make a good prototype model. Manufacturers have produced ever more accurate models to build their reputation, even if they still make the occasional “foobie” to help the bottom line.

The problem has long been that hobby manufacturers rarely have the historical knowledge about railroads, or the resources needed to produce accurate models. To make up for



1. Accurail HO-scale model.

this shortcoming, they accept suggestions, information, and prototype photography from model railroaders. This cooperation has led to many great models.

Hobbyists such as Ray Breyer, Eric Hansmann, and I have worked directly with manufacturers for decades. We have devoted ourselves to learning railroad history and collecting prototype photos. My collection of photos numbers in the tens of thousands – Ray has even more, especially for the pre-1950 era – and these collections have proven invaluable.

This effort goes directly back to railroad history. My specialty is the New York Central Lines, and to a lesser extent, the ACL, B&O, NKP, PRR, SAL, and SOU. During the past five years I have focused increasingly on the NYC Lines, a railroad company that owned or controlled a “family” of railroads.

The first railroad named New York Central was formed in 1853 with the merger of 10 railroads across New York state between Albany and Buffalo. This “first” New York Central lasted but fourteen years. In 1867, Commodore Vanderbilt merged the New York Central Railroad with his Hudson River Railroad to form the powerful New York Central & Hudson River Railroad, which operated between New York City and Buffalo, NY.

Vanderbilt acquired the Lake Shore & Michigan Southern in 1869, which ran from Buffalo to Chicago via Cleveland, Toledo, and South Bend. It connected with the NYC&HR at Buffalo to give Vanderbilt a continuous route between New York City and Chicago. The two railroads continued to operate independently until July 1915, when they merged to form the New York Central Railroad, which was only a component of the New York Central Lines.

The Michigan Central Railroad was another component of the New York Central Lines that operated between Detroit and Chicago, with branch lines to Grand Rapids, Mackinaw City, and other locations around Michigan. The MC connected with





2. LS&MS two-bay hopper 50400, built 3-09.

the Canada Southern (CASO) in Ontario. Eventually the MC gained control of the CASO, bringing it into Vanderbilt's New York Central Lines empire.

At the time of the 1915 merger of the NYC&HR and LS&MS there were several component railroads that made up the "Lines". Included approximately east to west were:

- Boston & Albany (B&A)
- New York Central & Hudson River (NYC&HR)
- Lake Shore & Michigan Southern (LS&MS)
- Pittsburgh & Lake Erie (P&LE)
- Cleveland, Cincinnati, Chicago, & St. Louis (CCC&StL)
- Nickel Plate Road (NYC&StL)
- Lake Erie & Western (LE&W)
- Toledo & Ohio Central (TOC)
- Cincinnati Northern (NOR)

- Michigan Central (MC)
- Canada Southern (CASO)
- Peoria & Eastern (P&E)
- Pittsburgh McKeesport & Youghiogeny (PMcK&Y)

While these were the most prominent railroads of the New York Central Lines, they were among 36 railroad subsidiaries of the New York Central Lines. This collection of subsidiaries arguably made the New York Central Lines the most important railroad company in North America by about 1900.

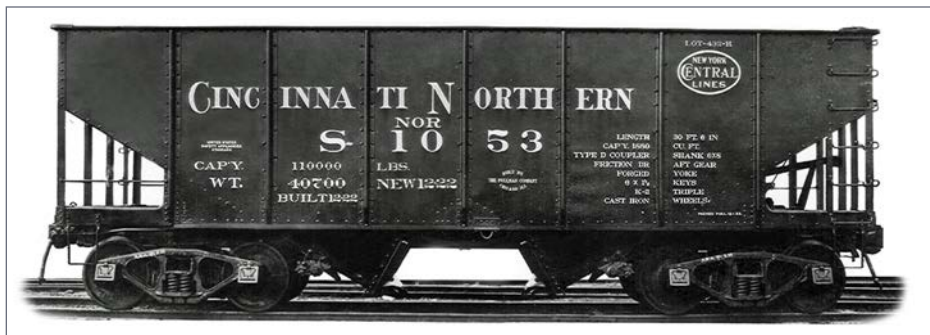
This power did not go unnoticed by the U.S. federal government. Anti-trust legislation and threat of legal proceedings pressured the NYC Lines to sell off some of its component railroads.

In 1905 the New York Central Lines introduced their famous oval herald and applied it to its freight cars. While each of the component railroads had their own freight car reporting



3. Toledo & Ohio Central 28354, new 12-18, was delivered under USRA control. The primary difference from the LS&MS car above is in the data recorded on the side of the car. Federal standards for car side data had changed since 1909.





4. Cincinnati Northern (NOR) 1053, new 12/22, after the USRA disbanded, shows only slight changes from earlier two-bay hopper designs. The build date in this photo tells us that the NOR was still going strong as a brand in 1922 and after.

marks, all but the B&A and the NYC&StL displayed the NYC Lines oval herald.

EARLY TWO-BAY COVERED HOPPERS

The design the New York Central Lines used for its early two-bay hopper cars was very similar to what the USRA adopted [2, 3]. The NYC continued building clones of the USRA design for years after the agency dissolved. For modeling purposes, the USRA hopper design works well to represent models built both before and after the agency's existence [4].

NYC historians and modelers have long argued whether NYC hopper cars and gondolas were painted in red/brown or black paint. From my research, the standard color for both NYC hoppers and gondolas was red/brown, and they were painted those colors when painted in warm weather months or indoors. However, in cold months, the cars painted outdoors were painted black.

Accurail used the USRA two-bay hopper design to represent those of the New York Central Lines and its subsidiaries,

offering each road name in both red/brown and black. The company also offers the car painted for the post-1936 New York Central system. All Accurail's hoppers are based on prototype photography and are accurate from before 1910 until 1940 [5, 6].

Using historical references to model is necessary if you can't run outside to photograph your subject. Since my operating years are well before I was born, I need a lot of photos and resource information. I find researching and working with friends like Ray Breyer and Eric Hansmann is satisfying, rewarding, and a lot of fun.

NICKEL PLATE

The Nickel Plate was incorporated as the New York, Chicago, & St. Louis Railroad in 1881 to compete with the LS&MS and the CCC&StL railroads. Recognizing this threat, Vanderbilt bought out the NYC&StL and made it a component of the New York Central Lines [7].

In mid-1916, the federal government forced New York Central Lines to sell the NYC&StL to the Van Sweringen brothers of Cleveland, Ohio. They almost immediately rebranded it as Nickel Plate Road, adding the NKP initials under the CCC&StL



5. New York Central. The NYC cars represent post-1915, since the NYC did not exist until July of that year.



[8]. Later, they applied the Nickel Plate Road logo to the car side [9].

About 1940, the Nickel Plate dropped the NYC&StL initials, leaving only the NKP and the logo [10]. The Athearn/



6. Lake Shore & Michigan Southern. This model represents the car from its manufacture in 1908 well into the 1920s, perhaps as late as 1930, by which time they would have been repainted as NYC.



7. NYC&STL 27046 as it appeared under New York Central Lines Control. Notice there is no New York Central Lines oval.

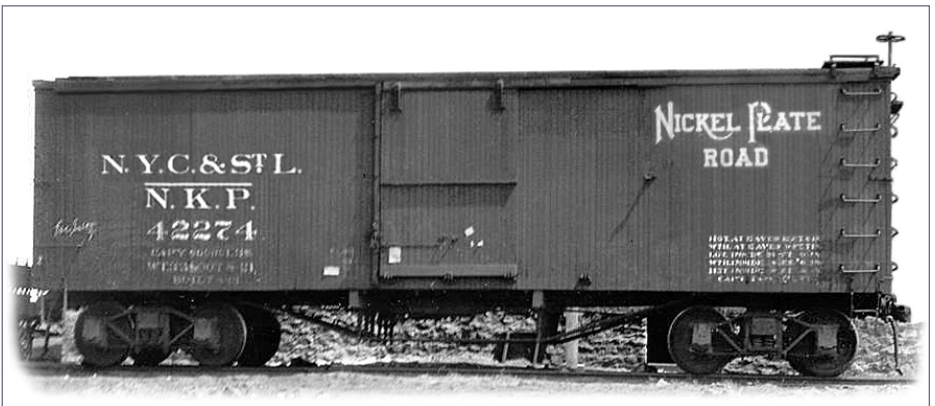
THE LIMITED MODELER | 9

Roundhouse Old Time boxcar decorated for the Nickel Plate Road is way too modern for the 1930s or earlier.

The New York Central Lines sold off its subsidiary Lake Erie & Western (LE&W) to the Nickel Plate Road in 1924. The combination of the NYC&StL with the LE&W made up the bulk of the Nickel Plate Road until the NKP leased the Wheeling & Lake Erie in 1948.



8. NKP 10699 represents the Van Sweringen brothers' early rebranding.



9. NKP 42274 shows the new Nickel Plate Road logo.



[SUBSCRIBE](#)

[INDEX](#)

[TABLE OF CONTENTS](#)

The other NYC Lines component railroads remained “Lines” property and were eventually absorbed into the New York Central with the 1936 reorganization of the *New York Central Lines* into the *New York Central System* which lasted until Penn Central.



10. This prototype photo matches the Athearn/Roundhouse Old Time boxcar decorated for Nickel Plate Road. The scheme was not used before 1940.



11. LE&W double-sheathed wooden boxcar 12052 riding Rigid-T trucks. The NYC Lines oval herald is just off the photo to the right. The very old gondola next to the 12052 rides

older rigid-framed trucks.

Several of us have been working with Accurail to produce 36-foot wooden boxcars. Accurail has produced these models in four variations, painted for almost every railroad that had them. Again, all are based on prototype photographs and railroad data [14].



12. LE&W 6880 of the New York Central Lines in transit at Nanuet, NJ in 1909. The boxcar was likely built about 1900. Note the truss rod frame, archbar trucks, and all the chalk markings. I will model this car using Athearn/Roundhouse's old-time boxcar. The NYC

Lines herald was introduced in 1905.



13. This is the proposed Accurail model of 6880.



[SUBSCRIBE](#)

[INDEX](#)

[TABLE OF CONTENTS](#)

The USRA assigned its 40-foot boxcars to many railroads, and Accurail's USRA model is available in more than 50 paint schemes that represent prototypes in use from the late 1910s until the 1950s. So far, most of the cars available represent the cars from repaints in the 1930s until retirement [15, 16].



14. I painted and decaled this Accurail USRA 40-foot wooden boxcar model for the NYC. Accurail will be adding models of this boxcar starting in 2022 based on my photo submissions. I added

running board braces, coupler cut levers, and air hoses to the model.



15. GN 40-ft double-sheathed boxcar. This version of Rocky the Mountain Goat first appeared in 1936.



16. NYC SYSTEM (late) 40-ft double-sheathed boxcar. That this car is NYC System rather than Lines represents a 1936 or later scheme.

Ray Breyer and I are working with Accurail to produce new offerings that represent these cars as built in the late 1910s and through the 1920s [14, 17]. These new offerings will complement Accurail's assortment of 36-foot double-sheathed boxcars.

I am not aware that the Pennsylvania ever had USRA 40-foot boxcars, although I know its subsidiary, the Grand Rapids & Indiana had several that looked like them. Accurail used prototype photos in painting its USRA boxcar model in GR&I livery for the NMRA convention in Grand Rapids. The car's build date of 9-19 suggests this might have really been a USRA car.



17. AT&SF (early) 40-ft double-sheathed boxcar.



18. Accurail built this model of a Grand Rapids & Indiana USRA 40-foot boxcar based on prototype photos.



[SUBSCRIBE](#)

[INDEX](#)

[TABLE OF CONTENTS](#)

The point is that this model would not exist if someone had not done some railroad history research and uncovered the photo.

Railroad history and railroad modeling are intertwined. One without the other is unthinkable.☑



RATE THIS ARTICLE

**Did you know
there's an
MRH/RE index
available?**

Click to find out more

GETTING REAL



column

MRH Running Extra | December 2021

All photos by the author unless noted



MARTIN MCGUIRK SHOWS HOW HE RECREATED A NEW ENGLAND AUTUMN ON THE SOUTHERN NEW ENGLAND RAILWAY ...

MY HO SCALE SOUTHERN NEW ENGLAND RAILWAY MEASURES APPROXIMATELY 15' x 35'

and occupies one side of our finished basement. It runs from St. Albans, Vermont (represented by staging) to a connection with the Canadian Pacific in Richford. The Central Vermont Railway Richford branch serves as prototypical inspiration.

Although I'm modeling the Central Vermont's Richford branch and everything is based on New England prototype, I have some scenes and structures that are a hundred or so miles out of place. My friends still refer to the layout as the "Southern New England" – my freelanced road name. I got tired of correcting them, so I simply went along with it.

Popularly known as the Champlain Valley, geologists refer to the area as the "Vermont Lowland." The area has dairy farms, apple orchards and fields of corn, hay, oats, and wheat. A few small towns are scattered across the countryside.

In September and October of 1941, FRA Photographer Jack Delano visited northern Vermont. His photos, found in the Library of Congress (many of which can be viewed at www.loc.gov), inspire my detailing efforts.



SUBSCRIBE

[INDEX](#)

[TABLE OF CONTENTS](#)

I considered modeling late-fall or early-spring – the “leafless” season – or even mid-summer, but my favorite time of year is autumn. My parents carefully removed and packed away all the fall trees from my previous layout when we moved from our old house. This gave me a huge head start for my current layout [2].

I started constructing this layout about three years ago. As of this writing, I have completed benchwork, lighting, track, and wiring. Due to some family issues, I didn’t do a great deal on the layout from early 2020 until the late summer of this year – but have recently found my way back to the basement.



1. Central Vermont M-3-a Consolidation no. 450 runs by the Co-Op Creamery. The mid-October colors are just past peak on the author’s HO scale Southern New England Railway, inspired by scenes along the prototype Central Vermont.

Since there's a lot of open countryside on this layout, and since I have all those trees, I'm focusing on the fields, pastures, and woodland portions of the layout. I'll go back to the more structure intensive area later.

BENCHWORK

As I described in the June 2019 issue of *MRH*, the layout is open-grid benchwork secured to IKEA Ivar cabinets and shelf units. I painted the Ivar legs, cabinets, and the wall below the layout benchwork Sherwin Williams "Riverway" – a dark bluish green color. Painting all areas under the layout gave the layout a neat appearance early in the construction stage [3].

In areas where I knew there would be a lot of track or structures, I secured sheets of 1/2" birch plywood to the open-grid. In areas where I wanted the terrain to be below



2. Marty's late father removes trees from Marty's former layout.



track level, I used plywood cut into strips wide enough to support the track and cork roadbed. In some areas, I elevated the sub-roadbed a few inches above the open-grid framework to permit the scenery to drop below track level.

TRACKWORK

All track and most turnouts are Micro Engineering (ME) code 70, except for one 90-degree crossing from Shinohara, one Peco curved turnout, and about a half-dozen turnouts I handlaid to fit specific areas. I find my handlaid turnouts more reliable than those from ME, so I plan to replace them with hand-laid as they give issues.

I airbrushed the track with Modelflex Rail Brown, Railroad Tie Brown, and Grimy Black in successive light coats. I colored the sides of the rails using Testors Rust and Rail Brown Paint Pens, blending the two colors together while still wet.

I then used a micro brush to add some dark brown and black Bragdon weathering powders to the sides of the rails to blend everything together. After the paint was dry, I ballasted the track with a mixture of commercial fine cinder ballast and dark gray-sanded tile grout.

BACKDROPS

I hand-painted the backdrop, taking special care to match colors and use forced perspective to blend things together. I started by painting the room walls a sky-blue color. The goal is not a photo-realistic painting, but to extend the environment beyond the walls of the basement [4, 5, 6].

BASE SCENERY

Once the basic infrastructure and track were complete, I wired the track and ran trains to make sure everything was in working order.



3. Achieving a finished look to the layout early in the construction process was a top priority.



4. Marty mixed a small amount of dark blue artist acrylic paint into the sky blue to create the furthest hillsides. Once that dried, he combined some “basic earth” latex tan paint with sky blue and painted the mid-ground ridge line.



[SUBSCRIBE](#)

[INDEX](#)

[TABLE OF CONTENTS](#)



5. Marty next lightly dabbed lighter colors to create the look of distant fall hillsides and highlights on the tops of the trees. He left some areas without tree texture to represent distant fields. When viewed closeup it's obvious there's not a lot of detail to the trees and fields. But when viewed from the aisle the effect is convincing.



6. Marty painted the closer hillsides by dabbing a random mixture of burnt umber, raw sienna, and Paynes Grey onto the mid ground (tan) hills. The goal is to create shadows for the final layer of background trees.

With that done, I turned my attention to the scenery itself. I made landforms using several methods, depending on the desired type of terrain.

For large areas of open terrain without plywood sub-roadbed, I used a grid of interwoven cardboard strips to create basic terrain shapes. I covered the cardboard with several layers of plastercloth to create typical hard shell surface for the scenery [7].

Plaster is messy – my layout room is carpeted – and I hate drilling holes in plaster scenery to plant trees. I need lots and lots of trees to model New England.

That's why, for areas that I know will be densely wooded, I prefer to use open cell “green Florist” foam. For any grassland and pasture areas where the terrain will be slightly undulating, I used pink insulation foamboard of various thicknesses. I secured the foam pieces in place with hot glue and then used knives and rasps to carve it to shape [8].



7. For large open areas of open terrain, Marty used hard shell scenery.



No matter what the underlying approach, once the terrain was formed, I painted everything with a base coat of tan latex paint. I generally find the color in the “oops” bin at the local big-box retailer, and go with a light base earth color [9].

I created a base “soil” groundcover by mixing several shades of earth-tone sanded grout, Scenic Express Fine Natural Dirt, Woodland Scenics Fine Blended Turf ground foam, and sifted real dirt [10].

After mixing everything together, I spread it on the layout with a foam brush [11]. Once everything was mixed and spread to satisfaction, I sprayed the “soil” with a mixture of water and 70% rubbing alcohol. Finally, I dripped thinned white glue onto the wet “soil” to secure it.



8. This view before the base scenery was painted shows the two types of foamboard: Pink for areas that will be grassland and pastures, and green for forested areas.



9. A light earth tone basecoat gives the layout a finished appearance even at an early stage of construction.



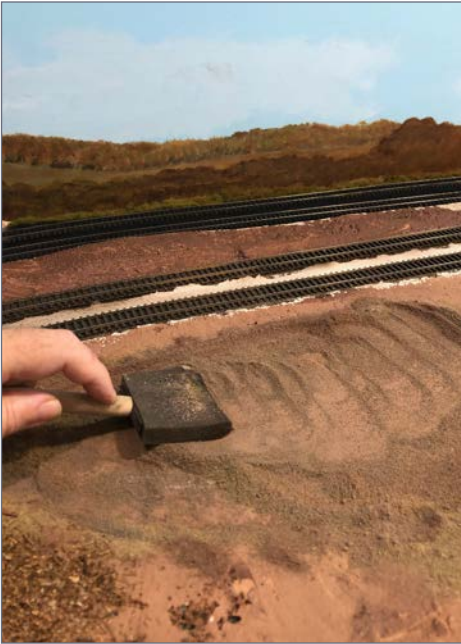
10. Various soil materials are laid out, ready for mixing.



[SUBSCRIBE](#)

[INDEX](#)

[TABLE OF CONTENTS](#)



11. Marty spread the soil mix onto the layout with a foam brush.



ROCKS

I cast some rocks from Plaster of Paris using commercial (Woodland Scenics or Sterling Models) rubber molds. After the plaster set, I peeled the mold away.

I spread a thick coating of Sculptamold on the backs of the castings and applied them to the desired location. I then used Sculptamold to blend the rock into the surrounding terrain.

I created larger rock outcroppings using Cripplebush rubber rocks. These are large sheets of pre-made rubber rocks that are flexible, which makes them easy to bend to follow curved tracks and landscape.

I weathered both kinds of rocks using the same technique. I started with a base coat of light gray acrylic paint thinned to a “heavy wash” consistency.

After that dried, I dabbed dark brown and gray Bragdon powdered pastels into the cracks and crevices. Then I touched the crevices with a brush moistened in rubbing alcohol, causing the powders to flow into the crevices to create shadows and give greater feel of depth. Finally, I mixed white into the base gray mixture and lightly dry brushed it onto the raised surfaces of the rocks [12].

VEGETATION

During the period I model, uncultivated, undeveloped areas of the rural New England were coated in thick second-growth forests. The northern hardwood mixes of beech, birch, and



12. Cripplebush rocks, weathered.





13. Background trees.

maple accounted for 71% of the forest cover. Vermont's state tree, the sugar maple made up close to 20% of the trees.

I set my layout in late fall when the trees are slightly past peak but before most have shed their leaves. Many of the trees have turned an orange or rust color, although some brighter orange and yellow trees may still be visible. And, since there are always some green trees even in the dead of winter, every time I make a "batch" of trees, I make sure at least 1/3 of them are green.

I have two types of trees on the layout: "background" and "foreground." Background trees depict the treetops or forest canopy of more distant areas, so they have minimal trunks showing. Foreground trees are standalone models with visible trunks and main branches.

I primarily use Scenic Express Super Trees for the background trees. I prepare the individual trees by removing their larger leaves that don't scale well for the forced perspective of distance. I set aside the scraps for later use.

Once I have the trees trimmed, I spray them with a combination of earthy tan and gray colors. Finally, I apply either ground foam or scale leaf material from Scenic Express or Noch [13].

I want my foreground trees to scale well with the other scenery in the foreground, so the trees need to be larger, with more prominent trunks and branches. I build them up using armatures made either of real dried branch tips – usually crepe myrtle – or with twisted floral wire.

I built up most of my smaller foreground trees using dried crepe myrtle branch tips. I clean up the branch tips by removing the crepe myrtle seed pods, then apply scrap Super Tree branch material left over from the background foliage with hot glue. After painting and flocking, the trees are ready to plant [14].

Modeling fall in the eastern United States means coming up with appropriate and believable colors for fall foliage. The secret is to keep the overall color tone the same – in other words all my trees have rust or orange colors and very few have yellow leaves.

The other secret is to achieve slight color variations on each tree. I use two, or sometimes three shades of foliage on each tree. I use dark, medium, and light shades to create shadows and highlights.



14. This photo shows the steps from left (raw crepe Myrtle branch) to a ready-to-plant tree.





15. This tree was made using a twisted-wire armature.



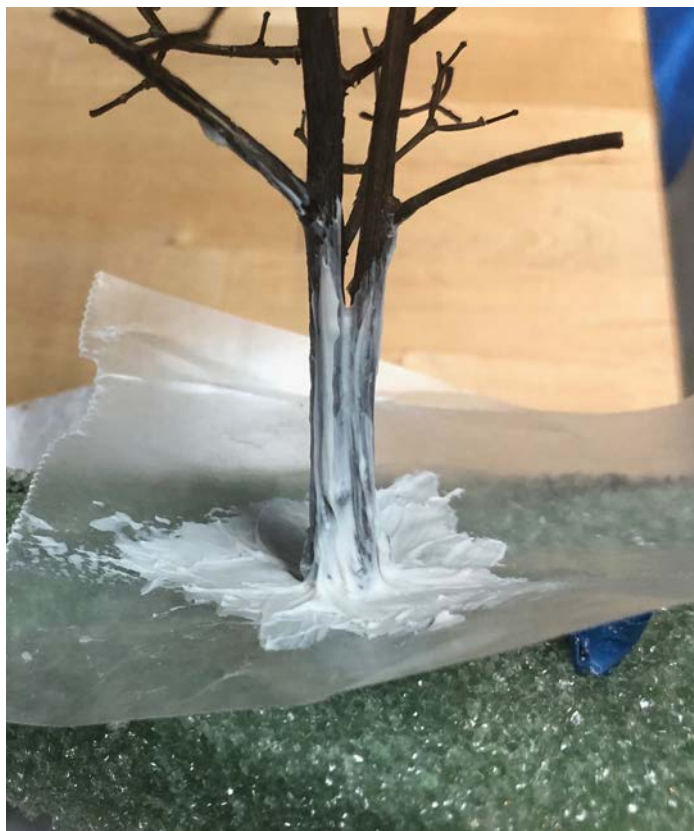
For some of the larger trees, I use armatures from twisted florist wire. I twist the wire into natural-looking limbs and branches, and twist together a stem. Once I have the basic armatures formed, the procedure to completion is very similar to the crepe myrtle method, though I use CA instead of hot glue to secure the Super Tree material to the twisted wire armatures. [15].

I can use the crepe myrtle branch tips for larger trees, too, by gluing several branches together to create a larger main trunk. I blend the individual branches into a trunk at the base with Golden Molding Paste, an extremely thick gel medium.

The molding paste gives both crepe myrtle and twisted wire armatures a unified, textured trunk, and is also useful for

forming roots at the base. I do the molding paste step with the tree on wax paper, which I can easily peel away once the paste has dried. I also add a small piece of wire to the bottoms of larger trees to facilitate planting them on the layout [16].

I've made extensive use of static grass products, grass mats, and foliage mats. I combine various lengths and colors of static grass and apply it using a static grass applicator (either a Heki Flockstar or the Woodland Scenics Static King) onto slightly diluted Elmer's Glue All. Photos [17-19] show the process.



16. Working the molding paste trunk, using a base of wax paper for easy removal.





17. First, I randomly apply slightly diluted (1 part water to 8 parts glue). Leaving some areas without glue helps prevent a “golf course” look!



18. I insert a steel T-pin into each glue spot and clip the grounding clip to the T pin. I turn on the applicator and lightly shake grass onto the surface.



19. Once the glue has tacked-up, I run a shop vac with a nylon stocking over the end of the nozzle to recapture the grass! This pulls the grass vertically and helps reduce any thick globs of grass.

I've recently augmented the static grass with foliage mats and pre-made wild grass mats from Martin Welberg. Martin offers an extensive line of scenery mats and textures that cover a variety of terrains and seasons. I cut the mats into sections and use full strength white glue to affix them to the layout [20].

The mats are a little pricey but are great for representing overgrown areas along the right-of-way. Blending them into the other scenic textures takes some care. I've found using the tear apart "net" foliage between the Welberg wild grass mats and the static grass offers the best results for me [21].

That's a quick overview of the progress I've made on the layout and how I'm going about using some newer products and techniques to capture the look of my favorite time of year in one of my favorite places. ✓



RATE THIS ARTICLE



[SUBSCRIBE](#)

[INDEX](#)

[TABLE OF CONTENTS](#)



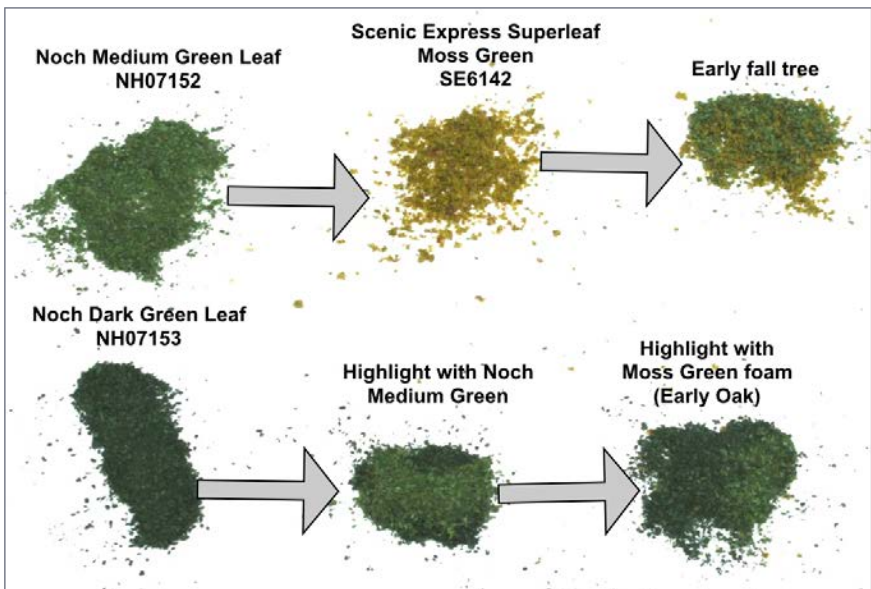
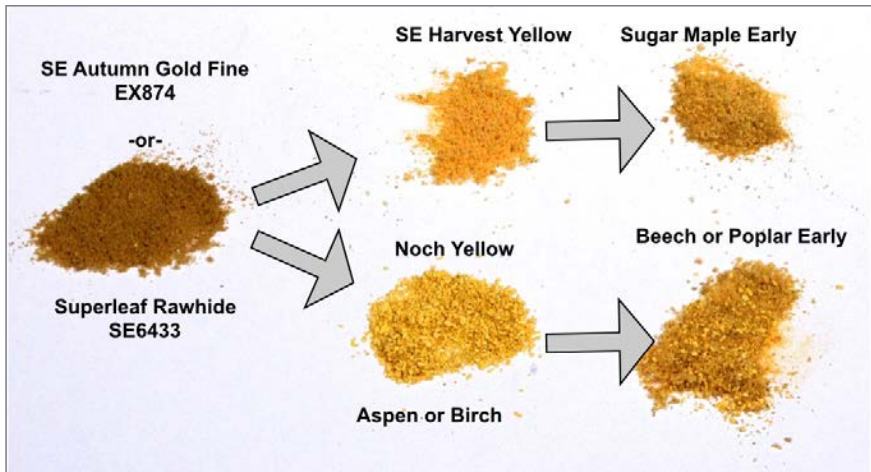
20. Applying a Martin Welberg scenery mat.



21. Marty used patches of Welberg scenic mats, blended with static grass and Heki foliage nets, in the area between the barbed wire fence and right-of-way. The result captures

the look of “no man’s land” between the railroad and privately owned pasture.

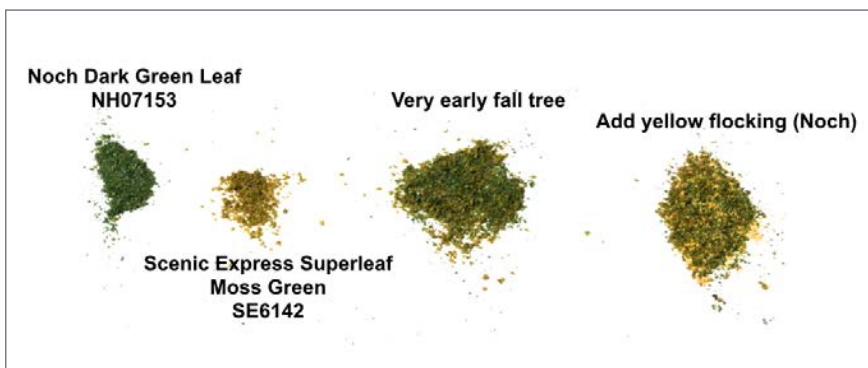
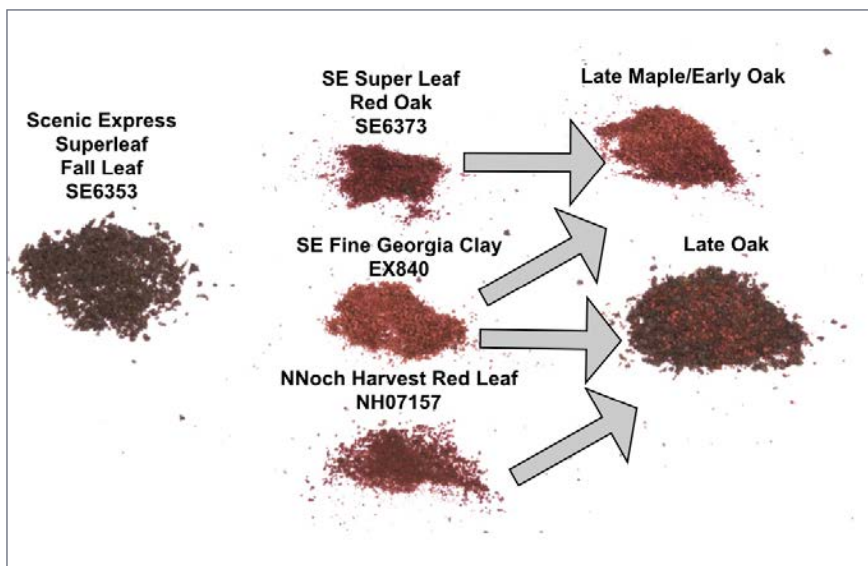
LEAF COLOR



SUBSCRIBE

[INDEX](#)

[TABLE OF CONTENTS](#)



RATE THIS ARTICLE

Railroad ties



MRH Running Extra | December 2021

TED VAN PELT DISCUSSES THE
PRODUCTION OF EARLY
RAILROAD TIES ...



GROWING UP IN THE MISSOURI OZARKS OF THE THIRTIES, I knew the importance of timber to the economy. After the Civil War, there was a rush to build railroads, standard and narrow gauge, and the transcontinental railroad soaked up ties like a sponge. Most roads required 3,000 to 3,200 ties per mile of track.

Before the advent of the steam-powered sawmill around 1900, all these ties were hand-hewn, and the ends were usually cut with an axe. There were few standards for ties, and the track work often looked ragged [1]. Only the rails were uniform.



[SUBSCRIBE](#)

[INDEX](#)

[TABLE OF CONTENTS](#)

1. This photo shows how different a well-made tie (right) is compared to a cull tie.

The soft timber growing along rivers made poor ties that would split easily and decay quickly. The wood had to be dense enough to hold the 4.5" hand-wrought spikes without splitting.

When the 6" spike became standard later, it required larger ties. Switch stands required heavier and longer ties, and curves were usually laid with the hardest wood available. The oak and hardwood trees of the Ozarks, which grew straight and tall, proved ideal for the task.

Tie-making was a year-round occupation in the Ozarks, with trees cut during the summer, fall, and winter. Smaller-diameter trees were hacked and stacked by the rivers to dry [2].

After sawmills became popular, the larger trees went to sawmills and the smaller trees became telegraph poles and fence posts. It was important to dry the ties, both to enable them to float and to keep prevent them shrinking and ruining the track gauge.

With the Ozark spring floods, locals pushed the ties into rivers and made floats up to a mile long. Men with long poles walked the floats, nudging the ties away from the banks, downed trees, and other obstructions as they were carried downstream toward a rail head. At destination, a boom across the river trapped the ties so men could haul them out of the water.

Where there was no nearby river, landowners and contractors cut the ties and hauled them to rail heads by wagon or truck. When the ties arrived at the rail head, workers stacked them to dry thoroughly [2].

When the ties were dry, workers loaded them onto rail cars for transport to a creosote plant in East St. Louis. Each tie weighed 150-200 lb, though sometimes as heavy as 300 lb. Men with a leather pads strapped to their shoulders would lever the tie up

and carry it up a lumber board to the railcar and stack it for shipment [3].

At the creosote plant, the ties were loaded onto smaller cars and pushed into a long cylinder where the air was pumped out and creosote injected to saturate the wood.

ROCKY MOUNTAIN TIES

When the rails reached the Rocky Mountains, it was a race to see which railroad could reach the newly found mineral and timber resources first. Narrow gauge proved faster and cheaper to build. It also allowed sharper curves and steeper grades.

Many of the early narrow gauge railroads used 30-lb. rail produced in Pueblo, CO. The early ties, usually 6"x8"x5', lacked tie plates to distribute the rails' weight on the tie and hold spikes in place. This worked with the early, light locomotives and rolling stock.



2. An HO-scale crew is busy hand-hewing ties from cut logs on Ted's layout. Larger logs were sometimes split before the tie was hewed. 10 cents per tie was considered good pay in the 1930s. The stacks of ties at right are drying before shipment.





3. HO-scale workers load ties onto boxcars. Most men loading ties were old before their time.

After 1909, the narrow gauge lines used 40- and 52-lb. rail to handle heavier locomotives and rolling stock. Today, the Durango and Silverton Railroad uses 85- and 90-lb. rail.

