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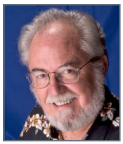

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ISSN 2152-7423

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May 2021

In MRH RUNNING EXTRA

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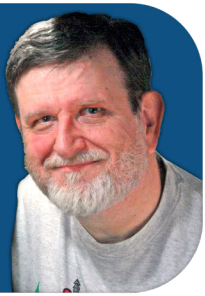


Model Railroad Hobbyist | May 2021

JOE FUGATE ON MODELING HIGHWAY ROAD MARKINGS ...

VIEW READER COMMENTS

IT'S SURPRISING HOW MANY DIMENSIONS OF COMMON THINGS CAN BE A MYSTERY. Recently someone on the MRH forum asked about the dimensions of the painted markings on highways.

Anybody care to guess what the answer is? (Those of you who already know the real answer, put your hands down.)

I kind of remembered the lines themselves tend to be about 6 inches wide, but I had to search the web to find the answer on the length and spacing of the dotted lines in the center.

There's a slight difference between highway markings in North America and those in the rest of the world. Since we focus on North American railroading in MRH, I'll just discuss North American highway marking standards.

History of prototype highway marking standards

Like many aspects of transportation technology, highway marking standards evolved throughout the 20th Century.

Early paved road centerlines first appeared around 1911, but publications clearly show paved road centerlines became common by the mid 1920s. However, there was no common standard yet.

The Manual on Uniform Traffic Control Devices (MUTCD), published in 1935, became the first real document to outline standards. This document not only dealt with road markings, but also with standardizing roadway signs, signals, and islands.

This initial manual recommended white for all lines, except calling for yellow double centerlines on multi-lane highways and no passing zones.

The US published the first major revision to the MUTCD during

1. Highway markings have changed through the years. Do you know the right size to make scale highway markings in your modeled era?

World War II in 1942. Essentially, this edition of the manual only made changes necessary to support traffic during wartime and postponed making any major revisions until after the war.

Most of the changes involved using different materials to deal with wartime shortages or to manage traffic control during blackout conditions.

The 1948 edition of the MUTCD involved a lot of debate and opinions from experience but not much real scientific study.

White continued to remain the main marking color, with yellow remaining the double-center-line color. This edition recommended against markings for pavement edge lines.

The road markings in the 1948 MUTCD: 4-6 inches wide, with dotted lines 15-feet long separated by a 25-foot gap. About half the states preferred to mark the center-line on concrete pavement with a black line instead of a white line.

For all the historical details, see this PDF:

ceprofs.civil.tamu.edu/ghawkins/marking%20-color%20evolution.pdf

The US revised the MUTCD document in 1954, with the most significant change being to standardize the stop sign from yellow to red. The 1954 edition also specified using a reflective paint additive make the road markings more visible at night.

The 1961 edition of the MUTCD added new standards for freeways and for construction zones. This edition of the manual pushed hard for standardization and eliminated many previously permitted alternatives.

Most notably, the 1961 edition allowed the centerline color to be yellow as an alternative to white. It also ended the prohibition on pavement edge lines.

White could be used as lane lines, as well as for road edge lines and for stop lines, for crosswalk lines, and for warnings or symbols such as railroad crossing warning markings.

Centerlines remained 4-6 inches wide, while pavement edge lines should be 2-4 inches wide. The centerline length remained at 15 feet with the gaps at 25 feet.

The Federal Highway Administration took over the maintenance of the MUTCD with the publication of the 1971 edition. The 1971 edition finally *mandated* yellow center lines for lane markings separating opposing lanes of traffic. The 1971 edition specifies white lines only for separating lanes that flow the same direction, or for pavement edge lines.

It also mandated that the left pavement edge line for a set of lanes all going the same direction must be yellow.

The 1978 edition of the MUTCD changed the general dotted line dimensions to 10 feet long with a 30 foot gap. By the 1988

edition, the edge lines became mandatory except where engineering considerations made an edge line impossible.

In the early 2000s, most road marking traffic departments shifted from oil-based to acrylic paint to address concerns over exposure to VOC solvents.

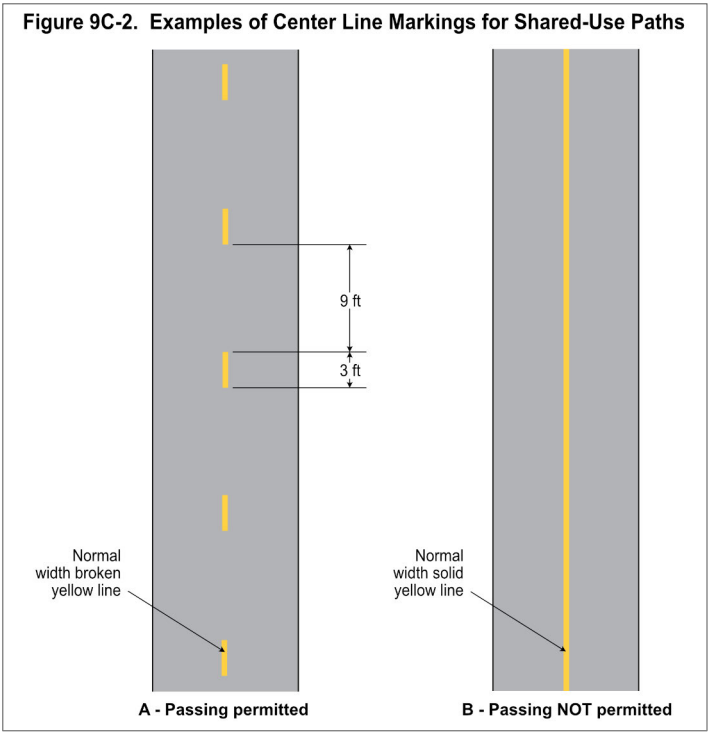
Modeling highway markings

When it comes to modeling highway markings on our model roads, it all depends on what period you model.

We usually fit roads into the space between model structures, typically in shorter segments. It's rare to see a scene with a long stretch of highway more than a few feet long.

If you're modeling a time after 1980, the spacing changed from a 15-foot line and a 25-feet gap to a 10-foot line and a 30 foot gap. The standard also says you can make the lines and spacing shorter if you maintain the same line-gap relationship.

2. One official standard for centerline markings says the lines can be 3-foot with 9-foot gaps. No passing zones use a solid yellow line. From the 2009 MUTCD, Chapter 9.



One standard that works better on our all-too-short modeled highways can be found in chapter 9 and recommends a 3-foot line with 9-foot spacing [2].

No matter what, unless we have lots of space to model highways, prototype dotted line spacing looks odd if you plot it out [3]. I think one reason for that comes from the normal viewing angle we're used to seeing from when we look at a real road.

We typically see a roadway from a seated position inside a vehicle, which puts our viewpoint just a few feet above the road surface. That automatically compresses the dotted line to make the lines look much shorter and closer together.

We're just not used to seeing a highway from the typical helicopter viewpoint.

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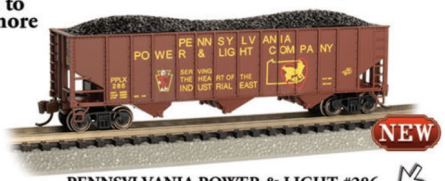

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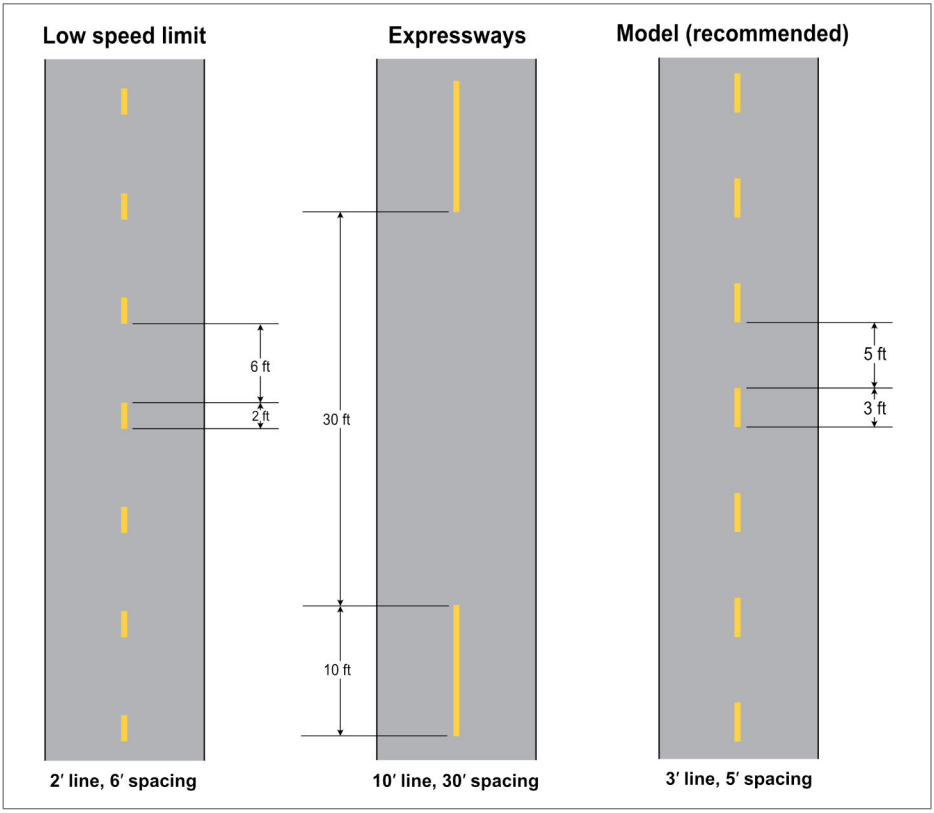

3. Another MUTCD standard calls for 2-foot lines with 6-foot spacing. Compared to the standard 10-foot line with 30-foot spacing, the shorter and tighter spacing does look better for modeling purposes. In fact, I recommend selective compression to a 3-foot line and 5-foot spacing for the best look.

We selectively compress other parts of our modeling, so why not likewise selectively compress highway markings? I see a 3-foot line with a 5-foot spacing to look the most natural for our selectively compressed model roads. See diagram [3]. ☑

RATE THIS ARTICLE

Last issue ratings

Top rated articles in the **Apr 2020 issue** of *MRH* are:

4.7 Build a small N scale layout, part 1
4.7 Publishers Musings: Update on the forum migration
4.7 April 2021 news

Issue overall: **4.7**

Top rated articles in the **Apr 2020 issue** of *Running Extra* are:

4.7 Getting Real: Modeling Mt Vernon Radiator
4.7 Realistic tin roof modeling
4.6 Trenton Subdivision, inspiration for a layout

Issue overall: **4.9**

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

Best of the MRH WEBSITE THIS MONTH

Website MRH mrhmag.com

Model Railroad Hobbyist | May 2021

Compiled by JOE FUGATE

A new layout space!

It's always exciting to hear about someone getting a new layout space, and *MRH* forum member **JSET** (Alan Feldman) shows off his latest acquisition in this blog entry.

Visit the thread and have a look! This will be great fun to watch as the build out develops and Alan documents it for us.

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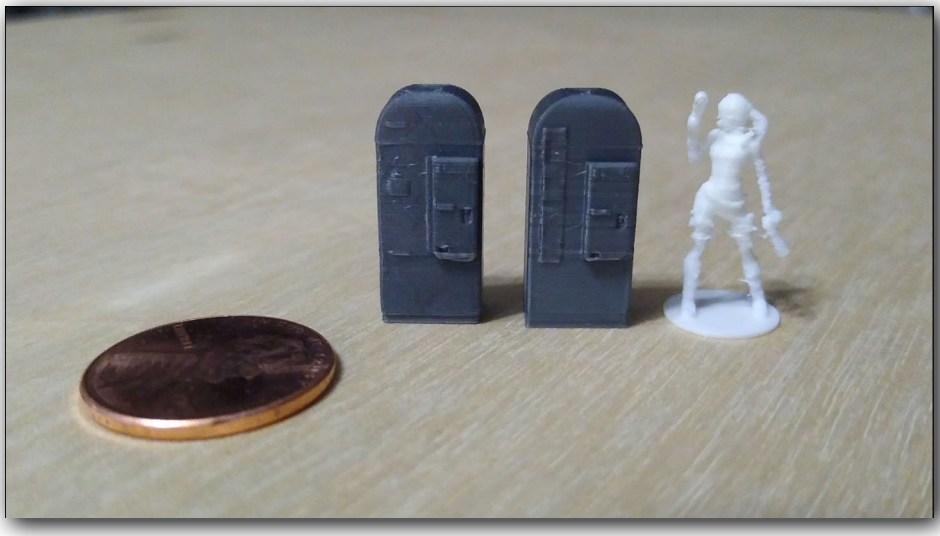
View the full thread on the MRH website

MRH'S MONTHLY GREAT MODELER POSTS



1. John Sackis 3D prints many of the details for his layout. Along the way, he has been exploring 3D printing in great depth.

3D printing layout details: hobby within a hobby

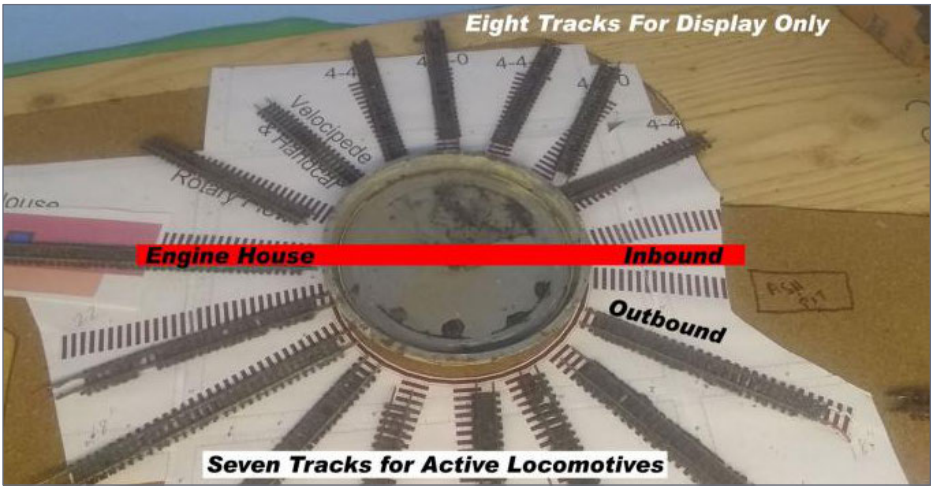
MRH forum member **Photo Bud** (John Sackis) has a long-running blog about his layout that started with a Timesaver and has been expanding ever since.

John has found 3D printing layout details becoming its own hobby-within-a-hobby for him as he refines his 3D printing knowledge and upgrades his 3D printer. For instance:

"I switched nozzles on my 3D printer from 0.4 mm to 0.2 mm for finer detail and it seems to have helped! Pop machine on left was printed with 0.4 mm diameter opening nozzle, the one on right and the Lara Croft were with 0.2 mm nozzle. Penny to show the size necessary for my HO train layout!"

Follow John's journey in his *MRH* forum blog.

View the full thread on the MRH website



2. Will Annand wants to control his turntables using an inexpensive Arduino microprocessor, so he asked the *MRH* forum members for help.

Arduino controlled turntables

Forum member **Will Annand** wants to explore using an Arduino to control his two layout turntables, so he's asking the *MRH* forum members for advice.

Already, several forum members have offered advice, with one of the most helpful posts from forum regular Prof Klyzlr, who has a reputation for thoroughly exploring a question with some great advice.

In this case, the Prof used MRH's own search box (what an idea, aye?) to search out and provide many superb past threads that delve into how to use an Arduino for this purpose. Nice to see the MRH forum is loaded with lots of great how-to advice like this. Just use the search box to mine that treasure!

Follow along to see how Will proceeds on this project.

View the full thread on the *MRH* website

3. Randy Seiler documents the progress on his layout in his *MRH* blog. Here, you can see his progress scenicking a bridge abutment.

B&O/PC Cincinnati West - Construction

MRH forum member **RSeiler** (Randy Seiler) has a long-running blog documenting the progress on his B&O / Penn Central layout.

Randy has an interesting philosophy when it comes to scenery. He feels it should not take away from the trains, and he calls scenery done so as to not distract "operations pixie dust."

"An operator going through a giant canyon is going to be distracted by barren canyon walls, causing the dreaded operations unimmersion we work hard to avoid. Covering it with [generic] foliage prevents operations unimmersion, and enhances the operating experience."

Follow Randy's blog on the *MRH* website. It's great reading, full of useful learnings.

View the full blog on the *MRH* website

Latest *MRH* Weekly photo fun thread

Every week, a new Weekly Photo Fun thread appears. Here's a recent sampling to show it's not all just pretty pictures ...

View the full thread on the *MRH* website

4. The top photo from MRH forum member **p51** (Lee Bishop) hints at the WWII era of Lee's narrow gauge layout.

To the right is a photo posted by **ssagrawal** (Siddharth) showing his latest benchwork progress thanks to advice from MRH forum members. Wonder what that strange dead-end cork curving off the the right is all about? Click on the photo to learn more.

WHAT'S NEAT column

Model Railroad Hobbyist | May 2021

KEN PATTERSON'S COLUMN THIS MONTH ...

- Creating a loading zone
- Working with low melting temp alloys

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THIS MONTH KEN FINISHES UP THE SCENERY ON A MODULE showing how he uses concrete patch to make roads and loading zones, as well as demonstrating how to recreate track that is buried in dirt and grass. George Bogatiuk shares how he uses low melting temperature metals to add weight to locomotives and cars by filling unseen voids.

click to play video

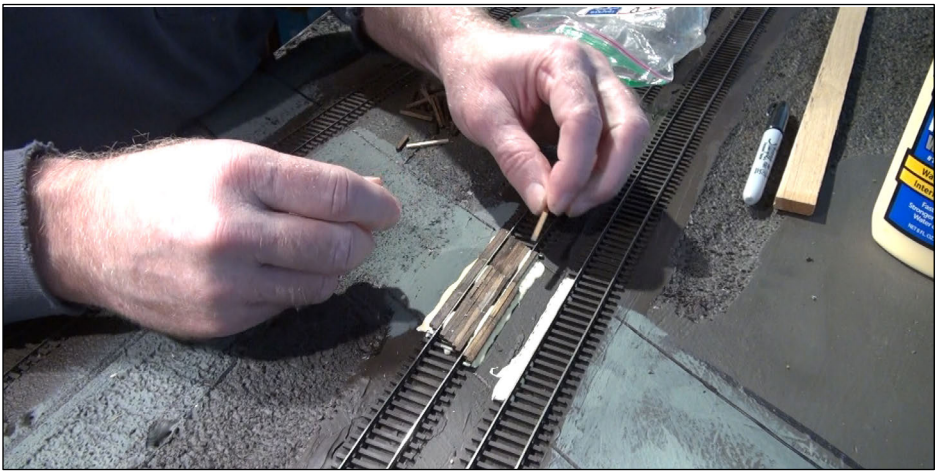
PHOTOS AND VIDEO OF SUPERB MODELS

Burying track in scenery and creating a loading pad

1. Continuing work on a module featured in the September 2020 "What's Neat," Ken begins working on the scenery on the front half of the module by painting the ties shades of gray and black, which will give a weathered appearance when blended with the dirt.

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

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



2. To build the road crossing, Ken uses HO scale wood ties, using plenty of wood glue to hold them in place.

3. Once the road and the road crossing dried, Ken got started on the loading area, liberally spreading the DAP Ready-mix Concrete Patch across the tracks and loading area. He first demonstrated this method of road construction in the September 2016 "What's Neat" video.

4. Ken wets the surface of the concrete patch using a spray bottle, and then uses a wide drywall knife to spread the pavement until smooth.

5. After the pavement was dry, Ken sanded smooth any high spots and colored it with a wash of India ink and alcohol. By varying the amount of wash used, roads of different ages and maintenance levels can be modeled.

6. Ken finished up the scenery by covering the surrounding area in backyard dirt topped with two shades of Woodland Scenics ground foam. The mainline tracks were ballasted, and finely ground limestone was used to create shoulders on the roads and loading area. Instead of ballast, the code 55 track leading to the loading area was covered in various green shades of static grass for a weedy effect. The entire area was then sprayed with scenic cement to hold everything in place.

7. To clear the flangeways, Ken used a hacksaw blade he had cut down to six inches to cut through the scenery materials and concrete patch to the depth of the tie spikes. As seen in [6], this is sufficient clearance for the largest modern locomotive models to pass. It can also be seen how the track both disappears into the grass and appears embedded in the loading zone surface. Watch the video to see the whole process from start to finish.

Using low-temp melting alloys to add weight to locos and rolling stock

8. George Bogatiuk of SoundTraxx demonstrates how using CerroBend-158 and CerroLow-117 low-temperature-melting alloys can be used to add significant amounts of weight to rolling stock without damaging the plastic.

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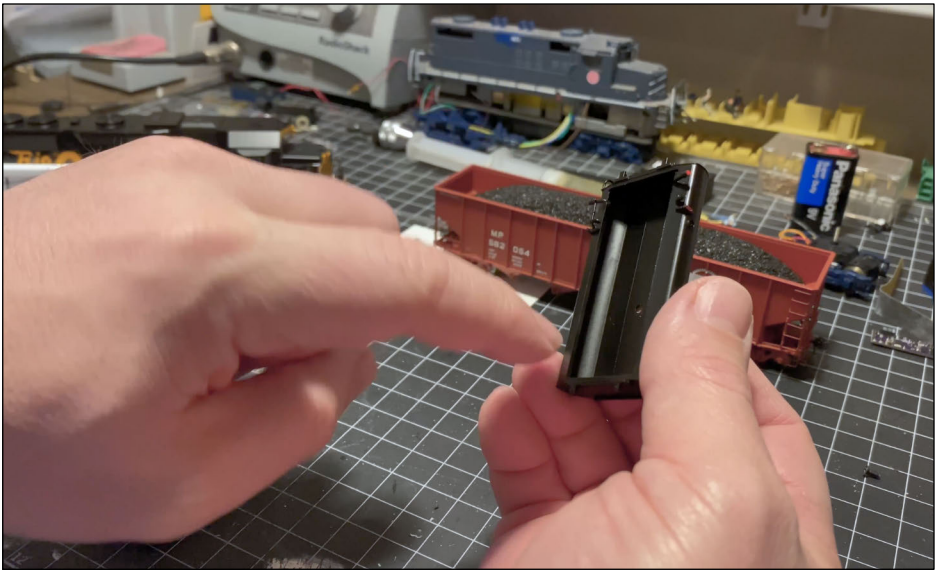
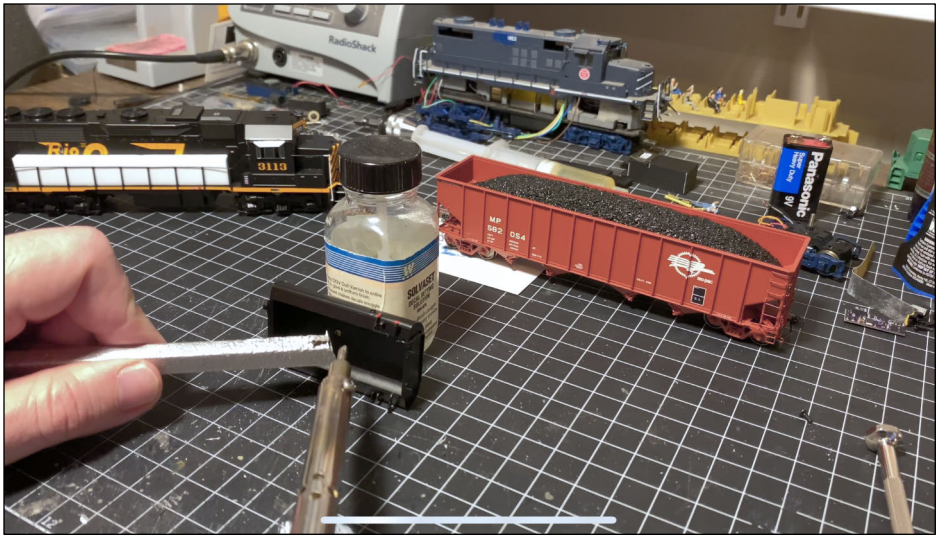
Also see the "What's neat this week" weekly video podcast!