Correspondingly, the standard tie size increased to 7"x9"x6' after 1909. Ties measuring 1-1/2" longer or shorter than those standards were considered culls.

Starting in 1890-1891, the D&RG started treating their timber with creosote, both for ties and for bridges, for both standard and narrow gauge. Although the D&RG had a total of nine plants at one time in and around Colorado, the main plant was at Alamosa. The D&RG continued to use untreated ties purchased on the spot market as replacements as late as 1910 [4].



4. An HO-scale work crew replaces a worn tie pulled from the track with an untreated tie.

The D&RG typically used native yellow pine, red spruce, California pine, and Oregon fir. The railroad avoided woods such as cottonwood, sycamore, and similar wood because they split too easily.

As in the Ozarks, correct-sized logs would become ties. Smaller logs would go to the mines to use as props, cribbing and firewood.

The Rio Grande Southern had always been in financial trouble and could rarely afford the luxury of treated ties. Aside from purchasing untreated ties on the local spot market, the railroad obtained untreated culls from the D&RG Alamosa





5. 60 years after the rails were pulled, the old roadbed is starting to wash out, but the ties remain. The Forest Service maintains the path at left.

plant. Time and weather took its toll on these ties, but in the higher elevations many of the ties were still in place after they had torn out the rail 60 years earlier [5].

By the late 1800s, most of the timber around the mines in Colorado had been cut for ties, construction, and cordwood to feed steam engines running the mining equipment. Early photos of the Georgetown Loop and other locations show mountains nearly devoid of trees. All kinds of pack animals were pressed into service to deliver coal to the mines to keep them in operation, which made the mines unprofitable. ☑



RATE THIS ARTICLE

Testing wheel wipers for better electrical pickup



BERND FANGHANEL EXPERIMENTS WITH
ADDING WHEEL WIPERS TO IMPROVE ELECTRICAL
PICKUP ON SIX-AXLE **LIFELIKE** LOCOMOTIVES ...



[SUBSCRIBE](#)

[INDEX](#)

[TABLE OF CONTENTS](#)



1. I found a Chessie System SD9 on eBay and forum member Brian (railandsail) contributed another SD9 and an SD60 (right), both without shells since they were unnecessary for my purposes.



BACK IN NOVEMBER 2013 I MADE A BLOG POST ON the *MRH* forum about upgrading an old Mantua 0-4-0 with a Lenz decoder. To improve reliability, I replaced the tender trucks and added wheel wipers so each of the locomotive's twelve wheels would provide electrical pickup (model-railroad-hobbyist.com/node/15986).

In a recent comment exchange on that thread, Joe Fugate mentioned that Life Like SD9s had power pickup issues, despite having six-wheel pickup. This discussion made me wonder if adding wipers to each wheel would improve pickup on this locomotive.

In the end, the wipers did not make much difference on this engine, but here is my experiment. Wheel wipers have been used on various engines over the years, and this article presents the general process needed to install them.

REMOVING THE SHELL



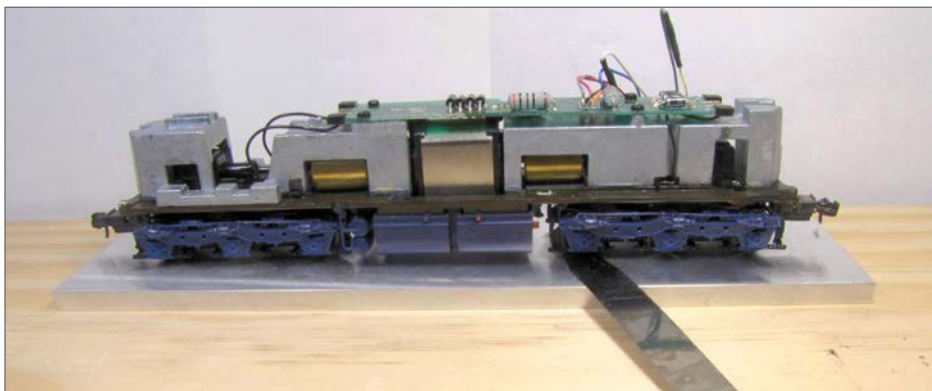
2. First thing is to remove the shell from the SD9 chassis. The locomotive pilot holds the draft gear box, which is screwed to the chassis. I used a #18 X-Acto flat blade to gently remove the pilots, and the shell popped right off.





3. My SD9 is on the left and Brian's is on the right. Mine was a post-2005 Walther's Proto model. It had a decoder that ran both on DCC and DC. Brian's was LifeLike from the late 1990s.

DIAGNOSING THE CONTINUITY PROBLEM

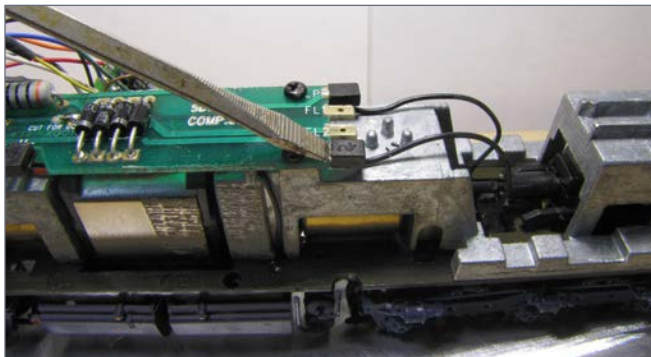


4. First, I placed my locomotive on a piece of perfectly flat aluminum and used a 0.0015" feeler gauge to check if all wheels were making proper contact with the rail. The gauge passed under one of 12 wheels; the other 11 made good contact.

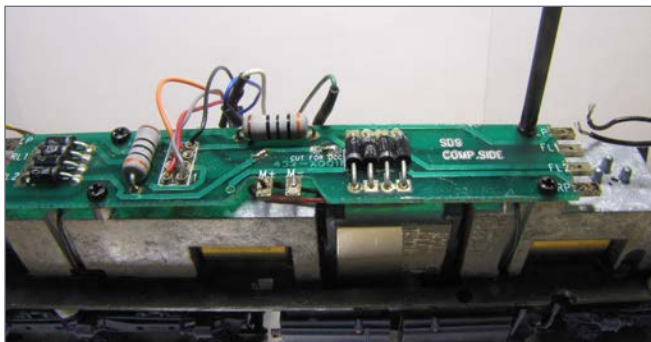


REMOVING THE TRUCKS

My next step was to remove the trucks. To get to the trucks, I had to remove the circuit board and the large locomotive weights.



5. I used a flat screwdriver to push off the clips holding the wires to the circuit board, then removed the wires.

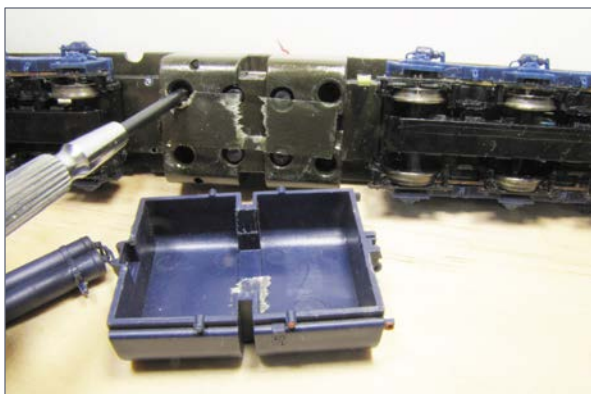


6. I used a Philips screwdriver to loosen the four screws fastening the circuit board to the weights, and removed the circuit board.



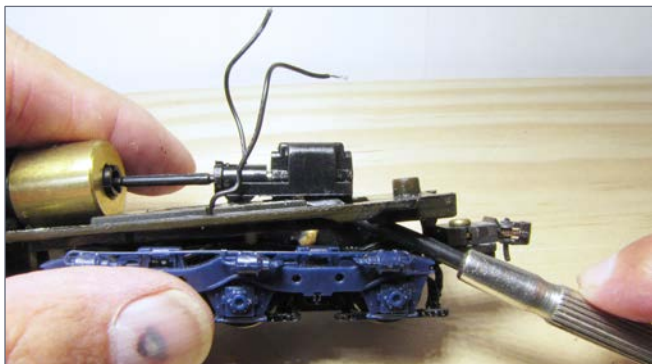
7. I removed one screw on each end of the locomotive holding the weight.



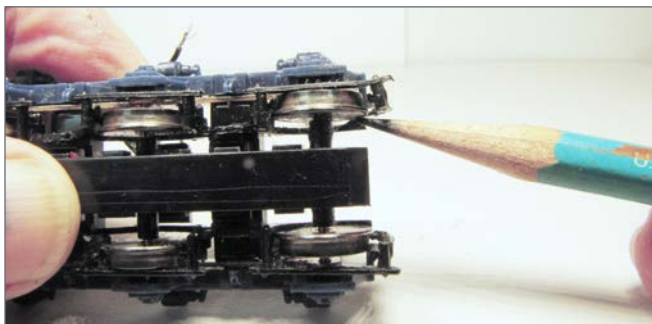


fuel tank, as their mounting pins break easily.

8. I flipped the locomotive upside-down and pried off the fuel tank, which was held to the frame with double-sided tape. This revealed four more screws to undo, two for each weight. Be sure to remove the air tanks before prying off the



9. With the weights removed, I used a flat screwdriver to pop the worm cover off the truck gear tower. This released the trucks from the frame.

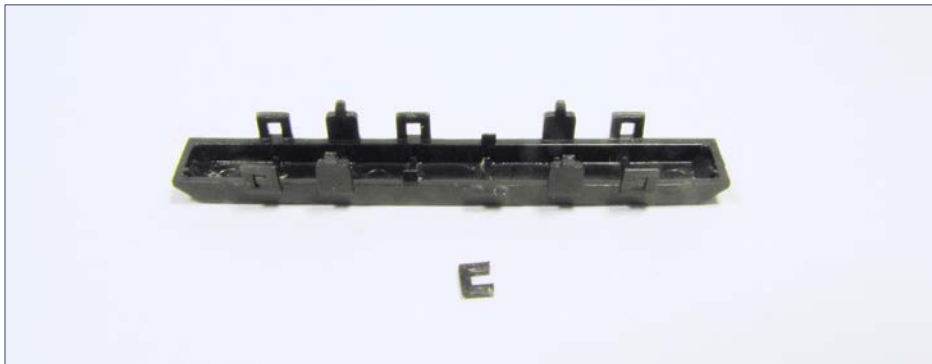


navigate tight curves. I noticed an accumulation of some fibrous debris on the wheelsets.

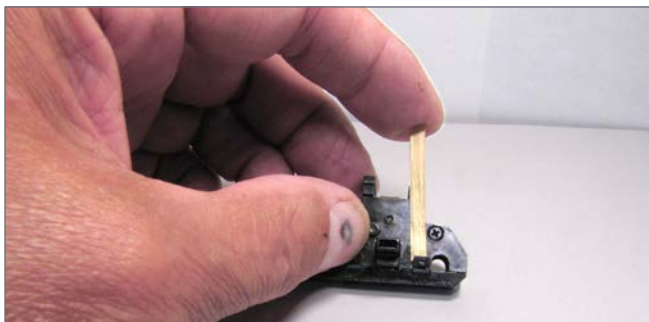
10. Examining the truck assembly, I noticed the wheelsets had up to $\frac{1}{4}$ " of side-to-side play, presumably to allow the locomotive to

DISASSEMBLING THE TRUCKS

A six-tabbed bottom cover holds the truck together. You need to pry the bottom cover's tabs from the prongs on the gearbox to remove the truck side frames and to access the gearbox. Unfortunately, the side frames hide the tabs and complicate access.



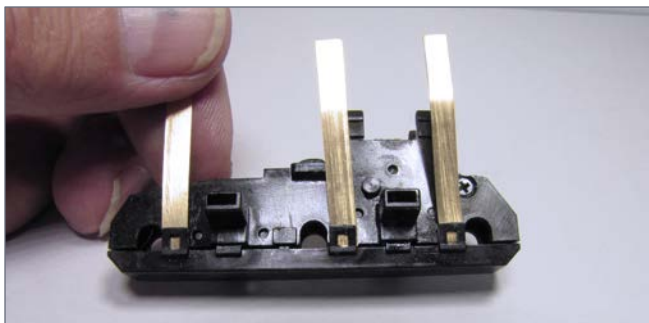
11. The six tabs on this bottom cover attach to lugs on the gearbox. The four prongs extend into holes in the sides of the gearbox to lock the side frames and brake gear to the truck assembly. I broke one of the tabs while prying it, so I wanted to devise a safer method to avoid such breakage.



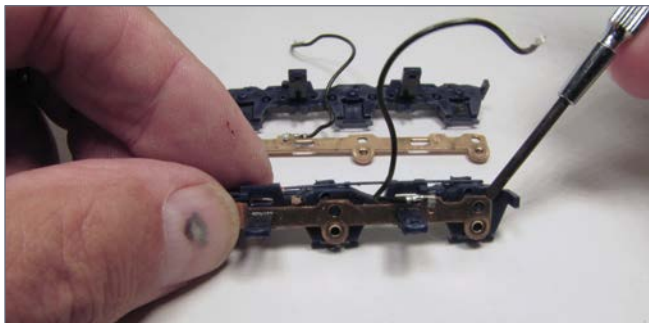
12. I made 0.010"-thick shims from brass stock. This proved thick enough to dislodge the mounting tabs from the locking lugs on the

gearbox without breaking the tabs.

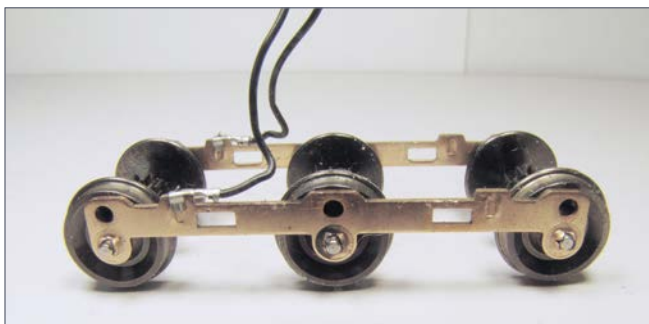




13. These shims release all the tabs on one side of the bottom cover at once. With one side released, I did the same on the other side.



14. With the truck side frames freed from the assembly, I pried off the phosphor bronze bearing plates.



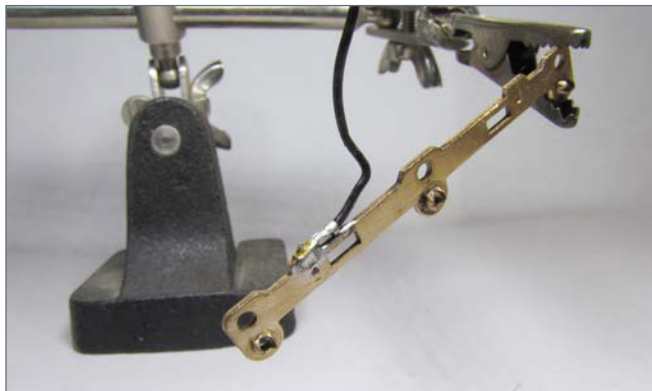
15. Examining the phosphor bronze bearing plates, I noticed the clamps holding the wires to them were loose. There also was potential for debris to work its

way into the bearings. Either one of these issues could cause conductivity problems.

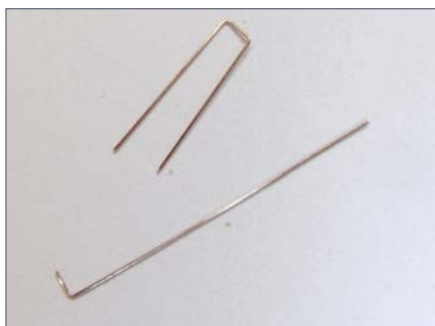


TESTING WHEEL WIPERS FOR PICKUP | 9

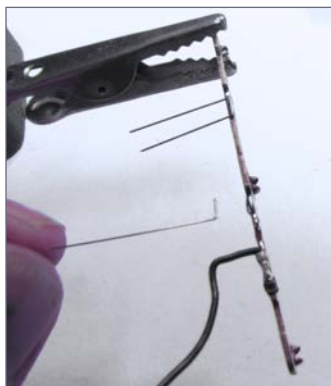
PREPARING AND SOLDERING WIRES



16. First I soldered the power wires to the bearing plates to eliminate the loose clip. I applied the solder sparingly.



17. I prepared 0.0125" phosphor bronze wires from Tichy to serve as wipers. I used eight pieces about 1-1/4" long. Holding four of them in the middle, I bent either side 90° up into a U-shape. For the other four pieces, I bent just the end 90° for an L-shape.



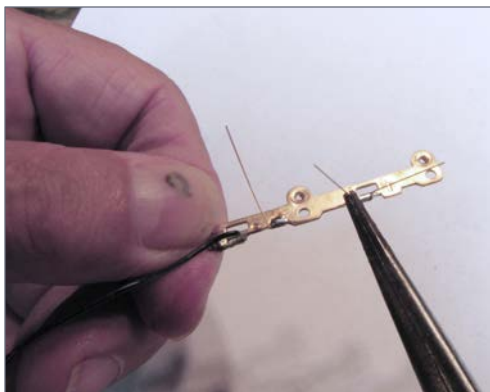
18. I clamped a wheel bearing plate in my "helping hand" (alligator clip), and tinned it for the phosphor bronze wire wipers. I then soldered the wipers on, first the U, then the L, making sure both wires were pointing toward the inside of the plate.



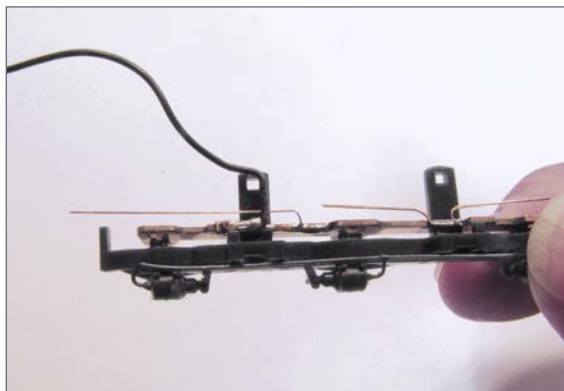
SUBSCRIBE

[INDEX](#)

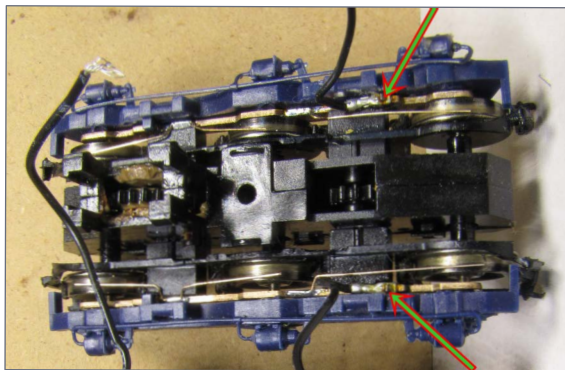
[TABLE OF CONTENTS](#)



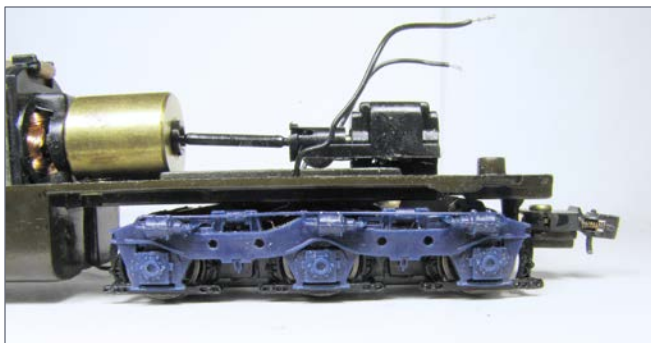
19. With the wires securely soldered onto the bearing plates, the next step was to bend them parallel to the plates. I made the bends using my needle nose pliers so the wipers would run about 1/8" inside the plates – just right to align with the wheel treads.



20. The final orientation of the wiper wires. While reassembling the trucks, I noticed the plastic tabs on the side frames designed to hold the wire clips to the bearing plates did not fit over the solder [16], so I snipped them off.



21. I reassembled the trucks. The wire clip and wires should be at the end opposite the gear tower.



22. The completed truck assembly installed on the locomotive frame. The wipers are all but invisible.

CONCLUSION

After testing, I found the wheel wipers did not always help because of rigidity in the truck's design. The wheels have little vertical movement. If vertical undulations in your trackwork means only three wheels on one side are in physical contact with the rails, the wheel wipers can't solve that.

(Check out Joe Fugate's sidebar on page 13, which should solve the truck rigidity problem. Joe also addresses Walthers Proto locos, which do not have this problem.)

It makes me wonder if this problem only pertains to the Life Like Proto 2000 and Walthers Proto or if the other manufacturers of six-axle locomotives have the same problem. Perhaps a new truck design would be the answer, though I think that may be unlikely to happen. ☑

**Did you know
there's an MRH/RE
index available?**

CLICK TO FIND OUT MORE

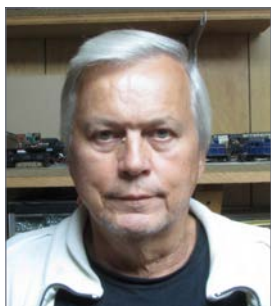


[SUBSCRIBE](#)

[INDEX](#)

[TABLE OF CONTENTS](#)

BERND FANGHANEL



Bernd has been interested in model railroading ever since he can remember. He still has not built a layout. He belonged to the Kodak City Model Railroad (now Rochester Model Railroad) Club for several years., where he ran his equipment. At one time he was interested in 1½" scale live steam. Being interested in large scale required large-

scale equipment to build it. Thus, he acquired a large milling machine and a lathe. Being also interested in home shop machining, he acquired several other metalworking machines of smaller size.

He finally settled on HO scale in 3' and 2'-6" gauges, as well a standard gauge. He has dabbled in TT and On30.

Bernd retired from Gleason Works, a major producer of gear-cutting machines, after 30+ years of service.

He and his wife live in upstate New York in a house he designed with a large basement for the New York, Vermont & Northern Ry, yet to be built. ■



RATE THIS ARTICLE

Article continues on next page ...

GOING STILL FURTHER ...

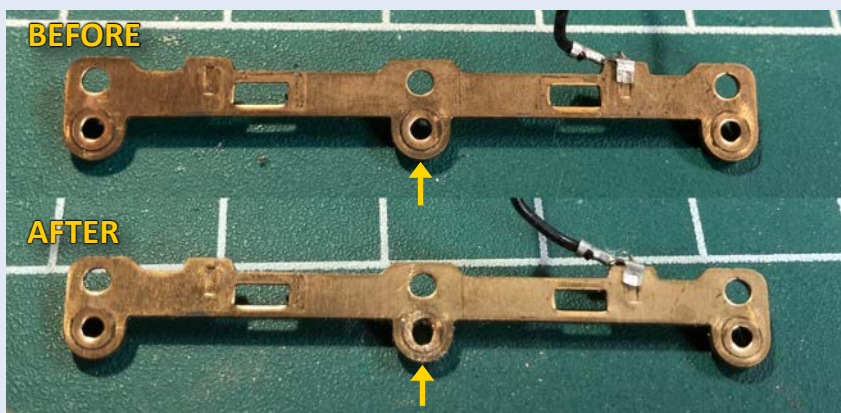
by Joe Fugate

After reading Bernd's article, I found his conclusion to be overly pessimistic, so I decided to look further.

Bernd mentions the stiffness of the 6-wheel trucks. I took one of my LifeLike SD9s and filed the middle axle hole in the copper side frame to make it slightly oblong, rather than round [23].

This allows the middle wheel to float over minor track imperfections and makes the truck as if it has some equalization to it. Once I add the wheel wiper, it will make good electrical contact with the middle wheel, so I'm less concerned about the axle tip always making contact with the copper side plate.

You don't want to overdo making the hole oblong, though, or you risk allowing the wheel to rock too much, causing the gears to bind. *Just a little dab 'ill do ya* as the saying goes.



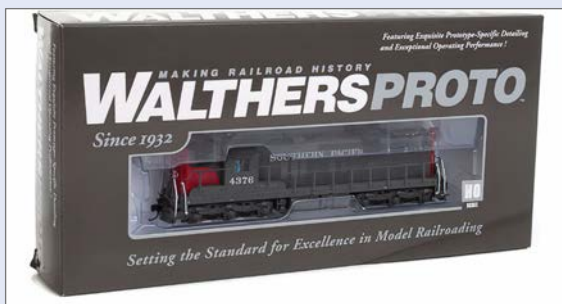
23. Middle wheelset axle hole filed oblong to allow play.



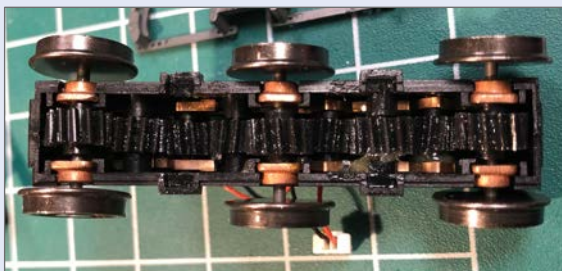
Classic Kato locos use a similar truck construction, but they use much harder phosphor bronze sideframe plates, and they drill the axle tip holes rather than stamp them. Drilling in the harder phosphor bronze plates keeps the axle tip slop to a minimum, ensuring good electrical contact. My Katos track fine with great contact.

Unfortunately, LifeLike Proto 2000's went on the cheap with their stamped soft copper side-frame plates, leading to increasingly poor axle tip contact as the soft copper wears.

Walthers acquired LifeLike several years ago, so I also checked the Walthers Proto SD9s [24] to see if they still have this copper sideframe plate conductivity problem – and no they don't [25]. The new Walthers Proto locos use a completely different, less problematic truck power pickup method. ■

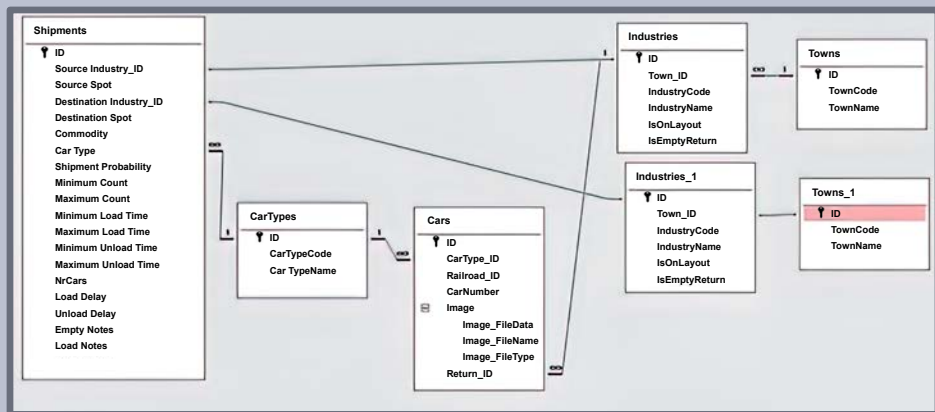


24. Newer Walther's Proto SD9, the next generation of Proto2000 locos.



25. The newer Walther's Proto SD9 truck power pickup differs greatly from the older Proto 2000's. The problematic copper sideframes are gone.

Computer-aided traffic generation



MRH Running Extra | December 2021



RICHARD KÜRSCHNER SHOWS A NEW METHOD FOR ORGANIZING CAR MOVEMENTS ...

I AM DESIGNING A BEDROOM-SIZE N SCALE LAYOUT REPRESENTING a class one railroad in the late 1920s and want realistic traffic patterns for car movements. Model railroaders have used many techniques to achieve this, the most common of which are car cards with four-movement waybills and switch lists.

I have not found either option particularly realistic in that they focus more on the model railroad than its customers. In the real world, cars are not assigned to closed, four-movement cycles as per car cards, but rather based on customer needs and car availability.



[SUBSCRIBE](#)

[INDEX](#)

[TABLE OF CONTENTS](#)

1. Using a database to generate single-use waybills is a simple and flexible path to realistic traffic patterns on your layout.

Model switch lists tend to operate with a set schedule with fixed train lengths and numbers of cars designed to meet available spur space for served industries. Prototypical train movements are based on customer needs, with trains lengthened, extras added, or services reduced as required. Sometimes deliveries have more cars than an industry's spur will accommodate, which means some cars must be left off-spot for later delivery.

Getting around these limitations requires extra work. Either create many more hand-written two- or four-cycle cards, or add more rules and conditions to the program that generates switch lists. Since I did not like any of the available options I knew of, I developed my own application for computer-aided traffic generation.

THE CONCEPT

Various model railroad design programs assist your efforts by calculating the physical aspects. You supply the creative aspects of the design, and the software helps you work out proper track connections, maintain minimum turning radius, determine specific elevations on grades, and so on.

I wanted the same concept for traffic generation. If I know Gustave Door & Sash needs one boxcar of glass panes every two weeks and ships two boxcars of doors every week, I want to enter that information into a database so the computer can calculate the timing for shipments and generate waybills. I wanted variation in traffic levels to reflect customer needs, with the ebb and flow of prototypical traffic.

I wanted the agent to find and capture empties, the yardmaster to make routing decisions, and the dispatcher to schedule

movements. If there are too many southbound cars in my yard, the dispatcher needs to add a second section to the southbound through train. If agents have no cars to pick up along the branch, and the yardmaster has none to send, then the dispatcher should cancel the branch local.

If there are three cars to deliver to Gustave Door & Sash – one more car than the siding can accommodate – then I want the engineer to make decisions in finding an off-spot location in Nurses Creek. This all happened on railroads in the 1920s, and it should happen naturally on my layout.

I want to realistically simulate the production activities of the layout customers and model the steps a car follows in delivering a shipment. My software needed to make generating waybills and switch lists as simple as possible.

Some modelers like using waybills that replicate the prototype closely, including information about cargo weight, tariff rate, shipper's address, etc. Too much information only adds confusion. As an operator, I only need to know a given car's next move: leave it in place, re-spot it, pick it up, or drop it off, so I designed my waybills accordingly.

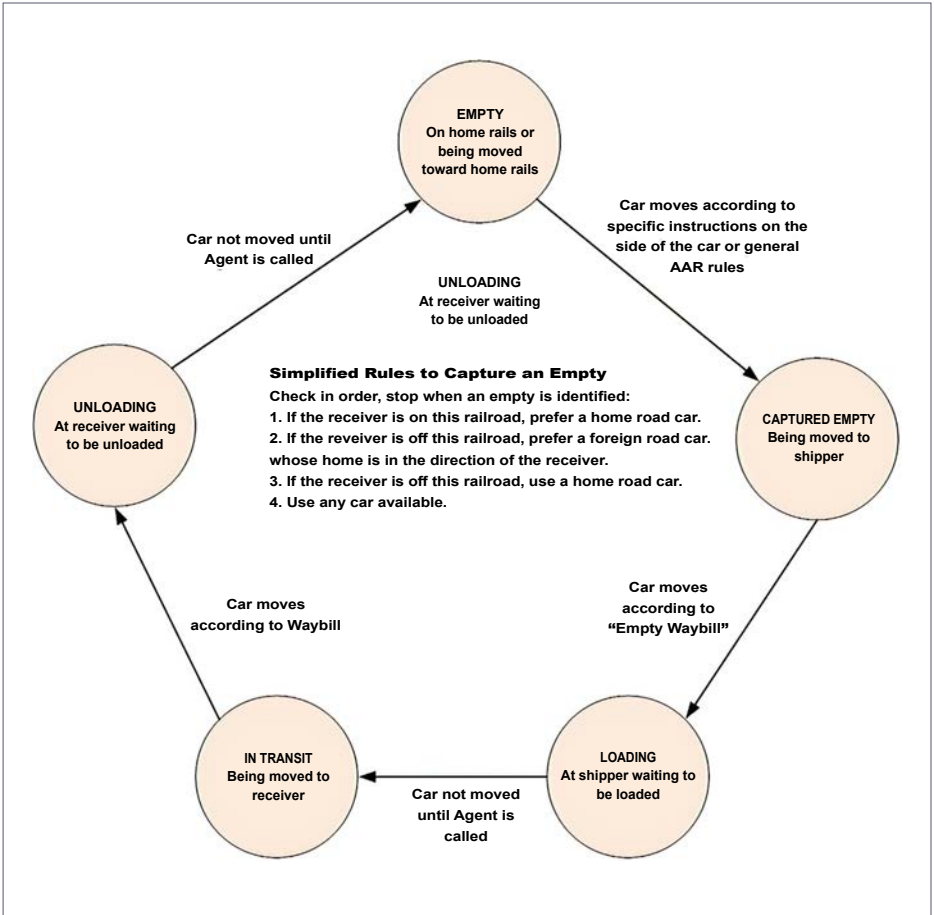
I used Microsoft Access, a single-user database application with built-in graphics capabilities to eliminate most programming work. My "program" is only 10 lines long, seven of which are boilerplate. The rest is formatting input and output.

CORRECT CAR HANDLING

If you would like to learn about car handling, I'd recommend Anthony Thompson's excellent introduction "Freight Car Handling and Distribution," found on the OPSIG website at: www.opsig.org/files/do_extras/Freight%20Car%20Handling%20new.pdf

The article describes rules and guidelines used to determine which empties are assigned to a given shipment [2].

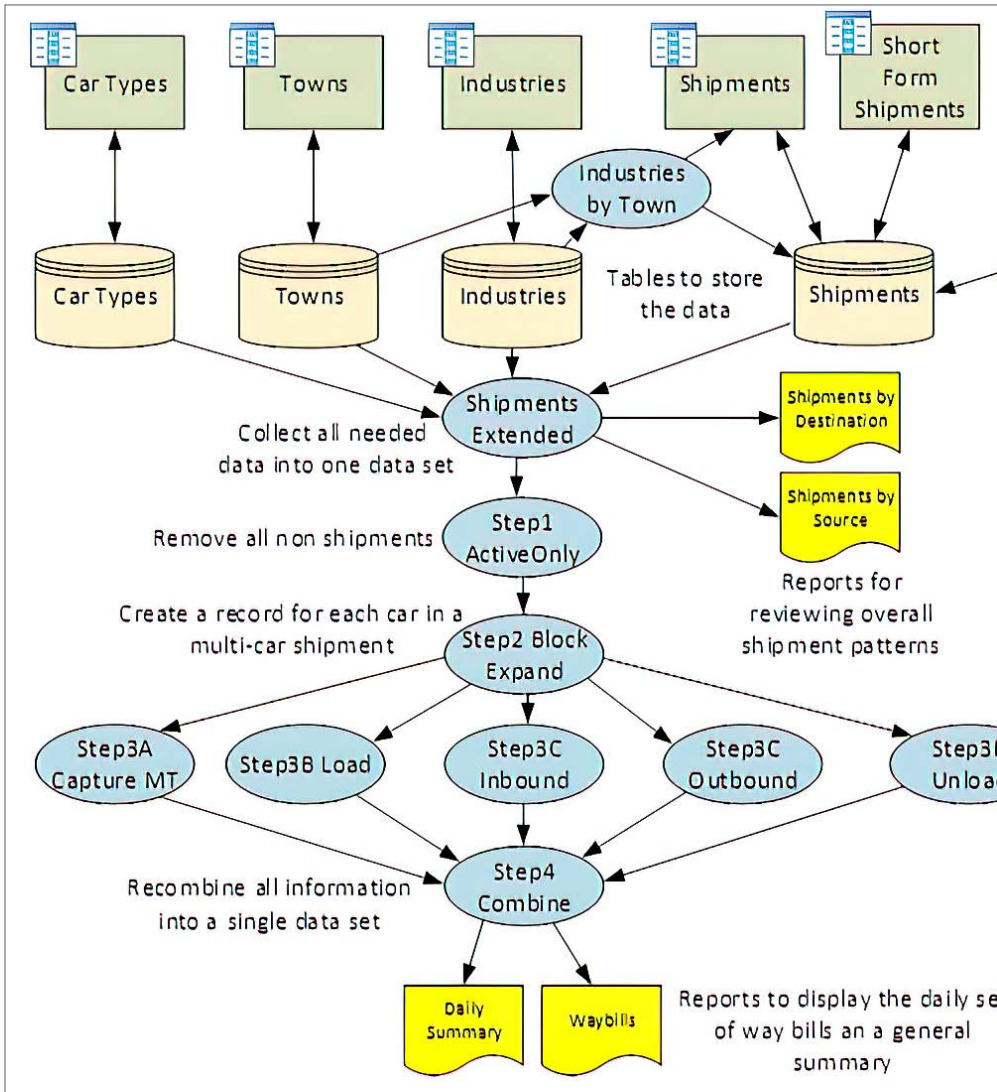




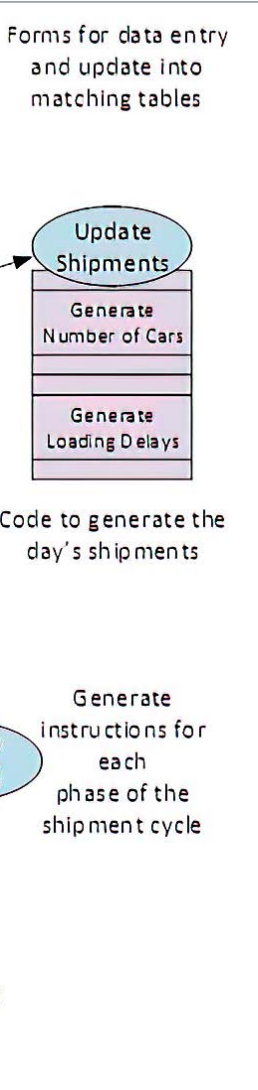
2. Simplified car handling cycle and empty car capture rules. A shipper requests an empty car. A local agent finds and “captures” an unassigned empty car locally or in a nearby yard to it to fulfill the request. The agent assigns it an empty waybill, directing the car to the shipper.

The shipper loads the car, and the agent prepares another waybill, directing the car to the final customer. The next train through town picks up the car, and yardmasters forward it onto different trains as needed to reach destination. The customer unloads the car and calls the local agent to report the car is empty.

For my program, I decided to leave agents and yardmasters in charge of these decisions. The rules aren't overly complex for people to grasp and execute, but programming for automation and the required tracking would be tedious. I want a computer-aided, rather than computer-controlled, application.



Another key takeaway from Thompson’s article is that cars aren’t always ready to move on the next train through town or at the start of the next operating session. You need to simulate loading and unloading times, which may not be consistent. For example, unloading a drop-bottom gondola of coal over a pit takes a few seconds, but the same job done by hand would take several days.



APPLICATION DESIGN

I will focus on the general design of the program rather than get into its detailed aspects [3]. If you have a programming background, this information and the samples in this month’s Subscriber’s Bonus section should provide enough for you to create your own computer aided traffic generator.

3. Organization and data flows for the computer aided traffic generator. Green rectangles represent five forms for data entry. Four tan tables contain the necessary data. Two purple boxes represent coding logic to identify the shipment needs. Eleven blue ovals show how the program converts the data into waybills. Four yellow figures represent waybills, shipment summaries, and reports.



The core of the application is 10 of the 11 “queries” (ovals) in [3]. A query contains instructions to the database to retrieve or modify data, and the conditions for doing so. They work as follows:

1. “Update Shipments” evaluates each possible shipment in the Shipments table to determine how many cars it requires today. The number could be zero, which means no shipment, or up to 10, which is the program’s upper limit. The practical shipment limit on my layout is four cars between two industries.
2. “Shipments Extended” expands each possible shipment to include all data necessary to create waybills and generate summary reports.
3. “Step1 ActiveOnly” selects only shipments assigned one or more cars in the “Update Shipments” step, which happen today.
4. “Step2 Block Expand” generates a shipment record for each car in a shipment.
5. “Step3A CaptureMT” generates one record for each empty car assigned to an on-line shipper.
6. “Step3B Load” generates one record for each car loaded at an on-line shipper.
7. “Step3C Inbound” generates one record for each car moved from an off-line shipper to an on-line receiver or through-traffic between off-line customers.
8. “Step3C Outbound” generates one record for each car moved from an on-line shipper to on-line or off-line receivers. Both 7 and 8 have the 3C label because they represent moving a car from shipper to receiver. Whereas 7 focuses on off-line shippers, 8 focuses on on-line shippers.
9. “Step3D Unload” generates a record for each car unloaded at an on-line receiver.



10. "Step4 Combine" assembles the records from the five step3 queries (5-9) into a single data set for the waybill generation report.

SETTING UP THE TRAFFIC GENERATOR

Assuming you have MS Access installed on your PC and have downloaded my sample database, you should be ready to start using it. There is no "installation" as such for this package. Simply open the database in Access.

SUPPORT DATA

After opening the database, your first step is to define your layout: the car types used, named towns, and the industries in those towns. These are simple and reasonably self-explanatory. Note that each staging yard should be defined as one or more towns. The Industry table has a couple of check boxes that do need a little more explanation.

Tell your friends about Running Extra!

**We depend on word-of-mouth to grow
... if you don't share us, we don't grow**

First is "Need Empties?." Industries on the layout that ship products need empty cars delivered before they can be loaded, so this box should be checked for them. It doesn't matter if you check this or not for industries that only receive shipments. In general off layout industries should not have this box checked. However, in cases where the off-layout industry has no other source of empties, it is quite appropriate to check this box. An example would be an interchange with a logging railroad that has no cars of its own and no unmodeled interchanges.

The other check box of interest is "Empty Return Site?" This is intended to mark staging yards and sometimes industries that are natural empty return sites. Currently there is no functionality associated with it and the field can be ignored.

SHIPMENT DATA

Shipment data is the heart of this application and where you will spend most of your set up time. To create a new shipment, I find it easiest to use the longer form, "Edit Shipments – Individual" in [7]. To tweak a specific existing shipment or make similar changes to multiple shipments, I use "Edit Shipments – All."

Lynnsport		
Cely, Datini & Fugger Transfer W		
ID	Source	Commodity
6	Carlton Forks: Freight House	General Merch.
17	Carlton Forks: Industry C	General Merch.
75	Nurses Creek: Gustave Door & Sash	Doors & Sashes
85	Nurses Creek: Nosmo King Pre-Fabricated Post Holes	Post Holes
40	Z-North: Portland Staging	General Merch.
39	Z-South: San Francisco Staging	General Merch.



Although you can enter your shipments randomly, I suggest making a specific, unified plan for each industry. For example, here is the shipping plan for one of my industries – Cely, Datini & Fugger Transfer Warehouse in Lynnsport – as shown by the “Shipments by Source” report [4] and the “Shipments by Destination” report [5].

According to the “Shipments by Source Report,” all shipments from the Transfer Warehouse are general merchandise in boxcars. Using the first line as an example, we learn the following about traffic to the Carlton Forks Team Track:

- “Probability 3.0%” equates to roughly one shipment each month.
- “Cars in Block 1-1” means one car in the shipment.
- “Days to Load 1-1” indicates a loading time of one day at the warehouse.
- “Days to Unload 1-2” says that the Team Track unloading time is in one to two days.

The matching Shipments by Destination report for the Warehouse reads the same way. For example, the first line shows that about once a week (probability of 14%) the Carlton Forks Freight House sends a load to the Transfer Warehouse.

<u>Warehouse</u>	<u>Probability</u>	<u>Cars in Block</u>	<u>Days to Load</u>	<u>Days to Unload</u>
Carlton Forks Freight House	14.0%	1- 1	1- 1	1- 1
Carlton Forks Freight House	1.0%	1- 1	1- 2	1- 3
Carlton Forks Freight House	3.0%	1- 1	1- 1	1- 1
Carlton Forks Freight House	3.0%	1- 1	1- 2	1- 2
Carlton Forks Freight House	3.0%	1- 1	0- 0	1- 1
Carlton Forks Freight House	3.0%	1- 1	0- 0	1- 1

4. This is the “Shipments by Source” report for the Cely, Datini & Fugger Transfer Warehouse in Lynnsport, showing all possible shipments from the warehouse.

Lynnsport

Cely, Datini & Fugger Transfer W

<u>ID</u>	<u>Destination</u>	<u>Commodity</u>	<u>Car Typ</u>
43	Carlton Forks: Carlton Forks Team Track	General Merch.	Box Car
46	Carlton Forks: Freight House	General Merch.	Box Car
44	College Station: College Station Team Track	General Merch.	Box Car
45	Nurses Creek: Nurses Creek Team Track	General Merch.	Box Car
41	Z-North: Portland Staging	General Merch.	Box Car
42	Z-South: San Francisco Staging	General Merch.	Box Car

The shipping plans of other source industries create most of the entries on this Destination report except for those coming from staging or interchange. Notice in the bottom two lines of [5] that such staging shipments do not need to simulate loading of materials and thus have a 0-0 in the Days to Load column.

This portion of a Shipment by Source report for San Francisco staging shows through traffic coming from Portland Staging [6]. Looking at the top line, we see that two-four hoppers of coal will pass through daily (100%) from Portland, and that loading/unloading time is not simulated.

Through traffic is the best way to show off your collection of open loads in gondolas and flat cars. You can enjoy watching

68	Z-North: Portland Staging	Coal	Hopper
67	Z-North: Portland Staging	Oil	Tank C
65	Z-North: Portland Staging	Open Load	Flat Ca
64	Z-North: Portland Staging	General Merch.	Box Ca
66	Z-North: Portland Staging	Open Load	Gondo



Warehouse	Probability	Cars in Block	Days to Load	Days to Unload
	3.0%	1- 1	1- 1	1- 2
	5.0%	1- 3	1- 1	1- 1
	1.0%	1- 1	1- 1	1- 3
	1.0%	1- 1	1- 1	1- 3
	3.0%	1- 1	1- 1	0- 0
	3.0%	1- 1	1- 1	0- 0

5. Shipments by Destination report for the Cely, Datini & Fugger Transfer Warehouse in Lynnsport, showing all possible shipments to the warehouse.

them roll across the layout, between off-layout locations, without worrying about simulating loading or unloading them at your layout industries.

USING THE TRAFFIC GENERATOR AND ITS WAYBILLS

Once you have the data added, using the application for an operating session is simple. Click on “Generate Shipments” to calculate the shipping needs for the day and “Show Waybills” to generate printer-friendly waybills [7].

Print the waybills, cut them apart, and place them in appropriate car cards. The system generates one to four cards for each movement, making each action clear and obvious. In this sample, the four cards should be placed in the car card pocket of an empty boxcar closest to Carlton Forks [8].

	100.0%	2- 4	0- 0	0- 0
	14.0%	1- 2	0- 0	0- 0
	43.0%	1- 2	0- 0	0- 0
	100.0%	2- 4	0- 0	0- 0
	43.0%	1- 2	0- 0	0- 0

6. Shipments by Source Industry report for San Francisco Staging, showing through shipments going to North staging.

The first card instructs the Carlton Forks agent to find an empty boxcar (Car Type: X) in the Carlton Forks Yard for loading at the Carlton Forks Freight House. If no boxcars are available, the agent looks for a listed alternate ("Reefer or ventilated are acceptable").

If no alternates are available, the agent calls agents in nearby towns to see if they have an available empty. As a last resort the agent contacts Portland or San Francisco to request a through train drop off an empty. As trains pass the captured empty, they pick it up and route it toward Carlton Forks.

Traffic Generator

Reference Tables

Edit Car Types

Edit Towns

Edit Industries

Master Shipment Table

Edit Shipments - All

Edit Shipments - Individual

Show Shipments by Source

Show Shipments by Destination

Generate Traffic

Generate Shipments

Show Waybills

Show Daily Summary

Edit Cars

Show Car Cards

Quit

7. Traffic generator application front page has buttons that make using it simple.



Deliver To: Carlton Forks Freight House	LOADING Delay: @@ Carlton Forks Freight House	Deliver To: Lynnsport Cely, Datini & Fugger Transfer Warehouse Door 2	UNLOADING Delay: @ Lynnsport Cely, Datini & Fugger Transfer Warehouse Door 2
Notes Refer or ventallated are acceptable	Notes Refer or ventallated are acceptable	Notes	Notes
Car Type: X Contents: EMPTY Start from: Capture Empty 6: C01/ 1 - P3A-CaptureMT	Car Type: X 6: C01/ 1 - P3B-Load	Car Type: X Contents: General Merch. Start from: Current Location 6: C01/ 1 - P3C-Outbound	Car Type: X 6: C01/ 1 - P3D-Unload

8. These four waybills show all the car handling steps for a movement from the Carlton Forks Freight House to the Cely, Datini, and Fugger Transfer Warehouse at Lynnsport.

When the boxcar arrives in the yard, the yardmaster spots it to any available spot at the Freight house (no additional information in the Deliver To section) and removes the first card.

If all eight Freight House spots are full, the engineer places the car “off-spot” for spotting when a space becomes available and leaves the first card in place as the delivery is incomplete.

Removing the first card exposes the “LOADING” card, indicating the boxcar stays in position for loading. The loading delay is two days or sessions – denoted as “Delay: @@,” with the @ symbols functioning as hash marks to represent days/sessions required to load/unload a car.

When your operating session is complete, move across your layout and X-out @ symbols – one on each applicable card – to mark the passage of time. When the last @ symbol is gone on a card, remove it. The car is ready to move with the next operating session.

If you don’t want to include loading delays in your operation, set all Load and Unload values in your Shipment information

to zero and the system will not generate delays. Alternately, ignore the number of @ symbols and remove the LOADING card between sessions.

The third card directs the Carlton Forks yardmaster to put the boxcar on a train headed towards Lynnsport. If the engineer of the Lynnsport local finds Door 2 available at the Transfer Warehouse, he spots the car and removes the card. Otherwise, he leaves the car off-spot for the next train to handle.

The Transfer Warehouse unloads the boxcar quickly and it is ready for use as an empty again by the next session – “Delay: @.” With no more waybills, the boxcar moves according to the “Return Empty” instructions on its car card.

The line at the bottom of each card shows how a specific card was generated. i.e., “6: C01/1P3A-CaptureMT” translates to shipment ID 6, car 1 of 1, Phase 3A, Capture Empty.

This information is useful for debugging the application and for ordering the cards correctly. All four cards start with “6: C01/1,” indicating they belong together. The “phase” portion of the card proceeds alphabetically, and they should be ordered in the pocket as such.

WHAT ABOUT THOSE EMPTIES?

Lynnsport receives more shipments than it generates and there are few places available to store empties. A steep grade heading out of town limits the normal daily train to hauling revenue freight.

The local agent might get lucky and find immediate use for an empty to carry an outbound load from the Meerhoff or Maples canneries. More likely, the agent must call the dispatcher to request an extra train to clear empties and make room for incoming shipments.



The dispatcher could deny the request and tell the local crew to double the hill to Nurses Creek to remove the empties. To me this is a much richer and realistic model of 1920s railroading than four-cycle waybills or switch list generators can offer.

ENDLESS FLEXIBILITY

The program allows you to make changes to industries and commodities with a few keystrokes and database changes. This makes it easy to update a model industry's delivery needs should you discover that its prototype required a chemical you didn't know about. It only takes one more record in the database to resolve, rather than adding cards or finding and reworking several existing cards.

Changes in town names, additions of oddball cars that only really fit in through traffic, and so on are all simple database updates. You can even change card formatting if the 2x3" waybills become too difficult to see without reading glasses!

**Did you know
there's an
MRH/RE index
available?**

CLICK TO FIND OUT MORE

Unlike switch list-based systems, you do not need to keep your layout in lockstep with the computer memory. You can switch cars on your own if you follow the existing cards or at least move the cards with your cars. You can add or subtract assignments as needed to fit the number of available operators.

HOBBY SUPPORT

The application has reports to help identify and correct issues with your operations. You can easily simulate a week's or a month's worth of shipments to ensure your setup makes sense for your layout before printing any waybills.

You can also use these simulations to guide your rolling stock inventory. Suppose you have a growing pile of unfilled waybills for gondolas. You may want to buy more gondolas to support your layout's traffic better.

If you find dust collecting on your hoppers, you can adjust a few percentages in the database to use them more often, especially in through traffic. Alternatively, you can sell the surplus hoppers without worrying that it will affect your operations, and put the cash toward gondolas.

Of course, you could consider building a new branch line to a coal mine to put the hoppers to use and run simulations to make sure you won't have to go to the expense of buying even more. Whatever the decision, this program provides data to back it up.

CONCLUSION

I used an earlier, less-capable version of this application for two years on my previous layout. Some local trains were only two cars long, others had more than 10, and no two were ever the same. In short, it successfully reproduced the variability of branch-line switching in the early 20th century.



This version addresses issues from the earlier version and better supports a railroad that goes in multiple directions, rather than a simple branch line.

The program was easy to develop. I had the original system generating traffic in just a couple of hours. Then, with just a few evenings of work, I had satisfactory output.

Anyone with basic computer skills should be able to make use of this program with little additional effort.

SUBSCRIBER BONUSES

As a bonus to *MRH RE* subscribers, I am including two versions of my Traffic Generator for you to use and experiment with on your layout. I offer both as-is and for personal use only. See the [December bonus extras](#).

Traffic GeneratorV3.accdb – This is the Microsoft Access traffic generator. It includes some of my layout's data as examples. To use, simply download the file and open it in Access. This file will not work with any other database application I am aware of.

Traffic Generator.xlsx – This is an Excel spreadsheet file that shows a simple, non-database way of generating traffic. If you don't have Access and don't mind writing single-use waybills by hand, this may be a perfect solution for you. To use, download the file and open it in Excel or any other Excel-compatible spreadsheet application.

Those subscribers who don't have Access but would still like to review the SQL queries and Visual Basic code

[Continued on next page ...](#)

SUBSCRIBER BONUSES *CONTINUED ...*

used by the Traffic Generator can find this information in the Code directory.

I have also included a couple of mini articles for the more curious:

Database Options – A short overview of various options for building your own traffic generator, mostly data-bases, but a couple others as well.

Introduction to Relational Databases – A bare-bones description of the basic database concepts used in this article. It won't make a programmer out of you but should give you a little more understanding of the terms.

You might be concerned about the time needed to cut cards apart before every session. Separating 50-100 cards can be tedious. A paper cutter makes swift work of it. Either way, the effort is worth the realistic traffic patterns.

I hope I have given you something to think about and perhaps even encouraged you to consider developing your own traffic generator. I enjoyed building this tool, and I'd like to know your thoughts! ☒



[SUBSCRIBE](#)

[INDEX](#)

[TABLE OF CONTENTS](#)

RICHARD KÜRSCHNER



Richard is an Operations Manager working for a major semiconductor manufacturer in Portland, Oregon. He and his wife Lynn have three children who recently graduated college. Now that the kids have moved out of the house, he finally has the room to build his dream layout: an N scale pike set somewhere between Portland and San

Francisco, just before the Great Depression, serving some towns, and interchanging with some other railroads.

He says that the writings of Frank Ellison about his Delta Lines, and of Bruce Chubb about his Sunset Valley were highly influential on his model railroading style and interests. Richard hates scratchbuilding but loves designing for 3D printing. (He would probably make more progress on his layout if he'd stop playing on the computer and go do some real work!) Richard enjoys taking part in operating sessions on other people's layouts and is the Secretary of the 2nd Division of the NMRA's Pacific Northwest Region.

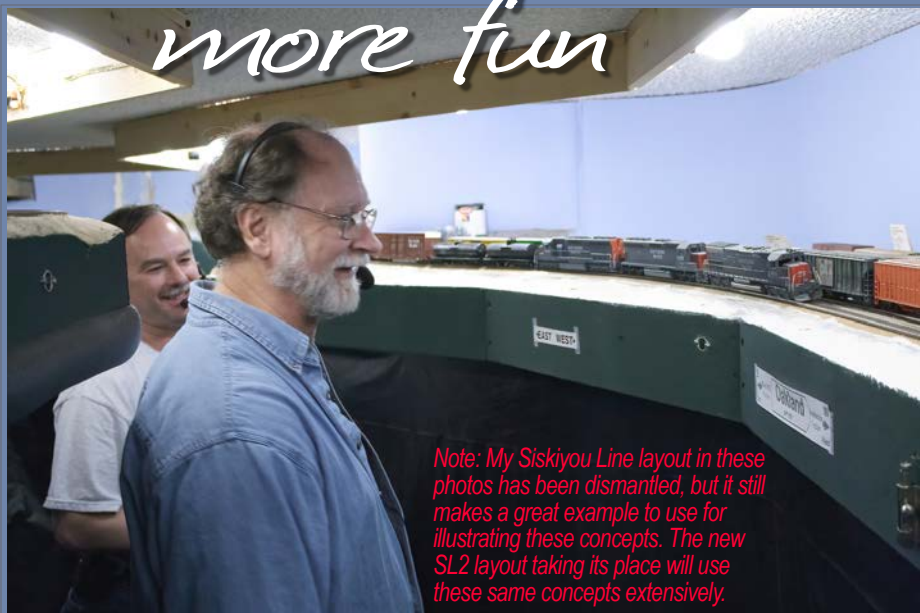
When not playing with his trains, he enjoys history, long walks, watching boxing and University of Colorado football, helping local high school bands as their stadium announcer, and showing off his trains to his new granddaughter. ■



RATE THIS ARTICLE

Make running trains

more fun



Note: My Siskiyou Line layout in these photos has been dismantled, but it still makes a great example to use for illustrating these concepts. The new SL2 layout taking its place will use these same concepts extensively.

MRH Running Extra | December 2021

JOE FUGATE SHOWS HOW TO
DIP A TOE INTO REALISTIC
OPERATION ...



RUNNING TRAINS ON A LAYOUT JUST TO RAILFAN CAN BE A LOT OF FUN, but let's talk about slowly adding in a few basic prototype operating elements that can ramp up the fun in a different way that can be quite engaging.

Yes, I am referring to prototype operation, but I'm not talking about complex paperwork, timetables, or any of that kind of thing. Rather, let's look at how to wade into more realistic ops slowly and evolve your train running to add new layers of engagement a bit at a time.



[SUBSCRIBE](#)

[INDEX](#)

[TABLE OF CONTENTS](#)



1. Running trains to railfan your layout can be fun, but with some simple steps, it's possible to make running trains even more engaging.

Let's start with the basics and add on details as we go. I'm hoping you can see how easy and fun prototype operations can be if you don't overwhelm everybody at first.

SO WHAT'S PROTOTYPE OPERATION EXACTLY?

In its simplest form, prototype operation simply means the trains have a realistic purpose for running.

To that we add a few prototypically-inspired procedures to minimize "model railroad thoughts." A model railroad thought reminds us this is just a toy train that's not real. When we operate like the prototype, we want to see our train as if it's a massive full-sized train that needs handled carefully if it is to get where it's going safely and without mishap.

So let's start with the very basics. The train isn't running just because the engineer got bored and wanted to see some scenery. The railroad is transporting freight or people somewhere. This much should be pretty obvious.

But as we delve into the details, some things may not be so obvious. Let's get into it by looking at the two basic kinds of trains run by real railroads.

THROUGH TRAINS: A through train is a train that runs from one yard to another yard many miles away.

LOCAL TRAIN: A local freight train is one that runs from a yard to deliver cars to nearby industries. A local passenger train is one that runs from a yard to a terminating station stop nearby.

There can be variations and exceptions to these definitions, but if you get the concept of these two types of trains down, you have a great foundation for further understanding how to operate like the prototype.

An example of an exception to the above definitions is a local train that runs from yard to yard. This is typically called a *TRANSFER RUN* and is used within major metropolitan areas to move a bunch of cars from one yard to another.

Most often this is done so the cars can then be sent out as a normal *LOCAL TRAIN* from the destination yard to industries.

THE FIRST STEP

So to start out making your layout's operation feel more prototypical, it helps to have some idea of *what* through trains you want to run and *what* local trains you want to run.

So how do you do that? Start with the basic flow of a railroad car:

1. Rail car is empty
2. Industry contacts the railroad to ship product
3. Railroad sends empty car to industry
4. Industry loads empty car
5. Railroad picks up loaded car and delivers it where it needs to go.





2. The first step to more engaging prototype operation is to remember we're hauling freight and/or people somewhere, the train crew is not just out for a joy ride because they're bored.

In my case on my Siskiyou Line, I was able to “cheat” and model what the prototype did. If you are freelancing, you should pick a favorite prototype or two and study what they did to come up with your freelanced trains.

On the Siskiyou Line, empty cars went south (railroad WEST) to the Lumber mills, and cars loaded with lumber came north (railroad EAST). From this point forward, we will use the railroad directions in our discussion. The major yards on the Siskiyou Line from East to West are:

- Eugene
- Roseburg
- Medford

Armed with this knowledge, let's take a look at what trains the prototype ran and why – and how I model them on my Siskiyou Line layout.

EXAMPLE: DETERMINING WHAT *THROUGH* TRAINS TO RUN

Keeping in mind the sequence of yards on the prototype Siskiyou Line, what through trains did the prototype run?

They ran two major through trains between Eugene and Medford called, appropriately enough, the Siskiyou Line West (Eugene to Medford) and the Siskiyou Line East (Medford to Eugene).

The prototype also ran two through trains between Eugene and Roseburg called the Seagull West (Eugene to Roseburg) and the Seagull East (Roseburg to Eugene).

They used the term Seagull because that's a bird with a diet consisting mostly of dead scraps along the seashore. So the Seagull through train ran between Eugene and Roseburg transporting any leftover (or "scrap") cars between those two points not handled by the Siskiyou Line West/East trains.

Since my layout also includes a proto-freelanced version of the Coos Bay coast branch that connects in at Roseburg, Oregon, I also run two through trains between Eugene and Coos Bay yard on the Oregon coast.

The prototype called these Eugene-Coos Bay trains "Coos Bay Haulers", with a hauler being the SP's term for a slow-running through train. No hurry – it will get there eventually!

Roseburg yard is a focal point on my layout, so once cars make it to Roseburg from Eugene on the Seagull West through train, those cars need to go somewhere. That means we need to consider the locals the prototype would run out of Roseburg.

EXAMPLE: DETERMINING WHAT *LOCAL* TRAINS TO RUN

One of the major industries within 10 miles of Roseburg is the massive Roseburg Forest Products facility. This one industry





3. The Dole Turn local has just arrived back in Roseburg yard after working the Dillard mill and is getting switched by yardmaster Brandon Thompson.

complex runs for over a mile along the prototype, and can originate dozens of railcars a day loaded with lumber. This is one big industry! I take 12 feet of space to model this facility [4].

The SP ran a single local just between Roseburg and this one industry in the Dillard/Dole area. The SP named this train the *Dole Turn* [3], or the “Fruit Loop” as the crews called it. Railroaders love to give cute names to things, and this local was no exception.

Note that a TURN is a special type of local train that runs one direction, does some switching, then reverses course, does some more switching, and returns to its point of origin.

The SP ran two other locals out of Roseburg yard to industries – one local to the East called the *Oakland Turn*, and the other local to the West called the *Riddle Turn*.

The Oakland Turn would run from Roseburg, through Sutherlin, Oregon and switch industries. Then go on through



4. In the town of Dillard on my layout, I model a single industry that spans 12 feet of space. Here my operators are switching this industry.

Oakland, Oregon and switch industries there, and then just past Oakland toward Rice Hill, Oregon to switch any remaining industries. Finally the power would swap ends with the caboose and return to Roseburg.

The SP used town abbreviations and a train type on their train designations, so for a time, the Oakland Turn's designation was ROOKT (**RO**seburg to **Oa**kland Turn. You guessed it – the crews took this designation and nicknamed this train the *“Rice Hill Rocket”*.

THE TRAINS WE RUN

Eugene yard on my layout is a staging yard, and likewise Medford is a staging yard. A staging yard is a yard “out of sight” on your layout that represents your layout’s connection to the rest of the world and is just used to store ready-made trains.

In my case, my staging yard is double ended and located in my basement shop area.



So my staging yard is visible, it's just "in the back room" and out of site in a sense. One end of the double-ended staging yard represents Eugene, the other end represents Medford.

I have modeled Roseburg yard and Coos Bay yard on my layout. You can see my complete Siskiyou Line track plan here [5, 6].

We run these WESTBOUND through trains out of Eugene staging:

- Siskiyou Line West (Eugene → Medford)
- Seagull West (Eugene → Roseburg)
- Coos Bay Hauler West (Eugene → Coos Bay)

We run this EASTBOUND through train out of Medford Staging:

- Siskiyou Line East (Medford → Eugene)

We run this EASTBOUND through train out of Coos Bay yard:

- Coos Bay Hauler East (Coos Bay → Eugene)

We run this EASTBOUND through train out of Roseburg yard:

- Seagull East (Roseburg → Eugene)

We run these LOCAL trains out of Roseburg yard:

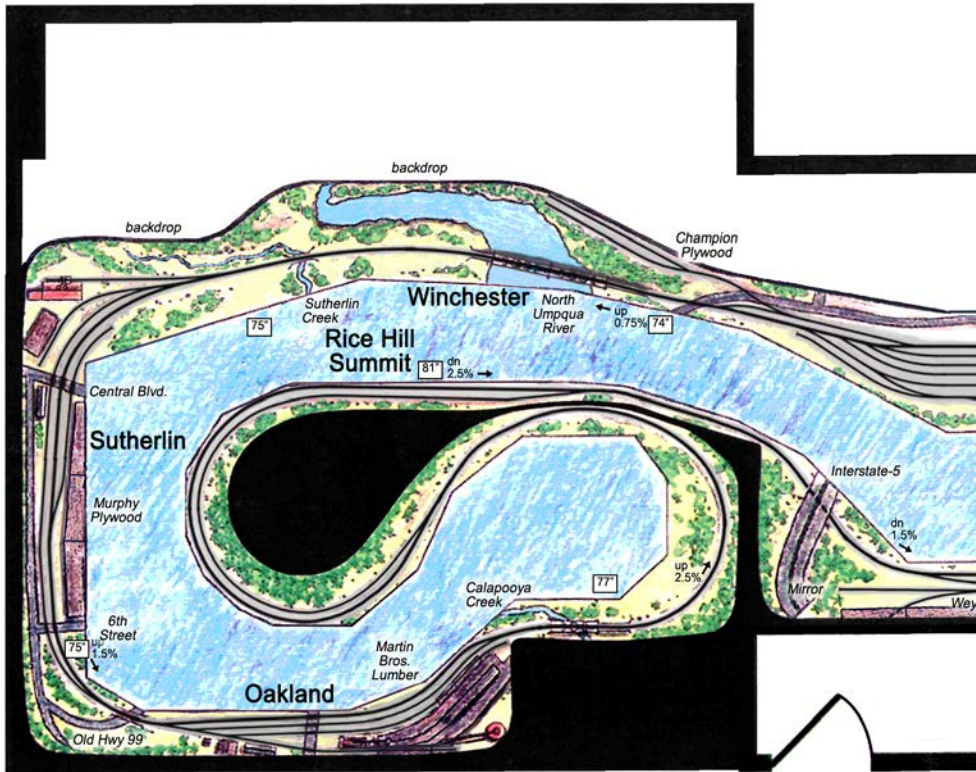
- Oakland Turn (Rice Hill Rocket)
- Dole Turn (Fruit Loop)
- Riddle Turn

And finally, we run this LOCAL train out of Coos Bay yard:

- Myrtle Point Turn

Hopefully, this actual prototype example helps you see how to use a mix of through and local trains to get the railcars where they need to go in an organized and efficient manner. Each train has a purpose and a reason for being run.

5. This is my Siskiyou Line layout upper deck track plan. Note the double-ended staging at the lower right, with one end labeled Eugene and the other end labeled Medford.



Once you have some idea of the trains you want to run, how do you set up a simple operating session based on this?

RUNNING TRAINS IN SEQUENCE

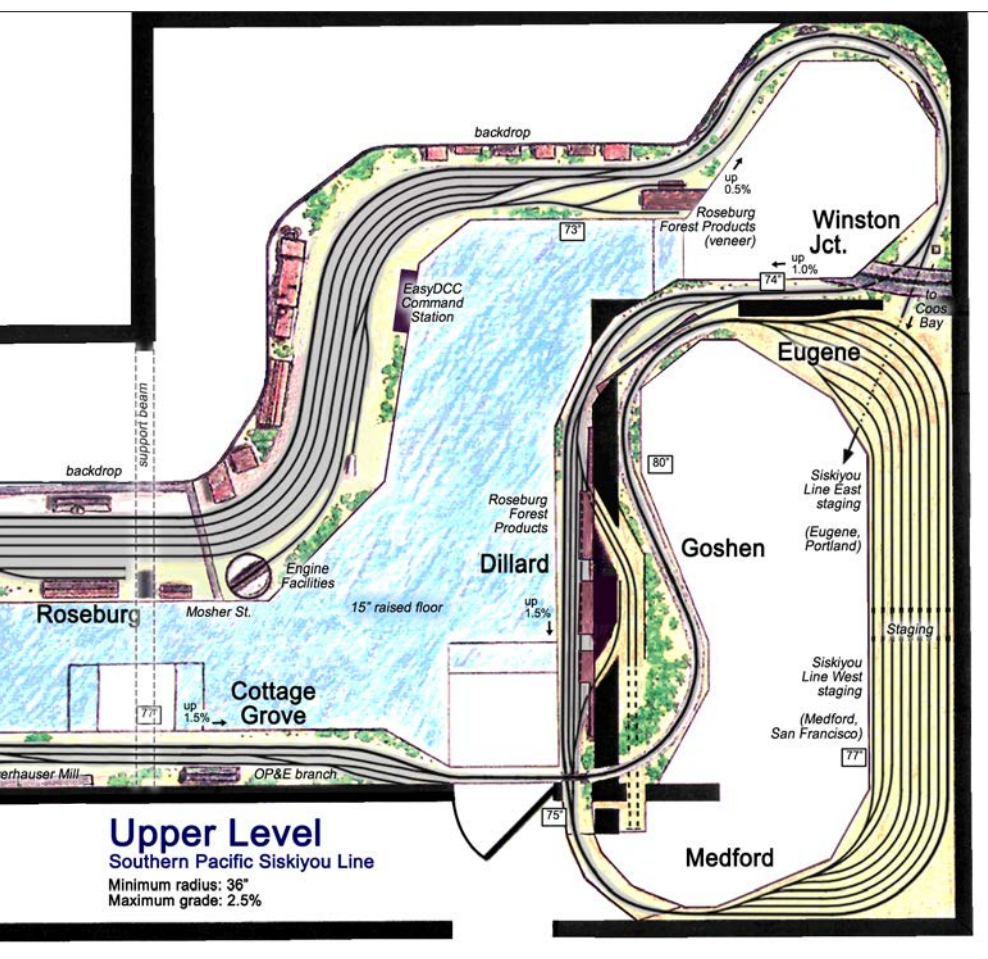
Once you know what trains you want to run, it's time to get started running those trains. Forget fast clocks, car cards, track warrants, and all that for now.