WATCH NOW »

9. CerroBend-158 and CerroLow-117 are alloys that contain Bismuth, Lead, Tin and Cadmium. Proper protective equipment should be used when working with them.



10. Fuel tanks, such as this one from an Athearn GP40-2, often contain voids between the curved shape of the tank and the rectangular mount on the locomotive chassis.



11. Here George shows how he uses an old soldering iron and the CerroBend-158, which melts at 158°F/70°C, to fill one side of the fuel tank shell. He recommends against using a soldering iron that is used for normal electronics work, since the CerroBend-158 might contain substances that would harm electrical connections.

When talking to hobby vendors, please remember to mention MRH.

Building a layout from the base to the finished product

12. The Cerrobend-158 flows into the curved shape without damaging the plastic, which melts at a much higher temperature. George warns against leaving models that have had weight added using low-melting-temperature alloys inside cars on hot days, as the temperature in a parked car can easily exceed the melting point of these metals.

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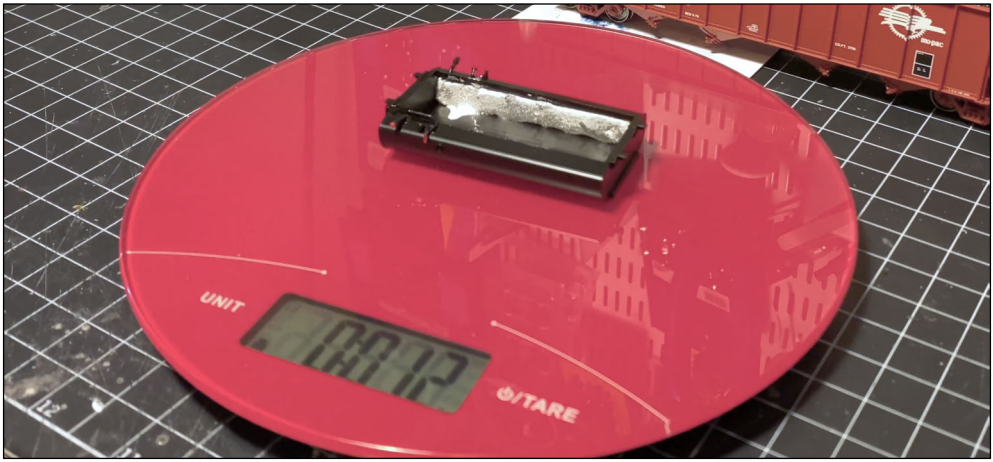
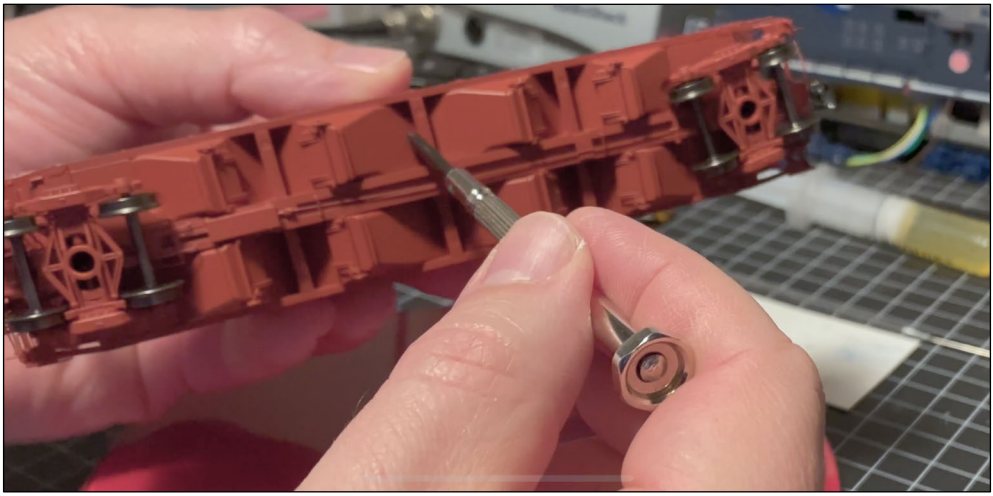
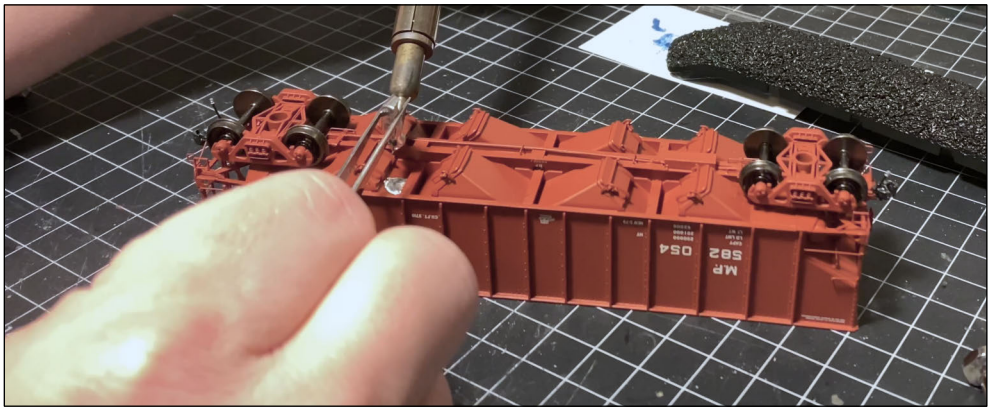


13. The fuel tank weighs 1.2 ounces after adding the weight, significantly more than just the plastic shell. Since locomotive models can weigh less than a pound, especially if you have removed weight to make room for a speaker, every ounce counts toward improved traction and pulling power.



14. Next, George adds weight to an ExactRail hopper car using the CerroLow-117 alloy. It melts at 117°F/42°C, lower than some summertime temperatures in the United States.

15. According to reviews, this hopper is about 1 ounce lighter than NMRA recommended practice, which is easy to make up if you model the hopper loaded, but more difficult for an empty hopper.



16. Using his old soldering iron, George shows how he melts the CerroLow-117 alloy into the small voids between the hopper bays, where they will not be visible from the side or top.

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

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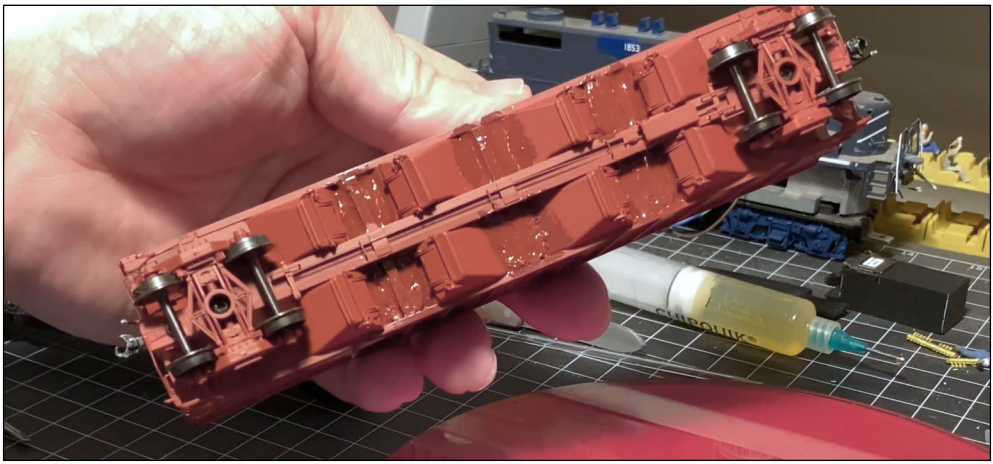
17. Here George shows where he has added the CerroLow-117, with no damage to the plastic.



18. Adding a bit of paint disguises the metal, and weathering will hide it even more.

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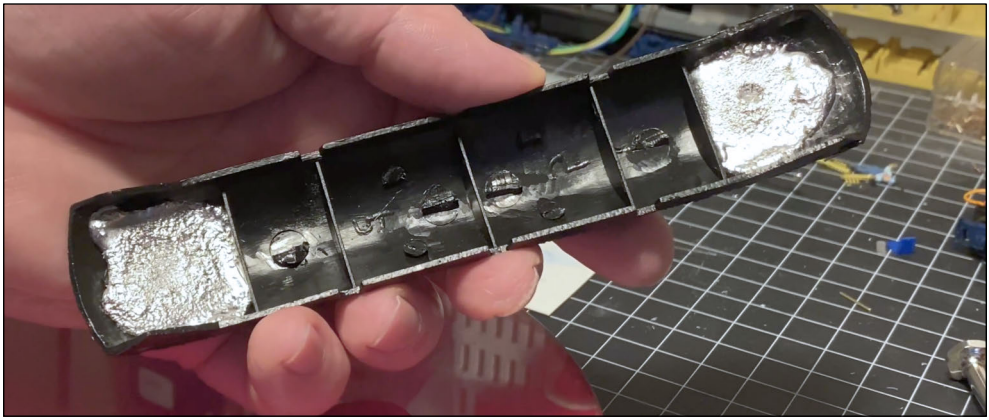

19. George also used the CerroLow-117 to add weight to the ends of the coal load for the model. Care must be taken when adding weight here, as too much weight can make the car tippy by raising the center of gravity too much.

20. George added 1.8 ounces of CerroLow-117 to this hopper. See the video for George's entire presentation.

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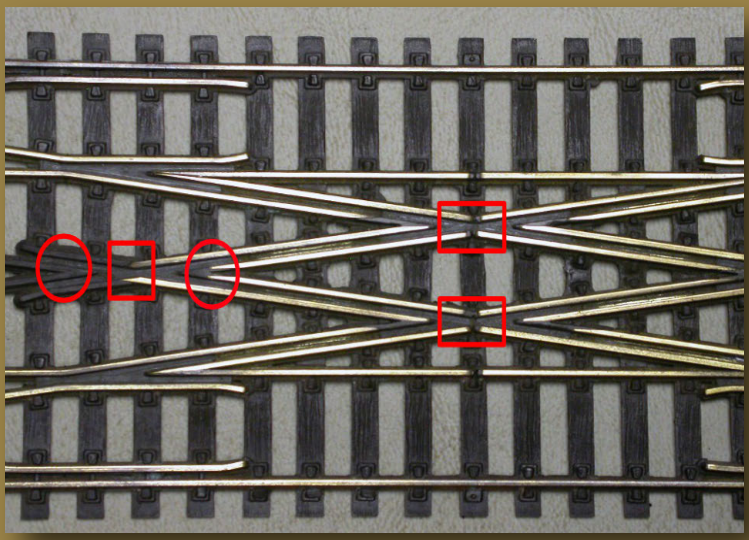
Double crossover wiring



Electrical Impulses

G.T. Galyon on how to wire a double crossover for reliable operation ...

Model Railroad Hobbyist | May I 2021

If you can, I advise avoiding complicated track configurations such as double crossovers, double slip switches, and three-way switches. A single crossover is much simpler to install reliably, and will be less derailment-prone. However, you may need such track configurations to save space.

In this article, I describe my experiences with Shinohara HO scale double crossovers. You should be able to adapt what I present to any brand of double crossover, since the principles are the same.

View reader comments

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DOUBLE CROSSOVER OVERVIEW

Shinohara produced HO scale track under their own brand, and also branded for Walthers and other venders. They produced HO scale double crossovers in codes 70, 83, and 100, with prices ranging between $60-80 dollars.

Although Shinohara is no longer in business, you can still find Shinohara track for sale on eBay and at model railroading swap meets.

A second option is to build a double crossover from a kit. Fast Tracks sells such kits for a variety of rail sizes, and their website offers wiring strategies (www.handlaidtrack.com). Building these double crossover kits is not for novices, but you can buy them built-to-order.

A third option is to cobble together a double crossover from four individual turnouts and one suitable diamond crossing. Getting these crossovers to fit on 2” centers – standard spacing for parallel track in HO scale – requires some alteration to the components.

Melvin Perry has a web tutorial showing how to use Atlas switches and a diamond crossing to create a double crossover on 2" centers (melvineperry.blogspot.com/2012/06/june-25-2012-my-double-crossover.html).

Shinohara double crossovers work reliably out of the box if installed properly – with all surrounding trackage perfectly in gauge and flat.

Electrical shorts can be a problem as engines traverse Shinohara crossovers, though in DC operation, engines tend to roll through shorts as long as the engine is moving fast enough.

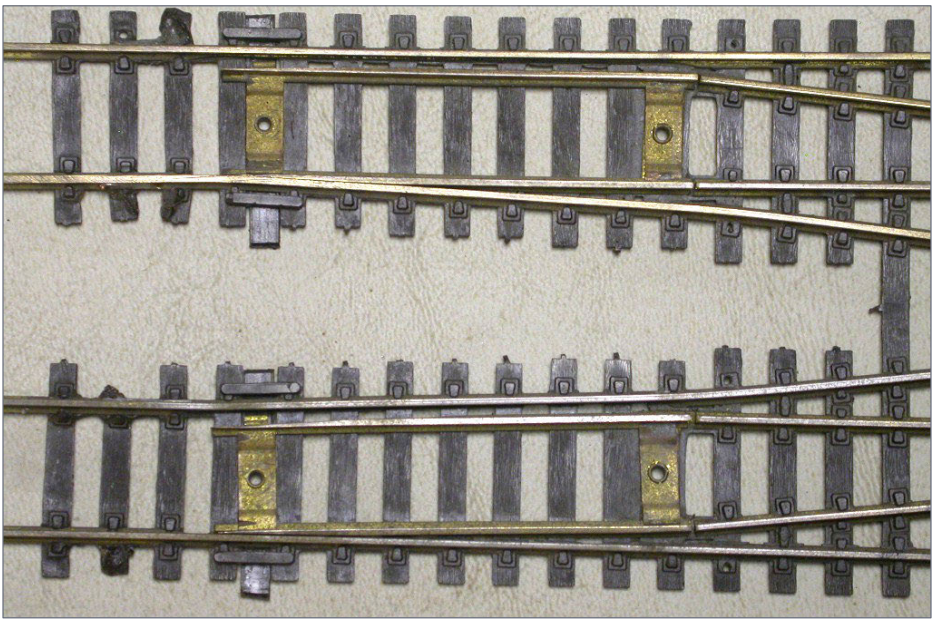
Reliability can depend on crossover angle and size. I find 80-foot passenger cars go through the Shinohara #6 double crossovers just fine, as well as all six-axle diesels I have tested. However, some equipment may have trouble with a tighter #4 double crossover.

A CLOSER LOOK

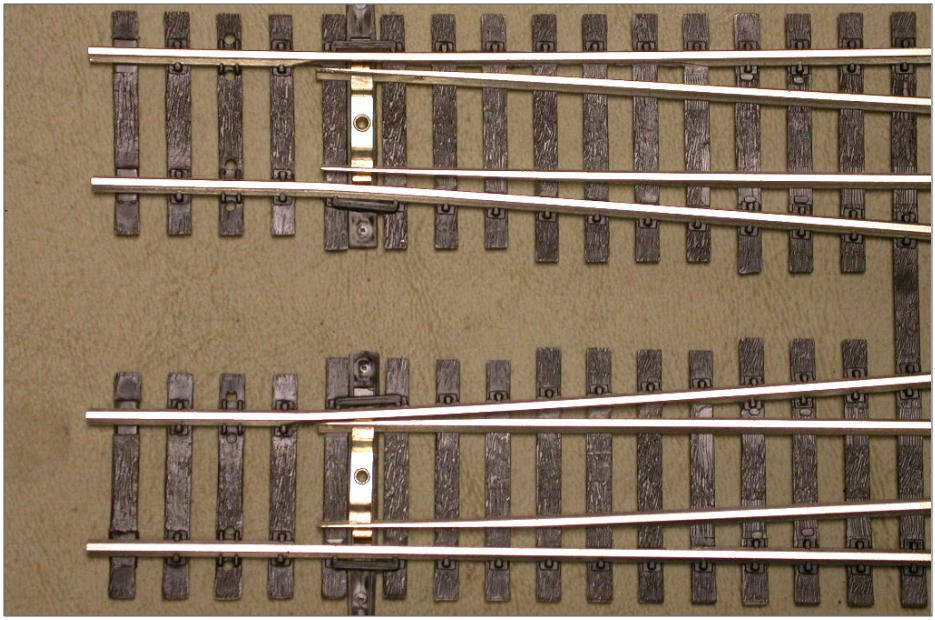
The old-version Shinohara code 70 and 100 double crossovers have two metal crossbars across the point rails, which makes the point rails have the same polarity [1]. The open point rail is always opposite polarity to its adjacent stock rail.

Metal wheels may bridge the 0.060″ gap between point and stock rail, causing shorts, making these old-versions DCC-unfriendly. In practice, I have not frequently encountered such shorts, even with long-wheel-base steam engines, six-axle diesels, and a miscellany of engine types with large flanges, such as older Rivarossi.

Significant design changes for Shinohara's new-version code 100 double crossover increased the stock and point rail gap to 0.095″ and made the point rail transition curves more gradual



1. Shinohara old version double crossover point and closure rails.



2. Shinohara new version code 100 double crossover-point and stock rails.

[2]. This significantly decreased the potential for wheels to bridge the gap between stock and point rails and thus reduced the potential for shorts.

The design is still "DCC-unfriendly" because of a single crossbar, but I have yet to encounter any point-to-stock-rail shorting with the new-version double crossovers, even with the infamous Rivarossi pizza-cutter flanges or older Athearn sintered wheels.

[Using switch machine contacts to toggle frog and closure-point assembly polarity can cause shorts with slow-motion switch machines – the contacts can change polarity before the points have moved. -ed.]

Figures [3] and [4] show diamond crossings for old- and new-version Shinohara code 100 double crossovers. I call the

upper/lower converging rails K-rails (KU and KL). I call the left/right-hand converging rails the X-rails (XL and XR).

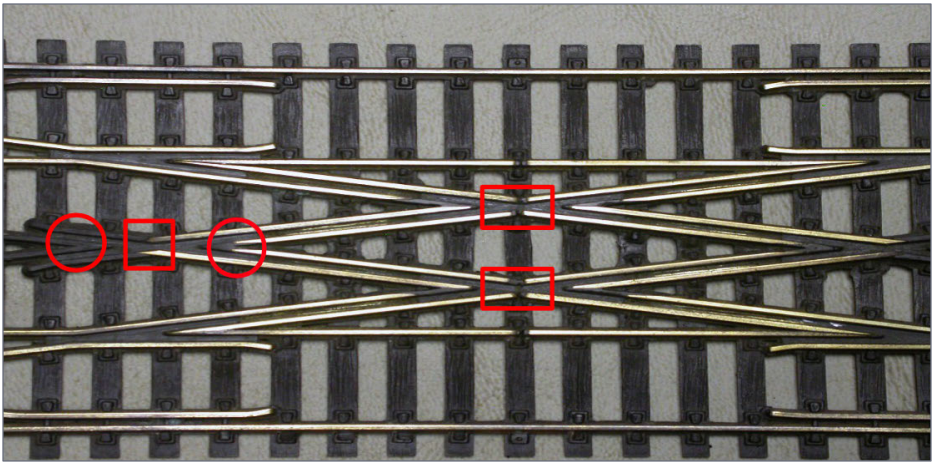
Though the converging X-rails are isolated from the X-crossing and from each other, the rails run continuous across the crossing, with one rail running underneath the other. The converging K crossings rails/guard rails are not continuous across the gap.

At a first glance, the old- and new-version crossings appear identical, but testing reveals important differences that may not meet the eye. Consider the red square and circles over the left-hand X-crossing in [3] and [4]. The squares are over the X-shaped plastic insulation separating the two convergent rails, and the circles mark the points of convergence for the X-rails.

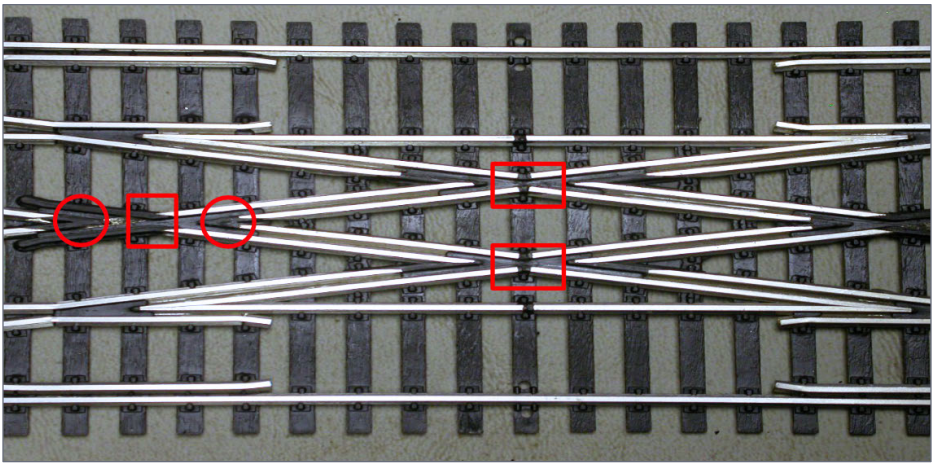
"The new-version double crossover's improved insulation ... has virtually eliminated shorting."

The central part (the square) shows where all X-crossing shorts occur. The new-version double crossover's improved insulation in the central part of the X-crossings has virtually eliminated shorting. I have yet to see X-crossing shorts on the new-version Shinohara code 100 crossovers.

Regardless of version, K-crossings on Shinohara code 100 double crossovers short-out consistently if you only set one of two diverging turnouts. I have had no K-crossing shorts when I have both diverging turnouts set. Before going any further, let's digress and take a more detailed look at how K crossings work to understand what is going on.

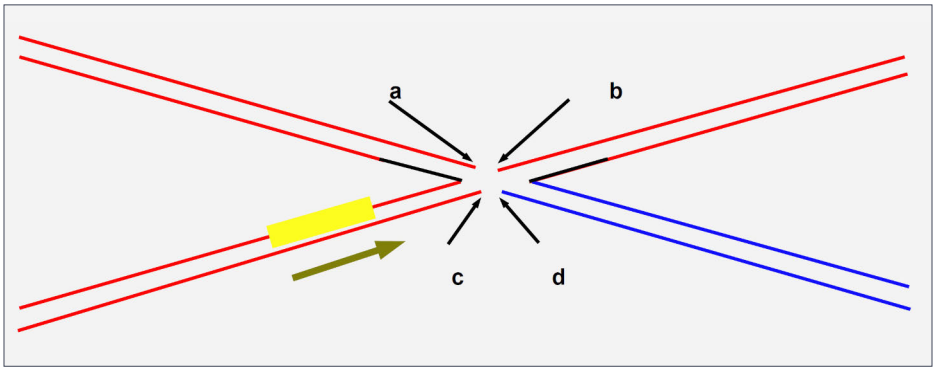


3. Old-version Shinohara code 100 double crossover. The two middle rectangles denote the K rails, and the circles show the X-rails on left frog, and the square shows the plastic insulation point on the frog. The right frog, although not marked, matches the left frog.

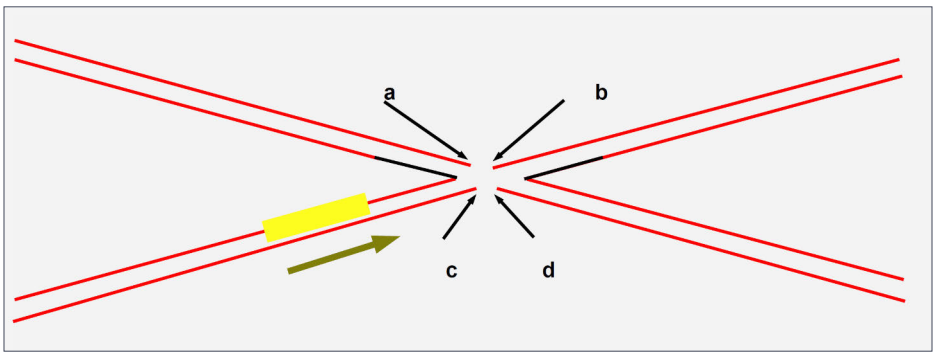


4. New-version Shinohara code 100 double crossover. The new design significantly enhances the insulation, represented by the circles on either side of the square to virtually eliminate X-crossing shorts.