[SUBSCRIBE](#)

[INDEX](#)

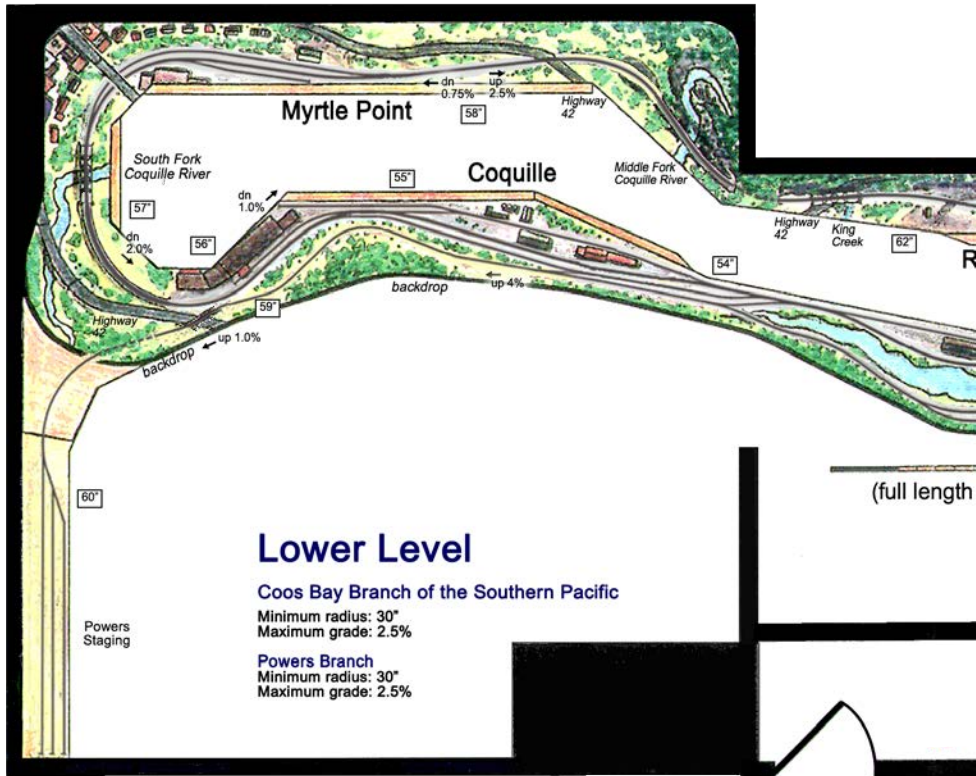
[TABLE OF CONTENTS](#)



Just list the trains you want to run on a piece of paper, in the order you want to run them. Then invite some friends over who are interested in learning to run trains on your layout “train crew” style.

Keep in mind real trains are big and massive, hard to stop, and if they’re not operated carefully, they can run into each other, destroying property and injuring people.

6. This is my Siskiyou Line layout lower deck track plan, which represents the entire Coos Bay branch. To get to the branch from the upper deck, you enter the helix at Winston Junction [5].



Real trains need some process to coordinate what train is where on the railroad and avoid cornfield meets (head-on collisions).

Just as automobiles have traffic rules to keep things orderly, likewise railroads have traffic rules to do the same thing.

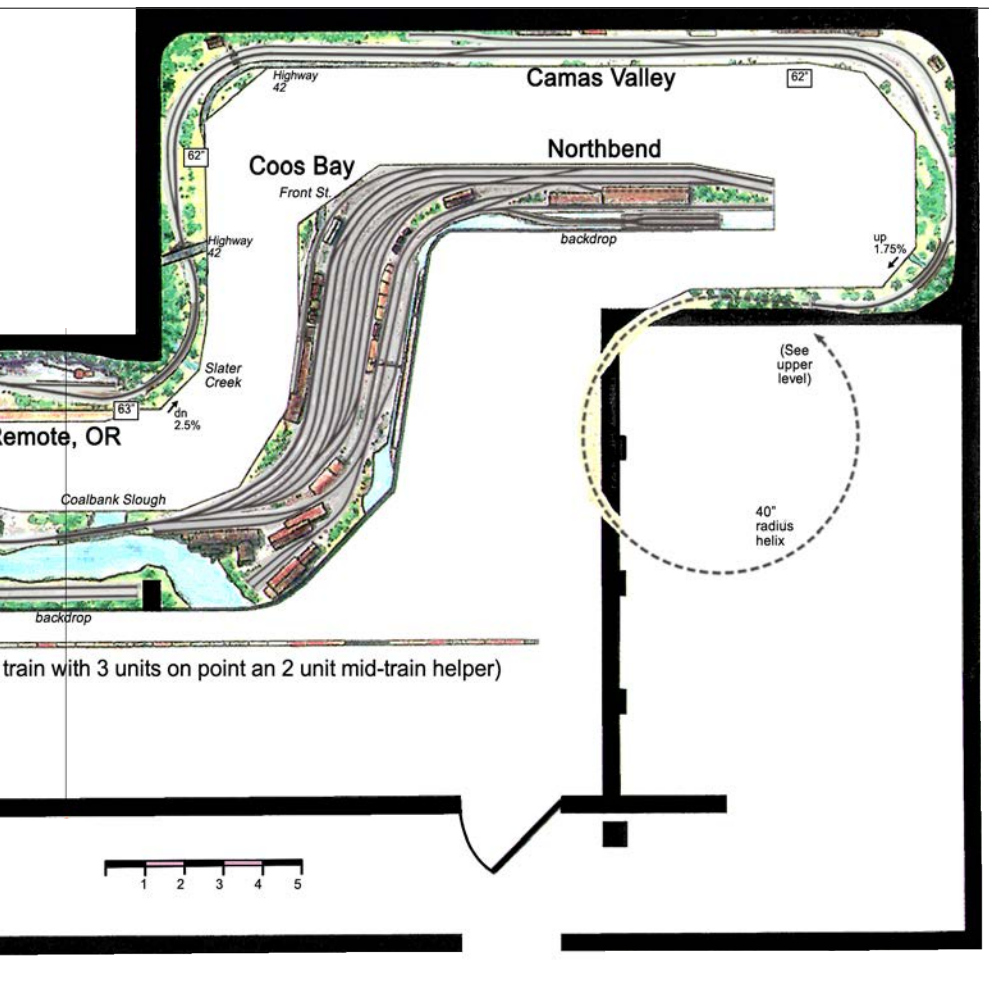
Railroad rules typically involve a dispatcher to do the overall coordination.



[SUBSCRIBE](#)

[INDEX](#)

[TABLE OF CONTENTS](#)



The dispatcher manages this by giving instructions that limit what piece of track a given train can safely occupy for a given time.

Pick someone to be the dispatcher – preferably the person most familiar with the layout. For a home layout, that person is likely the layout owner.

The dispatcher needs a stack of simple Train Control forms that look like [7].

TRAFFIC CONTROL FORM (SIMPLIFIED)

DIRECTIONAL AUTHORITY

Train _____ proceed ☐ eastward only from _____ to _____ ☐ hold main
☐ westward ☐ hold siding

-- OR --

WORK BETWEEN

Train _____ work between _____ and _____

☐ at restricted speed

☐ released

7. Simplified traffic control form used by the dispatcher. Once everyone gets comfortable with this terminology, you can issue these verbally if you wish. See [Dec bonus downloads](#) for a copy.

SO HOW DO WE USE THIS FORM?

With my Siskiyou Line as an example, let's say the first train on the list is the Siskiyou Line West from Eugene to Medford, and the next train on the list is the Seagull East, from Roseburg to Eugene.

To illustrate the all-too-common opposing train situation and how to handle it, let's have these two trains start out at about the same time, basically from opposite ends of the layout.

We now have *two opposing trains* that need to meet somewhere between Eugene and Roseburg. The dispatcher elects to have them meet at the long siding at Rice Hill, which is roughly halfway between Roseburg and Eugene.

On the traffic control form, the dispatcher identifies the train (the SP just uses the engine number of the lead loco), indicates the direction the train is running, notes from which town to which town it is running, and indicates what the train does once it gets there – either take the siding or hold the main.



TRAFFIC CONTROL FORM (SIMPLIFIED)

DIRECTIONAL AUTHORITY

Train SSW7961 proceed ☐ eastward only from Eugene to Rice Hill ☒ hold main
☒ westward ☐ hold siding

-- OR --

WORK BETWEEN

Train _____ work between _____ and _____

☐ at restricted speed

☐ released

8. Using this simple form, the dispatcher tells the train headed by SSW7961 to proceed westward from Eugene staging to Rice Hill and stay on the main (not the siding) and then wait for further instructions.

TRAFFIC CONTROL FORM (SIMPLIFIED)

DIRECTIONAL AUTHORITY

Train SP4408 proceed ☒ eastward only from Roseburg to Rice Hill ☐ hold main
☐ westward ☒ hold siding

-- OR --

WORK BETWEEN

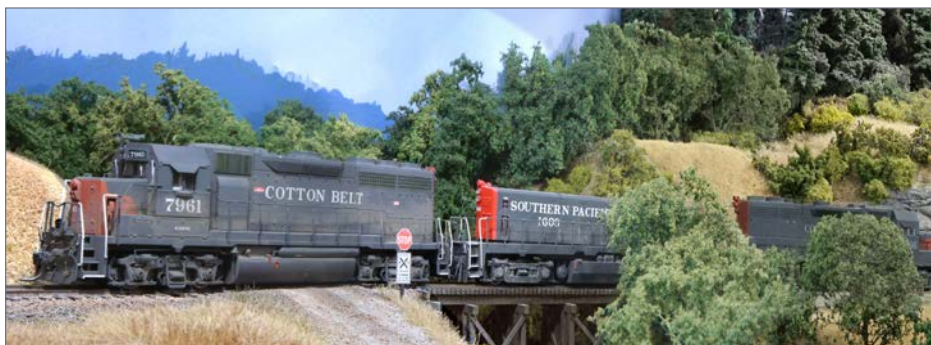
Train _____ work between _____ and _____

☐ at restricted speed

☐ released

9. Dispatch tells the train headed by SP4408 to proceed eastward from Roseburg yard to Rice Hill and take the siding, then wait for further instructions. Note with [8] and [9], the dispatcher has set up a safe meet between two opposing trains.

In our example, we have SSW 7961 sitting in Eugene staging, so the dispatcher gives the first operator who is going to run the Siskiyou Line West the sheet shown here [8].



10. One of the example trains we're going to run has a loco lashup headed by this Cotton Belt GP40 SSW7961. (The Cotton Belt is the official nickname for the *Saint Louis and Southwestern* railroad, reporting marks SSW. -ed.)



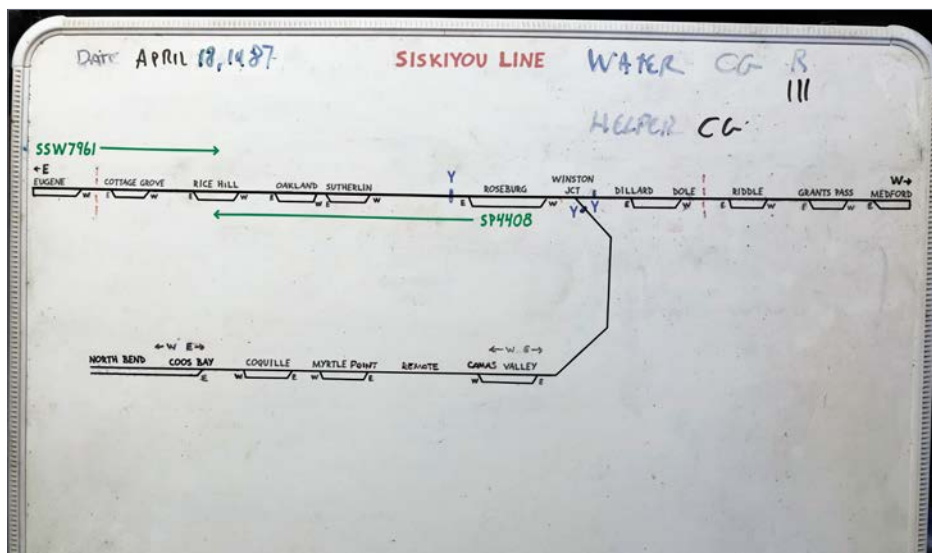
11. The opposing train has a loco lashup headed by Southern Pacific SD9 4408.

The second operator has a train sitting in Roseburg with SP 4408 on the front, the Seagull East. The dispatcher gives that operator the sheet shown in [9].

Each operator then runs their respective train, doing what the sheet says. It's that simple.

Once the two trains meet in Rice Hill, the dispatcher will need to give each train their next sheet to move them each on their way from Rice Hill to their final destination.





12. To make it easy for the dispatcher to keep track of which trains have authority to occupy which track, I use this whiteboard. I drew a simplified schematic of my track plan in permanent ink, then used whiteboard markers to record the train authority. Note the green ink showing trains SSW7961 and SP4408 and the track they've been given permission to occupy.

Just have the dispatcher issue a sheet to each train operator, and have the trains run in order like that. You can run as many trains at the same time as you have operators if you don't give any two trains authorization to run on the same piece of track at the same time.

The dispatcher should have something to keep track of which train has authority to which stretch of track on the layout. I used a whiteboard with a simple Siskiyou Line track plan on it and some erasable markers [12].

We'll talk about how to get fancy in a future article and have more than one train share the same piece of track using a "joint" authorization, but we'll keep things simple for now.

TRAFFIC CONTROL FORM (SIMPLIFIED)

DIRECTIONAL AUTHORITY

Train SSW7961 proceed ☐ eastward only from Rice Hill to Medford ☐ hold main
☒ westward ☒ hold siding

-- OR --

WORK BETWEEN

Train _____ work between _____ and _____

☐ at restricted speed

☐ released

13. Dispatch tells the train headed by SSW7961 to proceed westward from Rice Hill to Medford and to clear the main once they reach Medford staging.

TRAFFIC CONTROL FORM (SIMPLIFIED)

DIRECTIONAL AUTHORITY

Train SP4408 proceed ☒ eastward only from Rice Hill to Eugene ☐ hold main
☐ westward ☒ hold siding

-- OR --

WORK BETWEEN

Train _____ work between _____ and _____

☐ at restricted speed

☐ released

14. Dispatch tells the other train headed by SP4408 to proceed on to Eugene staging and to clear the main once they arrive there.

WHAT HAPPENS ONCE THE TRAINS MEET?

Once the trains meet at Rice Hill, then what? The dispatcher simply issues two more Train Control sheets [13, 14], telling each train to proceed on to their destination, since no other trains will be running for a while.



Obviously, if more trains will be running and need to move, then the dispatcher will have to arrange locations for those meets and either allow one train to overtake and pass the other – or if the trains are opposing, arrange a place for the two trains to meet without colliding.

WHAT WE'RE TRYING TO LEARN

We are trying help our operators get familiar with the layout, learn which way is east and west, learn the train names, and become familiar with where all the towns are – and to get them familiar with some basic railroad terminology around train movements (for example, 'hold the main').

That is *plenty* at first, so it's best to keep things simple – no fast clocks, no car cards, no track warrants, no train order forms, no timetables, nor any of that.

We also want to get some idea of how long it takes a given train to get from where it starts from to where it's going.

The next thing you'll want to teach your operators is how to run things at a scale speed. See my December 2021 *MRH Editorial* for more on that.

Have fun experimenting with running trains in a simple sequence using some simple train authorization traffic rules.

Once everyone gets comfortable with how to specify a given train's track authority, you can just give the train authorization verbally if you wish and forgo the paperwork.

The form is simply a convenient crutch to use when getting started with dipping your toe into prototype operation. ☑



RATE THIS ARTICLE

THE AH-HAH MOMENT

column



MRH Running Extra | December 2021

JOE FUGATE FINDS AN UNEXPECTED SOURCE
OF NEEDLE-TIP UNCLOGGERS ...



RATE THIS ARTICLE

**I HAVE PROMOTED USING
SQUEEZE BOTTLES WITH
BLUNT NEEDLE TIPS AS A
GREAT WORKBENCH TOOL**

[1]. But these tips can and do get clogged from time to time. So what do we do then?

I could not really find uncloggers specifically designed for these blunt needle tips. So I had to explore outside the box, so to speak.

I used a table [2] to search for something to unclog needles as small as 30 gauge, which is 0.15mm or 0.006". I finally stumbled upon 3D filament printer nozzle unclogging needles, of all things. *Ah-hah!*

I like that these unclogging needles go down to the smallest size needed to unclog the smaller blunt needle tips, since the smaller ones clog the easiest. Now I have an easy way to unclog one of these tiny blunt needles when they do get plugged up!

It's discovering maintenance tools like these that help make the blunt needle squeeze bottles even more convenient to use. ✓



1. I have promoted squeeze bottles plus blunt needle tips to dispense all kinds of useful hobby materials from powdered graphite to styrene cement. But what do we do if the tip gets clogged?



[SUBSCRIBE](#)

[INDEX](#)

[TABLE OF CONTENTS](#)

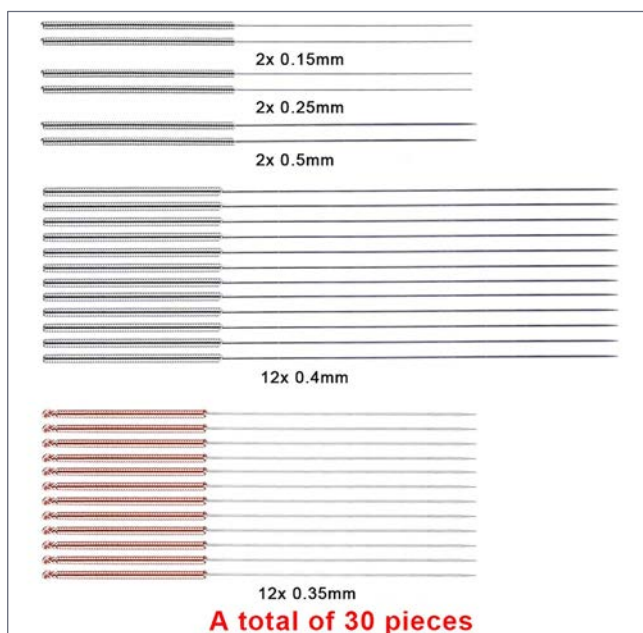
THE AH-HAH MOMENT | 2

Blunt needle sizes

	Color	Gauge	Inside diameter		Outside diameter	
			in	mm	in	mm
	Olive	14	0.060	1.55	0.072	1.83
	Amber	15	0.054	1.37	0.065	1.65
	Gray	16	0.047	1.19	0.058	1.46
	Green	18	0.033	0.84	0.050	0.27
	Pink	20	0.023	0.61	0.036	0.91
	Purple	21	0.020	0.51	0.032	0.81
	Blue	22	0.016	0.41	0.041	0.71
	Orange	23	0.013	0.33	0.033	0.64
	Red	25	0.010	0.25	0.025	0.51
	Clear	27	0.008	0.20	0.020	0.41
	Lavender	30	0.006	0.15	0.015	0.30

2. This table shows the blunt needle sizes and their inside diameter, which gives us the clue I needed for finding an unclogging tool.

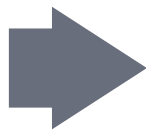
3. These 3D filament printer nozzle unclogging needles are just the trick for unclogging these blunt needles down to as small as 30g.



To get a shopping list for this article, visit the *MRH* website at this link: mrhmag.com/magazine/running-extra/2021-12/ah-hah-moment#shopping

Bonus section!

Here are all the pages from
the December issue of
*Model Railroad
Hobbyist magazine*
as well!



[SUBSCRIBE](#)

[INDEX](#)

[TABLE OF CONTENTS](#)

HAVING FUN WITH TRAINS

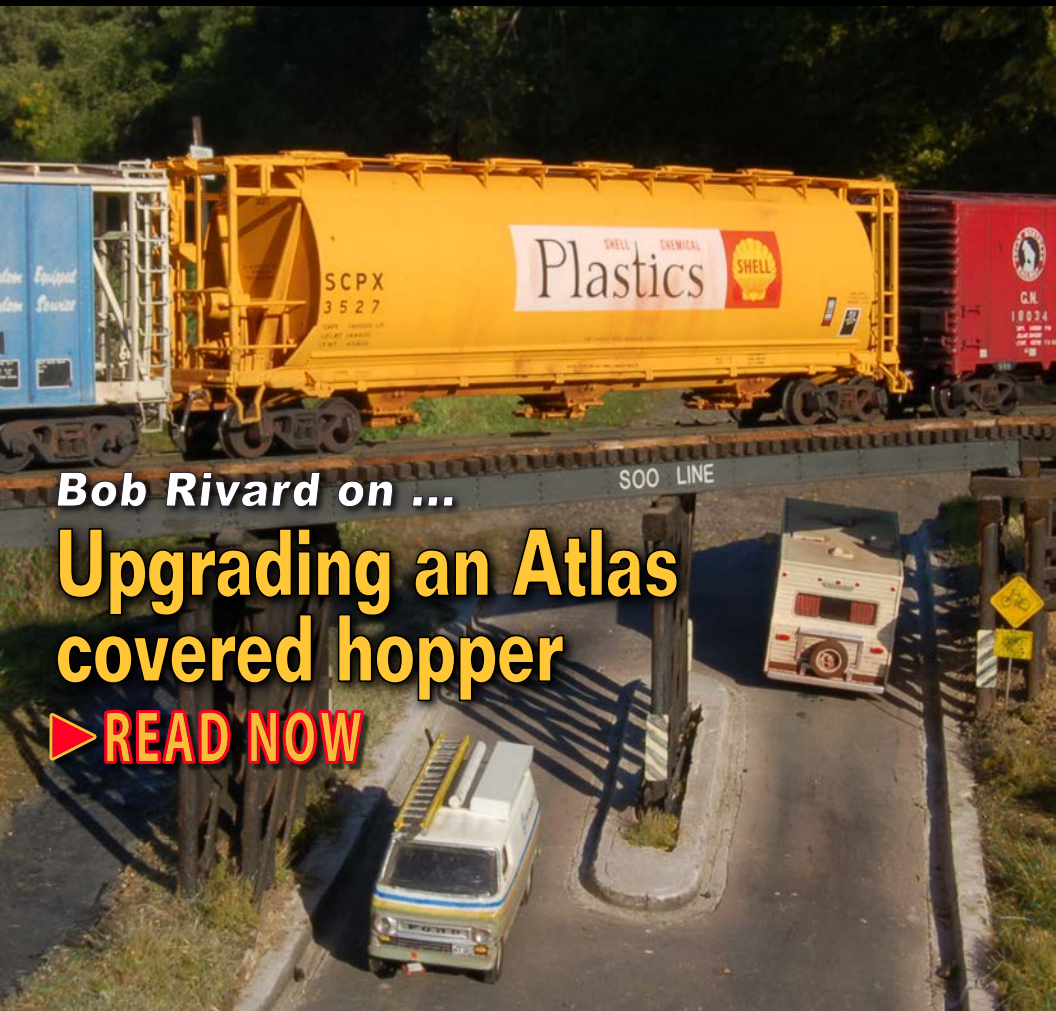
DECEMBER 2021 | FREE

MRH

MODEL RAILROAD HOBBYIST

ALSO:

- Layout room sound for the kids
- Suction operated semaphores
- New intermodal products
- Blue Box upgrade to Genesis
- ... and more inside!



Bob Rivard on ...

Upgrading an Atlas covered hopper

► **READ NOW**

[TABLE OF CONTENTS](#)

Now Available From

ATLAS MASTER® N 53' EVANS DOUBLE PLUG DOOR BOX CAR



Chicago & North Western



Grand Trunk



Van Brode Milling



Illinois Central



British Columbia Railway



Astoria Plywood



Boise Cascade



Conrail

FEATURES:

- 70-TON ROLLER-BEARING TRUCKS
- READY-TO-RUN
- ROOF OVERSPRAY
- ACCUMATE® COUPLERS

ACCUMATE® COUPLERS ARE MADE UNDER LICENSE
FROM ACCURAIL, INC.

DON'T MISS OUT!

CLICK HERE!

FOR MORE INFORMATION OR TO LOCATE A DEALER, PLEASE VISIT WWW.ATLASRR.COM.

ATLAS MODEL RAILROAD CO., INC. • 378 Florence Ave., Hillside, NJ 07205

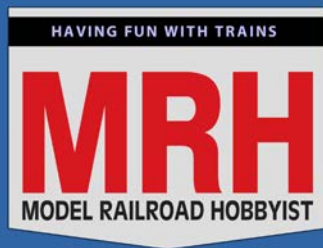


REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

STAFF



Model Railroad Hobbyist | December 2021 | #142

Editorial Staff



Joe D. Fugate, Publisher
and Editor



James Regier, Assistant
Editor



Patty Fugate, Pasteup
and Layout



Richard Bale, News and
events



Jeff Shultz, News and
events, Tech Assistant



Mike Dodd, Copy Editing



RATE THIS ISSUE

ISSN 2152-7423

Advertising

Les Halmos, Account Manager

Jean-François Delisle, Marketing Assistant

Regular contributors

Eric Hansmann, Contributing editor

Jim Six, Limited Modeler column

Ken Patterson, Reporter-at-Large

Rotating Columnists

Jack Burgess, Getting Real column

Marty McGuirk, Getting Real column

Nick Muff, Getting Real column

Mike Rose, Getting Real column

Tony Thompson, Getting Real column

Rob Clark, Imagineering

Dave Meek, Imagineering

Ray Dunakin, Imagineering

Published for the glory of God. [What's this?](#)

MRH SPONSORS



Model Railroad Hobbyist | December 2021

A - L



acculites.com



railroadhobbyshow.com



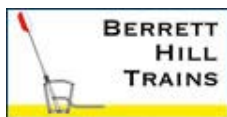
archertransfers.com



www.atlasrr.com



bachmanntrains.com



berretthill.com/trains



blairline.com



coffmaneng.com



deluxematerials.co.uk



www.digitrax.com



dwarvin.com



esu.eu/en



handiaidtrack.com



ghbintl.com



iascaled.com



krmodels.ca



litchfieldstation.com

[Vendors: Get your clickable logo on these pages ...](#)



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

MRH SPONSORS | 2

M - Z



mapleleaftrains.com



micro-trains.com



store.mrhmag.com



www.modelrectifier.com



handlaidtrack.com/mt-albert-scale-lumber



www.n3ix.com



ncedcc.com



www.pwrs.ca/main.php



rapidotrains.com



ringengineering.com



roometteslighting.com



scaletrains.com



soundtraxx.com



sodigi.com



sbs4dcc.com



tamvalleydepot.com



trainfest.com



walthers.com

Looking for something? Check the MRH Marketplace!



Take me
there!

NOW ARRIVING

1ST TIME WITH PTC ANTENNA

ADDITIONAL DASH 9
ROADNAMES
AVAILABLE!



**Santa Fe
BNSF**



**UNION PACIFIC
DASH 9s**

ACTUAL MODEL SHOWN

ORDER NOW



HO
1:87 SCALE



**SCALE
TRAINS**

www.ScaleTrains.com

7598 Highway 411 Benton, TN 37307

844-9TRAINS 844-987-2467 · International 423-299-3689

© 2021 ScaleTrains.com, Inc. ScaleTrains, Rivet Counter, and respective logos are trademarks of ScaleTrains.com, Inc. This product is made under trademark license from the Union Pacific Railroad Company. This product is made under trademark license from General Electric (GE) Transportation.



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

PUBLISHER'S MUSINGS



Model Railroad Hobbyist | December 2021

JOE FUGATE ON WHY WE SHOULD
SELECTIVELY COMPRESS RUNNING SPEED ...



IF YOU'VE BEEN IN THE HOBBY FOR A WHILE, THEN YOU'RE LIKELY ACQUAINTED WITH THE CONCEPT OF SELECTIVE COMPRESSION. The basic idea is that compared to the great outdoors, we're all space constrained.

Even a large layout of a thousand square feet or more likely has only a few scale miles of track. That's hardly enough to model a single town exactly to scale, much less the entire Southern Pacific Siskiyou Line – to use my own layout as an example.

So what do we do? We use selective compression so we can model the essence of something. The idea is we compress out things we can and yet still maintain the overall feel.

For example, the SP Siskiyou Line of the 1980s had a forest products complex along the tracks in the town of Dillard. In my car, I used the odometer to measure the length of the facility as I drove alongside it. The entire complex is 1.1 miles long!

That's 66 feet long in HO scale – for a single industry! My layout space is a rather generous 50 feet long, but even that's too short for this massive industry. So I selectively compressed it down to just 12 feet long, which is still impressive for one industry on an HO scale layout.

What's all this have to do with running speed?

The basic concept here is we just don't have the space to model things at 100% so we compress them down to make our limited layout space feel larger.

Even the most ardent prototype modelers insisting on total accuracy understand that selective compression is a necessity.

I maintain that we need to be doing the same thing with the running speed of our trains – selectively compressing the running speed to make our layouts feel larger.

Can you glance at a model train and immediately know how fast it's running? Not likely unless you have a lot of operating experience trying to run at scale speeds. I know when I've run a train at what I think is a reasonably slow speed, but when I

ADVERTISEMENT

MILITARY VALOR

★ ★ ★ ★ ★ AWARD CARS ★ ★ ★ ★ ★



COMING MAY 2022

Renderings shown for representation only.

**CLICK HERE FOR MORE INFO**



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

WALTHERSMAINLINE

NEW EQUIPMENT FOR YOUR HO FLEET


LIMITED RUN ON ALL CARS - CHECK FOR AVAILABILITY!

40' Pullman-Standard PS-1 Boxcars

910-1418 - 1438 series
December 2021 Delivery
\$29.98 each

Also available - Santa Fe™ Slogan
4-Packs In Stock - \$109.98 each

60' NSC 5150 3-Bay Covered Hoppers

910-7681 - 7712 series
In Stock - \$31.98 each

Some roadnames are sold out
at Walthers - see your
participating dealer

ACF Exterior Post Boxcars

910-1824 - 1847 series
In Stock - \$31.98 each

WALTHERS

Support your local hobby shop • visit walthers.com • call 1-800-4-TRAINS

Prices and availability were accurate at press time, for updates please visit walthers.com. * CSX proprietary marks used by permission of CSX Transportation Inc.

** The Santa Fe, BN and BNSF marks are licensed marks owned by BNSF Railway Company. † Union Pacific licensed product. © 2021 Wm. K. Walthers, Inc.

MRHMAG.COM
[INDEX](#)
[TABLE OF CONTENTS](#)



Introducing THE LUMBER STORE



ROTATING STORAGE RACK

On its own, or fully loaded with Mt. Albert Scale Lumber!

handlaidtrack.com

1-888-252-3895

PUBLISHER'S MUSINGS | 3

shoot GoPro video of the train from a railfan perspective, the train appears to be racing past. So we just don't have a very good sense of speed with our model trains.

I'm also assuming we're talking scale model railroading here, not the holiday train set where seeing how fast you can make it go is a routine pastime.

This gets to a basic key point when running trains to railfan or for prototype operation – what's the rush? Why not look for ways to prolong the enjoyment, not rush through it and have it end sooner!

Slow down and let's savor the experience. This gets into the concept I've discussed before I call *quality of run*.

With quality of run, you focus on making the experience of running trains as fun as possible and work to eliminate those



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

BACHMANN

Railroading in a Winter Wonderland...

Whether it's memories of traveling home for the holidays, the smell of coal smoke in the crisp winter air, or the timeless tradition of a model train circling the Christmas tree, there's no question that trains and Christmas go hand in hand. Bachmann has a wide variety of train sets to bring holiday cheer to your home or layout this Christmas season, coming ready to run with everything you need to get started in the exciting world of model railroading.

HO
SCALE

NORTH POLE EXPRESS
Item No. 00751 • MSRP \$349.00



JINGLE BELL EXPRESS
Item No. 00724 • MSRP \$289.00



THOMAS SAVES SANTA'S SLEIGH
Item No. 00773 • MSRP \$269.00

© 2007 Bachmann (Pittsford) Limited
© 2007 HKT Entertainment Limited. HKT and the HKT logo are trademarks of HKT Entertainment Limited.

N
SCALE

SPIRIT OF CHRISTMAS
Item No. 24017 • MSRP \$259.00



MERRY CHRISTMAS EXPRESS
Item No. 24027 • MSRP \$259.00

LARGE
SCALE

NIGHT BEFORE CHRISTMAS®
Item No. 90037 • MSRP \$629.00

On30
SCALENorman
Rockwell
Creator of the Norman Rockwell Family Agency

NORMAN ROCKWELL'S AMERICAN CHRISTMAS
Item No. 25023 • MSRP \$429.00



VILLAGE STREETCAR SET - CHRISTMAS
(with electronic auto-reversing)
Item No. 25017 • MSRP \$309.00



NORMAN ROCKWELL'S MAIN STREET CHRISTMAS STREETCAR
(with electronic auto-reversing)
Item No. 25100 • MSRP \$279.00



Click to learn more

Bachmann Industries, Inc. • 1400 East Erie Avenue • Philadelphia, PA 19124 USA • www.bachmanntrains.com
Click for more information.

MRHMAG.COM

[INDEX](#)

[TABLE OF CONTENTS](#)

things that undermine the fun. Interestingly, many things that enhance quality of run are virtually free.

Take for example, running the trains slower. It doesn't cost a single red cent to run at a slower speed. Yet running slower prolongs the fun and makes the layout feel larger. With DCC and back EMF, tuning a decent running locomotive with a DCC decoder to have a great slow speed performance isn't all that hard to do.

So how does selective speed compression work?

The idea with selective speed compression is to deliberately tune the speed curves on your locos to run slower. For example, let's say a passenger locomotive has a prototype top speed of 70 MPH.

You can get a fancy track speedometer and have it compute train speeds for you. But there are other ways to check train speed that's free.

Online, you can access a free speed/distance calculator to make the computations easy, see:

www.stonysmith.com/railroad/speedcalc.asp

Using this calculator set to HO scale, I can determine at 70 scale MPH, a loco will roll past my 12 foot (144 inch) long Dillard Mill in about 10 seconds.

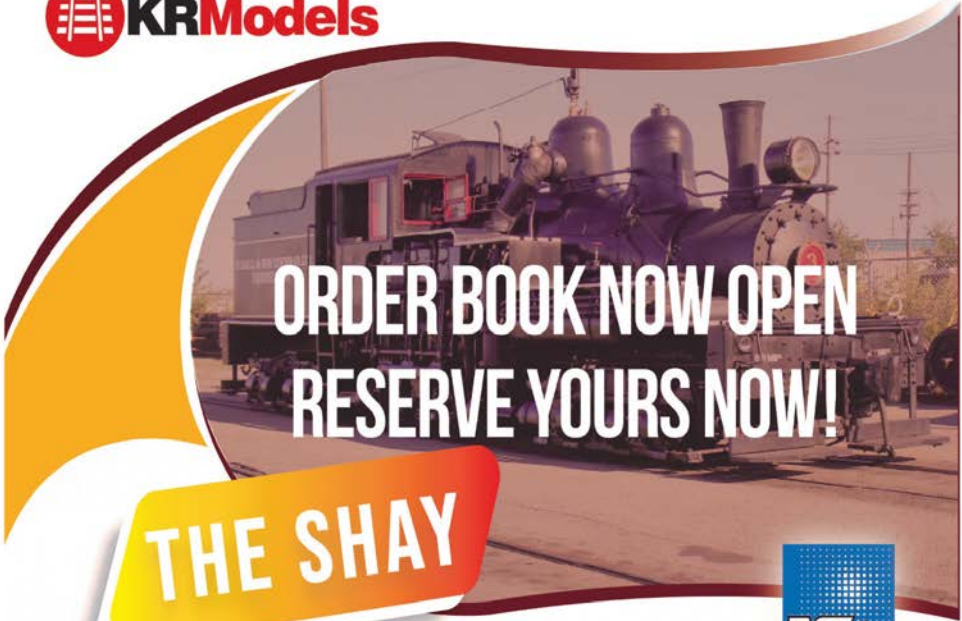
Let's selectively compress that speed down. You can pick a reduction factor – I'd like to suggest a 65% speed compression factor. That will almost double the apparent size of your layout.

Slowing the top speed of a passenger locomotive down to 45 MPH in HO means the loco will run by the Dillard mill in about 16 seconds instead of 10 seconds. That's still a pretty good clip, frankly.

Let's look at freight locomotive speeds. On my Siskiyou Line, the standard top freight speed is 25 MPH.

Using my Dillard Mill example again, a 25 MPH loco runs past



**ORDER BOOK NOW OPEN
RESERVE YOURS NOW!**

THE SHAY



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.

Class B, Lima-built 50-ton 2-truck Shay

Our rendition of The Shay will feature ESU LokSound V5 sound decoder. Cast Chassis, working external valve gear and drive shafts. Working directional lamps front and rear.

**Limited Production Run
Reservations now Open**

DCC Ready \$299

DCC Fitted \$339

DCC Sound \$449

Expected delivery Fall 2022

Easy pay 0% installment plan available

HO scale

 www.krmodels.ca

BALLAST BOND SPREADS FAST!

LEARN MORE



For easy bonding of
railway ballast

Instant
wetting



'See you at Amherst'

Available from your local
hobby store

CLICK TO BUY



the mill in 29 seconds. That's not bad now ... it takes almost half a minute for the loco to get past this huge mill complex.

That really helps make the mill complex seem a lot larger.

I set the top speed of my freight locos just past the 25 MPH mark to say 30 MPH max. That means a loco so tuned will take about 24 seconds to run the 12 feet past my Dillard Mill.

After setting the max speed (CV5) to match this running time, then I tune the locomotive start speed (CV2) and set the mid speed (CV6) to be basically flat.

I haven't found speed curves that ramp up slower or faster to be all that helpful.

Most of the time when I've made the speed curve not flat, I find operators getting frustrated that the loco doesn't seem to respond to the throttle well.

So that's it: selectively compress your loco max speed to make the layout feel larger.



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

Now available in HO scale for the Long Island and Pennsylvania Railroads
 RTR painted and lettered and detailed
 for the 1939 New York Worlds Fair
 3 Road Nos. each for LIRR and PRR
 Both units motorized and DCC ready
 and with DCC as an option

21

DD-1


GHB
 International

PO Box 4063
 Gaithersburg, Maryland 20885
 email: geoghb@erols.com
 tel: 301-515-0182

ORDER NOW

HO SCALE MODERNIZED LIRR/PRR DD-1 ELECTRIC ENGINE

\$499 ~~99~~ MSRP DCC Ready\$599 ~~99~~ MSRP DCC EQUIPPED - ESU LOCKSOUND 5 INSTALLED

Another topic: Color matching

On another topic, recently there was a discussion on the MRH website about trying to determine the right color for a Canadian Pacific mineral red: mrhmag.com/node/44029

In all cases when trying to color match something, keep in mind color temperature can affect how a color looks, as can the illumination brightness. Rather than belabor this at any length, just realize color involves a lot of variables, so getting something that's in the ballpark is often good enough.

To begin the process, we need to have a reference, such as a prototype photo. In the case of this particular discussion, the modeler had a model photo he wanted to match to, a boxcar put out by Yarmouth Model Works [1].



1. Yarmouth Model Works car photo used as a color reference.

The modeler wanted to find a Vallejo Model Air or Game Air color that was a close match to the color of this car.

The first thing I did was make a color swatch [2] and then began searching for a close match in the Vallejo official color swatches. Realize we're matching digital colors here, so the fi-



Give a gift from **MRH Media ...**



**Model Railroad
Hobbyist *Store***
Gift Certificate

DVDs, Paperbacks, eBooks, Video downloads



TRAINMASTERS TV
Gift Certificate

Streaming video channel for people who love trains

**Achieve your
hobby dreams**

MRH
M E D I A

U-BOAT SIGHTING!



Pre-production samples are subject to revisions.

CLICK HERE



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

nal paint may be off to a degree, but as I said previously, we should at least be in the ballpark.

I found Vallejo Game Air Red Terracotta (72.772) to be the closest match [3]. It's a slight shade darker, so I recommended the modeler add 20% white to lighten it slightly.

To compare, I took the Vallejo color swatch and lightened it somewhat to simulate what adding the white would do.

Then I dropped the swatch in over the reference photo and I think the match looks quite good [4]. ☒



2. Color swatch made from [1].



3. Closest match I could find.



4. Matched swatches dropped in over the reference photo. Not bad!



RATE THIS ARTICLE



Every little bit helps!

Registered MRH readers
get **another** 10% off with
the coupon code here:



**Unwrap my
coupon code now!**

[click here](#)

That's right, on top of our
holiday discounts, use this
coupon code to get **ANOTHER**
10% off the holiday sale price!



Happy
Holidays!



TMTV sale offers

[click here](#)



MRH Store sale offers

[click here](#)



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)



LAST ISSUE RATINGS

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

- 4.9 Extreme weathering a Tangent hopper
- 4.9 Modeling tar paper roofs
- 4.8 Savvy Modeler: Fir/Pine tree modeling

Issue overall: 4.3

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

- 4.9 Getting Real: Modeling Kansas City Union Station
- 4.9 Limited Modeler: Narrowing your scope
- 4.7 Build a backwoods lumber mill

Issue overall: 4.7

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

Get the latest Model Railroading News, Tips, Reviews & Opinions



**Our iTunes feed has changed search for
"Crew Call with Mike Rose" to receive the latest episodes!**

www.themodelrailroadpodcast.com

Host:

Mike Rose: www.mrhobby.com

**Don't Miss our Monthly Interviews
& Product Announcements**

THIS IS OUR IDEA OF THE PERFECT DCC INSTRUCTION MANUAL

GET
THE
DETAILS

*Instructions on the
back of the handheld.*

Run Loco: Recall the loco or press Loco and enter #, J. 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, J. Yard mode on/off: Press Sys, 3. Accessory: Press Accy, enter #, J. Press 1/2 for on/off. Route: Press Route, enter #, J. Fast Clock: Press Time. Program on Prog Track: Press Prog to select Prog Prog Track, J. To program following items, enter #, J. To skip press J. Adr = Address, SV = Start Voltage, Acc = Accelerate, dEc = Decelerate, TV = Top Voltage, CV # prompt for CV. Enter CV #, J.

Then CV data, J. Program on Main: Press Prog to select Prog Main, J. For Current Loco press J, or enter Loco #, J. Then same way as above. Read on Prog Track: Press Prog to select J. To read data press J. To skip Shift. Err = error. Set Consist: Consist to select SET, J. Enter consist # (1-127), J. To add loco enter #, J. Now use consist # as loco # to run the group. Clear Consist: Press Consist to select CLR, J. Enter consist #, J. Set Old Consist: Press Consist to select Old SET, J. Enter lead #, J. To add loco enter #, J. Run old consist group: Press Consist, Loco. Enter lead #, J. Clear Old Consist: Press Consist to select Old CLR, J. Set Cab #: Press Sys, 6. Enter cab #, J. 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 #, J. Set Route: Press Sys, 5, J. Enter route #, J. To add accessory enter #, J. Clear Route: Press Sys, 0, J. Enter route #, J. Set Time: Press Sys, 1. Enter, time, J. Set Rate: Push Sys, 2. Enter rate (how many seconds for a minute), J. Select AM, PM, or Military Time: Press Sys, 4.

Made in China

MRC



M O D E L R E C T I F I E R C O R P O R A T I O N

360 Main Street, Suite 2, Matawan, NJ 07747 • Phone: 732-225-2100 • www.modelrectifier.com

FOUNDED BY ROY C. GELBER

■ Train Controls

■ Model Railroad Accessories

■ Plastic Model Kits

■ Scenery

■ Educational Kits



REGISTER
(free)

INDEX

TABLE OF CONTENTS

Best of the

MRH WEBSITE



THIS MONTH

Model Railroad Hobbyist | December 2021

Compiled by **JOE FUGATE**



A beautiful diesel engine

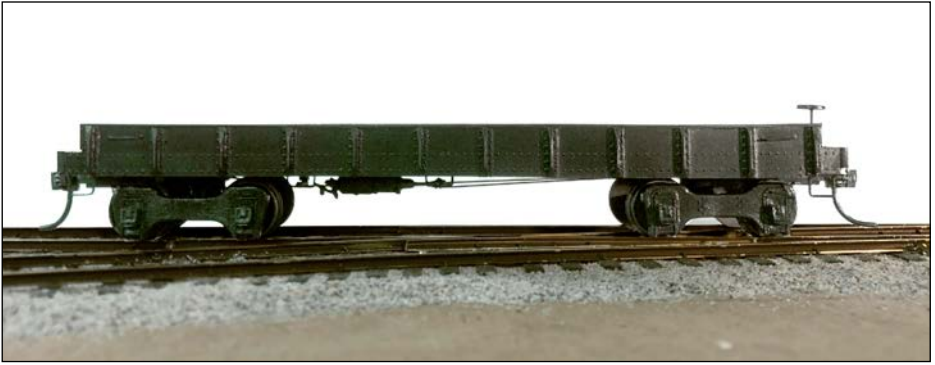
MRH forum member **railandsail** (Brian Eiland) started a thread recently about this very photogenic EMD diesel EA unit with its sleek slanted nose and elongated E unit hood.

Brian posted a YouTube video that shows this loco restored to all its glory. EMD designed the E units especially to pull passenger trains, adding a sleek elegance to them.



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

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



1. Dave Husman has an intriguing blog thread documenting how he kitbashed this turn-of-the-century gondola from a 50ft Athearn gondola shell.

Kitbash in a Day: P&R Class GMD gondola

MRH forum member **dave1905** (Dave Husman) recently made a blog thread about an interesting kitbash:

"I model the Wilmington & Northern Branch of the Philadelphia & Reading Railway, set in 1903. My line serves numerous industries related to the iron and steel trade, so I always have need for gondolas. This is how I kitbashed a model of a P&R class GMD gondola, an early steel gon. 1250 copies were produced by the Pressed Steel Car Co in 1900 and they served until 1934.

"My car is kitbashed from an Athearn 50 ft gondola shell and a 36 ft MDC cast metal underframe. This simple kitbash can be done in a day and will fit right in on any pre-Depression era layout."

Dave then showed the step-by-step process he used to "hack up" the Athearn gondola and get the resulting model shown here [1]. We found the techniques Dave used to show some great kitbashing best practices and could be used for other rolling stock kitbash projects for many other eras or prototypes.

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



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

FAST TRACKS

Build your own trackwork easily, quickly, and affordably.



TRACK BUILDING SYSTEM



Introducing Diamond Line Crossing Kits



Building an accurate crossing has long been a challenge in our hobby.

Not anymore with Diamond Line Crossing Kits!

Fast Tracks Diamond Line Crossing Kits make the job of building a good looking, accurate crossing much simpler. Precision cast parts and matching laser cut ties work together to ensure quick construction. Each of the castings are designed to press into the laser cut ties, automatically locating all the parts and electrical isolation gaps. The parts are simply pressed and glued in place.

HO scale 90 degree versions are the first in what will be a large library of popular sizes

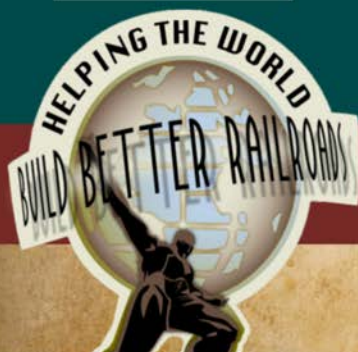
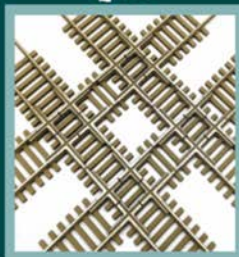
Single



Double



Quad



All Fast Tracks track fixtures and tools are NMRA compliant



Easy Ordering • Fast Delivery • Free Shipping*

*applies to North America only on orders over \$150.00 US

shop online 24/7

handlaidtrack.com

1-888-252-3895 service@fast-tracks.net



2. MRH forum member **MikeHughes** has a blog chronicling his small switching layout. Here he's testing double track spacing for staging.

"Bedside & Hinged" Switching Layout

MRH forum member **MikeHughes** has recently been discussing a rather clever way to build "hidden yet accessible" staging for his switching layout.

"Since the high-line at Unhinged will need to be supported, I need to implement a tunnel to hold the two staging tracks and provide the foundation for the high-line. Solid blocks of foam will no longer work. And the innards of the tunnel need to be visible and accessible in case of any derailments."

Mike then went on to say:

"I had enough 1/4" plywood about, but as I got thinking about all the fancy router work it would need to have any strength, I started to wonder about using foamboard and hot glue instead."

Follow along and see how Mike's staging build turns out!

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



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

**The most detailed GP9RM
on the market!**

**NOW
IN STOCK**

**CN and MC
versions**

**CLICK
HERE**

MAPLELEAF

ADVERTISEMENT

ADVERTISEMENT

 **Archer**
FINE TRANSFERS
PROUDLY SERVING MODEL BUILDERS SINCE 1989

**THE ORIGINAL
SURFACE DETAILS**

*We stock more than 200
different sheets of resin rivets,
louvers, treadplate, weld beads
and more for N, HO, S, O, G
scale railroad as well as Armor
and Aircraft so pass the word.*

LOW SHIPPING RATES
(Shipping rates are posted in the banner of our home page)

CLICK HERE TO VISIT OUR WEBSITE!

NEW ADDRESS AND CONTACT INFORMATION
Archer Fine Transfers • 305 NW Railroad St. • Youngsville, NC 27596 • USA
info@archertransfers.com • archertransfers.com

ProtoThrottleTM
Realistic Control Stand Throttle

**The perfect
Christmas Gift!**



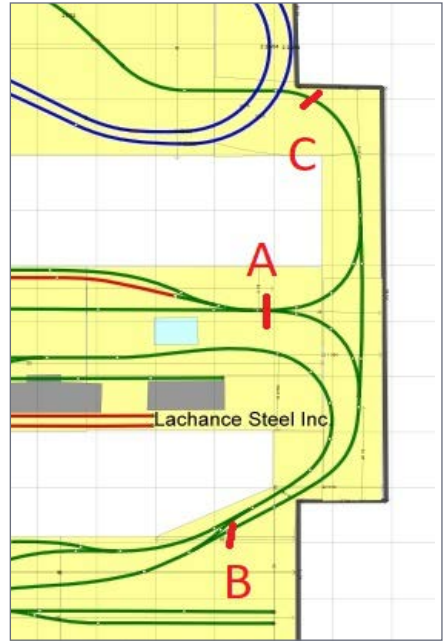
LEARN MORE

VISIT WWW.IASCALED.COM

3. *MRH* forum member **Paul Lachance** posted a track plan on the *MRH* forum and asked for advice on how to set up a reversing section using a Digitrax AR1 (Automatic Reversing Controller).

Advice on isolating a reversing section and wiring an AR1

MRH forum member **Plachan1** (Paul Lachance) recently posted a track plan on the *MRH* forum and has been asking for advice on how to isolate the track for a reversing section.



Other forum members posted many helpful posts, with this post by HVT Dave being helpful:

“If your longest train will fit between points A & B, then this option will be a simple solution. You do need to ensure that the distance from A to C is at least the same length or longer.”

From there, the conversation continues as it gets more specifically into adding short protection to the entire layout with PSX breakers along with doing reverse sections.

This is an important conversation to read through because unless done properly, you can end up with the reversing section fighting with the circuit breakers.

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



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

More photo fun!

The recent weekly photo fun thread had some especially nice photos. Check it out ...

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



4. *MRH* forum member **Dom Bourgeois** posted this very nice photo of a D&H southbound freight pusher out of Cobleskill, NY in late October 1975.



RATE THIS ARTICLE

5. *MRH* forum member **mesimpson** added this photo of a solid string of tank cars carrying diesel fuel to a portside tank farm where it gets transloaded to barges and sent to various communities around Hudson Bay as their winter power source.



2021 PWRS Christmas Wish Book!

*Grab Everything you need to
make your modeler jump for
Joy this holiday Season!*

*Check back for secret
announcements from now
until January 1st 2022*



Click Here
For
N Scale



Click Here
For
HO Scale



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

WHAT'S NEAT

column



Model Railroad Hobbyist | December 2021

IN THIS MONTH'S WHAT'S NEAT:

- RAD MCGUIRE DEMONSTRATES PAINTING MILITARY EQUIPMENT
- AN INTERVIEW WITH ED DICKENS
- KEN INTERVIEWS DOUG BLAINE OF BACHMANN TRAINS
- MODELING IDEAS FROM ABOVE SHOWS A WINTER WONDERLAND ...

Railfan Dan 2019

DECEMBER 2021

Brought to you by
MRH
MODEL RAILROAD HOBBYIST

WHAT'S NEAT with Ken Patterson
Big Boy engine interview

click to play video

PHOTOS AND VIDEO OF SUPERB MODELS

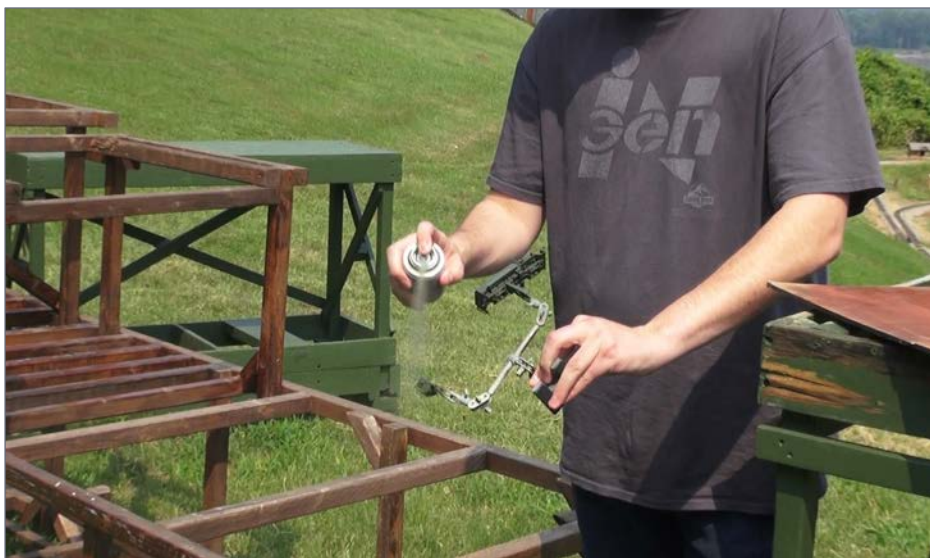
THIS MONTH RAD MCGUIRE FOLLOWS UP ON HIS MILITARY

MODEL demonstration in November by showing how to paint a 1:87 scale HEMTT tanker truck in NATO

camouflage and Ken interviews Ed Dickens, the head of the Union Pacific RR steam program, during the UP 4014's stop in St. Louis. Dan Scheidell's "Modeling Ideas From Above" drone segment shows UP and Amtrak trains going through the snow-covered Cascade Mountains in Oregon. Ken finishes the month with an interview with Doug Blaine of Bachmann Trains, and they go over Bachmann's new products – from Thomas and Friends in 009 gauge to an East Broad Top train set in On30.



Painting military vehicles in 1:87 scale with Rad McGuire



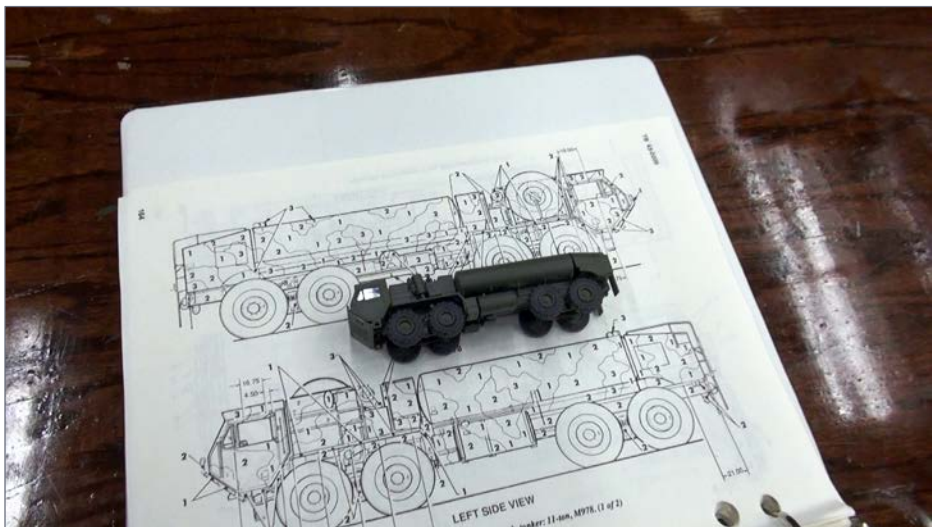
1. Rad uses Tamiya spray paint to provide a base layer of green on a 1:87 scale Minitanks M978 HEMTT Tanker model.



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)



2. Rad uses an Army “paint by numbers” book, Technical Bulletin (TB) 43-0209 Ch. 1, to guide him in applying the woodland camouflage colors to the M978.



3. Rad adds the NATO brown (color #3) to the camouflage pattern.



4. Rad uses decals from the Arsenal-M Minitanks fuel tanker set. Arsenal-M purchased Roco, the original manufacturer of the Minitanks line.



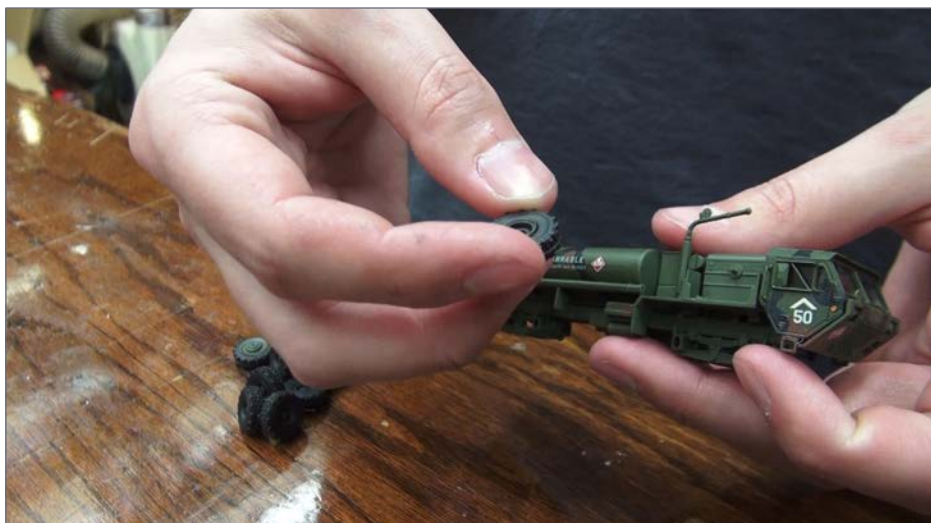
5. After painting and decaling the model, Rad sprays the model with Tamiya PS-55 Flat Clear.



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)



6. After everything dries, Rad reassembles the model.



7. And with a few hours work an out-of-the-box model goes from this ...



8. ... to this - a detailed and camouflage-painted model.

Union Pacific's Ed Dickens, Steam Program Manager & Big Boy Engineer



9. While Big Boy UP 4014 was visiting St. Louis this summer, Ken had the opportunity to interview Ed Dickens, the manager of the Union Pacific Steam Program and the 4014's engineer.



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)



10. In 2019, UP 4014 and UP 844 double-headed on an excursion in Wyoming.

Modeling Ideas from Above: Winter Odyssey



11. Dan Scheidell pilots his drone over the Oregon Cascades to show us the UP and Amtrak in the snow.

Bachmann Trains Interview with Doug Blaine



12. Ken interviews Doug Blaine about many of Bachmann's new products, including OO9 gauge Thomas and Friends equipment, an On30 East Broad Top train set, and several other new products.



13. Ken began the interview by going through several of the photos he's taken of Bachmann products over the years, including this sunrise photo of an HO scale 4-4-0

American locomotive decorated as the Central Pacific RR "Jupiter" of Golden Spike fame.



Lasercut structures. Highway, storefront and billboard signs.

**Neat ag customer for your railroad:
Farmers Fertilizer Supply**



**WHAT'S
NEW?**



Established 1993...

Blair Line

LET'S GET LIT!

**FREE SHIPPING
CHECK 'EM OUT**



Roomettes

Bring Your Structures to Light

Looking for Goose Sounds?



Look no further! We have prototypical sounds for your Galloping Goose in our Tsunami2 Baldwin & Others decoders. This sound profile is available in most Tsunami2 decoder formats.

Available now at SOUNDTRAXX.com or your local retailer!



14. Doug shows off the Amtrak ALC-42 in “Day 1” livery and a video of the light and sound functions of the locomotive.



15. Bachmann is releasing an HO scale train set of the “Norman Rockwell Freedom Train,” representing the 1947-49 Freedom Train that traveled across the United States after WW II, including a car decorated with Norman Rockwell’s Four Freedoms paintings on its side. ☒



RATE THIS ARTICLE



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

Please include a phone number when emailing us if you need a reply!

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

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

Did you see this article?



Tungsten steel scriber toolset

Get this eBook now ▶

← *click here*



Each eBook ~100 pages

RUNNING
EXTRA



**VIEW READER
COMMENTS**



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

**WATCH
NOW »**

From first train set to railroad empire...

*Our complete line of DCC products
grows with you. Discover the fun!*

- Designed and manufactured in the U.S.A.
- Preferred for ease of use and ergonomic design
- Unlimited scalability for any size model railroad
- Plug-and-play means more time running trains
- Great customer service and excellent support



See your dealer



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)



Visit our new and improved web site for all your DCC needs!

- Get the latest new product announcements
- Watch our detailed how-to videos
- Browse the all-new Information Station
- Enjoy secure online sales, day or night!

Visit **ncedcc.com**





S T A T I O N

GREAT GIFT IDEAS!
NCE | Digitrax | Speakers
SoundTraxx
Train Control Systems
ESU LokSound
Tam Valley Depot
RailPro



www.LitchfieldStation.com
sales@litchfieldstation.com
623-298-7355

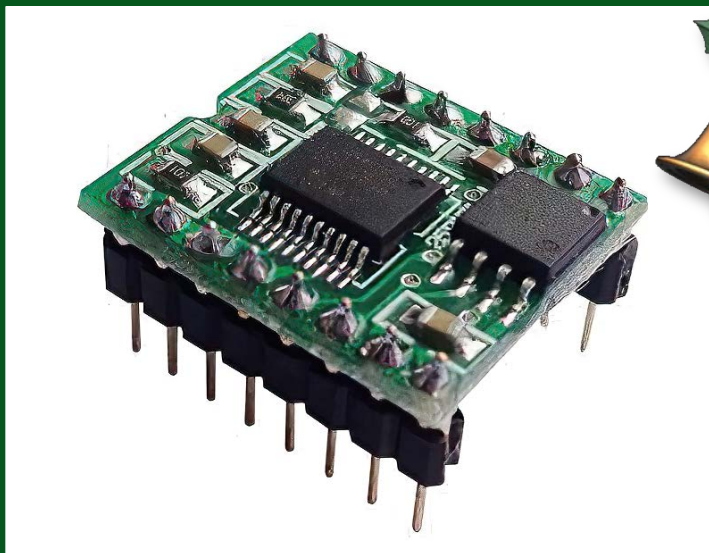


REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

Toot-Toot sound system



Holiday fun!



Electrical
Impulses

Model Railroad Hobbyist | December 2021

1. WT588D voice chip.
www.newegg.com photo



BRIAN KRUPICKA HAS A LITTLE HOLIDAY FUN AND BRINGS HIS GRANDSONS INTO THE OPERATING EXPERIENCE ...

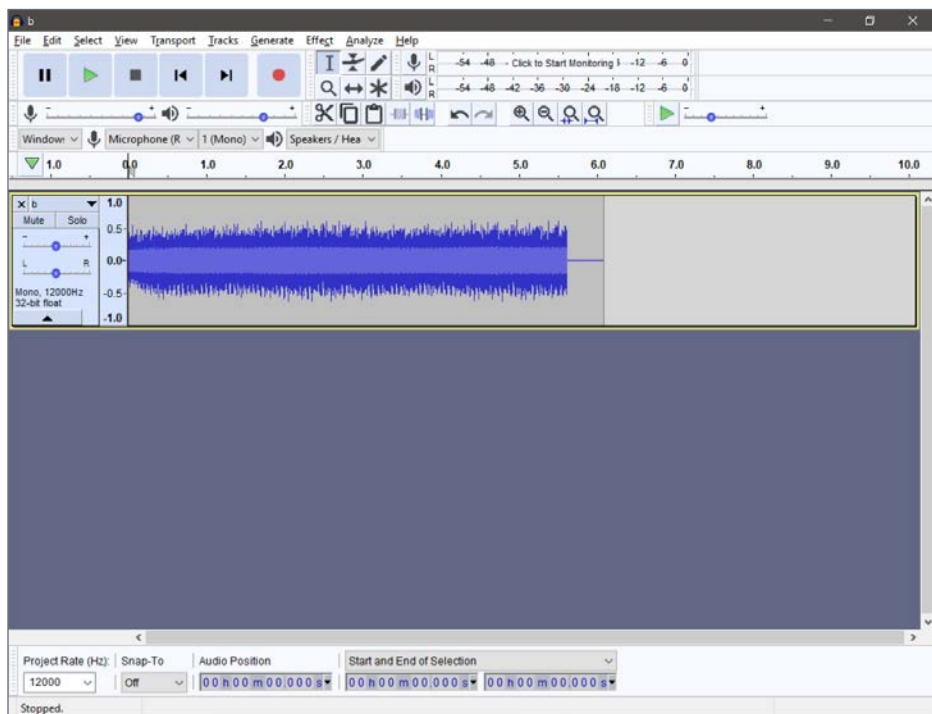
I RECENTLY VISITED THE LOCAL TROLLEY MUSEUM WITH TWO OF my grandsons. One of the highlights was a rope they could pull to sound a trolley horn. My grandsons asked me why I didn't have the same feature in my layout room at home.

TOOT-TOOT SIGNAL SYSTEM | 2

I've set up at least 30 electronic features and automations on my layout, so this one seemed doable. I have used the WT588D voice chip for several projects, and it seemed like a good match for this whistle project. The WT588D is a sound module with internal storage for up to 270 seconds of sound at highest quality – plenty for my purposes [1].

My first step was to find a suitable .wav audio file of a diesel horn. I searched the internet for .wav files I liked. When I found what I wanted, I downloaded it.

I opened the file in the sound-editing program, Audacity, cut it to the length, and removed any unwanted sounds. I also formatted it so that it would be compatible with WT588D, setting the track to mono and the sample rate to 12000 Hz. Finally, I saved the new .wav file [2].



2. I used Audacity to modify the file's length and eliminate unwanted sounds. This 5.5 second WAV file was the result.



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

END OF TRAIN DEVICE

NEW SAFETY GREEN



Patented Technology - US Patent 7,549,609

**Bright Red
Flashing Light!**

**Installs in minutes!
No freight car
modification required!**

Does not affect Load!

↓ Car without Load ↓



↓ Car with Load ↓



**Click Here to
Learn More**

**RE RING™
ENGINEERING**

ADVERTISEMENT

Great control in a tiny package



**Original
Touch Toggles**

- Touch Toggle™ plug in controls
- Bright clear indication
- Easy setup
- Flexible system

Stall Motors, Twin-coils,
Power, and Servos

Now for Tam Valley Depot
and MRservo too!



**BERRETT
HILL
TRAINS**

Made in the USA



What will they think of next?

www.berretthillshop.com

TamValleyDepot.com



Home of the Frog Juicer

Dual Frog Juicer

Automatic DCC Polarity
Reverser can be used to:

Power Two Frogs

Crossovers

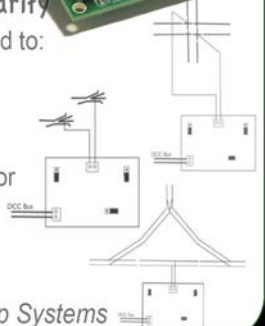
Crossings

Automatic Reverser for
Turntables

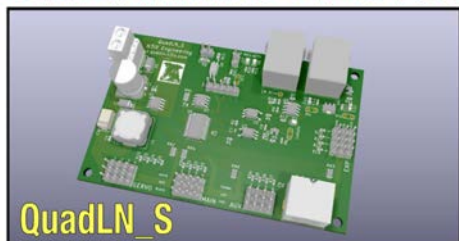
Wyes, Loops

Circuit Breaker

Use with 2-10 Amp Systems



BREAKING NEWS!



QuadLN_S



RIO SAYS:

Quad LocoNet® Decoder Family

is BACK!

LEARN MORE

click me



N3IX ENGINEERING

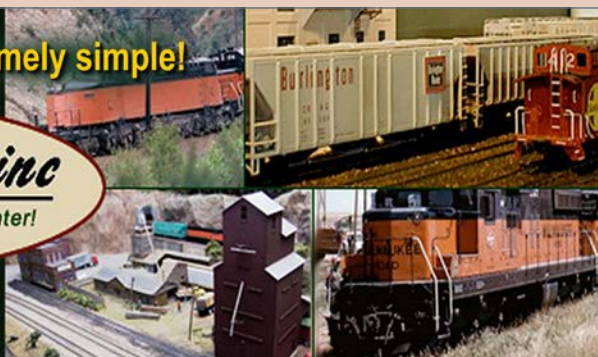
ADVERTISEMENT

Make LocoNet wiring extremely simple!



ACCU-LITES, inc

Your DCC Center!



PM42
breakout
board



SE8C
breakout
board



BDL168
Multi-zone
breakout board



BDL168
Single-zone
breakout board



Now Offering SNAPS! in packs of 6 or 12 pieces! [CLICK TO LEARN MORE ...](#)



REGISTER
(free)

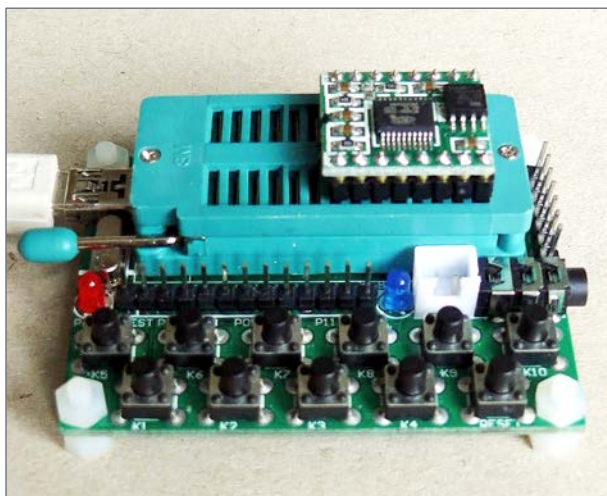
[INDEX](#)

[TABLE OF CONTENTS](#)

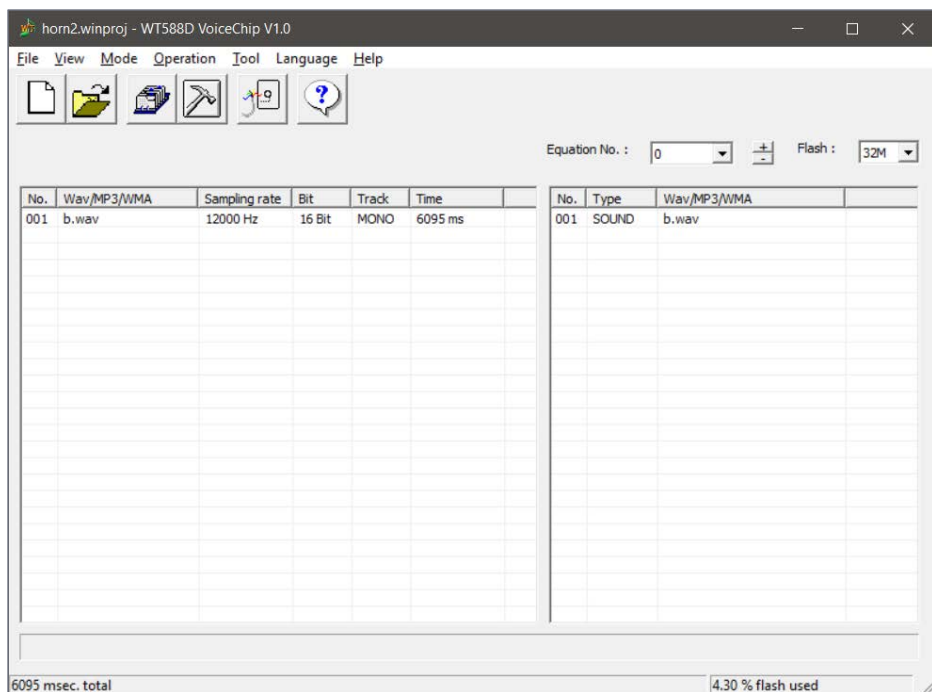
I plugged the WT588D chip into its programmer. The programmer contains sockets for the WT588D chip and a series of buttons, each of which can be used to test the chip's pins. The programmer plugs into a PC via USB [3].