If you set only one diverging and leave the other three turnouts in the "through" position, the K crossing converging rails will have polarities – phases is a more correct term in the case of DCC – as shown in [5]. If you simultaneously set both divergent routes, the convergent rails will be at the same polarity (either red or blue) as shown in [6].



5. K-crossing polarity schematic with one divergent route set. The wheel (in yellow) will cause a short as it makes contact between C and D.



6. K-Crossing polarity schematic with two divergent routes set. Since all polarities are the same, the wheel has no opportunity to cause a short.

[6] is a K crossing schematic for the case where both divergent routes are set simultaneously and all four convergent rail/guard rails are at the same polarity. You cannot get red-blue shorting with this route configuration.

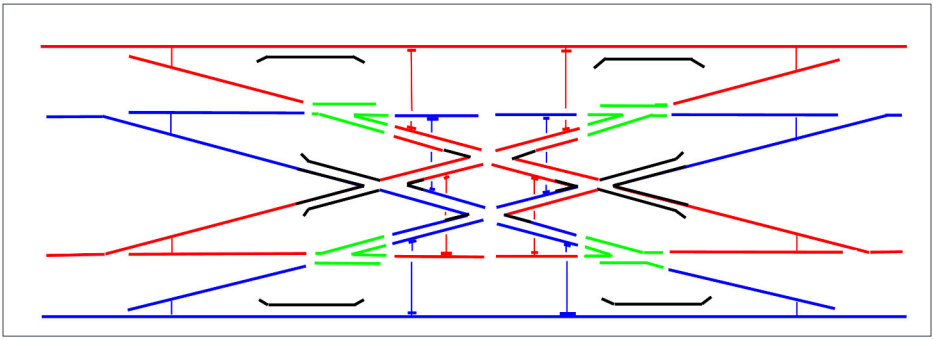
WALTHER'S SHINOHARA CODE 83 DOUBLE CROSSOVER

The code 83 Walthers (Shinohara) double crossover is DCC-friendly because of clever internal wiring [7]. You can install the Walthers code 83 double crossover with just point-to-stock rail switching, and it will run smoothly without shorting.

You should provide some positive retention to the switch rod to maintain adequate contact pressure for continuity between the point and stock rails.

The code 83 turnout frogs are dead, with isolation gaps on either side. I have not encountered any dead frog problems, but you can provide power to the isolated frogs if you wish.

Shinohara has removed all metal crossbars and hardwired the point rails to their adjacent stock rails to eliminate any point-to-stock rail shorting. I can recommend the code 83 Walthers (Shinohara) double crossover, but there are couple of caveats.



7. Walthers Code 83 Double Crossover Wiring Schematic-jumpers shown.

First, the code 83 has internal rail jumpers built into the crossover that can sometimes lose their electrical contact to the rails.

Four of five crossovers delivered to my club and its members – the Olde Newburgh Model RR Club in Walden, NY – were in good order. The fifth, for which all jumpers had failed on one side, arrived without a box and had likely been mishandled in transportation or previous use.

My advice is that you immediately test your code 83 double crossover and return it if you find any broken jumper wires. You can repair broken jumpers on the code 83, but I would not recommend it unless you have sufficient soldering experience.

Second, flangeway binding and pinching can be an issue. The NMRA specifications for flangeway widths in HO have a tolerance range between 0.040"-0.050″. Shinohara code 70, 83, and 100 crossovers are right in the middle of this tolerance range, testing at 0.043″-0.045″

RP-25 (either code 88 or code 110) wheel sets will make it through the code 83 double crossover, but there is some wobble, probably because of flangeway tightness through the frogs, combined with rail curvatures on the divergent route rails as they approach the frogs.

The “wobble” is minimal with most wheel sets; if your locomotive roster gets through the C83 crossover acceptably, then do nothing.

I have encountered binding issues with some older locomotives passing through the code 83, including an Athearn SW1500, a Bowser K-4 Pacific, and a Rivarossi 2-8-4.

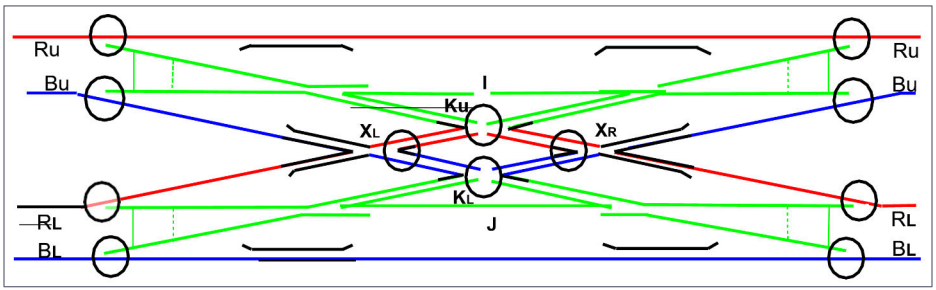
I was able to improve the running performance by burnishing the sides of the rails and plastic insulation, and widening the flangeways by removing material from the rail/plastic insulation sides.

To polish the plastic insulation flangeways, I first slide a styrene strip (0.040″ to 0.045″ thick) through the flangeways several times until it glides smoothly.

Then I slide a Dremel abrasive disk about 0.043″ thick through the flangeways. I use my thinnest flat-sided file (0.045″ thick) to widen the flanges near the turnout frogs to facilitate long-wheelbase steam engines and six-axle diesels.

SHINOHARA CODE 100 DOUBLE CROSSOVER WIRING

Let's take a moment to go over some schematics for Shinohara crossovers. [8] is for a Shinohara code 100 double crossover with all points at neutral, or mid-throw between straight and



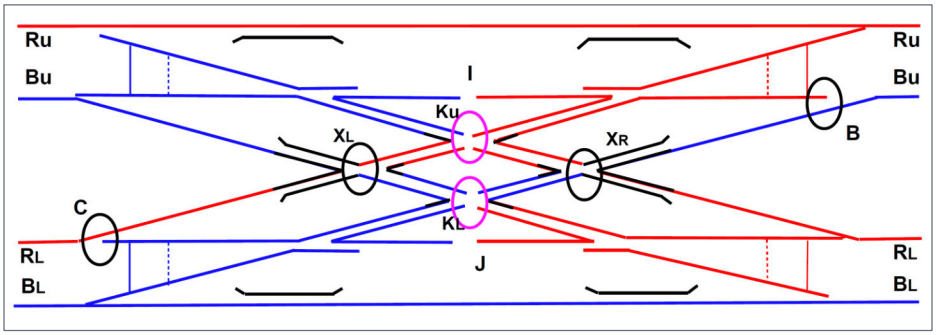
8. This is a generic schematic for Shinohara code 100 double crossover schematic with point rails neutral. I have circled the potential electrical trouble spots.

Red and blue rails denote polarities. Green rails are switchable to either red or blue polarity, depending on the turnout position.

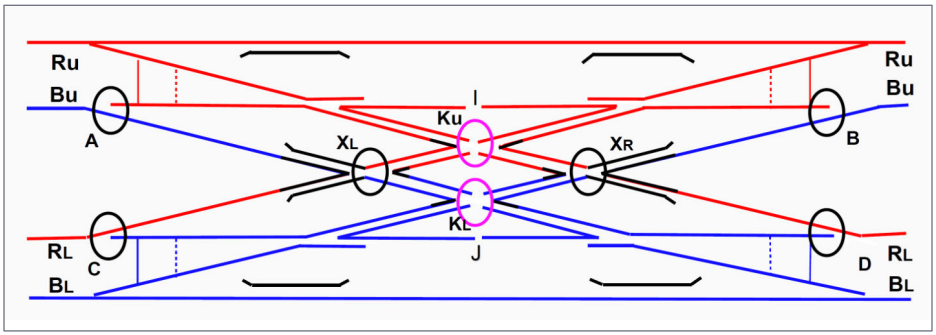
The gaps that Shinohara builds into the design are at points I, KU, KL, and J. Though some wiring schematics eliminate the gaps at I and J, I would caution against it because switch machine contacts work on a delay. Without I and J gaps, this delay may cause a short circuit during the switching cycle.

diverging. You would rarely have your turnouts in this position deliberately, but it illustrates how the points polarize the portions of the double crossover in green.

For comparison, let's look at the same as-manufactured Shinohara code 100 double crossover with two turnouts aligned to a diverging route [9], or with all four turnouts set to diverging [10].



9. Shinohara code 100 double crossover with to turnouts set for one divergent route. KU, KL, XL, and XR all have convergent rails with opposing polarities.



10. Shinohara code 100 double crossover with two diverging routes set simultaneously. The convergent rails at KU and KL have the same polarities, while those at XL and XR have opposite polarities.

“I can crawl most engines through the crossings without any shorting or pinching hesitations.”

While you can protect K-crossings by setting both divergent routes simultaneously, the X-crossings and point-to-stock rails have opposing polarities no matter what.

The point-to-stock rails do not typically cause problems, so let’s look at some possible solutions for the X-crossings.

For the new-version Shinohara code 100 double crossovers, I recommend setting both divergent routes simultaneously to eliminate the K crossing shorts.

The new version has sufficiently insulated the X crossings to eliminate any shorts, whether operating DC or DCC.

If point-to-stock rail shorting should occur, I recommend gluing a 5- or 10-mm styrene strip to the outside of the open point rail on the divergent routes.

Removing the metal crossbars and wiring the point/stock rails together and adding single pole double throw (SPDT) power to gapped X-crossings would be a superior solution.

I have run a wide variety of equipment through the new-version double crossovers and have yet to experience X-crossing or a point-to-stock rail shorting problems.

I have also not experienced any pinching or wobbling as engines traverse the new-version code 100 double crossover. I can crawl most engines through the crossings without any shorting or pinching hesitations. Any hesitations have been due to dead spot stalls.

A LIGHT GOES ON

Old-version Shinohara double crossovers with the twin metal crossbars on the point rails are another matter entirely, and the solutions are much more elusive.

Wheel backsides making contact with the vertical surfaces at the crossing apex typically cause the shorts, so my club tried to solve the problem by coating the vertical surfaces of the K- and X-crossings with nail polish.

Despite an occasional temporary success, our results proved to be unsatisfactory.

One of our members, Stephen Walsh, suggested we try using an 1156 automotive light bulb on the X-crossing as a short circuit limiting device in conjunction with the nail polish. Automotive light bulbs have been a trick for limiting short circuits since DCC was first put on the market.

Having both the nail polish and the light bulbs in place eliminated the X-crossing shorts completely. Only a combination of both proved successful.

I have found most of the shorts to be transient. They don't last long enough to make the bulbs glow or heat up enough to cause any concern.

However, it's probably a good idea to keeps the bulbs readily visible just in case. A hard short would light them up, and a consist of three to five locomotives with sound will likely cause them to begin glowing.

"Having both the nail polish and the light bulbs in place eliminated the X-crossing shorts completely."

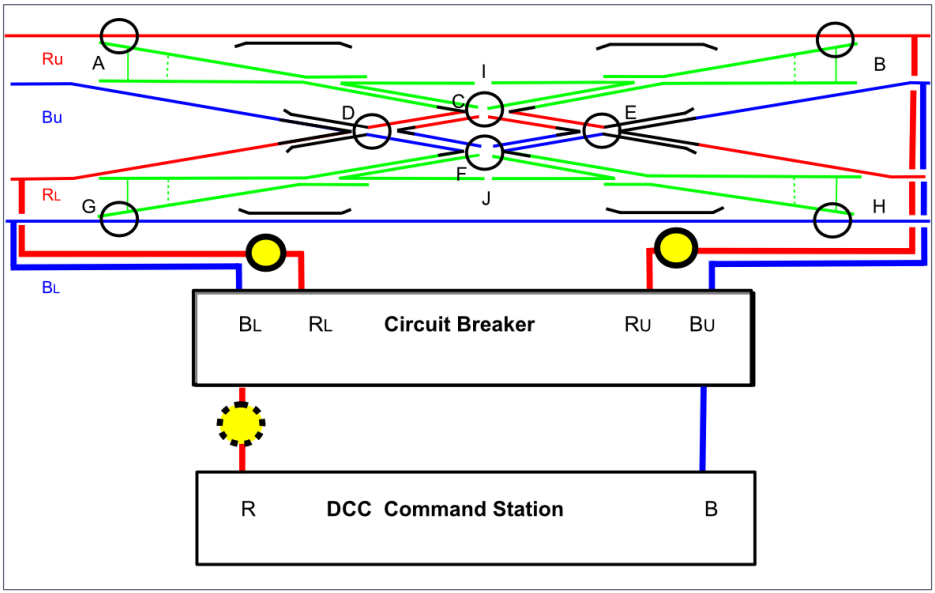
In short, you can dampen DCC shorting problems on Shinohara double crossovers with a little nail polish or liquid tape and an automotive taillight bulb.

The whole solution costs less than a dollar. There is no need to cut any gaps, remove any metal crossbars, isolate the double crossovers, or provide SPDT switching.

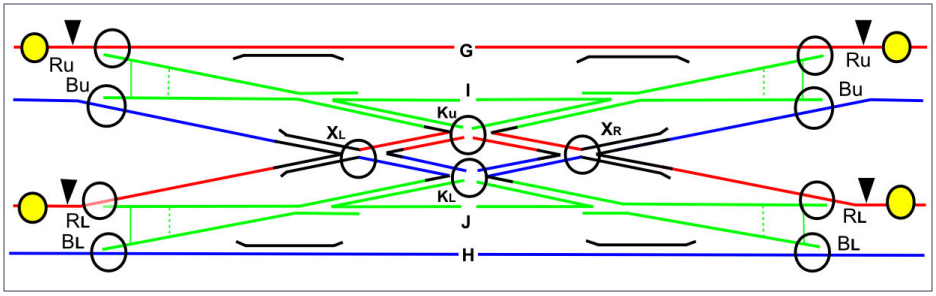
BREAKING IT DOWN

For our club solution, we wired two bulbs into the red lower (RL) and red upper (RU) feeder wires, between the circuit breaker and the tracks [11]. This would also work for the blue wires.

Alternatively, you could try a one bulb solution by wiring a bulb into either the red or blue bus wires between the DCC command station and the circuit breaker [11].



11. One and two-bulb solutions for Shinohara double crossover shorting. The yellow circles represent light bulbs.



12. Four-bulb shorting solution for Shinohara double crossovers. Note that you will need to cut four extra gaps into the track near the arrows to use this solution.

The gaps at G and H are not strictly necessary, but I like to have only one bulb in the short circuit path. Without those gaps, some of the short paths will have two bulbs in parallel, which increases the maximum allowable surge current, and there can be a hard short if the points are not set correctly.

The one- and two-bulb solutions will result in the bulbs affecting your entire layout (or section) which may not be what you want. A four-bulb solution as shown in [12] will affect only the double crossover.

If you choose to use a SPDT switch on the four-turnout frogs, you must place the switch machine feeder wires at the arrow points as shown.

The four-bulb solution does not isolate the double crossover, but you cannot have any track feeder wires between the bulbs and the crossover on the red rails or the circles and the crossover on the blue rails.

You must force the short currents to go through one bulb to complete the circuit.

If you utilize the four bulb solution do not do any gapping or soldering at the four ends of the double crossover tracks themselves.

Only four ties separate the point rail contact points from the end of the double crossover, and you do not want to damage them. Put your gaps and solder contacts at least an inch or two outside of the double crossover.

The circuit breaker

For our DCC testing, we used a Digitrax PM42 circuit breaker set at a trip current of 1.5 amps and with a delay time set to approximately 500 milliseconds (the lowest-current trip point and the slowest circuit breaker delay time).

Since the bulbs do not light up, the current trip levels (which range from 1.5 to 12.0 amperes) should work in conjunction with the circuit breaker delay time of 500 milliseconds.

The PM42 is a mechanical relay type of circuit breaker. It is more sensitive to current surges than solid-state circuit breakers.

If we can make the bulb enhancement system work with a PM42, it should work with other circuit breakers, too, provided that we adjust the circuit breaker delay time to 500 milliseconds.

Solution rationale

A metal-to-metal short at the X-crossings would result in all current being diverted through the short, with no current delivered to the engine motor and no voltage drop across it.

If you wire a bulb in series with a metal-to-metal short, then all the voltage will be “on” the bulb, causing it to heat up, thus increasing the bulb’s resistance and clamping the current. For an 1156 bulb, the DCC clamp current is about 3 to 3.1amps.

Coating the bare vertical surfaces of the X-crossings with a dielectric material transforms the metal-to-metal short to a metal-insulator-metal capacitor.

For the club's initial application, we used nail polish as the dielectric material. Since then, have learned that J. and B. Weld, though a little more difficult to apply well, produces stronger results and lasts much longer than nail polish or liquid tape.

If the insulator material is thick, the capacitance and capacitor charging currents are low. Shinohara's new-version double crossovers have thick dielectric material coating the horizontal surfaces of the X-crossings and the resultant capacitor charging currents go to essentially zero.

However, if the dielectric material is thin, the capacitance and capacitor charging currents will be greater. With thin-dielectric coatings, the charging currents under DCC voltages may be sufficient to trip the circuit breaker, even though the capacitive "short" and the engine motor draw current.

In fact, the locomotive draws enough current to keep most sound decoders going, even if the locomotive is moving at a crawl.

A bulb placed in the circuit reduces the capacitor charging current and avoids exceeding the breaker trip current, without affecting the current flow through the motor. As long as the capacitor charging times are short enough, the load receives its full input voltage.

While this article specifically dealt with Shinohara double crossovers, I would not be surprised if results would be similar for other crossings.

Our club had crossings that consistently shorted-out when traversed by any engine previously, so we solved the problem by removing the crossings!

This was before we stumbled across the bulb-enhanced double crossover solution. We still have the crossings, so maybe we need to put them back?

CONCLUSION AND ACKNOWLEDGMENTS

I hope you find this article useful. I suspect there to be a lot of Shinohara double crossovers still out there – they have been the only game in town if you want a factory-made double crossover. So have at it and let us know what happens.

I need to acknowledge the help of the Old Newburgh Model RR Club in Walden, NY which provided all the double crossovers used for testing. In particular, I'd like to thank members Steve Walsh, George Moore, Peter Bach, Tom Smith, and Ed Miller.

Steve first proposed the bulb enhancement idea, and George provided the test trackage. Tom provided the DCC function, with Ed and Peter doing a lot of the early engine testing. I am also grateful to Steve Daggott for his help and advice. ☑

MRH MARKETPLACE

Easy to build town and city structures

in N and HO scales

V.S. ROSEMAN SHOWS THE MANY POSSIBILITIES OF JUST ONE HIGH-RISE HOTEL KIT...

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1. N scale CMR Park Hotel kit, assembled in a downtown city setting.

Model Railroad Hobbyist | May 2021

VIEW READER COMMENTS

A FRIEND OF MINE RUNS A HOBBY SHOP. Recently, a customer asked to have the N scale CMR Park Hotel kit assembled for his layout, and my friend hired me for the job. The Park Hotel kit, available in both HO and N scales, builds into an impressive and realistic tower hotel [1, 2].

CMR structure kits are laser-cut acrylic that is rigid and dimensionally stable. Most solvent cements work on it. Despite the Park Hotel's size, it assembled easily.

I built and painted the kit in sections, and set each aside to dry overnight. In the morning, I had an epiphany. The building has five distinct sections and a roof, each of which I could use as an individual building [3].

Before completing the kit, I decided to test some of these smaller structures in an N scale layout setting. I added a few removable decorations and photographed them. Depending on how you choose to use the parts, you can make several structures from just one kit.

The eight-story portion of the model above ground level could make a good-sized hotel or apartment building by itself. It takes up very little space on a layout.

I made up some signs on my computer to name it the "Hotel Rexford Tower" and built a support framework of plastic strips – Plastruct or Evergreen works for this. There are a number of


PARK
PARK HOTEL

illuminated and animated signs available in hobby shops that could make the hotel a real showpiece. I added some fine black sandpaper to simulate a flat roof.

To dress-up the first floor, I drew up red awnings on the computer and printed them on cardstock. I could have used painted styrene, but I wanted to use some of the fancy emblems some hotels have.

2. (Left) N scale CMR hotel in a resort setting by the sea.

3. (Above) Hotel model shown in five segments.

4. I made a smaller city hotel with awnings for upscale shops on the first floor. I drew designs and printed these on cardstock.

5. A view of the Rexford Tower back wall. I added a large title sign and ad for the hotel coffee shop. The little parking lot and signs add more interest than butting the hotel against other buildings. A park or lawn with some trees would be another interesting detail.

6. Front view of Rexford Tower.

7. Rexford Tower set into an N scale city module.

I thought the windows looked bare, so I simulated tied-back curtains from squares of colored paper. I cut a V-notch in the bottom edge of each curtain. A hotel would probably have all the same color curtains, but you could simulate an apartment house with curtains and shades of different colors in each apartment.

As this building section has no entrances, I photographed some interesting doors in my neighborhood and printed them. I calculated the doors to be 7′ tall, which is almost exactly 1/2″ in 1:160 scale. 8′ doors would be close to 5/8″ tall.

I ran a black marker around the edges to eliminate the white paper rim. I sealed both front and back with Dullcote to help resist moisture that might warp the paper. I framed the doorway with 0.030″ styrene from Plastruct or Evergreen to add depth.

8. City of Landia Municipal building with decorations in layout setting.

You can make the back of the model (the side with very few windows) more interesting if it faces a park, one-story building or a small parking lot. In this case, I added billboards to advertise some of the hotel's features to the blank wall areas [5]. You can advertise any product or service you like, of course.

The three-story section of the kit looked like it would make a good municipal building. This important structure can include town, county, or city offices such as the water department, police station, or other essential services. This structure could be an office building such as the railroad's division offices, or could hold offices of individual firms [8].

Before TV and radio, public entertainment included concerts, traveling theatrical plays, and vaudeville shows. By 1910-1920, movies became a huge part of the entertainment industry. The ground floor of the kit would make an excellent theater.

Some small local movie theaters still survive, but most have been repurposed as meeting halls, or for other uses. You could place posters (available in hobby shops) for movies or Broadway shows visiting town on the walls or on easels in front of the theater. I built an old-fashioned marquee for this model, but you can replace it with a more modern illuminated marquee [9-11].

You could place some of the kit's upper floors above the theater building to serve as offices. There are many examples where this was done, a few of which are famous. Chicago's Lyric Opera House has offices above it, and the Masonic meeting hall in Glendale, California has a movie theater on the first floor.

A post office was often placed next to the railroad track, with loading doors on the side or back. Sometimes train loading would be done from one or more spur tracks off the mainline [9-13].

Alternatively, this building could be a city hall or municipal building, depending on what your town needs. I didn't use the

9. Park Hotel kit's main floor portion decorated as a town auditorium, theater or meeting hall.

10. Main floor of kit with homemade movie marquee.

11. Shore movie theater with signs photographed at Coney Island.

12. Set-back style structure shown as a large post office in a street view.

kit's elaborate hotel roof as seemed too big for any of the smaller structures, but you might want to try it.

The third or fourth section could be an apartment block, condo, small hotel, clinic, or office building [14, 15]. The stripes I have on the model are often a different color stone or brick, and can be any color, but usually are neutral brick or gray, tan, or brown stone.

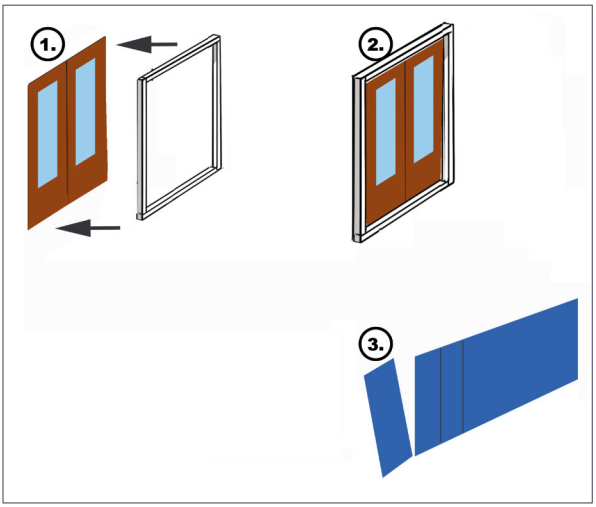
For each of these smaller buildings, you'll need to add an entryway. You can make a simple entrance by photographing a real entry, then sizing, printing, and gluing the photo to your building. For added flair, I like to add a styrene frame to it [16].