With the programmer plugged into the computer, I loaded the VoiceChip software, which programs the WT588D (wt588d-voicechip-beta.software.informer.com/1.6). I loaded the diesel horn .wav file into the VoiceChip software and modified it for use with the chip [4].

Aside from modifying, compiling, and loading the sound file to the chip, the VoiceChip software also sets the control trigger (trip) requirements. I selected the "Level Loop" control trigger for operation of the pull horn cord. This trigger method allows for long and short activation of the audio file.



3. The WT588D chip is plugged into its programmer. The USB cable connecting the programmer to the PC is at far left: www.instructables.com/Getting-the-Most-Out-of-a-WT588D-Sound-Module



4. Screenshot of the VoiceChip software interface.

The programmer board allows you to test your chip's programming on the spot, while it's still connected to your computer and programming software. This makes modification and adjustment a snap.

The WT588 VoiceChip can be programmed with four different MP3 audio files. I programmed channel 1 with diesel horn sounds, channel 2 with trolley bell sounds, channel 3 with steam engine whistle sounds, and channel 4 with crossing grade bell sounds.

With the WT588D chip programmed to satisfaction, I built a circuit for the whistle.

Two connections each go to the 5VDC power supply, the speaker, and the toggle switch. The circuit requires two 1N4002 diodes in series to reduce the power supply voltage to 3.8VDC.



RailPro™**NEW
TECHNOLOGY****RE RING™
ENGINEERING**

DCC + RADIO CONTROL

HO Scale Locomotive Module

**ULTIMATE
SERIES
SOUNDS****TRUE
MOTION
TECHNOLOGY****LIGHT
EFFECT
EDITOR****DIRECT™
RADIO
+NET**

New Sound Technology and Mathematical Model Motion Control + more!!!



+



Equals
"DUAL MODE"
Control by DCC +
Radio Control

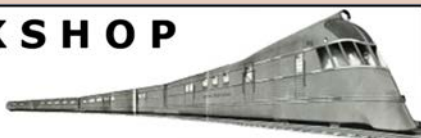
**Click Here to
Watch Video**

For more information visit our Internet site: www.RingEngineering.com

ADVERTISEMENT

STREAMLINED BACKSHOP

Sales ... Service ... Solutions ...



LokSound ?

WWW.SBS4DCC.COM



LOK SOUND
EST. 1999



SOUNDTRAXX



MRHMAG.COM

[INDEX](#)

[TABLE OF CONTENTS](#)



Southern Digital

WWW.SODIGI.COM

Celebrating 28 Years serving you

All New Items from  **Digitrax**
Complete Train Control



Evolution Express Duplex Radio
List \$645, Your Price \$516



Evolution Express
List \$460, Your Price \$365



DT602D Radio Throttle
List \$260
Your Price \$208



UT6D Radio Utility Throttle
List \$170
Your Price \$136



DT602 Super Throttle
List \$195
Your Price \$156



UT6 Utility Throttle
List \$105
Your Price \$84



UR93 Duplex Receiver
List \$125
Your Price \$99.95



BD4N Block Detector
List \$36
Your Price \$29



BXPA1 Auto Reverser
List \$49
Your Price \$39



**Ni-MH Battery for
DT602 or UT6**
List \$12
Your Price \$9.60

DCC Conversions, Service & Support

E-mail: sales@sodigi.com (770) 929-1888



REGISTER
(free)

[INDEX](#)

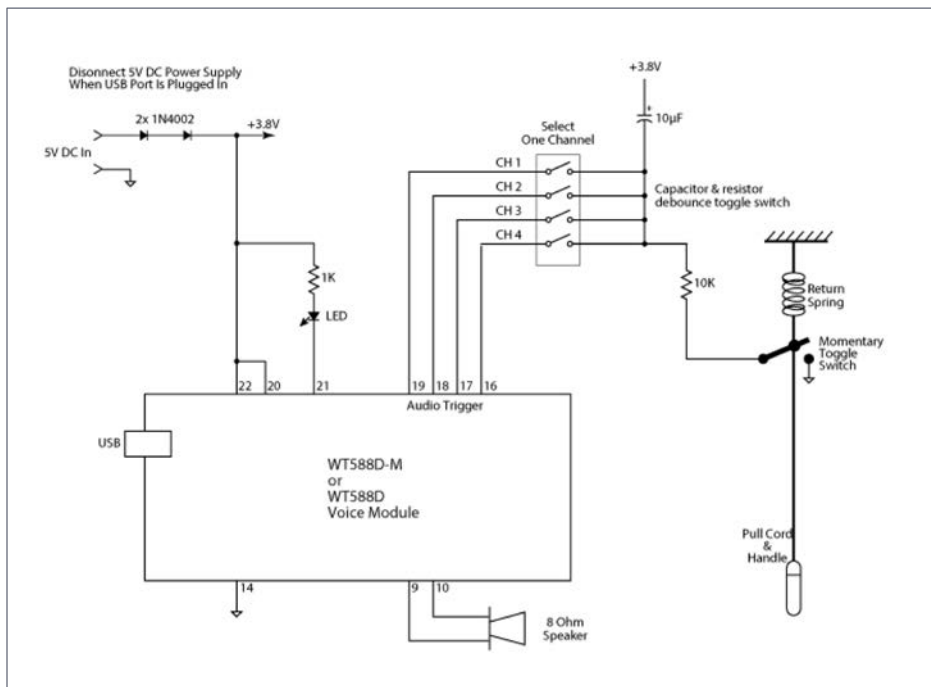
[TABLE OF CONTENTS](#)

TOOT-TOOT SIGNAL SYSTEMS | 5

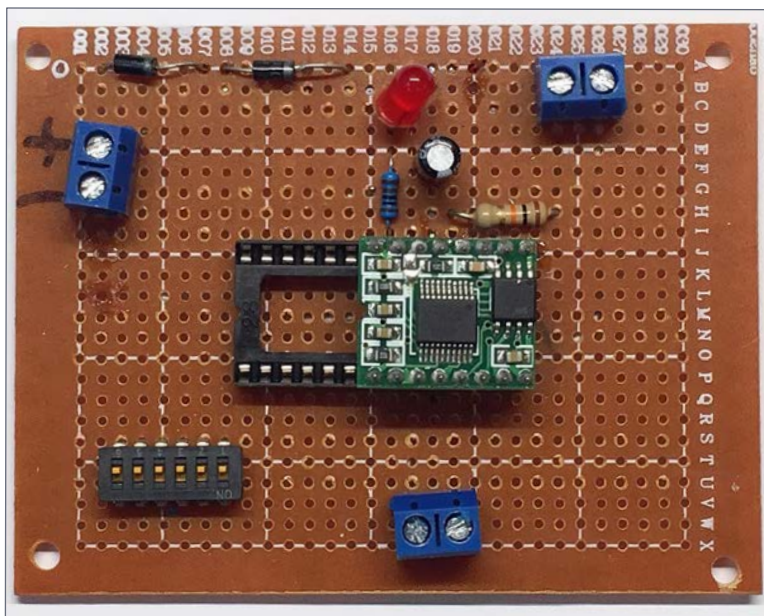
I also added a red LED for on/off signaling, and a 10K resistor in series with the SPST toggle switch leads. Since there is only one pull activation cord, I added a DIP switch to select the sound [5, 6].

Next up was the pull-cord assembly. I used a momentary SPST toggle switch to trigger the horn. I added a six-inch extension to the switch handle to increase its throw distance and mounted it on an L-bracket that I secured to ceiling joists.

I attached a sash cord to the toggle switch extension and fed it through a switch cover plate mounted on the drywall ceiling [7]. I repurposed an old wooden file handle for the pull-handle [8]. To let out the sound, I installed a 4-inch, 8-ohm, 10-watt speaker in the drop ceiling [9].



5. Circuit diagram for the whistle.



6. Circuit set in perf board.

A photograph of a young boy in a blue shirt pulling a horn cord on a model train layout. In the background, there is a yellow and black railroad crossing sign. The image is part of a video thumbnail.

Holiday fun!

Grandkids pull horn cord demo

December MRH companion video

The logo for Model Railroad Hobbyist (MRH) is located in the bottom right corner of the video thumbnail. It consists of the letters "MRH" in a large, bold, red font, with the words "MODEL RAILROAD HOBBYIST" in a smaller, black font underneath.

click to play video



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)



7. Switch cover plate on the ceiling.



8. Pull-handle.



9. Ceiling speaker installation.



As it turned out, the combined weight of the toggle switch extension, sash cord, and handle was too much, so the switch was always triggered. I resolved the issue by adding a spring to the switch extension tip to pull the toggle back into the off position.

With this new gadget installed, my grandsons can pull the handle and sound the horn when they visit for the holidays or any other time. What a simple and fun way to bring them into the operating experience!

Happy holidays! ☑

BRIAN KRUPICKA



Brian and his wife live in Yorkville, Illinois and travel the country in an RV. They have several children, nine grandchildren and one great-grandchild.

Brian has provided clinics at NMRA conventions and other gathering. He also belongs to three model railroad clubs. His primary HO interests are in 1970 and 1980 operations. He has over 30 animation and automation features on his layout. ■



RATE THIS ARTICLE

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

Did you see this article?



Make running trains more fun

Get this eBook now ►

← click here



Each eBook ~100 pages

MRH RUNNING
EXTRA



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

Don't settle for all your locos
sounding the same!

ESU now has **OVER 100**
"LokSound" files to choose from!



Because "Close Enough" is no longer
"Good Enough"

LokSound.com

Digitrax

Introducing the UT6 & for Digitrax Comp



- **Compact size for easy one-hand**
- **Color 1.5" LCD Screen**
- **Full numeric keys for easy Loc**
- **Fine speed control with a large**
- **Removeable LocoNet® cord**
- **Forward/Reverse toggle switc**
- **Off/On switch, uses AA or BP6**

Find out more @ www.digitrax.com



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)



UT6D Utility Throttles Complete Train Control!

Hand operation

UT6

Utility Throttle

\$105.00 MSRP

Automotive selection

UT6D

Duplex Utility Throttle

\$170.00 MSRP

Throttle with Braking

2400MH batteries

**View all features and *more*
on our website!**

digitrax.com/throttles/

MRRH MARKETPLACE



CROW RIVER PRODUCTS



O Scale Kit 336 The Pile Driver Winch

A Compact Twin Drum Steam Winch
Useful in crane cabs on vessels or anywhere that
requires heavy lifting such as a marine pile driver.

A. Pewter Kit made in USA

Price \$60.00

**HO & O Scale Machinery, Derricks,
Engines, Hardware & Waterfront Models**
Pawtucket, RI 02861 Tel 401-723-0065
www.crowriverproducts.com

PRECISION DESIGN CO.

**CUSTOM DECALS FROM
YOUR OWN ART IN JUST ONE DAY**

PDC.CA

FULL COLOR & SOLID WHITE

Bridge the gap

... with Mountain Pacific Scenics



mini prints



**Craftsman-quality 3D printed miniature
railroad animals, figures and scenic details**

mini prints.com

make your model railroad come alive

Grade Crossing Pro/2



Photocell, IR or current sensing detection
Optional on-board bell modules
Timing options for flashers, gates, and bell
Use slow motion motors or servos with your gates
NEW! Servo motor kit!



Please visit our website and online store!

**LOGIC RAIL™
TECHNOLOGIES**

info@logicrailtech.com

(281) 251-5813

www.logicrailtech.com

NEW CREATIONS



VICTORIAN RAILROAD BUILDINGS, LLC
newcreationsvictorian.com



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

Get Yours Now! ▶



ModelTreeStore

INTER-ACTION
Hobbies

Rail and Tie Craftsman Kits

Smoke
and a
Coke!

In
O Scale



www.interactionhobbies.com

**Hobby Marketplace
Ads are
Economical and
Effective.**

Click to learn more ...

LOOK
at what's new at
Black Cat this month

Click here for
our website

**Etched Nickle Silver
Window set for CPR
Steel Caboose by Bedrail**



Black Cat Publishing

(204)489-5005

ajfergus@mymts.net

blackcatdecals.com



WE'RE BEHIND YOU ALL THE WAY

SceniKing®.com

...nothing compares...

Click to learn why!



Squeaky's Trains

Handcrafted & Exclusive Models
DCC Products, Service, Installations

Let's play with trains!

Offering:

SoundTraxx, TCS, NixTrainz,
Atlas, RailPro, MTO Battery, Kadee,
and many more Railroading Supplies!



SqueakysTrains.com



NEW KIT: AT&SF Fe-Q/Fe-R/Fe-V



westerfieldmodels.com

MOUNTAIN SUBDIVISION HOBBIES

www.modelrrsupply.com

FREE USA SHIPPING OVER \$49.00

MRH Readers save with code:

MRHMAG19

SOUTHWESTERN RAIL SYSTEMS

Electronics for Modular Model Railroads

Home of the FMTP, the Free-mo Throttle Panel

The FMTP combines the functionality of a panel-mounted throttle hub with an adjustable DC output for running accessories such as lights and/or turnout motors

[Click this ad to visit our shop for details >>](#)



[click me!](#)



THE TRAINMASTER, LLC

Detailed Craftsman Kits

www.TheTrainMaster.com

[click to learn more!](#)



East Coast Circuits
Innovating Your Model Railroad Layout

P.O. Box 25412
Providence, RI 02905

Lighting Circuits For Your Layout

Random Lighting Circuit - Burning Fire Circuit
Traffic Light Circuit - Crossing Signal Circuit

Custom Lighted Vehicles
HO & O Scale Emergency Vehicles
HO & O Scale Trucks & Cars

Eastcoastcircuits.com

Eastcoastcircuits@gmail.com



Your ad here could
reach 65,000+
for as low as \$88
a month.

[Click to learn more ...](#)



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)



P.O. Box 6 Paonia, CO 81428

Ph. 970 527 4586

Made in The USA

Cast resin items for All Scales.
Tunnel portals, bridge piers, abutments,
culverts, and retaining walls.
Trackside details and sage brush tree
armatures.

"FREE SHIPPING see website for details"

Great Decals!™

FEC, Interstate, Virginian
Railway, & L&N Titles

After Hours Graphics Line

Coupler Gages and More

In O, S, HO, and N Scales



MONASHEE

LASER

ENGINEERING

**COME VISIT US
CLICK HERE**



**MANUFACTURERS OF FINE RAILROAD
STRUCTURES AND ROLLING STOCK MODEL KITS**

Human[c]ity Junction

Model Railroad Videos | Tutorials, Reviews, Interviews, Hangouts

YouTube Channel Sponsored By

CMR Products | 7% off on House Brands

**Iron Planet Hobbies | 10% off and Free
Shipping in the USA**

Use Discount Code "HUMAN"

Please visit us out at www.humancityjunction.com

Model Railroad Control Systems

Geoff Bunza Project Boards

DCC Occupancy Detectors

CMRInet Compatible Nodes

Layout Telephone Systems

RFID Switchlist Generator

Switch Machines and Drivers



Click Here

Please tell your buddies about us!

WE RELY ON
WORD-OF-MOUTH TO
GROW AND A BIGGER
CIRCULATION MEANS MRH
IS MORE LIKELY TO STICK
AROUND FOR A LONG TIME
TO COME!

Atlas covered hopper makeover



**BOB RIVARD DETAILS, REPAINTS,
AND WEATHERS AN ATLAS 3,500
CU. FT. CAPACITY HOPPER MODEL ...**



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)





VIEW READER
COMMENTS

I RECENTLY PICKED UP AN ATLAS 3500 CU. ft. capacity ACF hopper at a local flea market for a bargain price of \$15. The Atlas car was factory-painted for Kerr-McGee Industries. I had no doubt that not only was the Atlas factory Kerr-McGee paint scheme accurate, but the car itself was a very accurate representation of the prototype [1].

Using prototype documentation for my projects is important. I figured it would be a simple matter to search the various prototype modeling websites to confirm the Atlas factory paint scheme. But after searching for hours, I couldn't find a prototype photo for my model.

I decided to look through *Classic Freight Cars, Vol. 11: Covered Hoppers* by Henry Maywald. I found the perfect candidate for my project on page 60: SCPX 3527, painted for Shell Chemical Plastics.



1. The 3500 cu. ft. ACF hopper from Atlas, fresh out of the box.



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)



2. This prototype photo of the ACF cylindrical hopper painted for Shell Chemical Plastics was the prototype inspiration for my project. *Henry Maywald, Classic Freight Cars, Vol. 11: Covered Hoppers photo*



3. Applying the Plano photo etched roof walk.

Since I was repainting the car, I decided to upgrade it with a photo-etched ACF cylindrical hopper roof walk from Plano Model Products (part 096). I knew upgrading the roof walk would turn an already accurate Atlas car into a true model of the prototype. Plano provided a detailed set of instructions that made the task straightforward.

I didn't want the Kerr-McGee logo or the hopper car's reporting marks to show through the new paint, so I decided to sand them off. I used fine sandpaper with a wet sanding technique to minimize damage to the car's details.

I studied the prototype photo and decided to use Scale Coat II Chessie Yellow, which I had on hand, as a starting point. The prototype was more of a yellow-orange, so I mixed some drops of GN 2046 orange with the Chessie Yellow until I had a match.



4. Sanding out the Kerr-McGee logo.





5. I applied a white base coat.



6. Painting the model.



7. Comparing my model's color with the prototype photo.



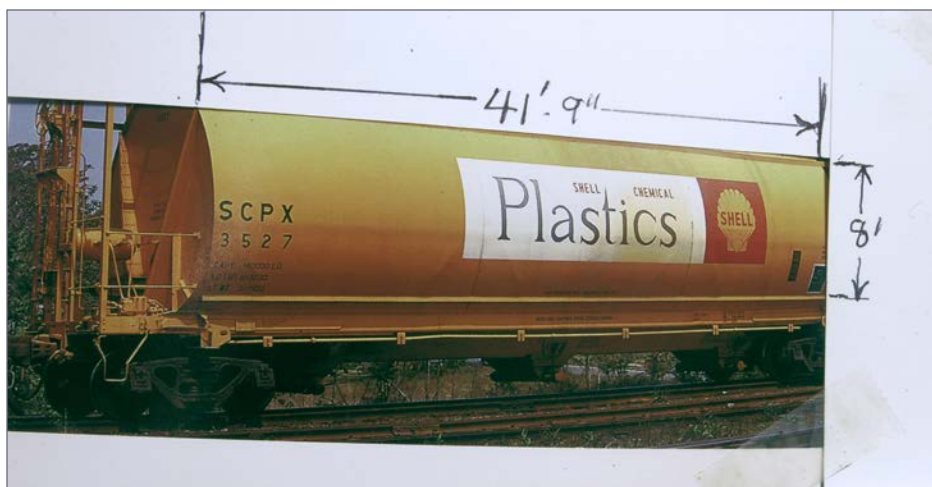
8. Microscale's decals were too large.



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)



9. Measurements for Brillinger to use for decal design.

I gave the model a coat of Scale Coat II 2011 white for a neutral base coat. This is always an important step when applying a transparent color such as yellow [5].

Once I had the basecoat applied, I proceeded with applying my yellow-orange color to the car. I was satisfied that the color matched the prototype well [6, 7].

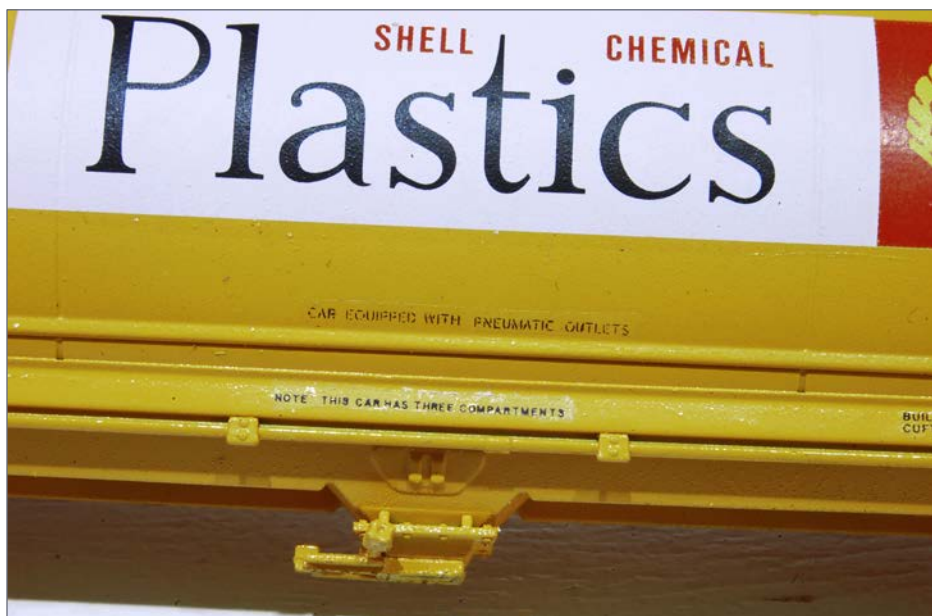
I assumed that using the Shell logo decals from MicroScale set 429 would be correct for my project. As it turned out, the decal was far too large [8]!

I turned to my “go-to” decal guy, William Brillinger [PDC.ca], hoping the prototype photo was enough to create the correct logo. I provided him with the HO scale measurements [9].

When Bill sent me the result to approve the artwork, I couldn't have been happier! I asked if he could reproduce the reporting marks and car number [10]. The MicroScale hopper decal set



10. Brillinger's decals were the right size for my car.



11. I used MicroScale's decal set for the car's vital information.



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)



12. The completed car, weathered.

had the correct size for the car's capacity information and other critical data, so I used those, too [11].

Another inspection revealed that the car has Bettendorf friction bearing trucks instead of the roller bearing trucks Atlas included. I swapped them out for ASF Ride Control trucks from Kato (31-601).

I applied Testors Dullcote to give the model a dead-flat finish. Finally, I applied Scale Coat II flat grimy black to the trucks and underframe area for light weathering [12].

In closing, you can see how my initial \$15 bargain car turned out to cost much more. Sometimes that's the price you pay for dead-on accurate models of the prototype. It certainly looked sharp on my High Line diorama. ☒

Pictures continued on next page ...



BOB RIVARD



Bob Rivard has been fascinated with trains since the age of 5 when he received his first train set, the proverbial Lionel.

He really enjoyed his job at KARE TV, working there for 43 years as a broadcast technician. He recently retired. He ran the robotic cameras during the 10 p.m. news. ■



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

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

Did you see this article?



Modeling from a historical reference

Get this eBook now ▶

← *click here*



Each eBook ~100 pages

RUNNING
===== **EXTRA**



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

Did you see this article?



Recreating New England autumn

Get this eBook now ▶

click here



RUNNING
===== **EXTRA**

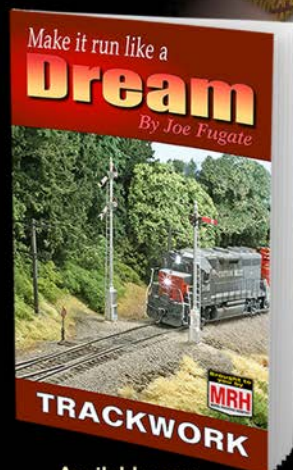
Each eBook ~100 pages

13. My shell hopper car looks sharp in consist on my High Line diorama

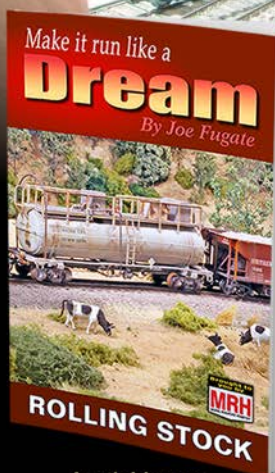


RATE THIS ARTICLE

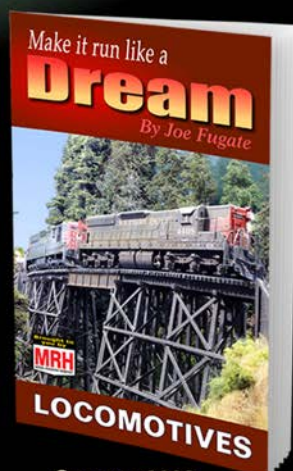
from the
**Model Railroad
 Hobbyist Store**



Available now



Available now



Summer 2022

★★★★★ 5/5

"These books are
 remarkable and very
 well done."

- James S.

Get now and save - special holiday pricing

PAPERBACK BOOKS: FREE SHIPPING US - 50% OFF SHIPPING FOREIGN

eBook download
 or
 Paperback book

Make it run like a
Dream

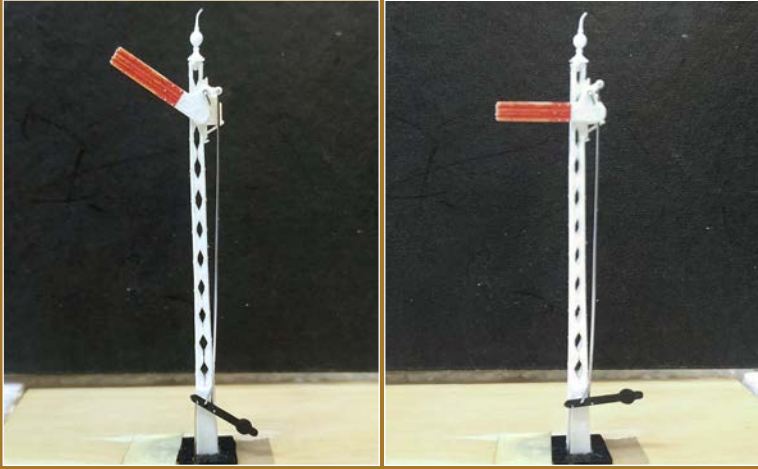


REGISTER
 (free)

[INDEX](#)

[TABLE OF CONTENTS](#)

Suction-operated semaphore signals



Model Railroad Hobbyist | December 2021

HENRY VAN WYK DEMONSTRATES HIS INNOVATIVE SUCTION SYSTEM FOR SIGNAL ACTUATION ...

I WANTED TO DEVELOP A REASONABLY PROTOTYPICAL SIGNAL SYSTEM FOR my layout representing South African Railways in the 1980s. The block signals governing movement between stations are totally automatic, using current sensors in the track.

The signals are interlocked, so the two signals controlling the same segment of track cannot be green at the same time. I accomplish this with self-locking relays.

The relay system works very well for color-light signals, but the small village of Vlakteplaas represented on the upper level of my layout, still used semaphore signals in the 1980s. Semaphore kits from Ratio plastic models closely resembled the South African Railways semaphore signals I needed [1].

The blade connects to the actuating arm with a thin steel wire supplied with the kit. Animating the signals with my relay-based signal system presented a challenge.

Coil-operated or servo-based systems require momentary contact, rather than the constant current of the relay system. Meanwhile, the space between the upper levels of my layout at Vlakteplaas is such that it can't accommodate the height of slow-motion turnout machines.

AN OLD EXPERIMENT YIELDS NEW IDEAS

I developed a system about 25 years ago for animating semaphore signals with a vacuum-activated lever. Using the motor and fan I



1. Ratio Semaphore signal kit.



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)



2. Electric drone motor and propeller.

salvaged from my daughter's broken toy hairdryer, a small hinge, a cap from a can of spray paint with the end cut away, and a lid from a yogurt tub, I built a vacuum system.

When the fan blew air out the top of the spray paint lid, the suction pulled the lid closed. The lid moved an attached actuator lever attached to the semaphore signal's control rod.

This solution was perfect for my needs. I could supply constant current to the small electric motor, and it was self-cooling, so there was no time limit for the motor to be on. I just had to re-create the system.

I knew that small drones use electric motors and propellers. I searched eBay for those components and ordered six of them to test my idea [2].

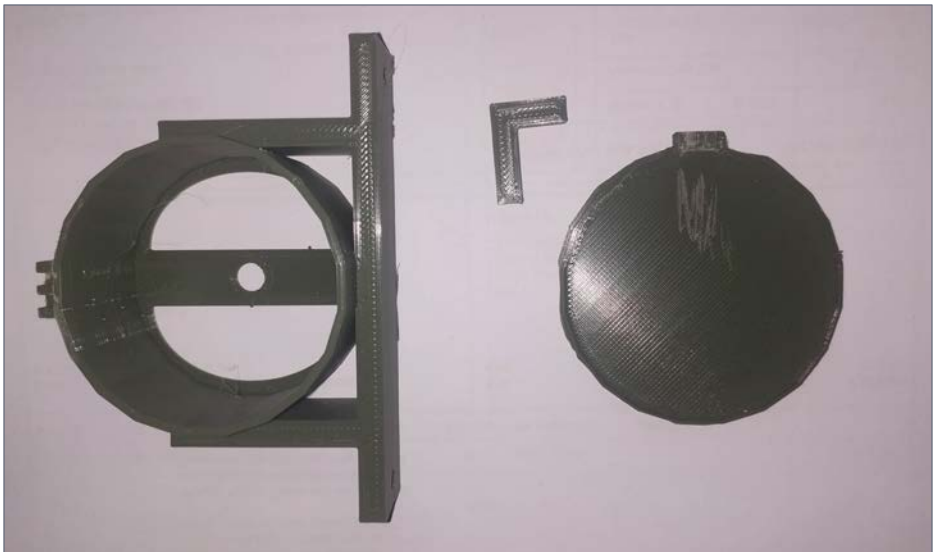
Next, I needed a tube, a hinged disc to pull closed with suction, and an actuator lever. I showed my idea to a model railroading friend (Chris Larkin) who had a 3D printer, and two weeks later, he had the parts for a prototype [3].

After some testing and some tweaks, we had the system perfected, and he printed six sets. My friend has made the .stl files for this system available on Thingiverse: www.thingiverse.com/thing:4886678

ASSEMBLY

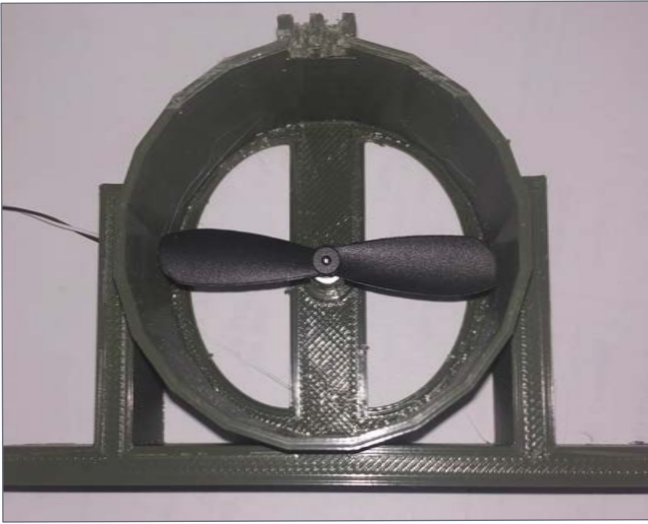
I pushed the propeller onto the motor shaft. We designed the tube with a mounting hole in the center just the right size for the motor to fit snugly. It fit as planned [4].

I glued the actuator arm to the disc so it formed an extension of the built-in hinge. I meshed the hinge parts on the barrel and the disc together and inserted a small piece of wire for the hinge pin, making certain that the disc could swing freely. I glued a small piece of wire to the barrel and bent it to prevent the lid from opening all the way to aid in the installation process [5].



3. 3D-printed parts included the tube, the actuator lever, and the disc.





4. Motor inserted. The disc will attach to the tube's built-in hinge (top).



5. The suction machine is fully assembled.

SIGNAL MODULE

It is easier to connect the blade to the actuating arm at my workbench than under my layout, so I opted for a modular approach. The module consists of a small piece of plywood with a hole drilled in it, the signal above ground level, and the suction mechanism below the plywood [6].

A thin steel wire connects the signal mast to one of three holes molded into an operating lever at the signal's base. I used the center hole as the fulcrum, with the signal mast wire attached to a hole on one end of the lever and the actuator wire from the suction device attached to a hole on the other.

I carefully measured and bent the steel wire to attach to the actuating arm. I cut the wire slightly longer than required so I could bend it into a U-shape to prevent it from dislodging from its mounting hole. I glued the signal to the plywood so that its operating lever was directly above the hole [7].



6. Underside of the signal module, as seen in place below the layout.





7. The signal module above the layout, with the signal operating lever directly above the hole in the module.

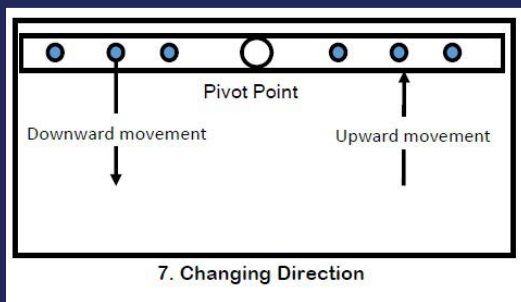


H. van Wyk

FULCRUMS, PIVOT POINTS AND LEVERS

I used mechanical knowledge of fulcrums and levers to connect the suction devices to the signal arms.

This “class 1” lever has a center pivot point and two holes on either side of the pivot point to reverse the direction of force. When the actuating arm connected to one of the holes pushes upward, the other hole moves downward [8].



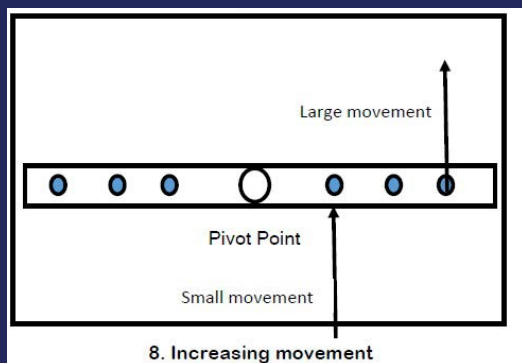
8. A class 1 lever reverses the direction of force.



H. van Wyk

FULCRUMS, PIVOT POINTS AND LEVERS CONTINUED ...

To increase the movement of the load relative to the force, I use a class 3 lever, where the force is attached to the lever to the hole nearest the fulcrum, and the wire from the signal to a hole farther out [9].



9. A class 3 lever increases the distance the load travels" requires a full stop.

INSTALLING A SIGNAL MODULE

I wanted the semaphore signal module to drop right into the layout, so I traced the shape of the module base on the layout's baseboard and cut it out. Then I glued a small Masonite lip around the bottom of the cut-out in the baseboard, for the module to rest on [10].

With the module dropped in, I made the electrical connections. The drone motors I used are rated at 4.2 volts, so I used a 3.5-volt power supply connected to the switches on the dispatcher's panel. I checked polarity to make sure that the motors ran in the correct direction. Finally, the signal was complete [11]. ✓





10. Masonite lip around cutout in baseboard, viewed from under the layout.



11. The completed signal module installed on the layout.

HENRY VAN WYK



Henry became involved in the model railway hobby at the age of 5, when he received an HO scale Lima battery-operated train set for his birthday. Up to age 5, Henry lived with his parents in a company house adjacent to the South African Railways line. He daily saw steam locomotives shunting and hauling mainline freight and passenger trains.

An electric train set soon replaced the battery one. He and his dad built a layout on his bedroom floor. With every Christmas and birthday, the set was expanded with more track, locomotives and rolling stock. Soon the floor layout was replaced with a larger one hinging from a wall in the garage. This was eventually replaced by a multi deck layout but sadly, Henry's dad passed away in 2006, and it was never finished.

During 1994-2004 Henry had a layout based on the MKT and had bi-weekly operating session with four to six operators. After his dad passed away, Henry inherited all his dad's South African Railways models, and currently models the South African Railways from 1980-1990.

Henry lives in Pietermaritzburg, South Africa, with his wife and two sons. He also has two adult daughters from a previous marriage. When he is not working on his model railway, he is a property manager for the Methodist Church of Southern Africa, managing two apartment blocks. ■



RATE THIS ARTICLE



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)



TRAINMASTERS TV

Buy and watch individual episodes!



HOLIDAY SPECIAL ...

Save 50% with coupon code *SAVE50**

* CODE GOOD ON YOUR FIRST INDIVIDUAL EPISODE PURCHASE

One week rental as low as \$1.99 With code *SAVE50* **\$1.00!**

Browse catalog now ...

Hundreds and hundreds of HD model RR videos!



www.trainmasters.tv

What's new on TMTV

Some recent shining examples ...



Modeling a realistic tar paper roof



New LED light modeling tricks



Introduction to 3D printers



Quick-n-easy realistic bushes

Watch now ...

Buy individual episodes or get unlimited access as a member



www.trainmasters.tv

Registered MRH reader?

SAVE 10%
click here



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)



LOOK

column

Model Railroad Hobbyist | December 2021



JEFF SHULTZ INTRODUCES JTC's EXPANDED INTERMODAL OFFERINGS ...

NEW FROM THE JACKSONVILLE TERMINAL COMPANY (JTC) ARE MODELS OF the National Steel Car (NSC) 17-post 53' well car, and controlled-entry kiosks in N-scale. JTC is also introducing its Visionary Series of N scale containers, which will include containers decorated for famous model railroads, holiday and event commemoration, and other non-prototypical paint schemes.

JTC has been producing quality N scale, magnetically stacking intermodal containers for several years now. Their offerings include containers unavailable in other scales, such as flat rack containers with folding bulkheads. JTC's containers were in a "First Look" article in the December 2018 *MRH* (s3-us-west-2.amazonaws.com/mrhpublish.com/2018-12-dec/online/index.html).

NSC 17-POST WELL CARS

The NSC 17-post well car is a 53' double-stack well car, class NWF13, released by JTC in both TTX (DTTX) and Canadian

Pacific paint schemes. *MRH's* review cars are DTTX 656443 and DTTX 659626 [1, 2].

The cars' paint schemes match prototype photos found on Wikipedia, minus the several years of weathering. Like the prototype, the 53' well car can carry two 20' containers or one 53', 48', or 40' container in the well and a 53', 48', or 40' container on top [3, 4].

The models are equipped with 100-ton Micro-Trains trucks and body-mounted Micro-Trains couplers. The pin holes in the 40' position on the well floor are oval-shaped to accommodate multiple brands of containers. The end walkways are etched metal and include the holes in the plate [5].



1. JTC N scale NSC 17-post 53' well car side view.



2. JTC N scale NSC 17-post 53' well car $\frac{3}{4}$ end view.





3. Prototype photo of DTTX 656443. Photo: Wikipedia Commons. upload.wikimedia.org/wikipedia/commons/9/94/DTTX_656443_%285862737822%29.jpg



4. Prototype photo of DTTX 659626. Photo: Wikipedia Commons. upload.wikimedia.org/wikipedia/commons/5/5b/DTTX_659626_%285548840121%29.jpg



5. Top view showing etched metal detail.

The cars weigh 0.9 ounces, below the recommended weight of 1.32oz. per NMRA RP-20.1 (www.nmra.org/index-nmra-standards-and-recommended-practices) for a car 5.47" long. One JTC 53' container brings it up to 1.3oz. Currently sold out, the models retail for \$44.95 for individual cars or \$88.95 for a two pack of DTTX cars.

CONTROLLED-ENTRY KIOSK

JTC's controlled-entry kiosk model represents the hardware found at the entry to intermodal terminals, warehouses, controlled parking lots, or port terminals. The kiosk includes cameras, the entry terminal, and a movable gate with non-operating stop and proceed lights, mounted on a single curb base [6, 7].

While I couldn't find an exact prototypical match, JTC's kiosk resembles Orbita's GateKiosk hardware. The kiosks come with the hardware in orange, silver, yellow, green, Maersk blue, and red, with solid or striped curbs, depending on the hardware color. A three-pack of kiosks retails for \$36.95.



6. JTC controlled-entry kiosk in yellow, with yellow-and-black striped curb base.





7. JTC controlled-entry kiosk in silver, with red-and-white striped curb base.

NEW CONTAINER RELEASES

JTC introduced its Visionary Series with a set of 53' containers for three well known model railroads – the Virginian & Ohio, the Allegheny Midland, and the Virginia Midland [8]. The Visionary Series has since expanded to include containers of all standard sizes, with special schemes for holidays, conventions, other non-prototypical paint schemes.

Retail prices vary from \$14.95 for a single 20' container to \$49.95 for a Gateway 2020 commemorative set of one 53' and two 20' containers and a year's membership in Ntrak/T-trak.

Recent container releases have included 40' corrugated containers painted in Zim's "The Z Factor" scheme and Maersk's rainbow scheme [9].

Find JTC's products at dealers and on their website at: jtcmodeltrains.com



8. JTC's Visionary Series 53' containers for the Virginian & Ohio, Allegheny Midland, and Virginia Midland.



9. JTC's 40' containers in Zim "The Z Factor" and Maersk's rainbow paint schemes. ☒



RATE THIS ARTICLE

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

Did you see this article?



Modeling a scene with railroad ties

Get this eBook now ▶ ← click here

Each eBook ~100 pages

MRH RUNNING EXTRA

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

Did you see this article?



Better locomotive electrical pickup

Get this eBook now ▶ ← click here

Each eBook ~100 pages

MRH RUNNING EXTRA



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)



24TRAINS.TV *It's all about trains*



*All things train related,
whenever, wherever.*



WWW.24TRAINS.TV



On 24TRAINS.TV you can find:

videos | travel reports | magazines | vlogs
model railways | workshops | documentaires | holidays

MRHMAG.COM

[INDEX](#)

[TABLE OF CONTENTS](#)

Penny wise and pound foolish with your hobby?

SPECIAL DEAL:

Subscribe now and get
the next 12 issues plus
ALL 34 BACK ISSUES!

Every copy of MRH's Running Extra has tricks that can save you hundreds of dollars and hundreds of hours ...

~250 pages, \$2.99 ea.

1 year sub: \$29.99 next 12-issues (\$19.99) +
all 33 back issues (\$10)

You can buy and download single issues or get a 12-issue subscription (\$19.99) and get all back issues for just \$10 more!

~100 pages of all-meat in-depth articles and columns + all the free MRH pages ... one download gets it all!

**Get MRH
Running Extra**

[click here](#)



270+ pgs ... as a paperback, would be 3/4" thick -- for just \$2.99!

Paper mags: ~8 cents per page

Running Extra: ~1 cent per page!



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

SAVVY MODELER *Online*



RATE THIS ARTICLE

Model Railroad Hobbyist | December 2021



Upgrade Athearn Blue Box with Genesis motor

YouTube modeler **KB02** shows how he upgraded an Athearn Blue Box loco with an Athearn Genesis motor. This is a great way to bring that favorite Blue Box loco into the modern era and make it run much better, plus make it easier to add DCC as well.

This thirteen minute video shows you the entire process and how easy it is to do this great Blue Box upgrade! ☒



▶ GREAT MODELER VIDEOS ON THE WORLD WIDE WEB



The Amherst Railway Society Railroad Hobby Show

January 29 & 30, 2022

Save the dates!

**Click
to learn
more ...**



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

DECEMBER NEWS

column



Model Railroad Hobbyist | December 2021

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



INDUSTRY NEWS

Pennsylvania charges online hobby stores

The Attorney General of Pennsylvania has filed a complaint against Internet Hobbies, LLC and Hobby Models, LLC, two online shops operated by co-defendants Dale and Diane Bruner. The complaint alleges that the defendants consistently failed to deliver products and failed to refund consumers' money, violating the Commonwealth's Consumer Protection Law.

The lawsuit alleges that despite being more than two years behind on fulfilling some consumers' orders, the defendants have continued to accept orders and collect money. When consumers reached out to inquire about the status of their orders, the defendants allegedly either ignored the consumers or provided excuses after excuses. When other consumers would request refunds from the defendants for undelivered items, the defendants allegedly often refused to issue refunds, or informed consumers that they had been provided refunds, but never sent them.

THE LATEST MODEL RAILROAD PRODUCTS, NEWS & EVENTS

MRHMAG.COM

[INDEX](#)

[TABLE OF CONTENTS](#)

The lawsuit seeks a court order for the defendants to pay restitution to Customers, to stop doing business in Pennsylvania, and pay civil penalties for each violation of the Consumer Protection Law. Pennsylvanians were advised to stay on alert for other business aliases used by the defendants, including: Hobby Wheels, Hobby Rails, Hobby Book Depot, Red Star Hobbies, Military Model Depot, Model Airplane Depot, Model Railroad Depot, Model Ship Depot, Gundam World Online, www.takom-military.com, Model Kit Closeouts, and Model Train Closeouts.

Any Pennsylvanians who believe that they have been affected by these companies should contact the Office of Attorney General at www.attorneygeneral.gov/submit-a-complaint or contact the Bureau of Consumer Protection by sending an email to scams@attorneygeneral.gov, or calling 1-800-441-2555.

N3IX Engineering, which developed the QuadLN_S Loconet Servo Decoder in collaboration with Tam Valley Depot, has taken over manufacturing, sales, and support of the QuadLN_S family of products from Tam Valley Depot. The QuadLN_S has been improved over the years to support up to 16 servos as well as an OS/Control point with add-on boards. Several new additions are also in development.

Info: quadln.n3ix.com

NEW PRODUCTS FOR ALL SCALES



Model Train Technology has announced the Dwarf Signal Controller, designed to indicate turnout position. It can be triggered with a stall-current motor, the MTT Coil Switching adapter on a twin-

coil machine, DCC Mirroring, MTT Precision Detector, or a



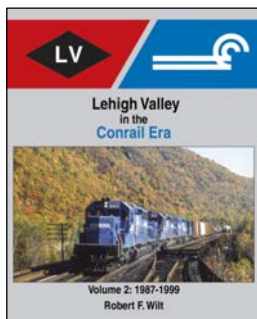
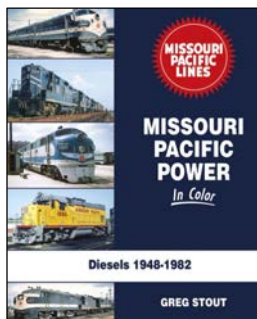
REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

mechanical toggle or spring-loaded center switch. The Dwarf Signal Controller is a four-light fiber light controller, providing signaling for two turnouts, and comes with two dwarf signals with 36" of fiber cable and pins each. MTT has also designed full-interlocking into the controller.

Info: modeltraintechnology.com

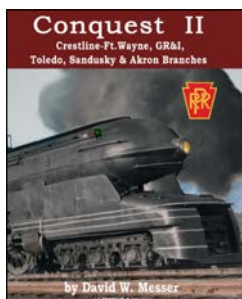


Morning Sun has released *Missouri Pacific Power in Color: Diesels 1948-1982*. This new book by Greg Stout features Alco freight and passenger cab units, road switchers, EMD freight and passenger cab units, yard

power, first- and second-generation road switchers, Baldwin Lima Hamilton yard power, and General Electric road units.

Morning Sun has scheduled a March 1st release date for Robert F. Wilt's *Lehigh Valley in the Conrail Era Volume 2: 1987-1999*. Wilt explores the evolution of the LV's remaining vestiges under the new operations of Conrail during its reign as a megalithic corporation, until it becomes a partner in an even larger corporate giant.

Info: www.morningsunbooks.com



The Pennsylvania Railroad Technical & Historical Society has released *Conquest II Crestline-Ft. Wayne, GR&I, Toledo, Sandusky & Akron Branches* by David W Messer. The book documents the plant and trains of PRR's speedway between Crestline and Ft. Wayne, the Grand Rapids & Indiana from Ft. Wayne to Mackinaw City, the Toledo Branch to

Detroit, and the Sandusky and Akron Branches. Containing over 750 illustrations, the 8 ½" x 11" hardcover book is 344 pages and includes a separate packet of 20 large maps.

Info: www.prrths.org

O SCALE PRODUCT NEWS



Atlas O has announced an impressive list of new products scheduled

for release during the second quarter of next year. The pre-order deadline is January 19, 2022. Heading the list of new O scale models is a Genesis P42 diesel unit. The locomotive will be available decorated for Amtrak Phases III, V and VI, and Amtrak's midnight blue scheme. All versions will display Amtrak's 50th Anniversary logo. The P42 model will be available with Proto-Sound 3.0 and Proto-Scale 3-2 3-rail/2-rail conversion capability.



Atlas O passenger cars will be available decorated in Amfleet Phase I, III, V, VI, and

midnight blue; all with the 50th Anniversary logo. Special features include working diaphragms, overhead interior lighting, and detailed interiors. The cars will be available in four-car sets made up of three coaches and one diner.



A new Atlas O model scheduled to be available during the second quarter of 2022 is an EMD F40PH

passenger locomotive. Features include metal body side grilles, a detachable snowplow, directional LED headlights, interior



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

cab lights, operating ditch lights and illuminated LED markers and number boards.



Road names scheduled for this release include Amtrak Phase III and IV, MBTA, Metro North, and NJ Transit. The locomotive models will come with Proto-Sound 3.0.



Atlas O has announced several new paint schemes for a classic EMD F7 diesel. Both A and B F7 units will be available decorated for Chesapeake

& Ohio, Reading, Southern Railway, and Southern Pacific.



Sound and operating options include 3-Rail TMCC Electric Railroad Co. Cruise Commander, Railsounds digital sound system, Lionel

Trainmaster Command Control, and 2-rail DCC.



A steel cupola caboose is included on Atlas O's 2022 second quarter production schedule. The model will feature see-through running boards, window awnings, window glazing, a smoke jack,

separately applied brake wheels, and roof grab irons. Road names will be Alaska Railway, Chesapeake & Ohio, Erie Lackawanna, Maine Central, Reading, Southern Railway, Southern Pacific, and New York, Ontario & Western.



Union Pacific, Canadian National, Maine Central, Milwaukee Road, New York Central, and Denver & Rio Grande Western are the road names that will be available on this Russell snowplow coming from Atlas O during the second quarter of next year.

This triple-bay Center Flow covered hopper will be available from Atlas O sometime during the second quarter of 2022. In



addition to the Missouri Pacific scheme shown here, road names will be BNSF, Chicago & North Western, Grand Trunk Western, Union Pacific, and Vermont Railway.



Atlas O has included a unique all-door boxcar in its first 2022 production schedule. Road names for the 55' car will be available for British Columbia Railway, Champion

International, David J. Joseph Transportation, Simpson Timber, Triangle Pacific, and Masonite Corporation.



This heavy-duty railroad crane with positionable boom and hooks, and six-wheel trucks is due next year from Atlas O. Road names will be Clinchfield, Kansas City Southern, Nickel Plate Road, Santa Fe, Western Pacific, and Denver & Rio Grande Western. The same road names will be available on a boom car.



Atlas O's list of new models scheduled for release during the second quarter of 2022 concludes with a scale test car. The unusual test car will be available for Burlington Northern, Chicago &

North Western, CSX, Jersey Central, New York Central, and Norfolk Southern. All the Atlas O models mentioned in this report will be available for either 2-rail or 3-rail operation.

Info: www.atlasrr.com

Protcraft has brass O scale models of Great Northern's 1937-1942 double-sheathed wood boxcars. The accurately scaled models were built in Korea by Boo Rim using a host of



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)



prototype data including original Pullman-Standard engineering drawings. The models come with Bettendorf 50-ton trucks

with working journal lids and steel sintered rib-back wheels with ball-bearings.

Info: www.protocraft.com/brass_models.cfm



RSLaserKits is selling a kit for an On30 scale 18' pickle car of freelance design. Decals are included. The kit is sold less trucks, couplers and brake details for the underframe.

Info: www.rslaserkits.com



San Juan Model Company has released On3 scale models of narrow-gauge Conoco high-dome tank cars. These fully detailed injection molded plastic models

are factory assembled with appropriate trucks fitted with metal wheelsets. The models are available accurately decorated for 1926, 1930, 1935 and 1940.



Multiple road numbers are available for a black 1926-era car with Continental Oil Co. in white lettering in a choice of sans-serif or Roman font.

Additional choices include a 1935-era car with black frame, silver tank, with large CONOCO in green sans-serif lettering; and a black 1940-era car with large CONOCO in white sans-serif lettering.



Info: www.sanjuancarco.com

To see the cars in operation, visit

www.facebook.com/sanjuancarco/videos/4303538166394953

HO SCALE PRODUCT NEWS



Northern Pacific modelers will be pleased with the three NP freight car kits **Accurail** has scheduled for release in February. The mix includes a single-sheathed outside braced wood box car with Youngstown sliding doors. The HO scale model is based on a prototype built in December 1925.



Accurail's 40' NP wood reefer with a steel underframe and 4' swing doors represents a prototype built in 1922.



Completing Accurail's trio of Northern Pacific freight car kits is a 40' double sheathed boxcar with National sliding doors. All

Accurail HO scale freight car kits come with Accumate couplers and appropriate trucks with Delrin wheelsets.

Info: www.accurail.com



Athearn is accepting advance reservations through December 31, 2021 for a new production run of SD70M locomotives. Delivery of the Genesis HO scale models is planned for January 2023. Three different Union Pacific paint



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

schemes are in this run including locomotive No. 1979 in the distinctive We Are One scheme. The colorful locomotive led a tour this summer marking UP's dedication to diversity and togetherness.



Additional UP SD70M units in this release come with EMD low plow pilots, GPS domes and Nathan K3 horns.

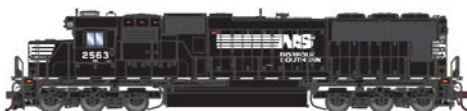


UP No. 4000 has a red sill, while No. 4015 has a yellow sill and silver trucks.



Canadian National units feature the SD75I body with isolated cab, ribbed anti-climbers, a CN plow pilot, and

the distinctly Canadian raised walkways.



The Norfolk Southern SD70M units in this release were ex-Conrail units. Notable features include a Nathan K5LAR24

horn, a small front plow pilot, diagonal dashes on the side sill, and an air conditioner.



Illinois Central units and those decorated for Denver, Rio Grande & Western also

have air conditioners.



All of the Genesis SD70Ms in this run will have factory installed lift rings and wire grab irons, dual sanding

lines, see-through radiator fans, front and rear trainline and MU hoses with silver ends, all-wheel electrical pickup and all-wheel drive. The type of antenna system and variations in fuel tanks will be road specific.



scheduled for January 2023. This will be the first run of Athearn's SW1500 with factory installed LED lighting and Tsunami2 sound.



weed-cutter style plow represents three SW1500s WC acquired from Southern Pacific.



Reservations for Athearn's next production run of EMD SW1500 switcher locomotives are due December 31, 2021. Availability of the HO scale ready-to-run model is

Heading the list of road names is a Western Pacific unit fitted with a footboard pilot, sunshades, and a firecracker antenna. A Wisconsin Central locomotive with a small

SW1500s decorated for SSW-Cotton Belt will have footboard pilots, a P-3 horn, and Gyalight. Additional road names for Athearn's SW1500 include Conrail and Burlington

Northern with an operating Western-Cullen beacon light. Undecorated models will be available with a choice of SP/SSW appliances or in the standard EMD as-built configuration. Features on Athearn's SW1500 include a detailed cab interior, front and rear trainline hoses with silver glad hands, separately applied wire grab irons, and see-through radiator intake grilles.

Sound equipped versions of Athearn's SD70M and SW1500 locomotives will have a Tsunami2 DCC/Sound decoder and dual cube speakers. Sound units will function in both DC and DCC environments. Analog DC units will be DCC-ready with a 21-pin connector for installation of an aftermarket decoder.



REGISTER
(free)

[INDEX](#)

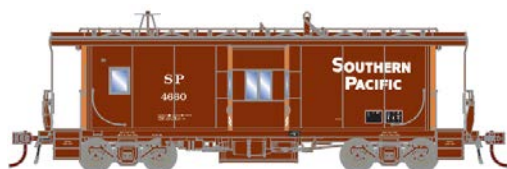
[TABLE OF CONTENTS](#)



R. Bale

BAY WINDOW CABOOSE

As freight cars grew taller in the late 1950s and early 1960s, it became more difficult for caboose crews to see around the bigger cars. Wide-vision and bay-window cabooses were developed with a bay that projected beyond the side of the car body. This allowed the crew to see around the larger cars while monitoring their train. Athearn's Genesis model is based on a standard prototype introduced by the International Car Company of Kenton, Ohio. ICC cabooses saw service on most U.S. railroads.



January 2023 production schedule. The fully detailed HO scale model will be available with DCC controlled sound options including air horn or trainline air whistle, clickety-clack with optional wheel flat spot sounds, brake set/release sounds including retainers and brake squeal, big-hole emergency brake application sound, handbrake tie-down/release, and adjustable flange squeal.



Decorating schemes and class-specific details will be available for SP class C-50-8, SP Police caboose class C-50-9, and SP class C-50-9 Kodachrome scheme.



A class C-50-5 caboose will be available decorated for Willamette & Pacific Railroad, a GWI railroad that operates on

former SP and BNSF tracks in Oregon. It is now part of the Portland & Western Railroad.



A Western Pacific version of the C-50 caboose is based on a group of six cars WP ordered from International Car in 1980.



Completing this release is an SP C-50-9 caboose with a Union Pacific patch.



flatcars and 40' smooth-side Fruehauf Z-Van trailers. Raised and lowered hitches will be included with each flatcar. Features include a die-cast underframe, wire formed brake plumbing, wire grab irons and ladders, and a separately applied ratchet brake. ASF 70-ton Ride-Control roller-bearing trucks will have machined metal wheelsets and rotating bearing caps. A minimum track radius of 22" is required.



Each of two mineral red TTX flatcars and two yellow RTTX flatcars will be available packaged with a Z-Van trailer. The trailers will be decorated for Realco, Penn Central, The Rock, and MoPac. The trailers, which will also be available separately, will have rubber tires, mud flaps, and wheeled or shoe-style landing gear per the prototype road being modeled.



Roundhouse brand models coming from Athearn in January 2023 include a GP40-2 diesel locomotive.



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)



Southern Norfolk Southern, and US Army.

Road names will be CSX, Burlington Northern, Denver & Rio Grande Western, Kansas City



installation of an aftermarket decoder.

The economy priced GP40-2s will be available for DC operation with a DCC-ready 21 pin plug for



Baker's Chocolate, Stein Hall, Sol-U-Phos, Union Pacific, and Vulcan Chemicals.

A Roundhouse chemical tank car completes Athearn's January 2023 release. Three numbers each will be available for General American Transportation,



appropriate trucks with machined metal wheels.

The Roundhouse models will have a separately applied brake wheel, wire safety handrails, body-mounted operating knuckle couplers, and

Info: www.athearn.com



Bowser Trains has scheduled a mid-December release for Pennsylvania Railroad and Western Maryland versions of its HO scale Alco RS-3 Phase 3 locomotives. This much-anticipated project began almost seven years ago when a prototype Phase 3 unit was measured at the Rochester & Genesee Valley Railroad Museum. Since then several other prototypes with varying degrees of modifications have also been

Bowser Trains has scheduled a mid-December release for Pennsylvania Railroad and Western Maryland versions of its HO

measured. Ultimately, Bowser will produce 22 versions of the RS-3 locomotive.



Details on Bowser's PRR model include a Train Phone antenna, marker lights, number boards, train control box, dynamic brakes, MU receptacles, a ladder on the fireman's side of the long

hood, and short handrails on the engineer's side.



Specific roadname details on Bowser's Western Maryland edition of the RS-3 include number boards and dynamic brakes. Two road numbers will be in this release. Both versions of Bowser's RS-3,

Phase 3 locomotive feature individual air hoses, windshield wipers, grab irons, coupler lift bars, operating headlight, window glass, can motors with flywheels, nickel silver wheels and knuckle couplers.



Bowser has reopened the reservation window for its HO scale M630 locomotive project. New orders will be accepted until January 7, 2022.



Paint schemes include five variations of CP Rail, three British Columbia Railway versions, three BC Rail, and two

Delaware & Hudson schemes.





Models will also be available decorated for Pacific Great Eastern Railway and Western New York & Pennsylvania. Delivery expected in the fall of 2022.

Bowsers RS-3 and M630 models mentioned in this report will be available for analog DC operation. They will have a 21-pin plug for an aftermarket decoder. DCC/Sound versions come with a factory installed LokSound Select decoder
Info: www.bowser-trains.com



Canadian Pacific CP Shops Gift

Department is selling an HO scale model of FP9A locomotive No.

1401 as it appeared during its service life with the Royal Canadian Pacific business train and 2816 Empress steam program between 2000 and 2016. Custom-built for CP by Rapido Trains in cooperation with CP's Heritage Operations department, the HO scale model wears a paint scheme unique to No. 1401.

Features include correct fuel and water tanks, detailed cooling coils, numerous etched-metal parts including non-warping Farr side grilles, full cab interior, operating headlight, and metal Macdonald-Cartier knuckle couplers. The DC/DCC-ready model has ditch lights installed which become operational with the addition of an aftermarket DCC decoder.

Info: www.cp-merchandise.com/us-store.html#!/gifting/heritage-model-train-63.html

Eastern Seaboard Models has announced its first HO scale model, a Magor/PC&F XIH insulated heated plug-door boxcar.



Ordered in two batches, Bangor & Aroostook ordered 300 of the cars built by Magor in 1950, followed by 150 more cars by Pacific Car & Foundry in 1953, with New Haven ordering 100 cars from PC&F to add to the B&A order. All the cars were decorated in the State of Maine paint scheme. The model is made of injection molded plastic with etched brass roofwalks and brake platforms. Kadee #148 couplers and InterMountain ASF A-3 50-ton solid bearing trucks with low profile metal wheelsets come standard. Both Bangor & Aroostook (Magor, 1950) and New Haven (PC&F, 1953) will be available. The models are planned for a summer 2022 availability.

Info: esmc.com



Exact Rail's latest release is a 50' FMC 5327 cu. ft. exterior post boxcar with 12' plug doors. Road names are Green Bay Western (1981 patch), East Camden & Highland (1979 as delivered), Laurinburg & Southern, Chattahoochee Industrial Railway, Minnesota, Dakota & Western; and two Quebec Central schemes.



The HO scale model has individual wire grab irons, separately applied door tracks and latching bars, and ASF 100-ton Ride-Control trucks with 36" machined metal wheelsets.



ExactRail has scheduled a PS-2CD 4427 cu. ft. triple-bay covered hopper for release later this month.



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)



Road names will be Santa Fe, Milwaukee Road, Kansas City Southern, Far-Mar-Co, TLDX-Peavey, TLDX-CGF, and TLDX-West Central Coop.



Also expected from ExactRail later this month, or in early January, is a group of HO scale Gunderson 7466 cu. ft. wood

chip gondolas. With etched wood grain the HO scale model accurately recreates the composite wood panels of the 1965-built prototype.



Notable details include drop-down brake rigging, wire uncoupling levers, separately applied air hoses, and ASF 100-

ton Ride Control trucks with machined metal wheelsets. ExactRail's wood chip gondola will be available in multiple road numbers decorated for Georgia Pacific and in four Southern Pacific schemes.



ExactRail has scheduled a January release date for a new production run of Bethlehem 3483 cu. ft. quadruple-bay coal hoppers.



Road names for the HO scale models will be Chicago North Western, and three schemes each for Reading & Northern, and

Denver & Rio Grande Western.



All ExactRail HO scale models mentioned in this report come equipped with Kadee #58 knuckle couplers.

Info: www.exactrail.com



R. Bale

PS-1 BOXCARS

One of the most successful designs of plain boxcars was the PS-1, with Pullman-Standard producing more than 100,000 PS-1 boxcars between 1947 and 1963. By 1957 more than 78 railroads had purchased PS-1s. Although commonly referred to as 40' or 50' cars, the interior lengths were 40'-6", and 50'-6" respectively. The sides of most PS-1s were assembled of butt-welded steel panels riveted to the door frames and corner posts. Between 1948 and 1954 Pullman-Standard produced a number of 40' PS-1s with 10-panel riveted sides. Customers could specify side door openings of 6', 7', 8', and 9' on the 40' cars, and 8', 9' or 15' on the 50' cars. Double doors could also be specified. Customers had a choice of Pullman-Standard, Youngstown, or Superior sliding side doors. The corrugated steel ends were of Pullman-Standard design stamped in two sections riveted together. The assembled end was riveted to the sides and at the roof. PS-1s built after 1949 had a signature of six small rectangles at the top of the ends. Polling pockets and the type of end sills were optional. The copper bearing galvanized roof was composed of riveted panels of Pullman-Standard design. The cars came with Apex or U.S. Gypsum steel brake platforms and running boards. The brand of geared hand brakes varied with Miner, Ajax model IP80, and Equipco type 4000 being among the most common.



Kadee's newest HO scale model is a 40' PS-1 boxcar decorated for the BCK-Buffalo Creek Railroad, a subsidiary of the Lehigh Valley Railroad Company. The model

replicates a prototype car built in 1956 by Pullman-Standard with 7' five-panel sliding Superior doors. Like the prototype, Kadee's version is painted boxcar red with a silver roof and black P-S ends.

The HO scale ready-to-run model has a fully detailed underframe, see-through running boards and brake step, a



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)



centering trucks.

Info: www.kadee.com



with a choice of original or new logos, two BNSF schemes, and two Pacer Stacktrain sets with different road numbers.



KatoUSA has released HO scale Gunderson MAXI-IV triple-car sets of double-stack well-cars. Road names currently available include TTX

Like the prototype, the Kato model has two different sized wheels. The two end trucks have 33" wheels while the two middle trucks, which

support more weight, have 38" scale wheels. Kato also has 2-packs of 53' containers decorated for BNSF, EMP, NACS, Swift, and Canadian National.

Info: katousa.com



Moloco is accepting reservations through December 26, 2021, for an HO scale 50' ACF 100-ton high-cube boxcar with double plug doors. The HO scale model replicates a 1972 non-waffle Santa Fe prototype

that evolved from the 1971 waffle design. The plate clearance of the prototype pre-dates the Plate F introduction so they were stenciled with *Exceeds Plate C*.



Decorating schemes in this production run will include a 1972 Burlington Northern car in BN green. Santa Fe cars in Indian Red

with Shock Control (Bx-154) and Freight-Saver slogans (Bx-163) will have a 9' circle-cross logo.



Cars in Santa Fe's mineral brown paint include a 1988 Bx-154 repaint, a Bx-163 painted in 1991 with ATSF's Q-Quality

slogan, and a 1998 BNSF repaint. Undecorated kits will also be available in this release.

Info: www.molocotrains.com



Rapido Trains is preparing final tooling for an HO scale Southern Pacific 40' outside braced boxcars.



Both class B-50-15 cars with 7/9 corrugated steel ends and class B-50-16 cars with Dreadnaught 3/5 ends will be produced.

Additional variants include KC or AB brakes, Viking or Murphy radial roofs, and both original wood and rebuilt steel sides.



REGISTER
(free)

INDEX

TABLE OF CONTENTS



R. Bale

SP B-50-15 & B-50-16 BOXCARS

Beginning in 1925, the Southern Pacific ordered nearly 5,000 40' wood boxcars, with outside bracing in a Pratt pattern, in two classes: B-50-15 and B-50-16. The cars were built to nearly identical designs, with the exception being in the steel ends. Cars in the B-50-15 class received 7/9 corrugated steel ends, while class B-50-16 cars were built with 3/5 Dreadnaught ends. Both groups of cars used a variety of commercial roofs with the Murphy radial roof and the popular Chicago-Cleveland Viking roof being the most common. Almost all the B-50-16 cars received Viking roofs. The majority of these cars were delivered with Bettendorf's original T-section trucks with integral journal boxes. Many were updated later with Bettendorf U-section double truss trucks. In 1935 Southern Pacific began a program of upgrading cars in both classes by replacing the wooden sides with steel sheet sides inside of the side bracing. Brakes were also upgraded from K to AB systems. The initial rebuilds were assigned to service with Pacific Motor Trucking followed by cars for Baggage Express (BX) service. The steel sided cars remained in service for many years with some still in revenue service as late as 1970.



Individual details include separate ladders and grab irons, metal stirrup steps, and Carmer uncoupling levers.



Cars will be available in SP's 1931-1946 and 1946-1952 schemes, Overnight black and passenger green.



Rapido is also tooling a new Bettendorf T-section truck with integral journal boxes for the car.



Mid-Train Dome car featuring all new tooling.

Rapido has also announced a special release of the Superior Stainless



Dome-Coach, in service from 1955-1983, with coach seats on the lower level of the long end. It operates long-end forward; and a Dome-Coffee Shop, in service from 1983-present, which has a coffee shop on the lower level of the long end and operates short-end forward. There is a lounge in the short end.

The models will feature two different interior arrangements, a



including air, steam, and electrical lines, factory installed grab irons, a realistic stainless-steel finish, operating diaphragms with etched-metal end gates, magnetic metal couplers, and track powered interior lighting.

The model will feature Rapido's typical attention to underbody details,



Maroon scheme, CP Rail Action Red, Via Rail Canda, and exclusive to Spring Creek Model Trains – the Rio Grande Ski Train "California" in both early and late schemes.

Paint schemes in this release include Canadian Pacific

Info: www.rapidotrains.com

Resin Car Works has released two new prototypically accurate HO scale resin tank car kits, including a 6,500-gallon UTLX tank car. The new RCW kit is an update of a Sunshine



REGISTER
(free)

INDEX

TABLE OF CONTENTS



Models kit produced in 2003 from Frank Hodina's masters.



The diameter of the UTLX dome on the original Sunshine kit has been corrected and the decal set has been updated with more details and numbers.



The second new RCW kit is for a 10,000-gallon UTLX tank car. Components in both kits include the resin tank and frame, Precision Scale Company brass

tank car stanchions, Tichy brake set parts, assorted wire, grab irons, and turnbuckles; and Tahoe sideframes for a 50-ton Andrews truck.

Info: www.resincarworks.com



San Juan Model Company has released HO_n3 scale models of narrow-gauge Conoco high-dome tank cars. These fully detailed injection-molded plastic

models are factory assembled with appropriate trucks fitted with metal wheelsets. The models are available accurately decorated for 1926, 1930, 1935 and 1940.



Multiple road numbers are available for a black 1926-era car with Continental Oil Co. in white lettering in a choice of sans-serif or Roman font.



Additional choices include a 1935-era car with black frame, silver tank, with large CONOCO in green sans-serif lettering; and a black 1940-era car with large CONOCO in

white sans-serif lettering.