Adding vestibules with doorways provides many more possibilities. For vestibules, I printed the door on thin coated inkjet paper and folded it around a small block of basswood [17].

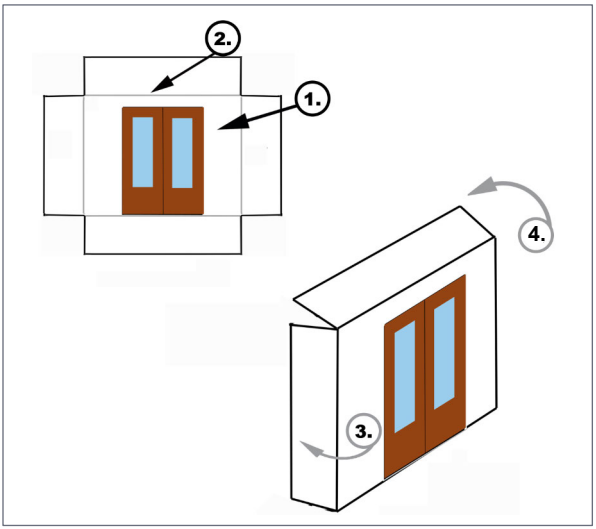
13. Post Office with railroad loading platform wrapping around the front of the building and along the side.

14. Apartment house with tan and gray stone. This could also be a condo, small hotel, or small office block.

15. Tannenbaum Arms can represent an apartment complex or hotel that has been modernized with an aluminum entry vestibule. I painted strip styrene blue, and cut it to match the window height for shutters on first floor. The rooftop air conditioning unit is scrap styrene, although there are commercial kits available for ventilators, air conditioners, and other typical fittings.



16. To make a simple entryway, find a photo of an entryway, scale to size, and print on cardstock (1). Frame with styrene strips and secure with contact cement (2). To dress up your building's windows with shutters, cut a strip of 0.15″-thick styrene the same width as your windows' height, paint your desired color, and cut into individual shutters (3).



17. To build a vestibule entry, photograph a door and print on cardstock (1). Score the cardboard along the gray lines (2). Fold the sides (3) and top (4) as shown.

Large roll-up doors could lead to a basement parking lot or can represent loading doors. For a panel type roll-up door, I folded cardstock around a block of basswood and added a styrene roof [18, 19].

18. roll-up garage doors or loading doors fitted into a vestibule.

19. This roll-up door is a flat print. I did not add a frame for the shadows made the door look three dimensional.

I wanted a modern glass-and-aluminum vestibule for the Tanenbaum Arms to represent that the building had undergone modernization [20]. I covered a photo of a doorway in my neighborhood with a 1/8”-thick piece of acrylic. I cut door frame from dull silver wrapping paper to represent aluminum, laid it on top, and glued it all together by carefully applying contact cement around the edges with a toothpick [21].

If these structures represent fireproof construction, fire escapes are not necessary. However, it is possible that they are "semi-fireproof," in which case you’ll want to add fire escapes. Fortunately, Tichy has a nice N scale installation in his line of plastic kits, and several other manufacturers have good N scale fire escapes, too.

When I figured how the CMR Park Hotel kit could be divided up into so many different kinds of city buildings, I called a friend with

20. Aluminum vestibule for the lobby of Tanenbaum Arms. Older buildings that have been modernized often feature this type of entry.

an N scale layout so I could take the photos you see here. Together, we agreed that the conversion would be an easy project that would yield structures that might encourage modelers to really "think outside the box." ☑

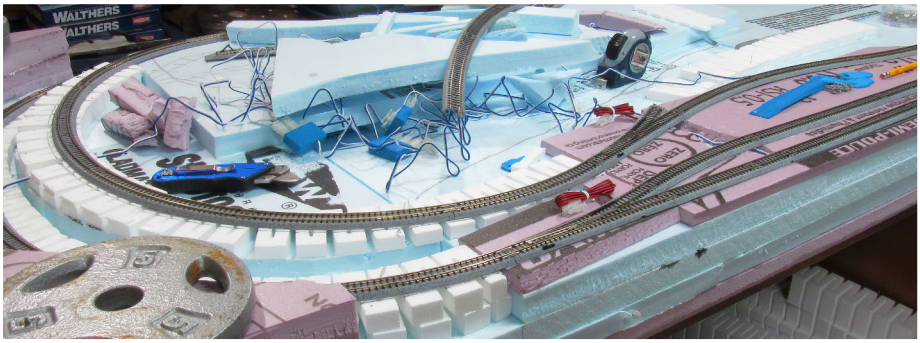
21. To make modern aluminum vestibules, begin with a photo of a lobby or entry scaled to size and printed (1). Overlay it with a 1/8″-thick piece of clear acrylic, cut to size (2). Cut a frame from silver wrapping paper, and position it on the acrylic (3). Use a toothpick to apply DAP Weldwood or similar adhesive around the edges.

V.S. ROSEMAN

Victor got his first train, a Lionel, at age 3. Victor graduated from the Pratt Institute with BFA and MS degrees and taught fine arts in high and junior high school for 30 years and is now retired.

Victor has written many articles and several railroad related books over the past 35 years. He's also done many freelance projects for Walthers, Atlas and other model manufacturers. ■

BUILDING A SMALL N SCALE LAYOUT PART 2



Model Railroad Hobbyist | May 2021

DAVE KILBORN DEMONSTRATES HIS SCENERY TECHNIQUES...

VIEW READER COMMENTS

THIS MONTH I CONTINUE THE CONSTRUCTION OF MY SMALL N scale layout, moving on to scenery. I want this small layout to be light enough that I can easily move it myself, so foam will be the main component of the scenery base.

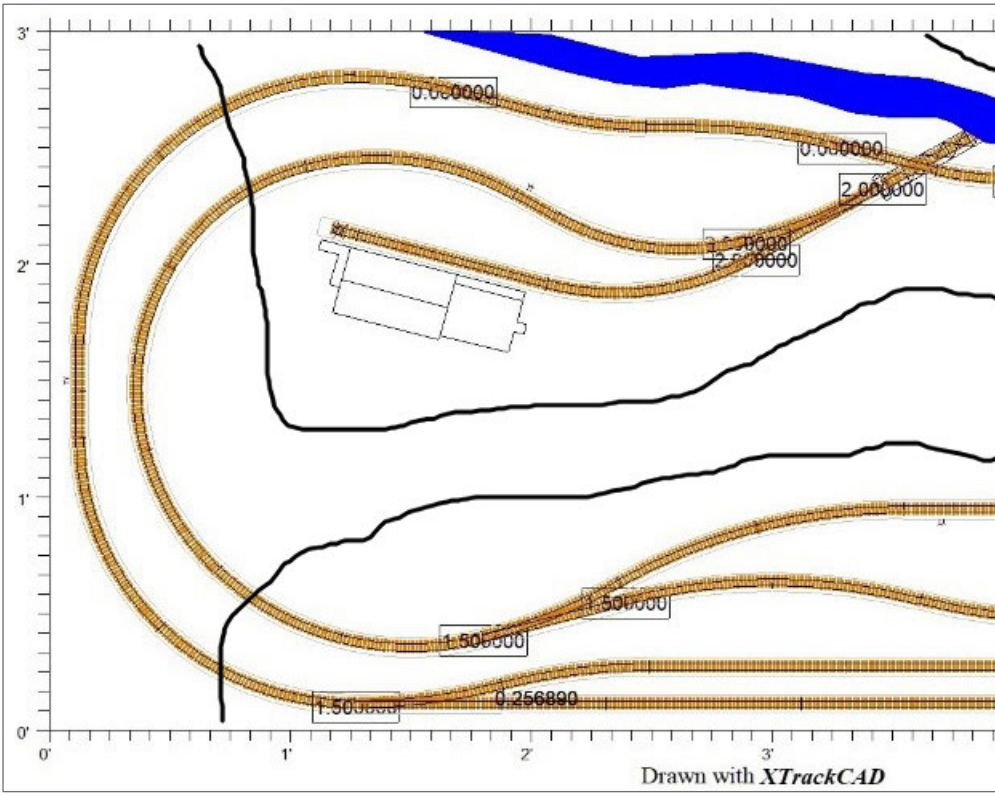
I want to have a mountain with tunnels on one side that extends to the middle, acting as a view block from one side to the other. I would have a segment of another mountain on the other side of the river with a tunnel there [1].

In the flat area at the end of the "peninsula" of the mountain, I want to put a small town scene set roughly in the late 1970s.

The town will include:

- some sort of small industry at the spur
- a restaurant
- a gas station
- a small-town hotel
- a passenger depot at the passing siding

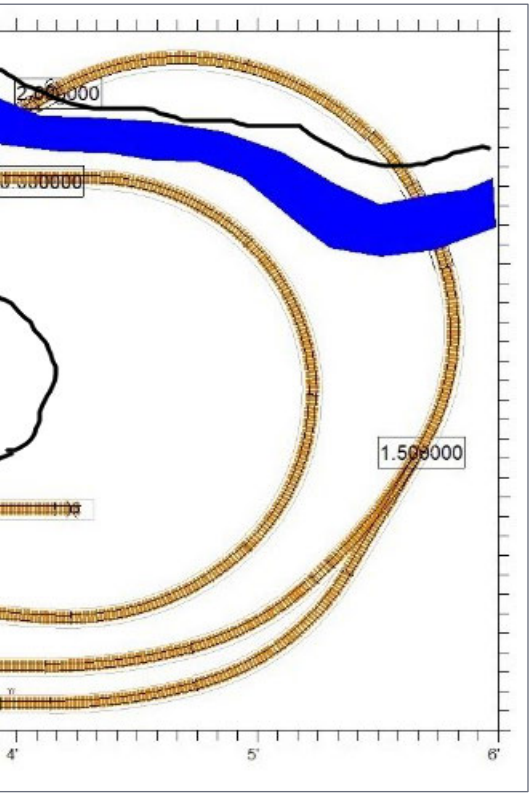
I plan to add an old, abandoned mine off the spur on the other side of the mountain. With these rough ideas in mind, let's dive into building the mountain with foam.



FORMING MOUNTAINS WITH FOAM

There are different methods of making mountains out of foam, and one of the best tutorials I have seen comes from *MRH* blogger Rick Reimer (On30guy on the *MRH* forums, rupheandtumbelle on YouTube). His video gave me a great starting point: www.youtube.com/watch?v=MQ_PF27nA4s.

I cut a few pieces of foam to go into the two corners of the longest tunnels on the left side of the layout diagram. These pieces will act as a base to build up the "cover" over the tunnels as well as tunnel liners [2].



1. The black lines represent the contours of the mountains I wanted to build. I wanted the mountains to dwarf the trains and serve as a view block to divide the layout into separate scenes.

VIEW READER COMMENTS

I also added a divider between the two tracks so that you can see tunnel walls through the portals if you look from the right angle. I cut a couple more pieces to form the inside of the tunnel and the base of the "peninsula" and glued them into place.

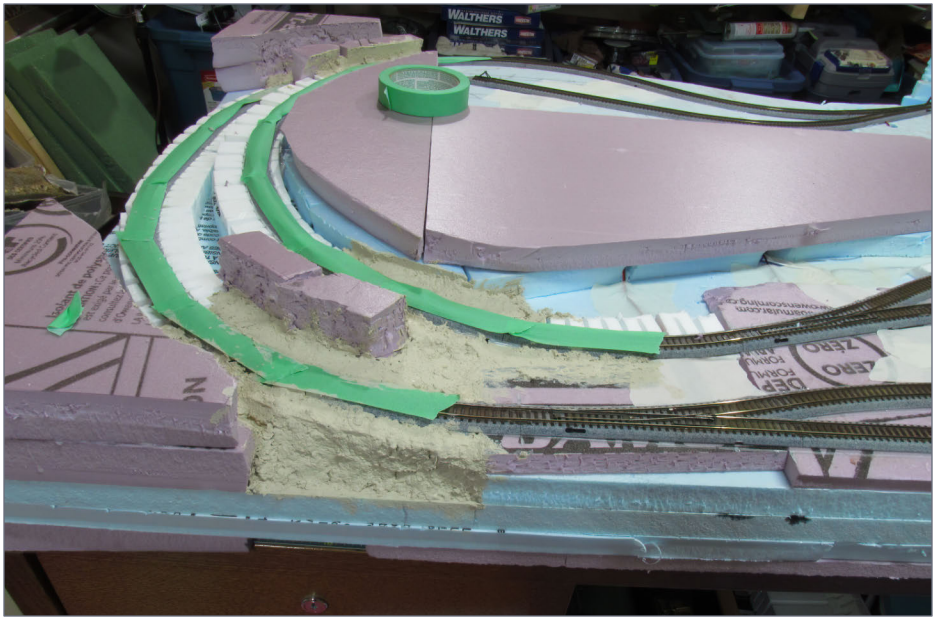
PREPARING THE TUNNEL FLOOR

Before proceeding further with building the mountain, I took advantage of the easy access to scenic the inside of the tunnel. First, I covered up the track with tape to protect my weathering job.

I mixed up a batch of my own ground goop using vermiculite, CelluClay, craft paint (any earth/rock tone) and water. I didn't use any specific recipe for the mix, but after adding the dry ingredients, I added water little-by-little, mixing with my fingers until it was the consistency of thick oatmeal.

I applied the goop using my fingers, attempting to keep it as thin as possible because of its long drying time. I wanted to cover the foam and fill any undesired cracks or crevices. I let the goop dry overnight [3].

2. I formed the tunnel entrances on either side of the mountain, building up the height of the corners to support the top of the tunnels in each corner. I used weights to hold the foam down as the adhesive dried.



3. I scenicked the inside the tunnels before putting on the top.

CREATING THE TUNNEL WALLS

My next step was to make the tunnel liners. This was my first attempt at carving rocks from foam, so I began with the less-conspicuous tunnel liners. I used a couple of old kitchen knives to randomly cut, slash, and gouge the foam to look like blasted rock [4].

I noticed that the seams between the chunks of foam were too uniform to be realistic. This wasn't a big deal in the tunnel, but I would have to address it on the mountains.

Using my wire brush, I knocked off any loose pieces of foam and worked to blend the "rocks" together. I vacuumed up the loose material before grabbing my palette with burnt umber, burnt sienna, and yellow craft paints. I kept a dish of water handy to create washes.

4. I used kitchen knives to rough-up the foam to look like tunnel walls.

I mixed burnt umber with a bit of water and put a base coat on the foam. I added blotches of yellow wash and burnt sienna wash, and blended them for color variation. Washes of white and black added even more variation. I finished with a thin black wash over the whole tunnel wall and floor to fill cracks and tie everything together [5].

FINISHING THE TUNNEL

I added some fine real dirt material to add some color and texture, followed by various colors of fine talus or ballast from Woodland Scenics to finish off the inside of the tunnel [6]. I secured it all with Scenic Cement.

An application of Kato ballast along the profile of the Unitrack from inside the tunnel to several inches outside the tunnel finished it off [7]. Kato ballast matched the Unitrack nicely and looked like the type of ballast I wanted. I applied alcohol with

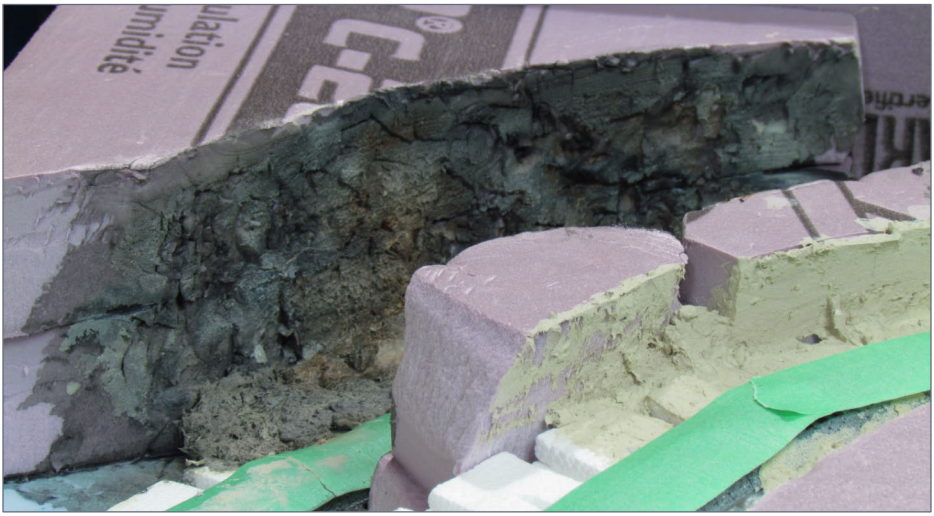
an eyedropper to wet the ballast and added scenic cement to secure the ballast.

BUILDING THE UPPER TUNNEL

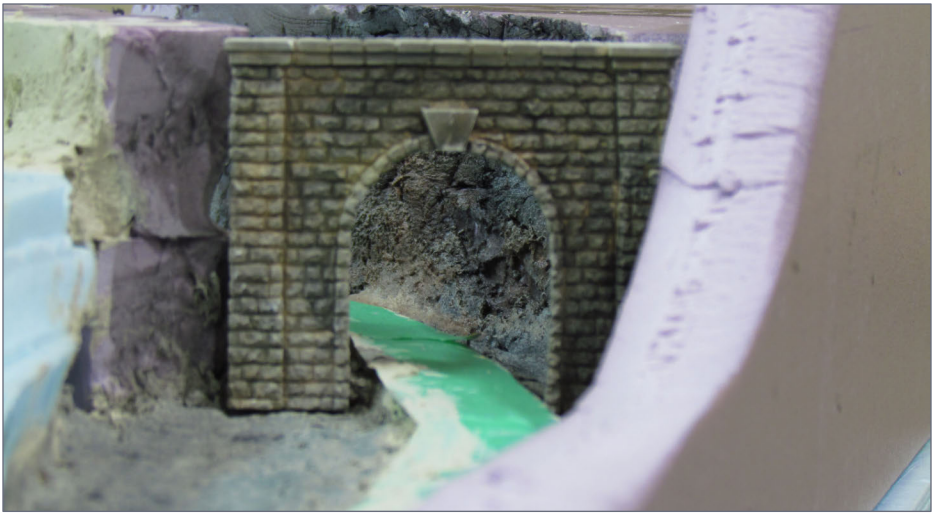
I found pieces of foam to cover over the lower tunnel and act as a liner for the upper tunnel. I trimmed each to fit and I added a piece to the center section on the inside of the two upper tunnel openings [8]. I followed the same steps to complete the inside of the two upper tunnel openings as I did the lower two.

BUILDING UP THE MAIN MOUNTAIN

With the insides of the tunnels complete, I built up the rest of the main mountain area with the remaining foam. I sought to use the pieces as effectively as possible to limit cutting and waste [9]. I worked for a natural slope as I built the mountain up.



5. A thick wash of burnt umber, followed by blotches of yellow, burnt sienna, white and black washes gave the tunnel some color variation.



6. I put the tunnel portal in place to get a feel for what it would look like from the normal viewing angle. The tunnel wall turned out darker than I would have liked, but it looked good enough from this angle.

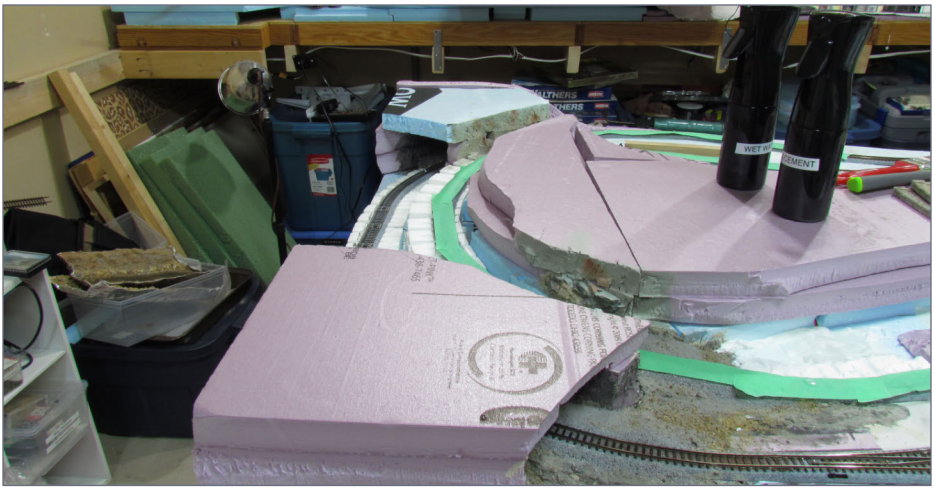
7. I added natural dirt and Woodland Scenics fine ballast to the floor of the tunnel. I used Kato Unitrack ballast for the tunnel entrance.

I wanted the mountain to be large enough to dwarf the trains, yet still be small enough that moving it by myself would be manageable. I kept adding layers until it looked about right, about 10″ at the highest point above the lowest track elevation. The total height of the foam, including legs, was approximately 13″.

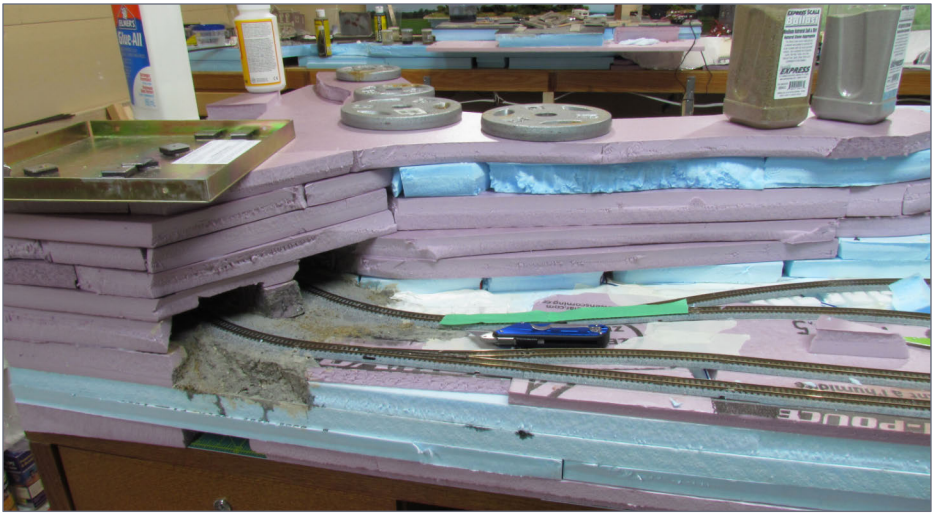
I needed to ensure there was adequate access to the inside of the tunnels for maintenance – track cleaning or clearing a derailment. I conducted some tests to determine how much space I needed, and the result was a 6″ opening on the side to allow a bit more than 4″ of clearance on the inside track [10]. The void in the tunnel also allowed me to use less foam.

BUILDING THE SMALL MOUNTAIN

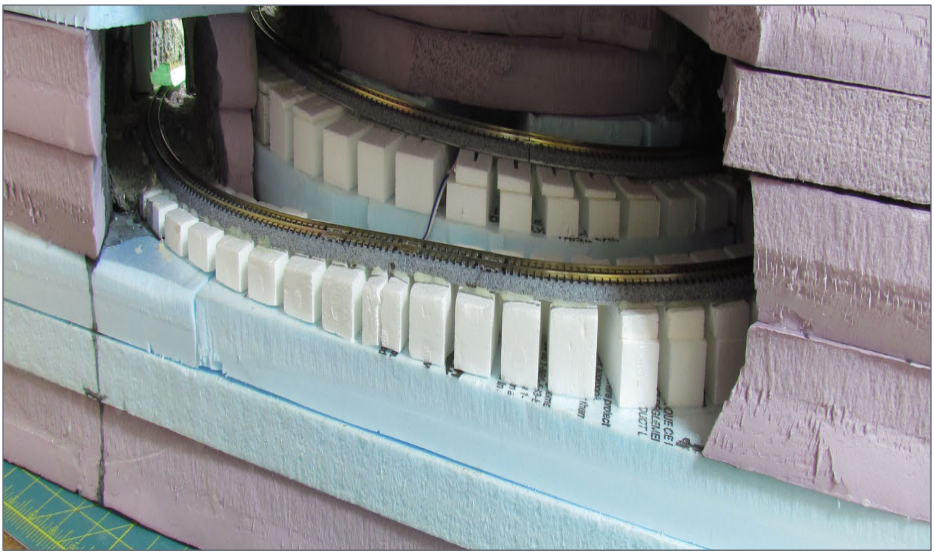
With the main foam mountain built, I turned my attention to the small mountain section across the river on the opposite



8. I trimmed and fit pieces of foam over the lower tunnel openings. I matched the inner height to the outer with more foam. In the upper-center, I had just begun finishing the inside of the upper tunnel.



9. Here, the foam structure of the mountain was nearly complete, with only small pieces needed to add depth.



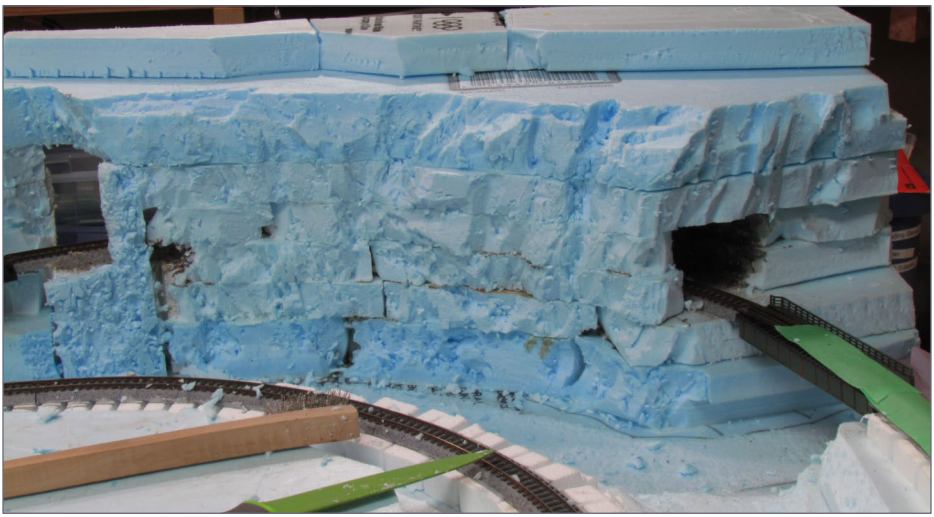
10. As part of the mountain construction, I built a large area for easy access to maintain the tunnel trackage. I may cover this area with a piece of styrene or foam-core for display purposes.

end of the layout. I followed the same method I did with the main mountain.

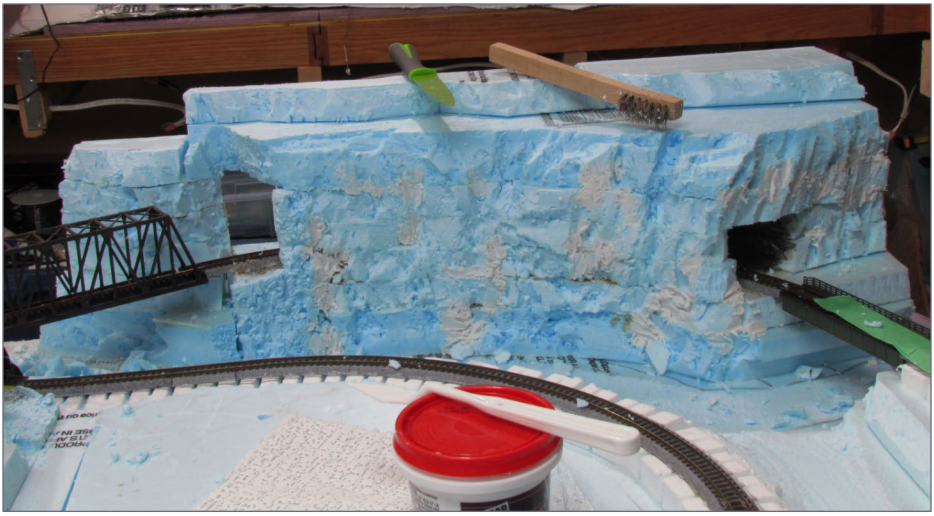
With a bunch of off-cuts and pieces of foam, I formed this second peak almost like using wooden blocks. I stacked and fit the pieces until the shape looked right, and I had the tunnel formed.

I began carving the foam to simulate rock formations and make the mountain look less blocky and more natural. I had difficulty picturing the final result, and was concerned it would look off, but I kept going anyway. If it didn't look right, I could always redo it.

As I reviewed my work, the obvious horizontal lines of the foam layers looked too uniform [11]. I had some lightweight spackle, so I tried using it to fill some of the horizontal lines and add additional texture. When it dried, I used a wire brush to rough-up the texture [12].



11. I built up the smaller mountain and started carving the foam. You can see some of the tunnel liner paint accenting the horizontal lines in the foam.



12. Lightweight spackle added texture and helped fill horizontal lines in the foam.

I test-fitted the tunnel portals, and decided I should add something around them to fill the gaps. I cut pieces of plaster cloth to fit in around the tunnel portals, wet them, and pressed them into place on the foam. With the plaster still wet, I pressed the portals into the opening to hold the cloth in place and eliminate any remaining gaps [13].

FINISHING THE SMALL MOUNTAIN

I mixed more washes, and painted the rock surface. I used a base coat of gray craft paint with a bit of black and brown mixed in. I added water to the paint so it flowed better over the rocks and into the nooks and crannies. With the base coat still wet, I blotted-in the different washes and blended them in to add color variation to the rocks [14].

Once I was satisfied that I had a nice variety of colors and intensities in the rocks, I left it to dry overnight. The next day, I

13. I used plaster cloth to fill the gaps around the tunnel portal. After putting the pieces in place, I pressed the portal into the opening and ensure it was snug, and no gaps remained.

14. I mixed a base coat of gray craft paint with a bit of black and brown, and applied it to the small mountain. I blended various color washes into the base coat.

mixed a dark wash and covered the rock face, working it into the cracks and crevices to bring out the shadows and detail [15].

I wasn't satisfied with the result when it dried. The rocks were generally too dark. I lightened them up with a wash of Woodland Scenics Stone Gray liquid pigment.

I followed this by dry-brushing a mix of white and gray onto the edges of the rocks to highlight them more [16]. I used white and gray on the same palate to allow easy variation. If I applied too much highlight, I could easily blend it with water, but sometimes what I thought was excess paint actually looked more convincing.

CARVING THE MAIN MOUNTAIN

Turning my attention to the larger mountain, I used my knife to hack away at the foam, taking larger chunks out to form a more

15. A dark wash over the surface brought out the shadows and details of the rock.

natural slope, some plateaus and rock faces. I also wanted to form a cut to the right of the tunnels for a "hiking" trail for my 1:160 folks.

As I completed hacking and slashing the foam, those horizontal foam lines glared at me again. I didn't have enough lightweight spackle to complete the large mountain, so I tried Foam Putty from Woodland Scenics instead.

I found the foam putty easier to work with than the spackle. I could build up layers of the foam putty more easily, which allowed me to create other formations. It was also easier to carve.

This mountain was much larger than the smaller one, so I decided to enhance the variety with a few Hydrocal rocks. I hot-glued the rocks to the foam, and filled-in around the edges with foam putty to blend them into the mountain [17].

16. A light wash of Stone-Gray Woodland Scenics liquid pigments lightened the rocks. Gray and white dry-brushing highlighted edges and brought out even more texture.

17. I shaped the foam on the main mountain and used foam putty to fill some of the horizontal seams. A few Hydrocal rock castings added variety.

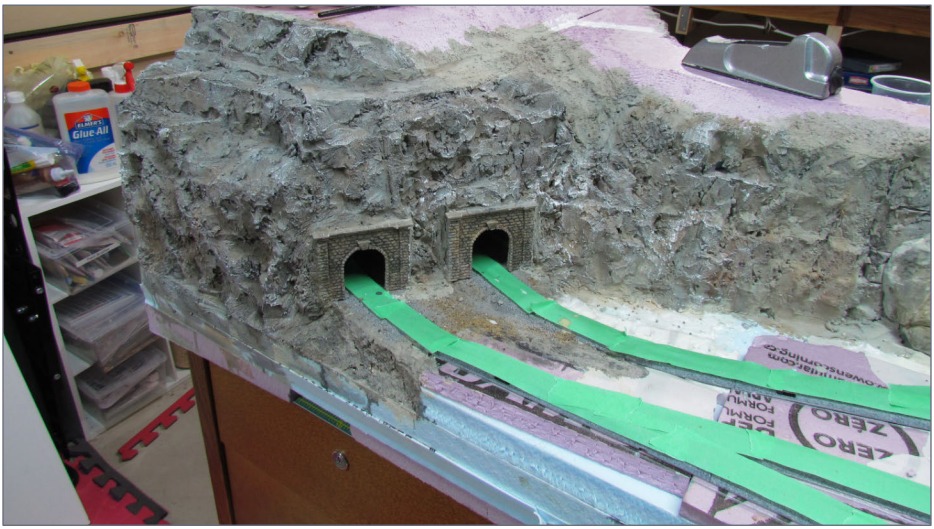
I test fit the tunnel portals to make sure my passenger cars will go through them without touching the portals as they are on a curve. Once verified, I hot glue the tunnel portals in place.

I filled-in around the gaps with the foam putty. Some gaps were larger than I wanted, so it took some time to build up the layers of foam putty to blend the portals into the mountainside [18].

COLORING THE MAIN MOUNTAIN

I applied the same base coat to the large mountain as I did to the small one, using the same technique. I blended-in several colors of wash while the base coat was still wet [18]. When that dried, I added the dark wash to enhance shadows and texture

18. After attaching the tunnel portals and Hydrocal rocks with hot-glue, I filled the gaps with foam putty to blend them into the mountainside. Then I put on the base coat and blended the various color washes.



19. When the base coat and washes dried, I applied dark wash to highlight the shadows in cracks and crevices. I dry-brushed white and gray highlights onto the edges of the rocks to finish.

in the rocks, followed by brushed-on white and gray highlights on the rock edges [19].

Overall, this process was a lot of fun. There are areas where I didn't like the results, but the foam is easy to change and repaint. For many years, I was afraid to try scenery because I knew I would inevitably make mistakes, and it wouldn't look right, but now I have confidence to know I will find solutions when I do.

While I am not always 100% satisfied with my results, I have learned to say, "good enough" and move on. I can always come back and change things later on. Next time, we'll get into adding ground cover and foliage. ☑

DAVID KILBORN

David lives in Saskatoon, SK Canada with his wife, his mother and his two adult children. He has loved model railroading since four years old, when he saw his dad's model trains.

Issues with dexterity and vision in 2013 resulted in a switch from N scale to HO scale, but he missed N scale. When the Covid-19 lockdown hit, he decided to build this N scale layout that he wanted since he was 16.

David has worked at a remote mine site for 18 years, supporting management systems and regulatory compliance. He loves to travel, and looks for opportunities to do so by train. He plays bass guitar and dabbles in writing music and arranging. ■

LOOK
column

Model Railroad Hobbyist | May 2021

JEFF PALMER GIVES A FIRST IMPRESSION OF *MODEL RAILROADER'S* NEW 10-YEAR ARCHIVE: 2010-2019 DVD SET .....

I'VE READ *MODEL RAILROADER MAGAZINE (MR)* SINCE I WAS GROWING up in the 1960s, including many articles on how to build structures, cars, and locomotives. When I was working to obtain my Master Model Railroader (MMR) certificate from the National Model Railroad Association (NMRA), I found articles from Jack Work to be especially useful.

Jack wrote the best articles about bridges, in which he highlighted the details of his good construction techniques. I read his articles over and over, searching for the fine points of construction, detailing, and "how to" techniques. I didn't remember Jack from my teenage years in the 1960s, but when *MR* came out with its 75-year archive in 2009, I jumped on it.

While the internet is good, this archive was better, with three DVDs of material, including every issue published from 1934-

1. The cover for *Model Railroader's* 75-year collection.

2009 [1]. When it arrived in the mail, I installed it on my computer and began perusing history.

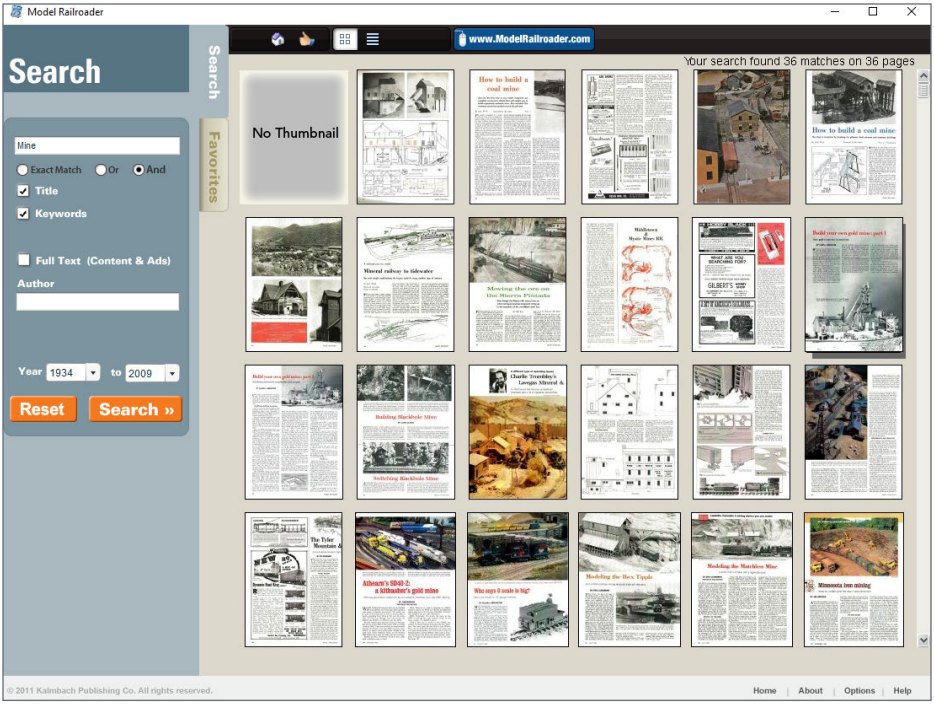
I typed "Mine" into the search and found the old articles by Allen J. Brewster from the 1970s that I used to scratchbuild an N scale model of a gold mine [2, 3]. I still have that model in my closet. It won my first model contest at my local hobby shop.

I use the 75-year collection over and over. It's one of my most important research tools. I have used it for topics on scenery, rail care, detailing, locomotive reviews, and a host of other queries.

That was 10 years ago. A few months ago, *MR* announced the 10-year archive for the magazine [4]. I assumed that this archive would be an extension to the original 75-year archive and that it would process (install, store, and search) similarly. I had hoped to merge the two archives and use them as one library. If they were separate, that would be OK too.

With my past experience with the *MR* 75-year archive, I was looking forward to this addition. As before, it arrived in the mail. Moments later, I had it unpackaged, and loaded the first DVD into my drive.

The DVD did not start as expected. I was expecting it to launch a program to provide me with a menu or simply to start querying



2. I found the search process on the original 75-year collection to be simple, and it searched *the entire 75-year library* of magazines.

me about installation options, but it didn't. It did nothing, which alarmed me a little.

I double-clicked on Windows File Explorer to browse the DVD and see what was on it. There was no AUTORUN file to launch a program or play the DVD like a movie. Instead, I found two PDF files on the disc:

1. How to use
2. Model Railroader Disc 1

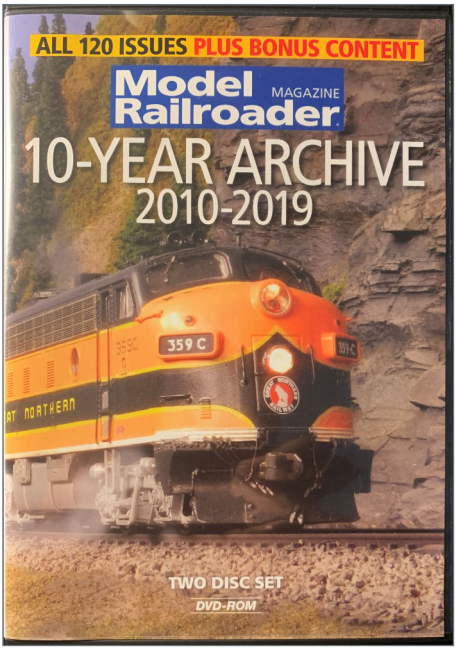
I was puzzled that there were no .msi or .exe files. I thought I must have missed something, so I clicked on the first PDF,

entitled “How To Use.” It was a one-page document explaining how to use Acrobat Reader [5].

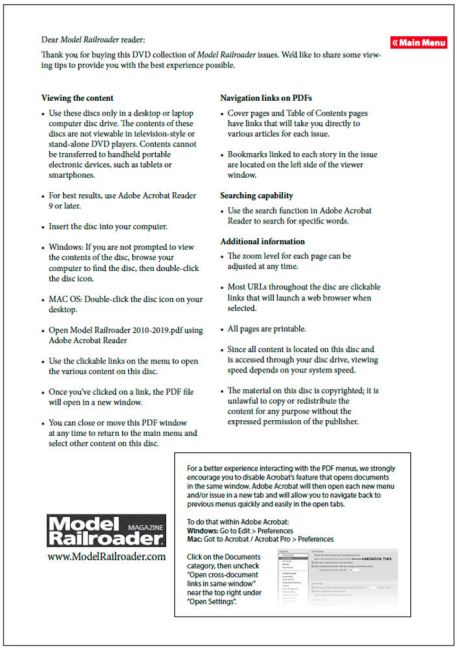
That was disappointing. I read the document, to see if PDF documents had acquired new features or if there was a hidden script to execute to launch the archive. The DVD simply contained two PDF files.

Sadly, the PDF document didn’t reference the red link in the upper right-hand corner of the document – Main Menu – which initiates the second PDF file on the disc, *“Model Railroader* Disc 1” or “2.” depending on which DVD you have in the drive. Going to the Main Menu, the first six years of the archive came up, 2010-2015 [6].

3. I found Allen J. Brewster’s article about building a gold mine.



4. The cover for *Model Railroader's* 10-Year Archive, comprising 2010-2019.



« Main Menu

Dear *Model Railroader* reader:

Thank you for buying this DVD collection of *Model Railroader* issues. We'd like to share some viewing tips to provide you with the best experience possible.

Viewing the content

- Use these discs only in a desktop or laptop computer disc drive. The contents of these discs are not viewable in television-style or stand-alone DVD players. Contents cannot be transferred to handheld portable electronic devices, such as tablets or smartphones.
- For best results, use Adobe Acrobat Reader 9 or later.
- Insert the disc into your computer.
- Windows: If you are not prompted to view the contents of the disc, browse your computer to find the disc, then double-click the disc icon.
- MAC OS: Double-click the disc icon on your desktop.
- Open Model Railroader 2010-2019.pdf using Adobe Acrobat Reader
- Use the clickable links on the menu to open the various content on this disc.
- Once you've clicked on a link, the PDF file will open in a new window.
- You can close or move this PDF window at any time to return to the main menu and select other content on this disc.

Navigation links on PDFs

- Cover pages and Table of Contents pages have links that will take you directly to various articles for each issue.
- Bookmarks linked to each story in the issue are located on the left side of the viewer window.

Searching capability

- Use the search function in Adobe Acrobat Reader to search for specific words.

Additional information

- The zoom level for each page can be adjusted at any time.
- Most URLs throughout the disc are clickable links that will launch a web browser when selected.
- All pages are printable.
- Since all content is located on this disc and is accessed through your disc drive, viewing speed depends on your system speed.
- The material on this disc is copyrighted; it is unlawful to copy or redistribute the content for any purpose without the expressed permission of the publisher.

For a better experience interacting with the PDF menus, we strongly encourage you to disable Acrobat's feature that opens documents in the same window. Adobe Acrobat will then open each new menu and/or issue in a new tab and will allow you to navigate back to previous menus quickly and easily in the open tabs.

To do that within Adobe Acrobat:
Windows: Go to Edit > Preferences
Mac: Got to Acrobat / Acrobat Pro > Preferences

Click on the Documents category, then uncheck "Open cross-document links in same window" near the top right under "Open Settings".

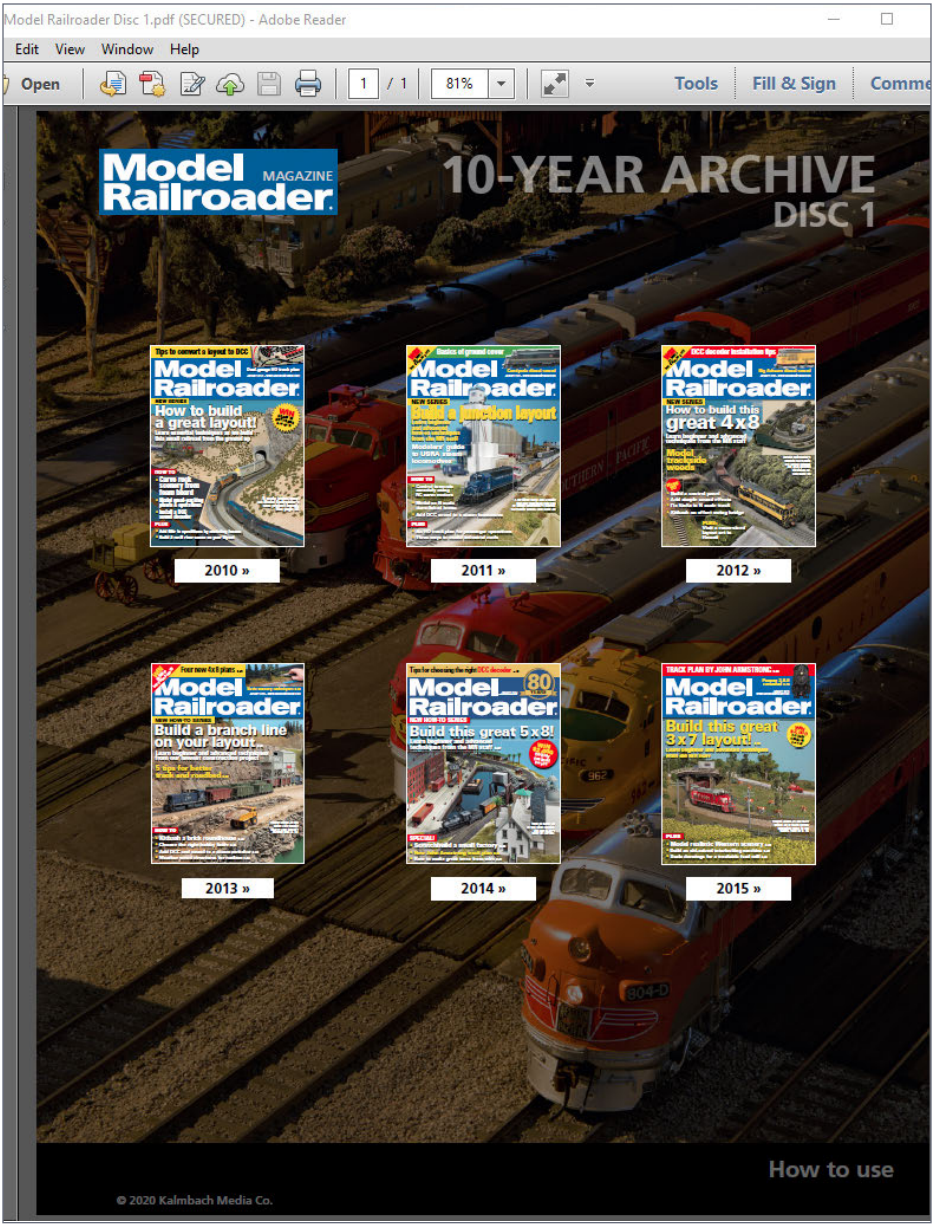
Model Railroader MAGAZINE
www.ModelRailroader.com