Info: www.sanjuancarco.com

To see the cars in operation go to www.facebook.com/watch/?v=4303538166394953



R. Bale

EMD SD38-2 DIESEL LOCOMOTIVE

Built by Electro Motive Division from 1972 through 1979, the six-axle, 16-cylinder, non-turbocharged, SD38-2 was designed primarily for heavy, slow freight operations. Unlike the engine of its SD38 predecessor – which drove a generator to supply power to the traction motors – the SD38-2s 2,000hp prime mover drove an alternator which produced AC current that was rectified to DC to power the six traction motors. Another major change for the SD38-2 was the introduction of the Dash-2 modular electrical cabinet. Although total sales were less than 100, the SD38-2 proved to be a reliable workhorse with many continuing in service today.



Scale Trains has expanded the selection of HO scale Rivet Counter EMD SD38-2 locomotives scheduled for

release late next summer. Southern Pacific models will replicate prototypes as they appeared in the 1980s and 1990s with black armrests in the cab and operating LED front and rear tricolor flush mounted classification lights. SP No. 2972 will have blanked class lights and brown cab armrests. SP No. 2975 will have an operating LED Stratolite beacon.



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)



Where appropriate to the road name being modeled, Rivet Counter SD38-2 models will have operating LED ground lights, ditch lights, and beacons. LED lighting features on all Rivet Counter versions of the SD38-2 will have lit number boards, directional headlights, and red, white and green classification lights.



In addition to the SP models, road names include BC Hydro, Louisville & Nashville, Frisco, two Yankeetown Dock schemes, and two Elgin, Joliet & Eastern schemes: Bicentennial and as delivered in orange. Scale Trains' SD38-2s will be available for DC operation or with factory installed DCC and sound.

Info: www.scaletrains.com



Tangent Scale Models is selling a new production run of HO scale PRR/PC 52' 6" Class G43 100-ton steel gondolas with corrugated sides.



Decorating schemes include a 1966-era PRR car displaying a classic Keystone and a 1984 renumbered car with a COTS panel replacing the Keystone.



Conrail is represented by two PC repaints; a 1980-era with a COTS panel and Timken rotating axle caps, and a 1988 car modified with cushioned

draft gear and coil racks.



The mix includes Norfolk Southern cars with coil racks. One is a 1999 repaint and the other displays conspicuity stripes that were added in 2010.



Completing this release of decorated cars is a Penn Central gondola from 1968 in the original PC green. All the cars in this release come with Kadee

couplers and 100-ton Barber S-2 trucks with metal wheelsets.

Info: www.tangentscalemodels.com



Walthers 2022 production schedule includes the release of six road-specific versions of an EMD SD45

next August. The HO scale Proto series models will be available with LokSound 5 DCC and sound for DCC and DC layouts.



Models decorated for Great Northern and Milwaukee Road will have operating Pyle-National beacon lights,

Leslie SL-3 horns and Flexicoil-C trucks with brake cylinders mounted low on the truck frame.



Walthers SD45s decorated for Southern Railway and Norfolk & Western will have high short hoods and be

arranged for operation with the long hood forward. They will also be fitted with Leslie S-5T-R horns and Flexicoil-C trucks with the brake cylinders mounted high on the truck frame.





Additional road names include Wisconsin Central with operating ditch lights, and Penn Central with a

Leslie SL-3 horn and a Sinclair antenna system.



Walters plans to release a new production run of 60' High-Cube Plate F boxcars next month.



The HO scale Mainline series models will have separately applied latch bars on the plug doors, and a detailed

underbody with cushioned underframe including a brake air reservoir mounted at the prototypically correct angle.



Road names will be BNSF, Canadian National, Union Pacific, and three TTX schemes.



Road specific details in this release of the Mainline series models include either X or diagonal roof panels. The cars

will come with 70-ton roller-bearing trucks with 33" turned metal wheelsets.



Additional new HO scale models coming from Walters next month include a group of

53' Rail-Gon gondola cars.



The Mainline series cars are based on Rail-Gon 310000 series prototypes used in nationwide pool service beginning in the 1980s.



Road names will be Conrail, CSX, Delaware & Hudson, Soo Line, Rail-Gon, and a Rail-Gon car with a B&O patch.

Walthers Rail-Gons will ride on 100-ton roller-bearing trucks with 36" machined metal wheelsets.

Info: www.walthers.com

N SCALE PRODUCT NEWS



Athearn's January 2023 production schedule includes N scale 89' Trailer

Train flatcars and 40' Fruehauf Z-Van trailers. Raised and lowered hitches will be included with each flatcar. Features include a die-cast underframe, wire grab irons and ladders, and a separately applied ratchet brake. Appropriate roller-bearing trucks with machined metal wheelsets.



Each of two mineral red TTX flatcars and two yellow RTTX flatcars will be

available packaged with a Z-Van trailer. The trailers will be decorated for Realco, Penn Central, The Rock, and MoPac. The trailers will have rubber tires, mud flaps, and wheeled or shoe-style landing gear per the prototype road being modeled. The trailers will also be available separately. Reservations for the trailers and the trailer-flatcar



REGISTER
(free)

INDEX

TABLE OF CONTENTS

combinations are due December 31, 2021.

Info: www.athearn.com



Bluford Shops has released to dealers a new production run of N scale triple-bay hopper cars with offset sides. Road

names are Baltimore & Ohio, Burlington, Missouri Pacific, Canadian National, Grand Trunk Western, RI-The Rock, Union Railroad, Delaware & Hudson, Chicago North Western, Illinois Central Gulf, Chicago Great Western, and Southern Railway.



The N scale model gains some heft with a die-cast slope sheet and hopper center sill assembly. The sides, ends and hopper

doors are injection molded plastic.



Additional details include a correctly molded brake tank, valve and air lines; body mounted brake hose detail, body

mounted magnetically operating knuckle couplers, a removable coal load, and appropriate trucks with Fox Valley metal wheelsets. Multiple car numbers are available for each road name.



Bluford is accepting advance orders for a war emergency twin-bay composite hopper car. Availability of the N scale ready-to-run model is planned for the fourth quarter of 2022.



Construction of the composite hopper car will be similar to Bluford's triple-bay cars including a die cast underframe and plastic

body. Details including trucks and a removable load will also be similar.



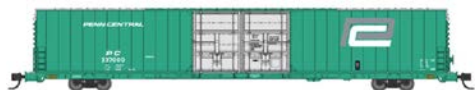
Road names will be Atlantic Coast Line, Baltimore & Ohio, Chicago, Burlington & Quincy; Clinchfield, Lehigh Valley, Louisville & Nashville, Monon, Nickel Plate Road, Santa Fe, Southern Railway, Virginian, and Pennsylvania Railroad.



Bluford Shops is also booking pre orders for another production run of its 86' Pullman-Standard auto parts boxcar with double plug doors. Availability is planned for the second half of 2022.



This new release will feature an improved draft gear design that accommodates Micro-Trains 1015 and compatible couplers and upgraded 70-ton roller-bearing trucks with Fox Valley metal wheels. Models in this run will have separate wire grab irons and etched-metal end platforms.



Road names will be Santa Fe, CP Rail, CSX, Conrail, Detroit, Toledo & Ironton; Grand Trunk Western, Norfolk Western, Norfolk Southern, Western Pacific, Chicago North Western, and Penn Central.

Future projects under way at Bluford Shops include another run of ICC bay window cabooses and an 8-panel twin-bay coal hopper. Info: bluford-shops.com



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)



R. Bale

UP BIG BOY

Union Pacific's Big Boy is a simple articulated 4-8-8-4 steam locomotive built by the American Locomotive Company between 1941 and 1944. The initial group of 20 locomotives was delivered in 1941, followed by five more in 1944. The Big Boys were designed to eliminate the need for double heading on the UP mainline climb eastward from Ogden into the Wasatch Range with the ability to pull long freight trains at a sustained speed of 60 mph once past mountain grades. They more than met the goal and remained in service until 1959. Scheduled to be named Wasatch, the locomotive acquired its nickname after an unknown worker scrawled Big Boy in chalk on the front of No. 4000, then under construction at Alco. Specifications include 68" drivers, 23.75" x 32" cylinders, a weight of 762,000lbs, and an overall length of 85' (plus the tender). Peak horsepower of about 7,000hp is attained at 41 mph.



Broadway Limited is booking

advance orders through February for an N scale Union Pacific 4-8-8-4 Big Boy steam locomotive. The N scale model, which is scheduled for release in late 2022, will feature Paragon4 Sound for DC or DCC environments. The model will be available in the 1941 as-delivered paint scheme with a 25-C-100 coal tender, and in the similar 1944 scheme with a Wilson aftercooler and a 25-C-400 coal tender.

Big Boy locomotive No. 4014 will be available, with a Challenger excursion tender, painted in the standard Big Boy Tour finish as well as in the glossy Promontory Excursion paint scheme.



Broadway Limited will also offer Big

Boy locomotives No. 4023 and 4024 in a fantasy two-tone gray scheme.

Info: www.broadway-limited.com



InterMountain Railway plans to release a group of Fox Valley N scale bi-level Autoracks during

the next 30 days. Road names on Autoracks mounted on TTGX flatcars include Union Pacific, Kansas City Southern, Transportación Ferroviaria Mexicana, Conrail, Norfolk Southern, BNSF (New image small logo), Union Pacific, Southern Railway, and Western Pacific.



Autoracks with the same name on both the rack and the trailer include Grand Trunk Western, Providence & Worcester,

Ferromex, BNSF (Brown circle cross logo), Canadian National, and CP Rail.



The ready to-run-models feature etched-metal see-through side panels, non-working brass ends, appropriate trucks with

33" machined metal wheelsets, and knuckle couplers.

Info: www.intermountain-railway.com



Jacksonville Terminal Company has released eleven

new paint schemes on 40' High-Cube corrugated containers: Florens, Hamburg Sud, MSC, MOL,



REGISTER
(free)

INDEX

TABLE OF CONTENTS

NileDutch, ONE (Cascade Gray), and ONE (Cherry Blossom) come in two-packs of containers with the same scheme, with CCL and CMA CGM, and Lloyd Triestino and Seaco/SeaFreight available in two-container mix packs.



In the Visionary Series, JTC is releasing a USMC Fleet Marine Forces Storage Container in Desert Sand. A 20' standard height container, it is being sold as a single unit. All JTC containers include their magnet connection system.



JTC is also releasing a new run of the popular NSC 17-post 53' well car in CP and TTX with availability in December.

Info: www.jtcmodeltrains.com



Kato USA's June 2022 release of N scale triple Gunderson MAXI-IV well-cars combined with six 53' ribbed containers has been expanded with the announcement of four additional sets.



East Coast containers or six Crowley Logistics containers.



BNSF well-cars with the Swoosh logo will be available with a choice of six Florida

Well-cars decorated for TTX with the new logo will be available with six Canadian National containers

or six Canadian Pacific containers.

Info: <http://katousa.com>



Leading the list of new N scale models from **Micro-Trains Line** is this 50' Western Pacific boxcar with sliding Youngstown doors.

The Route of the Feather scheme includes a bold DF indicating the car is equipped with an Evans DF loader for handling automobile parts.



This 50' Chesapeake & Ohio car wears the Chessie System scheme established after the merger of C&O, B&O and WM. The car has 8'

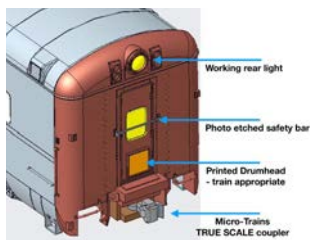
plug doors and has had its running board removed and ladders shortened.



This 39' single-dome tank car with arch bar trucks depicts a prototype built in 1920 for the W.J. McCahan Sugar Refining Co. of Philadelphia, PA.



Completing our list of new N scale releases from Micro-Trains is an ex-Western Maryland twin-bay covered hopper that has been patched for CSXT. Micro-Trains is offering the 2970 cu. ft. car in a weathered paint scheme.
Info: Contact a dealer.



RailSmith Models is tooling a blunt end for several Southern Pacific sleeper/observation cars. The N scale model will replicate the design Pullman developed in building observation cars for the Cascade and

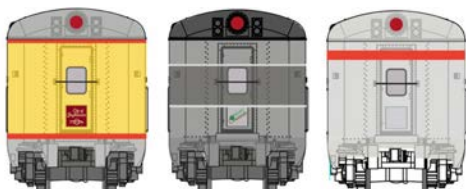
Golden State. Southern Pacific converted five of its Plan 4140 sleepers following the identical P-S design.



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)



Details on RailSmith's N scale blunt ends include operating rear and interior lights, photo-etched door safety bar, drumheads as appropriate to the prototype

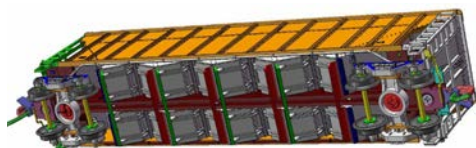
being modeled, and a Micro-Trains coupler. Models scheduled for release during the second quarter of 2022 include Southern Pacific's Cascade, City of Los Angeles, City of San Francisco, and pool-car silver and red scheme.

Info: lowellsmith.net



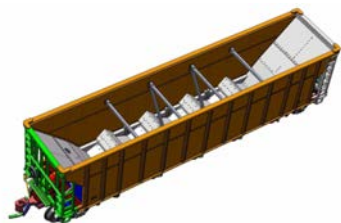
Rapido is developing an N scale AutoFlood III rapid discharge hopper car. The

model is based on an all-aluminum 4,200 cu. ft. prototype built with five discharge gates. Cars decorated for BNSF, CGFX, GLFX, GGPX, KPLX, PGNX, and UP/CMO will be available in 18 unique numbers for each road.



Notable features on Rapido's new N scale model include a heavy die-cast frame and floor with full interior rivet and K-member details, detailed end

cages including air and brake piping, detailed outlet gates, separately applied end cross-over platforms and uncoupling levers, and Barber S-2 100-ton trucks with machined metal wheelsets.



A removable coal load will be included with each model. Advance orders are being booked now. A release date is TBA.

Info: www.rapidotrains.com



for November 2022. The mix includes both Operator series models and top-of-the-line Rivet Counter models.



Both series share the same body, motor and drive train, however, some of the labor-intensive surface detail and fine lettering are minimized on the Operator models.



Road names for Operator series ET44s will be Kansas City Southern, BNSF (Heritage III), CSX, Norfolk Southern, Canadian National, and Union Pacific.



Rivet Counter versions of the ET44 will be available decorated for Canadian National (Veterans scheme), CN-BC Rail, CN-Wisconsin Central, CN-Illinois Central, Union Pacific, Norfolk Southern, Kansas City Southern, CSX, BNSF (Heritage III), and CN-Elgin, Joliet & Eastern.



Both Rivet Counter and Operator models will be available for DC analog operation or with DCC and sound.

Info: www.scalettrains.com

STRUCTURES & SCENIC SUPPLIES



The Electric Wallpaper Co. has released The Costello Building, a new cardstock **Roomettes** kit that adds 3D interior details to Woodland Scenics HO scale Goodfellows Hall.



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)



The Costello Building becomes a hardware store, thrift shop and office space. The Roomettes kit includes material for five laser-cut rooms, two storefront window displays, shelving, a store counter, desks, posters and exterior signs.

All Roomettes kits include LEDs with plugs that are compatible with lighting systems from Woodland Scenics Just-Plug, Model Train Technology, and NCE.

Info: www.roometteslighting.com



miniprints has introduced 3D printed Adlake Kero railway lanterns. The nicely detailed lanterns are 3D printed in clear resin. They come with a support attached for easy painting. According to the instructions, just paint the parts you

want to appear metallic. The HO scale lanterns come in a 5-pack.

Info: www.miniprints.com



New 1:87 scale vehicles from **Oxford Diecast** include this black 1941 Lincoln Continental convertible with the top down covered by a tan boot.



Also available now is a 1958 Edsel Citation coupe in a turquoise over white paint job.



Oxford has also released a 1:87 scale model of a 1959 Pontiac Bonneville coupe featuring lots of chrome and a red interior.

Info: www.walthers.com



RSLaserkits has released a new N scale structure, "Pryor Machine and Tool." Measuring 11 1/4" x 3", the laser-cut basswood structure features

loading docks on three sides. The roofing material is pre-colored and a laser-cut stencil for the sign is included. The building is suitable for a factory, warehouse, or freight house. Info: www.rslaserkits.com



Walthers Cornerstone will begin the New Year with the release of N scale kits for two modern industrial buildings. Construction features a

concrete block foundation with steel upper panels. The Transload Terminal version has a large end door for inside railcar loading/unloading.



The Warehouse model has outside railcar and truck docks. Both versions have four truck docks with weather bellows. The assembled HO

scale models have a footprint of 10-1/2" x 6-5/16".

Info: www.walthers.com

NEW DECALS, SIGNS AND FINISHING PRODUCTS



New water slide decals from **Mask Island** include this Atlantic Coast Line 70-ton twin-bay covered hopper.



lettering set for a Santa Fe 53' 91500 series flatcar.

Mask Island has also released a decal



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)



A lettering set for Soo Line 53' white mill gondolas is now available from Mask

Island. Sufficient material is in each set to letter two models. All Mask Island decals mention in this report are for HO scale. Info: www.maskislanddecals.com



National Scale Car has released new HO scale decals

for NATX 8,000-gallon tank cars and A.E. Staley tank cars.



Reruns of popular decals expected in the near future include PRR X31's, B&O wagon top and SAL boxcars. Info:

www.nationalscalecar.com



RATE THIS ARTICLE

DISCLAIMER

The opinions expressed in this column are those of the writer and do not necessarily reflect the opinion of Model Railroad Hobbyist or its sponsors. Every effort is made to provide our readers with accurate and responsible news and information, however, neither Model Railroad Hobbyist or the writer of this column can be held responsible for any inaccuracies or typographical errors that may inadvertently appear in this column.



BRIEFLY NOTED AT PRESS TIME ...

Kato has added Amtrak Phase VI and Dash 8 Phase III 50th Anniversary decorating schemes to the special run of HO scale GE P42 Genesis locomotives scheduled for release in March ...

Kadee's next PS-1 HO scale boxcar will be decorated for Western Pacific ...

Sylvan Scale Models is booking reservations for a CP Rail NSC 52' 8" boxcar with double plug doors. Delivery is planned for early 2022 contingent upon receipt of sufficient reservations. Send email to mesagkits@gmail.com for details ...

New HO scale items coming from **Walthers** in February include 85' Budd cars with fluted sides. The mix includes an RPO, baggage combine, two coaches, a diner, a dome car and a 10-6 sleeper. A new production run of Walthers Mainline F7A and B units is set for release next June, to be followed in late summer by an all-new Trinity 25,000 gallon tank car. ■



RATE THIS ARTICLE

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

Did you see this article?



**Computer-aided
traffic generation**

Get this eBook now ▶

← click
here



Each eBook ~100 pages

**RUNNING
EXTRA**



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

SELECTED EVENTS



Model Railroad Hobbyist | December 2021

DECEMBER

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/nmragroup

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

AROUND THE USA, IN-PERSON, Various dates.

ScaleTrains.com Road Trip.

Info: www.scaletrains.com/roadtrip

December 2021 - January 2022

CALIFORNIA, SACRAMENTO, January 8-9, 2022. Great Train Show. Cal Expo.

Info: www.trainshow.com

ILLINOIS, WHEATON, January 2, 2022. Great Midwest Train Show. Dupage County Fairgrounds.

Info: www.trainshow.com

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. CHARLES, January 29-30, 2022. Great Train Show. Saint Charles Convention Center.

Info: www.trainshow.com

OHIO, COLUMBUS, January 15-16, 2022. Great Train Show. Ohio Expo Center.

Info: www.trainshow.com

PENNSYLVANIA, OAKS, January 8-9, 2022. Greenberg's Great Train & Toy Show, Greater Philadelphia Expo Center.

Info: www.trainshow.com

PENNSYLVANIA, ROCHESTER, December 17-18, 26, 2021. 6th Annual Holiday Model Railroad Open House, sponsored by the Rochester Area Heritage Society. 350 Adams St.

Info: www.facebook.com/events/165159615767212

TEXAS, PLANO (Dallas Area), January 15-16, 2022. Dallas Area Train Show, sponsored by the North Texas Council of Railroad Clubs. Plano Centre, 2000 East Spring Creek Parkway.

Info: www.dfetrainshows.com



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

VIRGINIA, CHANTILLY, December 18-19, 2021. Greenberg's Train & Toy Show, Dulles Expo Center.

Info: www.trainshow.com

VIRGINIA, RICHMOND, January 22-23, 2022. Greenberg's Great Train & Toy Show. Richmond Raceway Complex.

Info: www.trainshow.com

VIRGINIA, VIRGINIA BEACH, January 15-16, 2022. Greenberg's Great Train & Toy Show. Virginia Beach Convention Center.

Info: www.trainshow.com

WASHINGTON, PUYALLUP, January 22-23, 2022. Great Train Show. Washington State Fairgrounds.

Info: www.trainshow.com

Future 2022-2023 by location

NEW ZEALAND, CHRISTCHURCH, April 15-18, 2022. Back on Track National Model Railway Convention 2022. St. Andrews College, 347 Papanui Rd.

Info: www.modelrailcon.nz

CALIFORNIA, ROHNERT PARK, April 21-24, 2022. Return to the Redwoods, Pacific Coast Region NMRA Convention. Doubletree by Hilton Hotel Sonoma Wine Country, One Doubletree Drive.

Info: www.pcrnmra.org/conv2022

FLORIDA, PALMETTO, February 19-20, 2022, 43rd Annual RealRail Model Train Show, hosted by RealRail: The Railroad Education and Learning Center of Florida. Bradenton Area Convention Center, 1 Hazen Blvd.

Info: realrail.org/upcoming-events/rail-pass

ILLINOIS, URBANA, March 26-27, 2022, Lincoln Square Train Show, sponsored by the Illinois Terminal Division, NMRA. Lincoln Square Village, 100 W High St.

Info: itd.illinoisterminaldivision.org/show/show.htm

INDIANA, INDIANAPOLIS, May 18-23, 2022. Indy Junction 2022, the Midwest, Mid-Central, and North Central Regions NMRA Convention. Indianapolis Marriott East, 7202 East 21st Street.
Info: www.indyjunction2022.org

MASSACHUSETTS, ORLEANS, December 18th, 2021, Nauset Model Railroad Club Open House. Rear of Hiltop Plaza, 180 Route 6A.
Info: www.nausetmodelrrclub.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

OKLAHOMA, TULSA, March 18-20, 2022, Layout, Design, Operation Weekend (LDOP), sponsored by the Indian Nations Division of the NMRA. Akdar Shrine Center, 2808 S Sheridan Road.
Info: www.tulsanmra.org

OREGON, CORVALLIS, March 19-20, 2022. Winterail 2022, Railroad photography exposition and collectables sale. Corvallis High School, 1400 NW Buchanan Avenue.
Info: www.winterail.com

OREGON, EUGENE, May 10-14, 2022. PNR 2022 Regional Convention, Valley River Inn.
Info: pnr.nmra.org/1div/Eugene2020/home.htm

OREGON, PORTLAND, March 12, 2022, Willamette Model Railroad Club 2022 Model Railroad Swap Meet. Kliever Armory, 10000 NE 33rd Dr.
Info: wmrrc.com

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



SELECTED EVENTS | 45

TEXAS, GRAPEVINE (Dallas Area), Summer 2023, NMRA National Convention, Gaylord Texan Resort & Convention Center, 1501 Gaylord Trail.
Info:

www.2023texasexpress.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

WASHINGTON, SPOKANE, March 6, 2022, Model Train Show, presented by The River City Modelers Train Club. Spokane County Fair & Expo Center, Buildings A, B, & C, Gate G-404 North Havana.
Info:

www.rivercitymodelers.org/rcm-train-show-info.html

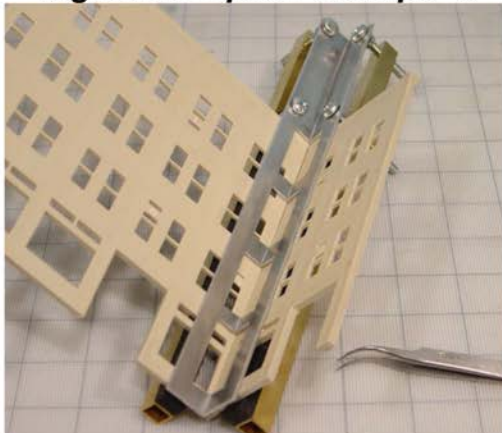
WISCONSIN, MADISON, February 19-20, 2022. Mad City Model Railroad Show and Sale. Exhibition Hall, Alliant Energy Center, 1919 Alliant Energy Center Way.
Info:

www.nmra-scwd.org ■

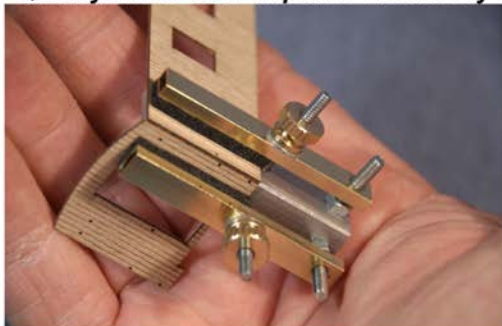


RATE THIS ARTICLE

"Right and Splice Clamps"™



Quality Tools with Superior Versatility



Essential Tools for Great Modeling



Coffman Graphic Solutions
1500 River Circle, Richmond KY 40475

Click Here

Visit our new Website:
www.coffmaneng.com

B-EAUTIFUL B-50 BOXCARS



3D render, subject to revisions.

CLICK HERE



REGISTER
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

CLICKABLE ADVERTISER INDEX

[Accu-Lites](#)
[Amherst Railroad Hobby Show](#)
[Archer Fine Transfers](#)
[Atlas Model Railroad Co.](#)
[Bachmann](#)
[Berrett Hill Trains](#)
[Black Cat Publishing](#)
[Blair Line](#)
[Canyon Creek Scenics](#)
[Coffman Graphics](#)
[Crew Call with Mike Rose](#)
[Crow River Products](#)
[Deluxe Materials](#)
[Digitrax \(2 page spread\)](#)
[East Coast Circuits](#)
[ESU LokSound](#)
[Fast Tracks](#)
[GHB International](#)
[Great Decals](#)
[Humancity Junction](#)
[Inter-Action Hobbies](#)
[Iowa Scaled Engineering](#)
[KR Models](#)
[Litchfield Station](#)
[Logic Rail Technologies](#)
[Maple Leaf](#)
[Micro-Trains Line](#)
[miniprints](#)
[Model Railroad Control Systems](#)
[Model Rectifier Corp](#)
[Model Tree Store](#)
[Monashee Laser Engineering](#)
[Monroe Models](#)
[Mountain Pacific Scenics](#)
[Mountain Subdivision Hobbies](#)
[MRH Store \(1\)](#)
[MRH Store \(2\)](#)
[Mt. Albert Scale Lumber](#)
[N3IX Engineering](#)

[NCE \(2 page spread\)](#)
[New Creations](#)
[North American Railcars \(PWRS\)](#)
[Pre-Size Model Specialties](#)
[Precision Design Co.](#)
[Rapido \(1\)](#)
[Rapido \(2\)](#)
[Ring Engineering \(1\)](#)
[Ring Engineering \(2\)](#)
[Roomettes](#)
[Scale Trains](#)
[Sceniking.com](#)
[Soundtraxx](#)
[Southern Digital](#)
[Southwestern Rail Systems](#)
[Squeaky's Trains](#)
[Streamlined Backshop](#)
[TAM Valley Depot](#)
[The Trainmaster Inc](#)
[TrainMasters TV \(1\)](#)
[TrainMasters TV \(2\)](#)
[24 Trains.tv](#)
[Walthers](#)
[Westerfield Models](#)



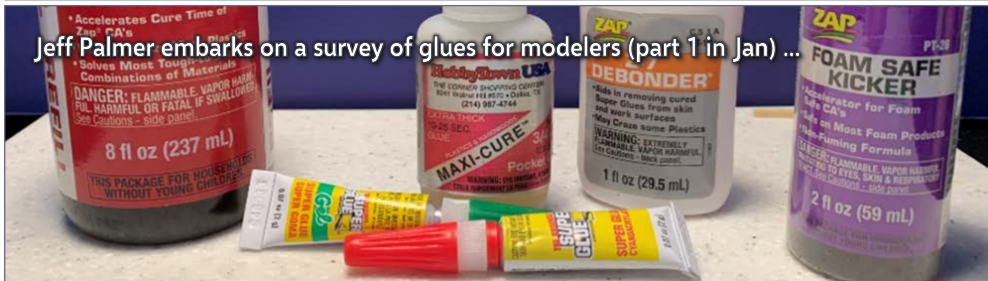
in the **DECEMBER 2021 MRH RUNNING EXTRA!**
Did you see this article?
Needle applicator unclogging tool
Get this eBook now! <- click here
MRH Each eBook ~100 pages
RUNNING EXTRA

Clickable "other" index
[Other – Contents](#)
[Other – Cover](#)
[Other – MRH Marketplace](#)
[Other – MRH Sponsors](#)

Rick Balassaitis rebuilds a 95% complete layout ...



Jeff Palmer embarks on a survey of glues for modelers (part 1 in Jan) ...



HAVING FUN WITH TRAINS

JANUARY 2021 | FREE



MODEL RAILROAD HOBBYIST



Triggering a layout makeover ...

The Perfect Storm

► READ NOW

ADAPTIVE EDITION

TABLE OF CONTENTS

Common CVs

- V1: Short address
- V2: V select
- V3: Acceleration
- V4: Deceleration
- V5: Vhigh
- V6: Vmid
- V7: Mid version
- V8: Mid 10 (test value)
- V9: Total PWM
- V10: BEMF Cutout
- V11: Packet timeout
- V12: Alternate mode P1-P8
- V13: Alternate mode P9-P12, FL
- V15-16: Decoder lock
- V17-18: Long address
- V19: Constant address
- V20: Constant active P1-P8
- V22: Constant active P9-12, FL
- V23: Acceleration adjust
- V24: Deceleration adjust
- V29: Decoder configuration
- V30: Error indicator
- V38: Kick start
- V40-44: Speed table
- V49: Reverse trim
- V105-110: User ID

Manufacturer IDs (CV 8)

001	Accurate Engineering
002	Accurate Engineering
003	Accurate Engineering
004	Accurate Engineering
005	Accurate Engineering
006	Accurate Engineering
007	Accurate Engineering
008	Accurate Engineering
009	Accurate Engineering
010	Accurate Engineering
011	Accurate Engineering
012	Accurate Engineering
013	Accurate Engineering
014	Accurate Engineering
015	Accurate Engineering
016	Accurate Engineering
017	Accurate Engineering
018	Accurate Engineering
019	Accurate Engineering
020	Accurate Engineering
021	Accurate Engineering
022	Accurate Engineering
023	Accurate Engineering
024	Accurate Engineering
025	Accurate Engineering
026	Accurate Engineering
027	Accurate Engineering
028	Accurate Engineering
029	Accurate Engineering
030	Accurate Engineering
031	Accurate Engineering
032	Accurate Engineering
033	Accurate Engineering
034	Accurate Engineering
035	Accurate Engineering
036	Accurate Engineering
037	Accurate Engineering
038	Accurate Engineering
039	Accurate Engineering
040	Accurate Engineering
041	Accurate Engineering
042	Accurate Engineering
043	Accurate Engineering
044	Accurate Engineering
045	Accurate Engineering
046	Accurate Engineering
047	Accurate Engineering
048	Accurate Engineering
049	Accurate Engineering
050	Accurate Engineering
051	Accurate Engineering
052	Accurate Engineering
053	Accurate Engineering
054	Accurate Engineering
055	Accurate Engineering
056	Accurate Engineering
057	Accurate Engineering
058	Accurate Engineering
059	Accurate Engineering
060	Accurate Engineering
061	Accurate Engineering
062	Accurate Engineering
063	Accurate Engineering
064	Accurate Engineering
065	Accurate Engineering
066	Accurate Engineering
067	Accurate Engineering
068	Accurate Engineering
069	Accurate Engineering
070	Accurate Engineering
071	Accurate Engineering
072	Accurate Engineering
073	Accurate Engineering
074	Accurate Engineering
075	Accurate Engineering
076	Accurate Engineering
077	Accurate Engineering
078	Accurate Engineering
079	Accurate Engineering
080	Accurate Engineering
081	Accurate Engineering
082	Accurate Engineering
083	Accurate Engineering
084	Accurate Engineering
085	Accurate Engineering
086	Accurate Engineering
087	Accurate Engineering
088	Accurate Engineering
089	Accurate Engineering
090	Accurate Engineering
091	Accurate Engineering
092	Accurate Engineering
093	Accurate Engineering
094	Accurate Engineering
095	Accurate Engineering
096	Accurate Engineering
097	Accurate Engineering
098	Accurate Engineering
099	Accurate Engineering
100	Accurate Engineering

DCC Shortcuts CV8 (V1.8)

Make sure speed step table in CV87-84 is linear with step 1 = 0 (CV87) and step 23 = 255 (CV84). Put the decoder in 255/28 mode and speed table on 255 (CV84). Set CV84, CV87 all to zero.

Run the loco, then determine the slowest speed step at which it will keep running.

Set the decoder to speed table 24 (34 in CV29).

Turn the throttle to speed step 1.

Play kick start to get the loco to move consistently at step 1. Tweak CV2 if needed.

Set CV1 to desired top speed (128-200 common).

Now adjust acceleration, deceleration, torque compensation, direction, or BEMF as desired.

DCC Shortcuts Card v1.8

Model Railroad Hobbyist (mrhmag.com) - Jan 2023 bonus

Resetting decoder to factory settings (use programming track):

- Set CV 8 to 8: Digital Train, ESU/LokSound, SoundTraxx Trainman
- Set CV 8 to 32: Loco
- Set CV 28 to 2: NCE, SoundTraxx DSD, TCS
- Set CV 125 to 0: MISC
- Hardware reset only: QSI (see decoder manual)

Then remove loco from track and put back on track (or power cycle the layout).

LOCOS DON'T MOVE?

Accessory decoder (OFF=normal on-conveyer) **Reserved (not used)**

Addressing digits (off=2-digit ON=4-digit)

Speed table (OFF=none on-conveyer speed table) **Radiocon (ignored by DCC hardware)**

DCC dening (OFF=none on-conveyer on DCC) **Speed steps (off=14 ON=20/12)**

Reverse direction (OFF=normal on-conveyer)

GETTING OPTIMUM LOW SPEED PERFORMANCE

Make sure you have a good loco. Do not use a loco that will stall.

Make sure speed step table in CV87-84 is linear with step 1 = 0 (CV87) and step 23 = 255 (CV84). Put the decoder in 255/28 mode and speed table on 255 (CV84). Set CV84, CV87 all to zero.

Run the loco, then determine the slowest speed step at which it will keep running.

Set the decoder to speed table 24 (34 in CV29).

Turn the throttle to speed step 1.

Play kick start to get the loco to move consistently at step 1. Tweak CV2 if needed.

Set CV1 to desired top speed (128-200 common).

Now adjust acceleration, deceleration, torque compensation, direction, or BEMF as desired.

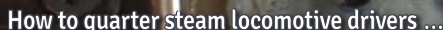
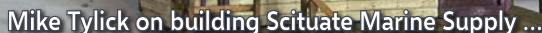
CV Bit Mapping

CV	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
126	64	32	16	8	4	2	1	0

CV 29

CV	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
129	64	32	16	8				

... all the MRH articles and ads, PLUS:



Jim Six starts a new layout ...

... all this and much more!

SUBSCRIBE AND SAVE UP TO 80%