5. There were two PDF files on the DVD. The first contained instructions for using PDF files.

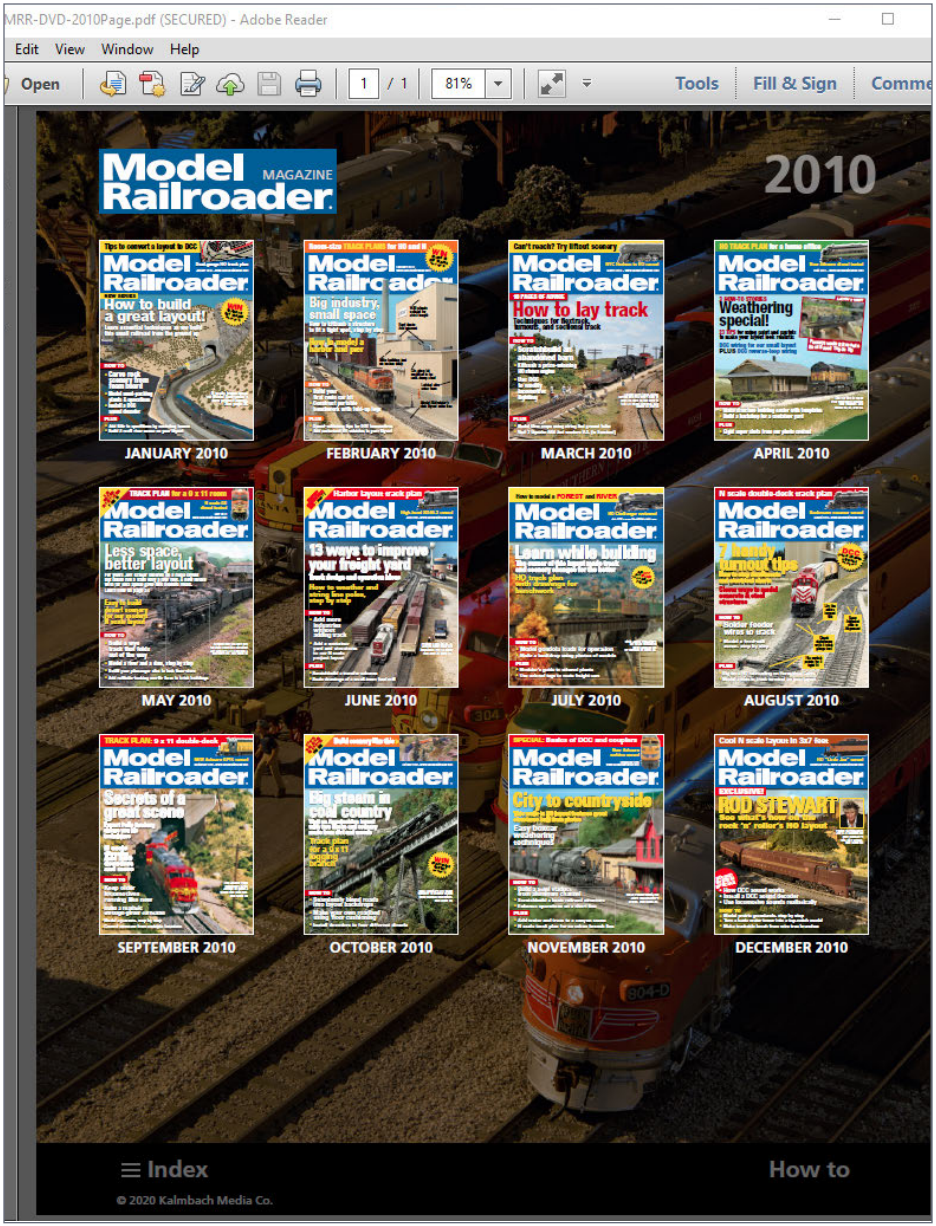
I was curious about the search capabilities of this archive, so I clicked on "Edit" and selected "Find" from the drop-down menu. This opened a search window and I entered "Jeff Wilson," a popular author for *MR* who had written articles within the time frame. The search claimed, "No Matches found."

I know Jeff Wilson wrote articles in 2010, so I clicked "2010," which brought up all 12 issues for that year, January-December [7]. My search for "Jeff Wilson" yielded the same results.

I knew Jeff Wilson had an article in the January 2010 issue, so I tried one more time. I clicked on the January 2010 icon, which brought up the issue, and repeated the search [8].



6. The main menu for the first DVD shows *Model Railroader* covers from 2010-2015.



7. Clicking on a year brought up all 12 issues for that year.

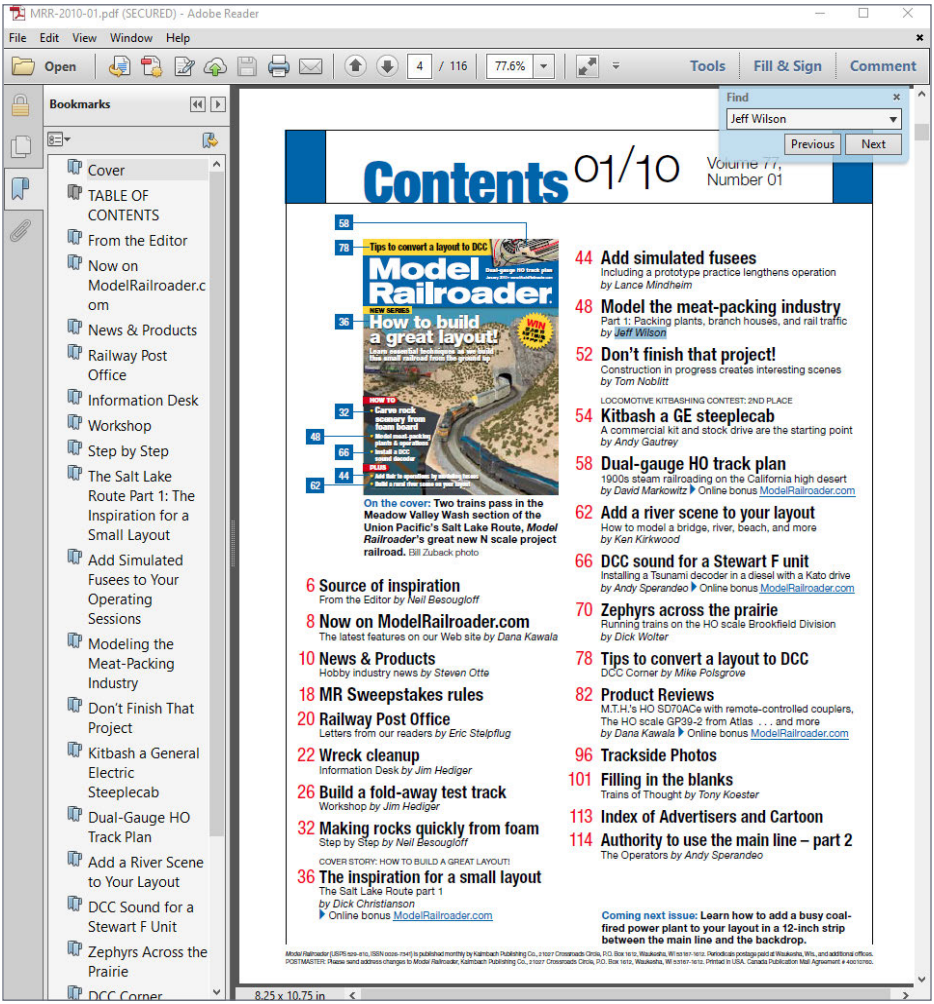
This time, the search took me to the table of contents reference for him and to his article, "Model the Meatpacking Industry," on p. 48. Success [9].

This means that although you have access to all of the articles from 2010-2019, you cannot do general searches for information

8. Clicking on an issue icon brought up the specific issue.

on a specific topic on the DVD or year level. You have to search magazine by magazine.

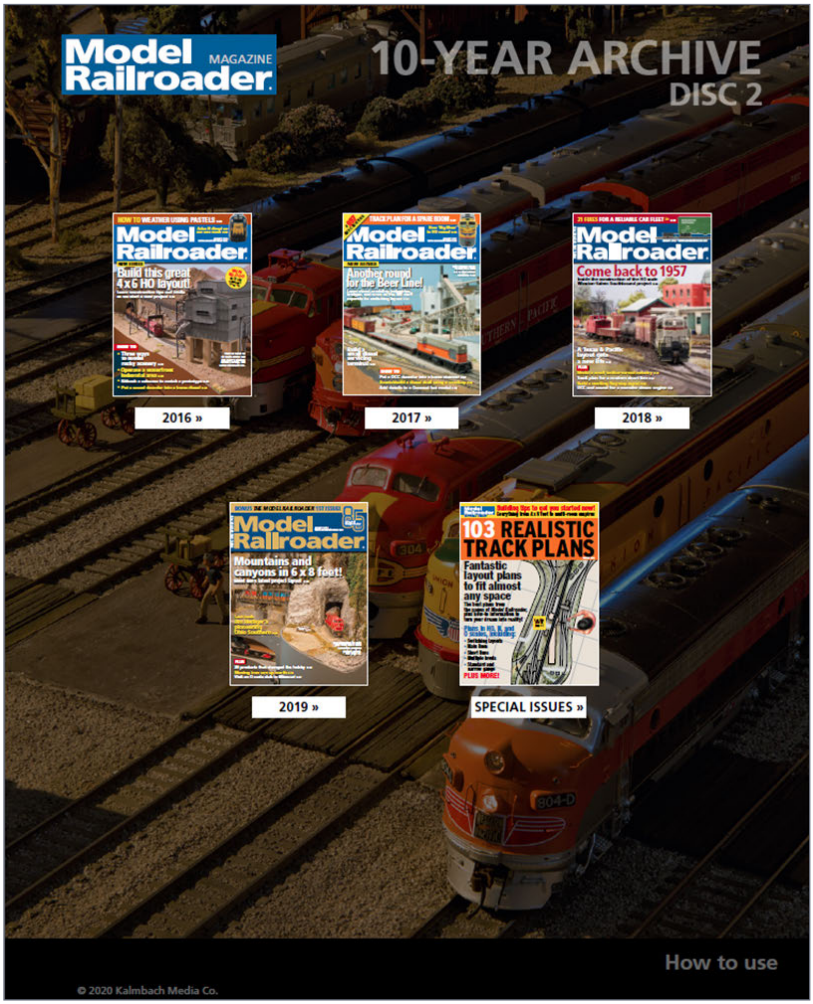
Not wanting to miss anything in the archive, I ejected the first DVD and replaced it with the second DVD. This time I just clicked on *"Model Railroader* Disc 2." The second disc contains the last



9. The search function works only within a specific issue.

four years of the magazine (2016-2019), and a collection called "Special Issues" [10].

I clicked on "Special Issues," and found 11 special issues that cover subjects like scenery, track plans, and lots of how-tos [11].



10. The second DVD contains issues from 2016-2019, as well as the Special Issues published from 2010-2019.

These special issues provide an abundance of ideas and inspiration. Having bought most of these special issues individually, I like having them in electronic form, and this is the best part of the archive for me.

11. Every special edition of *MR* published between 2009 and 2019.

MR produced an excellent, searchable archive for their 75-Year Collection, but this 10-year collection fails to meet that standard. *MR* simply loaded electronic versions of all issues from 2009-2019 onto a couple of DVDs and called it a day.

I found the 10-year archive to be a disappointment. It certainly has the potential of saving shelf space, but purchasing the DVDs doesn't provide anything that subscribing to the electronic version of the magazine would not. ☑

Savvy Modeler Online

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YouTube model railroader **railfan220** shows how to speed match three locomotives just using three CVs. He gives a superb explanation of the process using a whiteboard, making it very clear what he's doing to accomplish this task. Then he goes over to the layout and makes it happen!

So check out this video if you'd like to master DCC speed matching! ☑

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GREAT MODELER VIDEOS ON THE WORLD WIDE WEB

MAY NEWS column

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

VIEW READER COMMENTS

INDUSTRY NEWS

Atlas Acquires River Point N Scale Tooling

Atlas has completed the purchase of tooling for selected N scale vehicles from **River Point Station Scale Models** of Warwick, RI. The acquisition includes tooling for a 1992 Ford F-250 crew cab pickup, a 1992 Ford F-350 service truck, and various accessories. The purchase follows a 2020 announcement by River Point Station that the company intended to focus on 1:87 scale vehicles. For additional information visit shop.atlasrr.com.

NEW CLUB CARS

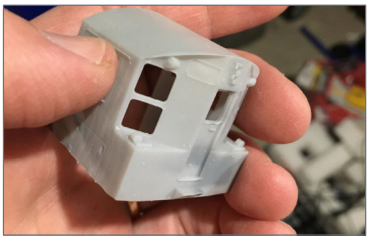
The **Chicago & North Western Historical Society** is selling HO scale kits for ex-Rock Island 40′ boxcars patched for C&NW. Three cars are available with different numbers and slightly different patches. The models

were custom produced for CNWHS by Accurail. For additional information visit www.cnwhs.org.

The **Soo Line Historical & Technical Society** is selling an N scale model of a 40′ Soo boxcar. The model is based on a prototype built at Soo's North Fond du Lac shops in 1951 and represents the first car in the home-built series painted without black ends. The model displays bold 4′ lettering, and "Built in Fond du Lac" and "Nailable Steel Floor" slogans. The custom model was produced by Micro-Trains. For more information visit www.sooline.org.

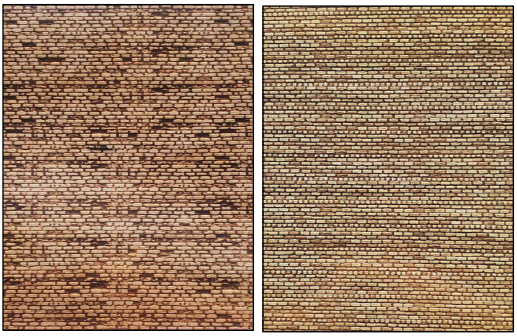
NEW PRODUCTS FOR MULTIPLE SCALES

Adirondack Car & Foundry is booking reservations for HO and S scale models of a Newfoundland Railway NF210 diesel switcher. The models are based on the 3′ 6″ narrow gauge prototypes built by GMD in the 1950s.

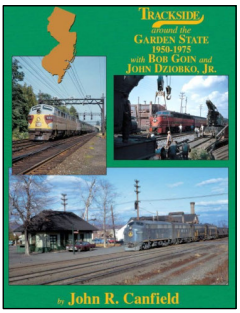


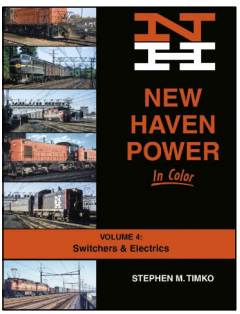
The locomotives represent the first of a selection of NFLD rolling stock that will initially include an outside braced boxcar and a steel van. For additional information including placing a reservation visit adirondackcarfoundry.square.site.

Atlas has released an on-line catalog for Spring 2021 that covers all Atlas N, HO, and O scale rolling stock and accessories, including track products. The full-color catalog can be viewed and downloaded at download.atlasrr.com/Spring2021ArrivalsCatalog.pdf?mc_cid=6cc3158e7a&mc_eid=6bff0ec9ce.



Monster Modelworks has laser-etched basswood sheets that replicate Old Brick (left) and Aged American Brick. The material is sized for N scale and is available in 1/32" and 1/8" thick basswood. Etched corners for use with 1/8" thick side sheets are available in N, HO, S, and O scale in both Old Brick and Aged American Brick patterns. For additional information visit www.larkspurlaserart.com.





New publications from **Morning Sun Books** include the *Trackside Around the Garden State* 1950-1975. Edited by John Canfield, this hardcover book features the photography of Bob Goin and John Dziobko, Jr. as they document the EL, CNJ, and PRR in the northern portion of New Jersey prior to the arrival of Conrail.

Morning Sun has released the final volume of *New Haven Power* which features switchers and electric motive power from the smallest GE 44-tonners to the Alcos, Limas, and the EMD SW1200s. Electric coverage includes early electrics, "Virginians", "Jets", and post-New Haven electric operations by Penn Central. For additional information contact a dealer or visit www.morningsunbooks.com.

SoundTraxx is now selling the Mini Cube 3 speaker and baffle kit. The smallest speaker in the SoundTraxx line, it measures 12 x 3.3 x 3mm and is a half-watt 8 Ohm sugar cube type speaker. For more information visit soundtraxx.com/accessories/speakers/oval-speakers/mini-cube-3-oval-speaker-baffle.

Woodland Scenics is releasing a new Built & Ready building in N, HO, and O scales named Records & Recruiting. Measuring 4 19/32″ x 3 5/8″ x 4 ½″, it features printed interiors of a record shop, an Army recruiting station, and upstairs apartments. For more information visit woodlandscenics.com.

HO SCALE PRODUCT NEWS

New HO scale car kits released by **Accurail** include this Burlington Northern triple-bay covered hopper car. The model is based on a prototype built in January 1980.

The prototype of this Chicago & North Western twin-bay covered hopper car was built by American Car & Foundry.

Accurail has released kits for 36′ double-sheathed wood boxcars in two Northeastern road names. The Boston & Albany version represents a prototype built in 1913. The Delaware and Hudson car displays a herald with the slogan 'The Bridge Line to New England and Canada".

Accurail's HO scale kit for a Grand Trunk Western 40′ wood refrigerator car with ice roof hatches is decorated with the distinctive GT wet noodle logo introduced in the early 1960s.

This 40′ Milwaukee Road rib-side boxcar is based on a prototype built in December 1943 with double sliding doors. All Accurail HO car kits include Accumate couplers and appropriate trucks with Delrin wheelsets. For additional information contact a dealer or visit www.accurail.com.

Athearn has posted its production schedule for May 2022, and at the top of the list are Genesis HO scale models of Union Pacific 4-8-4 FEF-2 steam locomotives.

Models in two-tone grey representing UP locomotives in service from 1947-1952 will feature drop couplers, and dual smoke stacks. Both Armour Yellow and grey lettering will be available.

Post 1952 versions with smoke lifters and multiple stacks will be painted in solid black.

Also coming next May is another release of Genesis SD60M diesel locomotives. Road names include three Conrail units. Spotting features of CR's SD60Ms are red marker lights on each end to support reverse movement and helper service.

Buffalo & Pittsburg purchased several ex-Conrail SD60Ms in 2020. Athearn will offer B&P locomotives numbered 3887, 3889, and 3890 with number specific details.

After the breakup of Conrail, CSX acquired 30 ex-CR SD60M locomotives. Athearn's CSX models will be decorated in the YN3 scheme while retaining the CR-specific details.

Union Pacific SD60Ms in this release will be available decorated as-delivered, as well as in the post-2018 flag scheme. A Genesis SD60I decorated for Terminal Railroad Association will be included in this production run.

Introduced in the early 1970s, EMD's 3,000hp GP40-2 quickly became a popular replacement for first generation diesels. A significant feature of the GP40-2 was the introduction of the Dash 2 modular electrical cabinet.

Athearn has included an HO scale GP40-2 diesel unit in its May 2022 production schedule. Road names will include Seaboard System and three Chessie System units.

Two road numbers for Ferromex will be in the May 2022 release along with Ferrocarril Chihuahua Pacifico No. 3019.

Three road numbers of a Canadian National GP40-2L (light frame) are included in this run. Canadian-specific details include a wide cab with four front windows, snow shields, and three-color classification lights.

Ex-CN GP40-2Ls will be available decorated for Indiana Harbor Belt and TPW-RailAmerica.

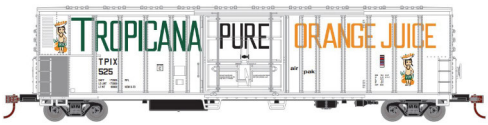
Athearn's Genesis SD60M, GP40-2 and FEF models in the May 2022 release will be available for DCC operation with an onboard SoundTraxx Tsunami2 sound decoder. DC models will feature QuickPlug technology with a 21-pin NEM connector for installation of an aftermarket DCC decoder.

HO scale versions of Thrall high side gondolas coming from Athearn next May will include a removable coal load. Seven decorating schemes will be available including Burlington Northern, David J Joseph Company, Western Electric, Zeigler Coal Company, Lake Erie, Franklin & Clarion, and two Herzog schemes.

Features on Athearn's Ready-to-Roll models include wire grab irons, and 100-ton trucks with 36″ machined metal wheels.

Also coming from Athearn next May is a group of 40′ steel boxcars fitted with Superior sliding doors.

Road names will be T&NO-Southern Pacific, Great Northern, Louisville & Nashville, Boston & Maine, Rutland, Erie Lackawanna, and New Haven.



An HO scale 57′ mechanical reefer, based on a prototype introduced by Pacific Car & Foundry in the 1960s, is included in Athearn's May 2022 production schedule.

Road names include Tropicana, Santa Fe, Erie Lackawanna, Northern Pacific, Pacific Fruit Express, and NRFX-Cold Train.

New intermodal equipment coming from Athearn next May includes a group of 53′ CIMC corrugated containers with a horizontal rib front. The containers will be available in 3-packs with different numbers for XPO Logistics, JB Hunt, CSX, Hub Group, and Railpool.

Intermodal chassis will be available decorated for Pacer StackTrain, BNSF, CSX, Seacastle, JB Hunt, and Canadian National.

Roundhouse brand models coming from Athearn next May include a 34′ twin-bay open hopper car with offset sides.

Road names will be Chesapeake & Ohio, Great Northern, Pittsburg & West Virginia, B&O Chessie System, and two schemes each for Santa Fe and Cambria & Indiana. For additional information contact a dealer or visit www.athearn.com.

The latest production run of **Atlas** HO scale Gunderson 89′ Multi-Max auto racks has been released to participating dealers.

Atlas' HO scale Master Line model replicates the Multi-Max concept introduced by the Greenbrier in 2013. The innovative design allows for changing the car from a Bi-Level to a Tri-Level, and back, without adding or removing decks.

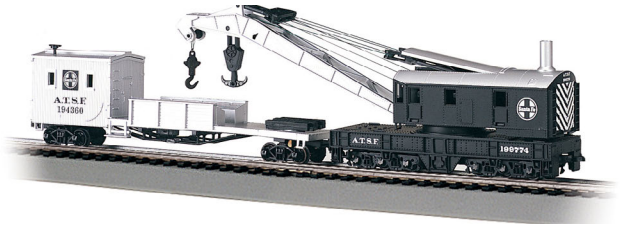
Road names on this production run include Canadian Pacific, BNSF, Utah Central, Kansas City Southern, and two TTX schemes.

Also just released to dealers is an HO scale 36′ wood refrigerator car. The Atlas Master Line model is based on a series of cars General American Car Company built in the mid-1920s for Cudahy Packing Co.

Features include opening doors and two different styles of opening roof ice hatches. The grab irons, ladders, stirrups, and door hardware are all separately applied.

Road names in this run include Agar Packing, Dold, Lange Creamery, Nuckoll's Refrigerator Line, New York Despatch, Pittsburgh Provision & Packing, Rex Canned Meats, and Schwarzschild & Sulzberger. The factory is sold out of both the Multi-Max auto racks and the 36′ wood reefers. Contact a dealer for availability.

Bachmann has announced they will be releasing an HO scale model of Amtrak ALC-42 Charger #301 in its "Day 1" Heritage Livery. The model will include TCS WOWSound for sound, speed, direction, and lighting control, directional headlights, interior corridor work lights, marker lights, and ditch lights.



Bachmann has released an HO scale 250-ton steam crane and boom tender set to its dealers. The ready-to-run model features a positionable boom and cab that swivels 360 degrees.

Road names are Santa Fe, Canadian National, Chesapeake & Ohio, Delaware &

Hudson, Pennsylvania, Reading, and a generic MOW. A painted but unlettered set is also available.

The crane rides on six-wheel trucks while the tender comes with arch bar trucks. Both truck types are molded in Celcon and are equipped with blackened metal wheels with non-magnetic axles.

Bachmann has added new decorating schemes to its selection of HO scale truss-rod era tank cars. In addition to Union Tank Line, road names currently available include Blue Bell Kerosene, Wheeling & Lake Erie, Philadelphia & Reading, U.S. Military, and New York Central.

The ready-to-run model features arch bar trucks with blackened metal wheels.

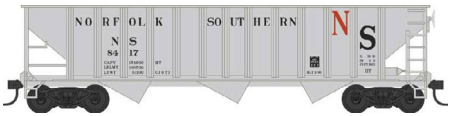
Quaker State, Texaco, and Ambrose Wine have been added to Bachmann's lineup of 40' triple dome tank cars. Triple dome cars decorated for Allegheny Refining, British American Oil, Pennsylvania Railroad, Protex, Shell, Transcontinental Oil, and UTLX all continue to be available.

Bachmann's HO scale Silver Series ready-to-run models feature appropriate Celcon trucks with blackened machined metal

wheels. For additional information contact a dealer or visit www.bachmanntrains.com.

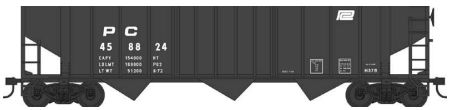
Bowser is booking reservations for a January 2022 release of a large selection of 40′ 70-ton triple-bay hopper cars. The run includes cars with both 12 and 13 side panels. PRR class H39 cars with 12 panels will be available with the Pennsylvania name spelled out. One H39 hopper with arched ends will be available.

The third Pennsylvania class H39A car in Bower's January release will have block PRR lettering and Crown trucks.



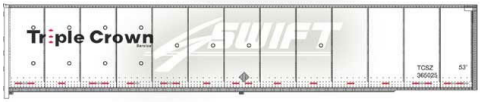
Other road names for the 12 panel cars include Norfolk Southern, Canadian National, Chesapeake & Ohio, Conrail, C&O/CSX, Erie Lackawanna, Louisville & Nashville, Penn Central, Southern Railway, and Denver & Rio Grande Western.

Bowser's class H37B coal hoppers, as built in 1958 with 13 side panels, will be available decorated for Penn Central and with simplified PRR block lettering.



Completing this production run of 13-panel hoppers is a class H37B car with

Pennsylvania spelled out. It will come with prototypically correct Crown trucks.



Bowser also announced Wabash National 53′ RoadRailers in several variations and paint schemes. The ready to run model includes pad printed ends, sides, mud flaps, and silver roofs. Versions include Platewall, Dura Plate, and Rivet Side trailers with an assortment of Norfolk Southern and Conrail Triple Crown schemes and logos. For additional information contact a dealer or visit www.bowser-trains.com.


R. Bale

Union Pacific Challenger

The Union Pacific's search for a powerful freight locomotive that could handle the mountain grades of Utah and Wyoming at high speed without the need of helpers, was finally fulfilled in 1936 with the development of the 4-6-6-4 Challenger. Unlike a Mallet compound locomotive that recycles the exhaust of one set of high-pressure cylinders into larger low-pressure cylinders, the Challenger 4-6-6-4s built by the American Locomotive Company were simple articulated locomotives with both front and rear engines using high-pressure steam directly from the boiler. Although built for freight service, the Challengers had 69" drivers, a large size usually reserved for high-speed passenger locomotives. While unheard of on other railroads, operating articulated steam locomotives at speeds at 60 to 80 mph was routine on the Union Pacific. R. Bale.

Broadway Limited has set a fall 2021 delivery date for an HO scale model of a Union Pacific 4-6-6-4 Challenger steam locomotive. The BLI model represents the class CSA-2 series of Challengers as they appeared post-1947. The locomotive superstructure and tender body are brass mounted on diecast chassis.

BLI will offer three variations of the CSA-2 Challenger: with the front engine as-delivered, with the front engine rebuilt, and with the front engine cast with integral cylinders. Each version will be available both fully decorated and painted but unlettered. A limited number of models will be available either varnished brass or painted brass.

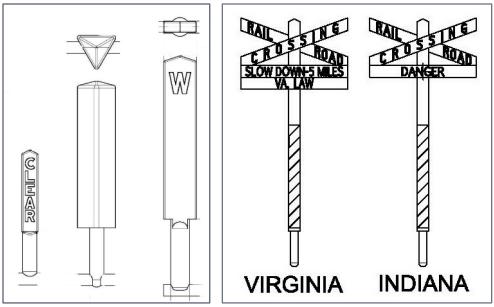
Broadway Limited and its authorized dealers are accepting reservations for a Milwaukee Road 4-8-4 class S3 steam locomotive. The HO scale model is based on ten S3 class 4-8-4 locomotives the American Locomotive Company built in 1943-44. The prototypes were used in both freight and passenger service during the ten years they were operating.

The superstructure, chassis and tender of BLI's HO scale model are die-cast metal. In addition to standard black service paint, BLI will offer the model in a 1935-era fantasy Hiawatha scheme. A painted, unlettered version will also be available.

The electronic package in BLI's 4-6-6-4 and 4-8-4 models features Paragon4 sound and control system, built-in capacitor pack for uninterrupted electrical pick-up, synchronized smoke and variable exhaust chuff, and golden-white LED head and rear lights.

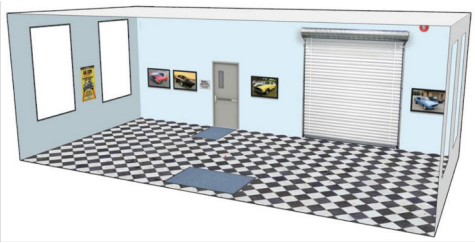
Just announced by BLI is the Pennsylvania RR I1sa 2-10-0. The I1sa was a modification of the I1s Decapod with an increased maximum speed cut-off, which increased low-speed tractive effort. A total of 489 I1s locomotives were upgraded to the I1sa type. BLI is offering three variations of the I1sa: with the original headlight position and a short 90F82 tender, with a modernized headlight position and the 90F82 tender, and with the modern headlight and a long-haul 210F82A tender. A painted but unlettered version of the original headlight and 90F82 tender version will be available. The HO scale model will feature Paragon4 sound and DCC.

Also announced is an HO scale model of the EMD SD40-2 featuring Paragon4 sound and DCC, a precision drive mechanism engineered for heavy towing and smooth slow speed operation, all-wheel electrical pickup, 5-pole skew-wound can motor, ABS plastic body with a die-cast chassis, separately applied detail parts such as handrails, grab irons, fans, sunshades, and antennas, and metal Kadee-compatible couplers. Roadnames in this release include Santa Fe, BC Rail, BNSF, CNW, CSX, Family Lines System, Illinois Central, Ontario Northland, RCPE, RBMN/Reading and Northern, UP, and undecorated. For additional information contact a dealer or visit www.broadway-limited.com.



The **Chesapeake & Ohio Historical Society** is selling 3D printed HO scale lineside details including whistle posts, clearance posts, mile posts, cross bucks and phone boxes. Individual cross bucks are available that replicate variations in Virginia, Indiana, Kentucky and West Virginia/ Ohio locations. The items are accurately scaled from C&O documents. For additional information visit the Chessie Shop at chessieshop.com.

The Electric Wallpaper Co. has released a Roomettes laser-cut cardstock kit to fit Walthers HO-scale Row House building. The Roomette Spruce Street Row House (04-933-3778) includes seven rooms for the Walthers model including generic bedrooms that can be placed in a number of locations.



Walthers Import Motors structure can be significantly enhanced using Roomettes Broekema Auto Sales interior. The Roomettes laser-cut interior kit offers two rooms and three LEDs, as well as a variety of additional details including a sales counter, tool chests, vending machine, posters, banners and exterior

signs. Flag streamers are included for the exterior parking lot. This kit creates a realistic scene for displaying exotic motor cars. The kits include LEDs with plugs that are compatible with lighting systems from Woodland Scenics JustPlug, Model Train Technology and NCE.

A new idea from The Electric Wallpaper Co. are interiors for HO scale rolling stock. The initial release includes an interior for Atlas's 60′ auto parts boxcar in both single- and double-door configurations. Also new is an interior kit for an Athearn 'Blue Box' double-door Railbox car. For additional information visit www.roometteslighting.com.

R. Bale

Drop-Bottom Gondolas

The idea of a flat bottom gondola with doors that could be opened to assist in unloading was introduced in the early 1900s. Unlike hopper cars, drop-bottom gondolas could be kept busy hauling lading such as lumber, steel and pipe when not in coal service. Drop-bottom gondolas generally had 12 to 16 bottom doors that discharged 90 to 95 per cent of the car's load to each the side of the tracks. Since the cars were not entirely self-cleaning, laborers with shovels were required to clear anything remaining in the car. The door opening mechanisms were operated in sets of four (two per side) by actuating rods visible just below the side of the car. Some drop-bottom cars in ballast service could discharge to the center of the tracks. Drop-bottom gondolas ranged from 40′ to 42′ in length. Most were all-steel but some were of composite construction using both steel and wood. Since some of the doors were located above the trucks, the body of drop-bottom gondolas was somewhat higher than the usual gondola car. The addition of side extensions allowed the cars to be used for low density lading; notably wood chips and sugar beets.

InterMountain plans to release two styles of HO scale 41′ general-service drop-bottom gondolas this summer. Multiple road numbers will be available for eight–panel all-steel gondolas decorated for Great Northern, Southern Pacific, Denver & Rio Grande Western, and Union Pacific.

Steel drop-bottom gondolas with board side extensions for wood chip service will be available for Western Pacific and Spokane, Portland & Seattle.

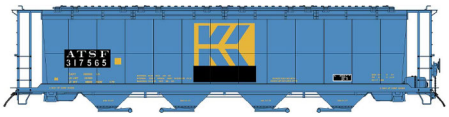
A Southern Pacific composite gondola with wood sides and an exterior steel frame in a Pratt truss will have plywood side extensions designated for beet service. All versions of the InterMountain drop-bottom gondolas will have solid-bearing trucks with 33″ metal wheels.

InterMountain also plans to release an HO scale version of the distinctive 59′ 4550 cu. ft. cylindrical Canadian grain car this summer.

Between 1972 and 1985 the Canadian government built nearly 20,000 of the prototypes to assist the Canadian rail system in transporting huge quantities of grain.

Over the years many American grain carriers acquired and operated similar cars in the U.S.

Road names in this release will be CNWX-Canada (red), ALNX-Alberta with "Take an Alberta Break" slogan, CNWX-Canadian Wheat Board, Ferrocarriles Nacionales de México, and an ex-Koppel car patched for Santa Fe.



Features on InterMountain's HO scale version include etched-metal roofwalks, appropriate trucks with metal wheelsets, and knuckle couplers. The trough hatches will be smooth, parallel ribbed, or round depending on the practice of the prototype being modeled. For additional information contact a dealer or visit www.intermountain-railway.com.

R. Bale

OFFSET-SIDE HOPPER CARS

The idea of increasing the capacity of a hopper car by placing the sheet metal sides outside the vertical side posts was proposed in the mid-1920s. The design significantly increased the cubic capacity of an outside-braced car of otherwise similar dimensions. After considerable testing the ARA adopted two designs in 1928: a 40' 70-ton car with four hoppers, and a 34' 50-ton triple-bay car. Three hoppers on a 34' car quickly proved to be redundant and ARA/AAR subsequently approved a car with just two discharge bays. In rotary dumping offset-side cars suffered from rivets pulling out because the side sheets and vertical support posts were under tensile forces rather than compressive forces in straight-side cars. In addition, vertical posts placed inside the car were more prone to corrosion than posts outside of the car. The attraction of offset-side cars began to fade in the 1960s as the coal-hauling industry moved to larger cars of greater capacity.

Kadee's latest release is a 50-ton AAR twin-bay open hopper car decorated for ATSF. The model represents a prototype with offset sides built for the Santa Fe in 1948. The HO scale ready-to-run model comes with a removable lump-egg coal load. The model features Kadee self-centering equalized trucks and Kadee metal knuckle couplers. For additional information contact a dealer or visit www.kadee.com.

Menards is selling a fully assembled and detailed model of a FedEx distribution building. As shown the HO scale structure is 3″ tall. It has a footprint of 6.625″ x 3.312″. The structure is decorated with 15 LED lights which require a 4.5 volt power supply that is sold separately. For additional information visit www.menards.com/trains.

National Scale Car is selling a Mini Kit that converts an InterMountain model to a Southern Pacific 84340 series (or its subsidiary Texas & New Orleans 54100 series) 1937 ARA boxcar with Superior sliding doors and Union Duplex fixtures and tracks. Mini Kit MK102.1 contains a pair of 10' IH 6' wide Superior resin doors, etched door tracks, accurate Speedwitch decals and instructions. The modeler must supply an Intermountain 1937 ARA boxcar. For additional information visit www.nationalscalecar.com.

Heading a list of new 1:87 scale vehicles available from **Oxford Diecast** is a 1957 Chevrolet Nomad decorated in Surf Green over Highland Green.

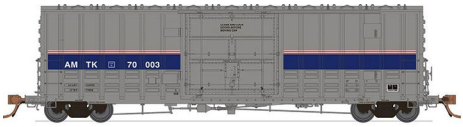
Also new are a 1968 Dodge Charger R/T in black over gold and a 1936 Buick Special convertible. Completing Oxford's list of new releases is a 1965 Chevrolet Stepside pickup truck. For additional information contact a dealer or visit www.walthers.com.

Piko-America has scheduled an August release for an HO scale model of a 65-ton Whitcomb diesel locomotive as used by the United States Army Transportation Corps. Built in America during WWII, Whitcomb designed the locomotives, also known as the 65-DE-19A, to handle the tight clearances of European railroads. Following the war, some of the locomotives returned to serve on industrial short lines across America. The model will be available without sound and with a PIKO 4.1 SmartDecoder and sound. For additional information contact a dealer or visit www.piko-america.com.

Rapido is booking orders for a model of a Southern Pacific B-100-40 boxcar as built by Pacific Car & foundry in 1976. Finite details on Rapido's HO scale version include a Hydra-Cushion underframe, 12′ plug-doors, Car Pac loaders, and the unique half-height waffle sides.

Additional features include separately applied metal grab irons, full underbody brake rigging, separate door rods and door tracks, and Kadee couplers. Rapido has tooled new trucks with 36″ machined metal wheels for this model.

In addition to the original Southern Pacific scheme, road names will include Golden West–Ventura County, Golden West with an SP Patch, Columbus & Greenville, and Southern Pacific/Union Pacific repaint with a three-color shield.



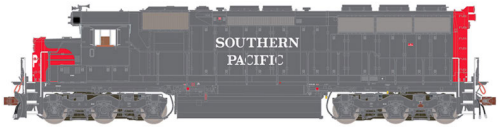
Cars decorated for Amtrak will be available in green and in Amtrak's Phase IV scheme. An undecorated model will also be available. For additional information contact a dealer or visit www.rapidotrains.com.

R. Bale

EMD SD45 Locomotive

Beginning in the early 1960s America's railroads began shopping for high horsepower locomotives that could accelerate fast and maintain high speed for an extended period. EMD's answer was the SD45, a 3,600hp beast built around a huge 20-cylinder prime mover. The imposing six-axle SD45 introduced the distinctive concept of flared radiator intakes at the rear of the body. Numerous railroads bought the SD45, but the early success of the locomotive faded as the massive 20-cylinder prime mover revealed a tendency to break crankshafts. EMD came up with a fix to the problem, which was attributed to engine block flex; but the SD45's reputation had been severely damaged. Known as a fuel guzzler, the SD45's reputation was further harmed as fuel prices soared in the 1970s.

ScaleTrains.com is booking reservations for an HO scale Rivet Counter model of an EMD SD45 locomotive. Availability is planned for December 2021.



Road names on this run will be Southern Pacific, Penn Central, Erie Lackawanna, Lackawanna Bicentennial, Norfolk & Western Bicentenial, and Pennsylvania Railroad. A high nose version of the SD45 will be available decorated for Southern Railway and VMV Leasing (ex-Southern).

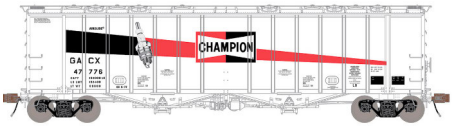
ScaleTrains.com's Rivet Counter SD45s feature numerous road and road number specific details. Features common to all road names include detailed cab interior with separate floor, rear wall, seats, and standard AAR control stand, sliding cab windows, inertial air intake grilles, accurately profiled dynamic brake housings, see-through dynamic brake intakes with resistor grid, wire grab irons and lift rings, individual windshield wipers, horns, coupler cut levers, trainline hoses, and metal Type E knuckle couplers.

Electrical features include LED directional headlights, printed and LED-lighted number boards, and all-wheel electrical pick-up.

ScaleTrains.com's SD45s will be available for standard DC operation (DCC ready with 21-pin connector), and with an ESU Loksound DCC decoder with two capacitors.

ScaleTrains.com has released an HO scale model of a Thrall-Trinity 42′ coil steel car. More than 130 individual parts go

into assembling this ready-to-run Rivet Counter model. Features include a removable hood, see-through photo-etched metal walkway, simulated wood interior floor, positionable load dividers, complete underbody brake details, and a coil steel weight load. Road names currently available are Norfolk Southern, CSX, Ferromex, and Kansas City Southern.



ScaleTrains.com has scheduled a mid-November 2021 release date for another production run of its GATC 4180 cu. ft. Airslide covered hopper. The HO scale ready-to-run model replicates a popular Airslide prototype with gravity outlet gates built over a five year period beginning in 1969.

The Rivet Counter model will be available with road specific details for seven paint schemes. Champion Spark Plug car 47776 replicates a prototype built in 1977 with a Morton walkway. The four other Champion cars in this release represent prototypes built with Apex steel walkways in 1969.

GACX Blue car 47754 has conspicuity strips and a Morton walkway. Other Blue cars will come with Apex walkways.

Cars decorated for Brach's Candy and for Staley will have Apex steel walkways. American Maize cars will have a combination of Apex and Morton walkways. All of ScaleTrains.com's Airslide cars decorated for Church & Dwight will have Morton walkways.

Features on all versions of the Rivet Counter model include metal grab irons and coupler cut levers, trainline hoses, underbody brake details including formed wire plumbing and brake rods, diecast metal Type E knuckle couplers, and Barber S-2 100-ton trucks with raised foundry data, 36″ machined metal wheels, rotating bearing caps, and truck-mounted brake beams.

ScaleTrains.com is planning to release another production run of PS-2CD 4785 cu. ft. triple-bay covered hopper cars in December. Road names will be Conrail, CSX, Burlington Northern, Staley, Monfort-TLCX, Hubinger/TLCX, Penn Central, Boyll & Son/TKDX.

Highlights of the HO scale Rivet Counter model include numerous variations in roof hatches, outlet gates, roof walks, and end cage support details. For additional information visit scaletrains.com.

Tangent has released a new HO scale Pullman-Standard PS-1 boxcar with combination doors. The model accurately replicates unique prototypes purchased by three western railroads. Combination door cars built for Milwaukee Road have a 15′ 2″ door opening fitted with a 7′ 2″ plug-door on the left and an 8' Youngstown sliding door centered on the car side.

A Northern Pacific variant has a 14′ opening with a 6′ sliding door in the center and an 8′ plug-door on the left. A unique version

modified by the Union Pacific has a door arrangement similar to the NP car. They were rebuilt from early PS-1 production that had a different roof and ends. UP also added a large side sill and a lumber loading door on the A end. All of these variants are included in Tangent's model of the UP car.

The UP and Milwaukee Road models come with 50-ton Barber S-2 solid-bearing trucks. The NP car has 50-ton ASF A-3 Ride Control roller-bearing trucks with rotating Timken bearing caps. Both types of trucks have 33″ machined metal wheelsets

Notable details on all versions of the Tangent model include Kadee couplers, Pullman-style ladders and grab iron brackets, rubber air hoses, and see-through running boards and brake steps. Variable details depending on the prototype being modeled include two types of PS-1 ends, Equipco or Ajax brake housings, and Equipco, Ajax, or Universal brake wheels.

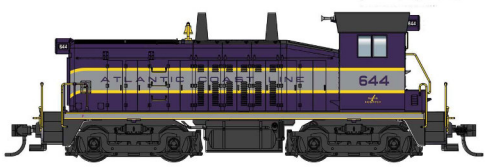
Undecorated kits are available for each of the three version of the PS-1. For additional information visit www.tangentscalemodels.com.

R. Bale

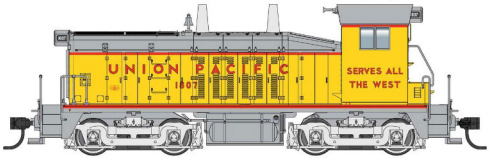
EMD SW7 Switchers

EMD (Electro-Motive Division of General Motors) introduced the SW7 switcher in October 1949. Powered by GM's 1,200hp model 567A V12 prime mover, the SW7 was an upgrade to EMD's 1,000hp NW2 switcher. Although it shared the same 44' 5" chassis, B-B trucks and similar body of its NW2 predecessor, the SW7 had a few distinguishing features including square front cab windows, dual headlights, and a full-height front radiator grille. With the exception of similar, minor modifications, EMD's NW2, SW7 and subsequent SW9 and SW1200 locomotives were nearly indistinguishable. Collectively they represent a successful design that sold well over 3,000 units.

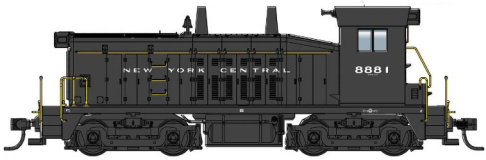
Walthers plans to release an HO scale model of an EMD SW7 diesel switch locomotive late this month. The Walthers Mainline series model is based on Phase II production units built in 1950-51.



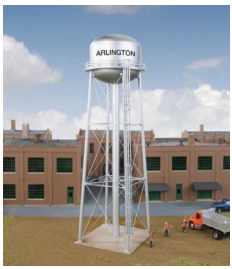
Identifying details include a large front radiator with wire grille cover, dual sealed beam headlights, letter board gap in louvered side doors, square center cab windows, and dual conical exhaust stacks.

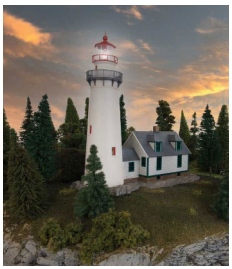


Road names on this release will be Atlantic Coast Line, Chicago, Burlington & Quincy; Detroit & Toledo Shore Line, Illinois Central Gulf, New York Central, and Union Pacific.



Walthers HO scale SW7 will be available for standard DC operation and with factory installed ESU Sound and DCC decoder.





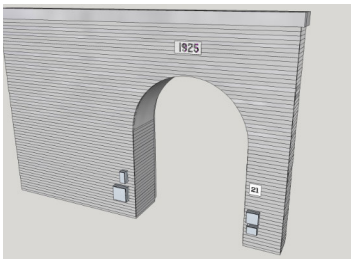
Walthers has released a Cornerstone kit for an HO scale Municipal Water Tower. The kit is molded in gray plastic with steel guy wires. Lettering decals are included. The assembled tower measures 11.125″ tall by 3.32″ square.

Walthers is quoting a late June release for an HO scale lighthouse with a flashing LED light. The Cornerstone kit requires no painting as the individual parts are molded in

appropriate colors. The assembled model is 8.87″ tall and has a foot print of 8.125″ by 3″.



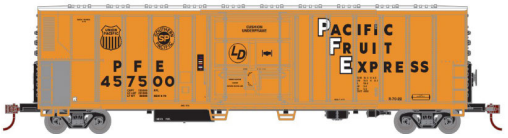
Walthers is taking reservations for three new HO scale modern highway overpasses. The first is a steel and concrete overpass with pipe railings, the second a concrete overpass with concrete sides, and the third a steel overpass with concrete sides. All three kits include round and square support columns in two heights, can be built as single or double span, and come with detailed abutments. The kits are expected in late May 2021. For additional information contact a dealer of visit www.walthers.com.



ZYX Creative is selling an HO scale tunnel portal based on the east portal of tunnel number 21 on the Southern Pacific Shasta Division in the Oregon Cascades. The 3D printed resin model features raised concrete form lines, a set of utility boxes that can be attached to the tunnel face, a 1925 date stamp, and paper printed tunnel numbers. The model is available reversed with the long wall on the right. Liners are also available separately. For additional information visit www.zyxcreative.com/tunnels.

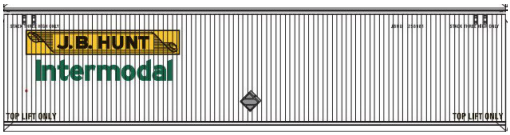
N SCALE PRODUCT NEWS

Athearn's May 2022 production schedule includes two new N scale models including a 57′ mechanical reefer.



The model is based on a prototype introduced by Pacific Car & Foundry in the 1960s.

Road names include Tropicana, Santa Fe, Erie Lackawanna, Northern Pacific, Pacific Fruit Express, and NRFX-Cold Train.



New N scale intermodal equipment coming from Athearn next May includes a group of 53′ CIMC corrugated containers with a horizontal rib front. The containers will be available in 3-packs with different numbers for XPO Logistics, JB Hunt, CSX, Hub Group, and Railpool. For additional information contact a dealer or visit www.athearn.com.

R. Bale

GP40 LOCOMOTIVE

In 1966 Electro Motive Division introduced the GP40, a new four-axle road switcher powered by a 16-cylinder 645-series prime mover. Although similar in appearance to its GP35 predecessor, the new GP40 was distinguished by three large 48" radiator fans at the rear of the locomotive body. Between 1966 and 1971 EMD produced more than 1,221 GP40s including 60 units built with high-short-hoods and dual control stands for the Norfolk & Western Railway. On January 1, 1972, the GP40 was discontinued and replaced by the GP40-2, which has a modular electrical system and a few minor exterior changes.

Atlas N scale models available now from participating dealers include a new production run of GP40 diesel locomotives.

Popular road names just released with new road numbers include NJ Transit, Milwaukee Road, Southern Pacific, Western Pacific and Canadian National.

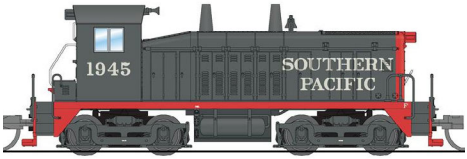
New road names include Detroit, Toledo & Ironton; Baltimore & Ohio, RF&P, and Montana Rail Link. The N scale locomotives are available for standard DC operation as well as with an ESU sound DCC decoder.

Also just released to Atlas dealers is a group of articulated auto carriers. The N scale model is based on a prototype introduced by Thrall in 1997.

Features of the Master Line model include a weighted diecast chassis, an articulated diaphragm, end door details, and 70-ton roller-bearing trucks. In addition to Santa Fe, road names are TOAX, BTTX, and two Norfolk Southern schemes.

Atlas has included an NE-5 steel caboose in its spring release to dealers.

Road names of the N scale Master series model include Boston & Maine, Chicago Great Western, Chicago & North Western; New Haven, Penn Central, and Wisconsin Central. Contact a dealer for availability.



Broadway Limited plans to release two N scale versions of an early EMD switch engine next month. EMD 1,000hp NW2 switchers will be available decorated for Southern Pacific, Boston & Maine, Chicago, Great Western, Chicago & North Western, Erie-Lackawanna, Milwaukee Road, Pennsylvania Railroad, and Union Pacific.

EMD 1,200hp SW7 switchers will be available decorated for C&O Chessie System, Atlantic Coast Line, Detroit & Toledo Shore Line, Southern Railway, Great Northern, Maine Central, Pennsylvania Railroad and Union Pacific.

Special features available on both versions of the EMD switcher include Paragon4 sound and control with Rolling Thunder, and a default switcher mode for slow speed control.

Also announced is the EMD SD40-2 in N scale, with both high-hood and low-hood variations. Equipped with Paragon4 sound and DCC for slow speed operation in DC and DCC, the model

features all-wheel pickup except on traction tire equipped wheels, separately applied parts such as handrails, grab irons, horn, bell, and cut levers; separately controllable headlight, rear light, and ditchlights; and Micro-Trains compatible couplers.

Roadnames in the 2021 production include low hood models decorated for BHP, BNSF, CP, CSX, Florida East Coast, Milwaukee, Missouri Pacific, UP, and undecorated. High hood models will be available for CP Rail, Norfolk & Western, Norfolk Southern, and Southern. For additional information contact a dealer or visit www.broadway-limited.com.

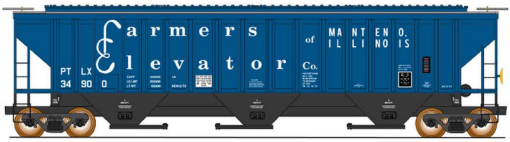
Eastern Scale Models will be releasing an N scale laser-cut enhancement kit for the Wheels of Time 53' flatcar. The kit, #990203, consists of five plywood deck parts and two bolster top assemblies. Availability is later this quarter. For more information visit www.esmc.com.

InterMountain is selling an N scale 4750 cu. ft. triple-bay covered hopper with rib sides in 25 different paint schemes.

Railroad road names are BNSF (Circle cross round logo), Burlington Northern, Delaware & Hudson, Illinois Central Gulf, Kansas City Southern, Santa Fe "Q", Union Pacific (three color

shield), and Union Pacific Bicentennial.

Cars decorated for lease operators include ACOX-Aurora Co-op, BLMR-Grain Train, GNBX-Farmrail "I Care" series, NAHX-Big 6 Coop, NAHX-Cook Industries, NAHX-Dawson Soy Products, NAHX-Goodseed & Grain, NAHX-Lapeyrouse Grain, and NAHX-West Bend Elevator.



Completing the list of leased 4750 cu. ft. covered hoppers are PLCX-NEW Cooperative, PLMX-Grain Handling Corp., PTLX-Sand's of Iowa, PTLX-Allied Mills, PTLX-Farmers Elevator, PTLX-Pomeroy Co-op Grain, PTLX-State Line Elevator, and USLX-Evergreen Fish Hatchery. Each car is available in multiple numbers.

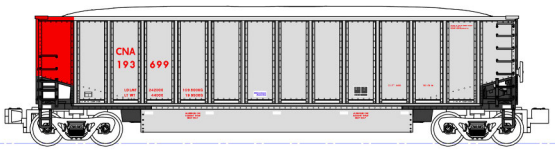
The N scale models feature etched-metal roof walks, operating knuckle couplers and trucks with machined metal wheelsets. For additional information contact a dealer or visit www.intermountain-railway.com.

VIEW READER COMMENTS

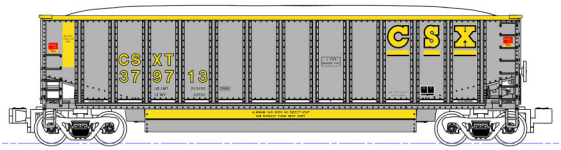

R. Bale

BETHGON/COALPORTER GONDOLAS

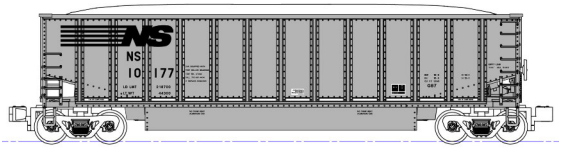
Developed in the late 1980s by Bethlehem Steel Company – with follow up work by Johnstown America and Freight Car America – the BethGon has become one of the most common cars for hauling coal. The BethGon design added 15 to 18 additional tons of coal carrying capacity by replacing moving hopper doors and high-maintenance locking mechanisms with long tubs on either side of the cars center-sill. In 1997, Conrail built 600 BethGons using construction drawings supplied by Johnstown America. These were 4,100 cu. ft. cars with a capacity of 116 tons of coal. As the nation's demand for coal lessened, BethGons have been repurposed to haul biodegradable animal feed which required the application of a protective tarp. Note: Originally called the CoalPorter, the name was changed to BethGon when the family of composer Cole Porter asked Bethlehem Steel to come up with an alternate name.



KatoUSA is selling an N scale BethGon gondola with a removable coal load that allows operators to run the car loaded or empty. The interior bracing has been replicated so the details show when the car is operated without a load.



Kato has modified its original BethGons with a cap that represents a rolled-up tarp.



The cars are sold in eight-car sets for the following road names: CSX, BNSF (Swoosh), Canadian National, Norfolk Southern, and Union Pacific.

Kato is selling an N scale version of the very successful SD40-2 diesel locomotive EMD produced for 14 years beginning in 1972.

The Kato model represents mid-production units with post-1990 road specific details such as placement of ditch lights, horns, and air conditioning equipment.

Road names are Santa Fe, Burlington Northern, and Norfolk Southern in the colorful Maersk scheme. The models are available for standard DC operation and with Digitrax or ESU LokSound DCC. For additional information contact a dealer or visit www.katousa.com.

New N scale models from **Micro-Trains** include two versions of a heavyweight RPO (Railway Post Office) car. A Denver & Rio Grande Western version of the RPO is decorated in Pullman green with gold lettering. It rides on 4-wheel Commonwealth passenger trucks.

A second RPO from Micro-Trains, which has 6-wheel heavyweight passenger trucks, is decorated in Chesapeake & Ohio's tri-color scheme.

This 50′ D&RGW boxcar is based on a prototype built by PC&F in the mid-1960s. Spotting features include an 8′ plug-door, shortened ladders, and no running board.

Pullman-Standard built the prototype that inspired the N scale version of this Illinois Central 40′ hi-cube boxcar. Its 4,900 cu. ft. capacity was designed to handle bulky appliances.

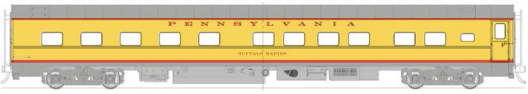
NATX leased this 39′ single dome tank car to the Hubinger Co. of Keokuk, Iowa, for transporting corn syrup.

Micro-Trains N scale version of a standard 50′ St. Louis-San-Francisco Railway boxcar features 8′ plug-doors, short ladders and no running board. For additional information on these models including availability contact a Micro-Trains dealer.

RailSmith plans to release two N scale Southern Pacific lightweight Cascade coaches by mid-summer. A few reservation slots for these models were still open at press time.

More two-tone gray Cascade cars will be arriving later this year including three newly-announced 1950-era 10-6 sleepers. The three cars include SP numbers 9032 and 9033 and Northern Pacific number 364.

RailSmith is accepting advance orders for The Texas Special heavyweight 12-1 sleeper McCallsburg. Availability is expected at the end of 2021 or early 2022.



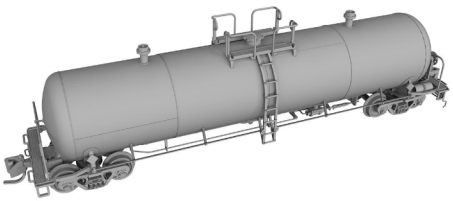
RailSmith is also booking reservations for PRR's yellow Buffalo Rapids, one of the lightweight ACF-built 10-6 sleepers Pennsy assigned to interline service on various trains including UP's Overland and City of San Francisco. For additional information visit lowellsmith.net.

R. Bale

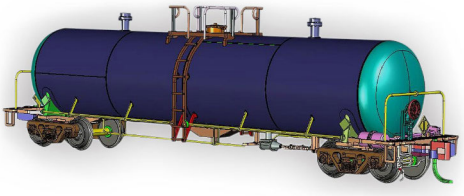
PROCOR 20,000 GALLON TANK CAR

Products Tank Line of Oakville, Ontario (renamed Procor in 1962), developed a line of standard design tank cars in the 1960s that established standards for a new generation of modern equipment. The GP20 (general purpose 20,000 gallon) tank car was ideal for lighter density commodities such as various oils and fuel that would not congeal or freeze in cold weather. The GP20 was also available with interior heater coil pipes to stabilize temperature sensitive products. It was available with either 70-ton or 100-ton trucks. Later designs were also available with a specialized dome that allowed the tank rating to be upgraded from 60 psi to 100 psi. The standard GP20 design was manufactured from 1969 through 1984. When production of the car ended Procor had built almost 1,000 cars of the standard GP20 design. GP20s continue in service across North America in both fleet and lease service.

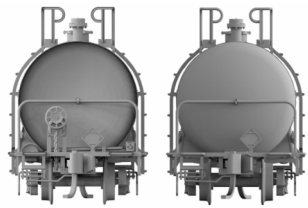
VIEW READER COMMENTS



Rapido has announced plans to produce a fully detailed N scale version of a Procor 20,000 gallon GP20 tank car.



The model is being developed using original Procor blueprints and engineering data.

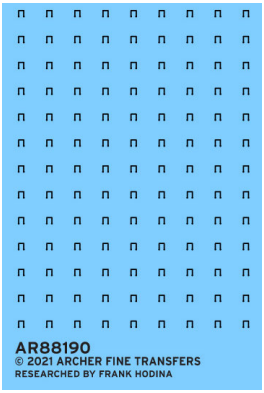


Details will include photo-etched metal walkways, detailed vent stacks, loading hatches, and complete underbody and brake equipment.

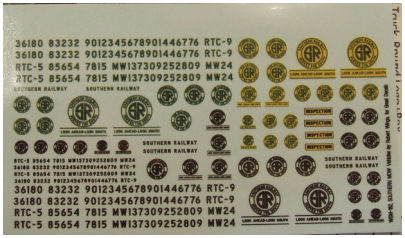
Road names on the initial release will include UTLX, UTLX-Alberta Government, PROX, NCTX, CP Rail, BC Rail, and undecorated. For reservation information contact a dealer or visit www.rapidotrains.com.

NEW DECALS, SIGNS AND FINISHING PRODUCTS

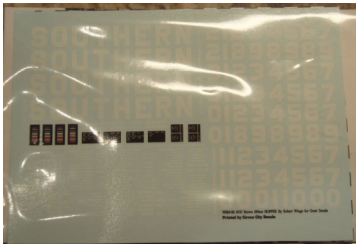
Archer Transfer has introduced a resin raised surface decal that simulates the retaining clips on steel gondolas cars. The retaining clips are based on material researched by master prototype modeler Frank Hodina. The new decal is available in



HO, S and O scales. For additional information visit www.archertransfers.com.



Great Decals has released several new water slide decals including an HO scale set for Southern Railway MOW Hi-Railer truck, pickups and speeders. The lettering set includes "The Southern" and "Southern Railway" logos with and without "Look Ahead-Look South" in black/clear, green/clear and green/yellow.



Also new from Great Decals is an HO scale lettering set for Southern Railway Greenville 100-ton brown aggregate hopper cars. The set includes white lettering, ACI panels and black lube plates. This set includes the Southern road name, road numbers, capacity data, and multiple numbering options. The set will decorate two cars. For additional information visit www.greatdecals.com.

National Scale Car has released two new HO scale decal lettering sets of interest to prototype modelers. NSC set D219 includes material to accurately decorate Western Pacific AAR standard design steel boxcars with an inside height of 9′ 6″.

NSC lettering set D220, which includes a three-color herald, will correctly decorate Lehigh New England ARA-design steel boxcars the road received in 1927 from Pressed Steel Car Co., and Magor Car. For additional information visit nationalscalecar.com.

DISCLAIMER .....

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RATE THIS ARTICLE

BRIEFLY NOTED AT PRESS TIME ...

Atlas O is taking reservations for the initial run of 70′ heavyweight passenger cars produced from tooling recently acquired from M.T.H. The cars will be available in single and multiple packs for B&O, GM&O, B&M, PRR, and U.S. Army. Details at shop.atlasrr.com/d-653-o-heavyweight-passenger-cars.aspx?mc_cid=d38d301df9&mc_eid=6bff0ec9ce ...

Bachmann has announced the availability of an N scale GP38-2 equipped with DCC Econami Sound decorated for BNSF, CSX, and UP. See a dealer for details ...

Dave's Decals has a new HO scale 1950s-era bottled soda dispensing machine with decals for 7UP, Brando, Coke, Dr. Pepper, Pepsi, and RC Cola. Details at www.davart.net ...

New from **Morning Sun Books** is Volume 3 of *The Monongahela Railway in Color: The Conrail and NS Era* ...

Resin Car Works has released prototypically accurate HO scale kits for a Louisville & Nashville 40′ steel drop-bottom gondola, and a modified AAR 40′ steel boxcar as owned by Duluth, South Shore & Atlantic; and Soo Line. Details at resincarworks.com ...

After several months of preparation **Woodland Scenics** has released to dealers its HO scale Utility System that includes ready-to-use power poles, power lines and substations... ■

SELECTED EVENTS

May

Due to COVID-19 restrictions, please check with any organization hosting an in-person event for the latest status of the event.

Ongoing 2021

ONLINE, Zoom, dates vary, see website. Operation Special Interest Group Meetups – limited attendance available. For more information visit www.opsig.org/Virtual Past meets are available online at www.opsig.org/Virtual/Past.

ONLINE, Zoom & YouTube, Wednesday & Saturday, see Facebook page. "New Tracks" Meetup, hosted by Jim Kellow, MMR. See newtracksmodeling.com for more information.

ONLINE, Facebook & YouTube, dates vary, see Facebook page. "NMRAx" organized by Gordy Robinson, Martyn Jenkins, Gert Muller, Jordan Kramer. See www.facebook.com/groups/nmragroup for announcements.

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

ONLINE, Zoom, Second Tuesdays, 8pm EST. "Off the Beaten Track" featuring Narrow Gauge layouts, clinics and manufacturers. For more information visit groups.io/g/NNG.

May 2021

ONLINE, Zoom, May 21, 28, June 4, 11, Virtual Railway Modellers Meet of BC, sponsored by 7th Division, PNR, NMRA. For more information visit railwaymodellersmeetofbc.ca.

COLORADO, COLORADO SPRINGS, May 22, TECO Model Train Outdoor Swap Meet. Chapel Hills Mall, 1710 Briargate Blvd. For more information visit www.tecoshow.org.

INDIANA, FRANKLIN, May 15, Franklin Train Show, presented by the Central Indiana Division of the NMRA. Johnson County Fairgrounds. For more information visit www.cidnmra.org/services.

PENNSYLVANIA, KUTZTOWN, May 15. Renningers Model Train Meet, 740 Noble Street. For more information see renningers.net/events/model-train-meet.

TENNESSEE, NASHVILLE, May 30 – June 5, 2021. 36th National Garden Railway Convention, Gaylord Opryland Resort & Convention Center, 2800 Opryland Drive. For more information visit ngrc2021.com.

Future 2021-2022 by location

ONLINE, Zoom, May 21, 28, June 4, 11, 2021, Virtual Railway Modellers Meet of BC, sponsored by 7th Division, PNR, NMRA. For more information visit railwaymodellersmeetofbc.ca.

ONLINE, Zoom, CANCELLED, August 7th, 14th, 21st & 28th. Idaho Rails - Pacific Northwest Region, NMRA Regional Virtual Convention. For more information visit sites.google.com/view/3rddivisionpacificnorthwestreg.

CALIFORNIA, IRVINE, September 8-11, Pacific Southwest Region/NMRA Convention, "Orange Blossom Special." Hilton Irvine/Orange County Airport Hotel, 18800 MacArthur Blvd. Visit www.psrconvention.org/OrangeBlossomSpecial2021 for more information.

CALIFORNIA, SANTA CLARA, CONVERTED TO VIRTUAL – July 4-11, 2021, Rails By the Bay, 2021 NMRA National Convention and National Train Show. Santa Clara Marriott Hotel. Efforts are underway to present the convention as a virtual convention online in. For more information visit www.pcrnmra.org/NMRA2021.

FLORIDA, MELBOURNE, June 5, September 4, December 4, Original Melbourne Train and Toy Show, sponsored by Schultz Space Coast Trains, Azan Shrine Center, 1591 W Eau Gallie Blvd. For more information visit schultzspacecoasttrains.com.

FLORIDA, TALLAHASSEE, June 26-27, 30th Annual Tallahassee Model Railroad Show and Sale, sponsored by Big Bend Model Railroad Association, 441 Paul Russell Rd. For more information visit www.facebook.com/events/745873359647741.

GEORGIA, CARTERSVILLE, October 2-3, 2021 Piedmont Division Model Train Show, Clarence Brown Conference Center, 5450 GA-20. For more information visit themodeltrainshow.com.

ILLINOIS, COLLINSVILLE (St. LOUIS), July 30-31, 2021. St. Louis Railroad Prototype Modeler's Meet. Gateway Convention Center, 1 Gateway Dr. For more information visit stlrpm.com.

KANSAS, HUTCHINSON, June 5-6, 2021, Center of the Nation Model Railroad Expo, Pride of Kansas Building, Kansas State Fairgrounds. For more information visit www.kansascentralmodelrailroaders.org/train-show.html.

MARYLAND, LINTHICUM HEIGHTS (BALTIMORE), September 10-11, 2021, Mid-Atlantic Railroad Prototype Modelers Meet, Doubletree by Hilton – BWI, 890 Elkridge Landing Rd. For mor information visit www.marpm.org.

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

MASSACHUSETTS, WESTFORD, October 8-11, 2021, Mill City 21, the NER Convention. Westford Regency Inn, 219 Littleton Rd. For more information visit millcity21.org.

MISSOURI, St. LOUIS, August 7-14, 2022, NMRA National Convention and National Train Show.

NEVADA, ELY, June 25-26, Bristlecone Bricks & Train Show, Nevada Northern Railway Museum Freight Barn, 1100 Ave A. For more information visit bristleconebricks.com.

NORTH CAROLINA, HICKORY, September 1-4, 41st National Narrow-Gauge Convention, Hickory Metro Convention Center and Crowne Plaza Hotel. For more information visit 41nngc.com.

OHIO, TOLEDO, October 21-24, 2021. Black Swamp Junction – NCR 2021 Convention, hosted by the NMRA, open to all, featuring clincs, tours, layouts, op sessions, and door prizes. Radisson Hotel at the University of Toledo, 31100 Glendale, Ave. For more information visit www.divisiononencr.com/2021.

OHIO, VAN WERT, July 24-25, 2021, 18th Annual Van Wert Railroad Heritage Weekend Model Railroad Show and Swap. Van Wert County Fairgrounds, 1055 S Washington St. For more information visit www.vwrrhw.com.

PENNSYLVANIA, KUTZTOWN, July 17, August 28. Renningers Model Train Meet, 740 Noble Street. For more information see renningers.net/events/model-train-meet.

TEXAS, STAFFORD (GREATER HOUSTON), August 14, 2021, Greater Houston Train Show, Stafford Centre, 10505 Cash Rd. For more information visit sanjacmodeltrains.org.

TENNESSEE, NASHVILLE, June 15 – 19, 2022, 2022 National N Scale Convention. For more information visit www.nationalnscaleconvention.com. ■

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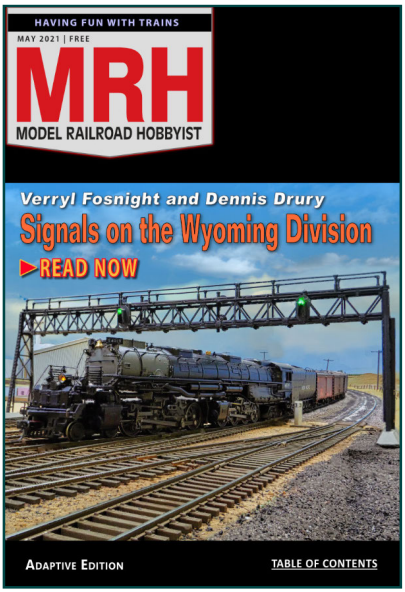
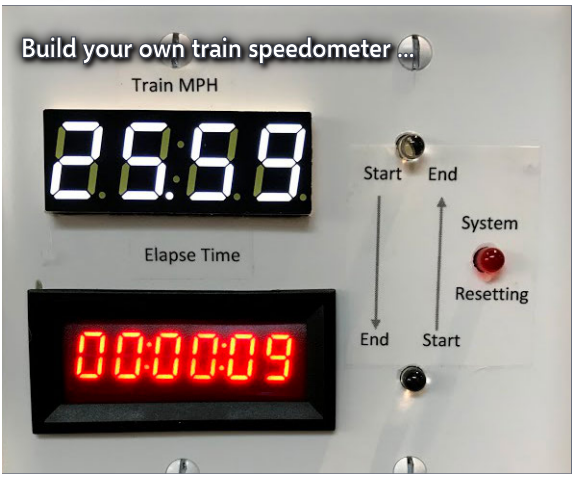
Coming next month in MRH ...





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