

MODEL A MASSIVE MODERN-ERA RAIL HUB p.54

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**New Athearn HO
GP9 review** p.62

March 2020
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Next-level realism

- **Tips for structures, scenery & rolling stock** p.26
- **Add interest with mini-scenes** p.40
- **Craft true-to-life trees** p.50

AND MORE!

**Modeling fast
freight in the 1970s**

p. 42

**BONUS!
SCENERY
SPECIAL**

PLUS

DCC Corner: How to solder the small stuff p.60

Step by Step: Build a freight car kit p.22

On Operation: Apples, appliances & dynamite! p.69

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CONTENT
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Vol. 87 • Issue 3

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These details help set the locale and era of your layout, and can tell a short story as well

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On the cover: A fast freight rolls past a local landmark on Brian Wolfe's HO scale Western Maryland model railroad. Paul Dolkos photo



Next issue

In April, visit an HO scale layout that reproduces O. Winston Link's famed railroad photos. We also finish our project layout, model space-saving industries, and more!



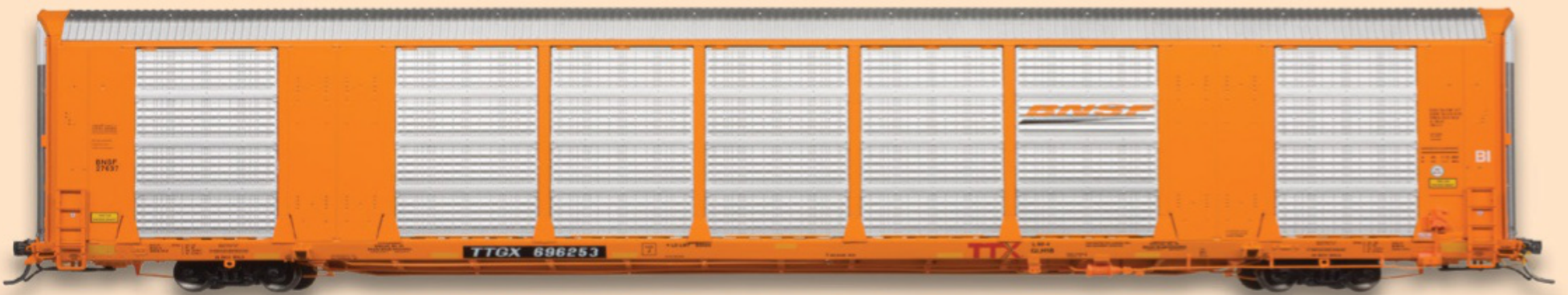
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Find inspiration for your next model railroading project with Model Railroader Video Plus. This month, see the debut of an all-new series featuring a variety of layout and model building fun!

Producer David Popp is back to building out his O scale (1:48) Olympia Logging Co. On30 layout. But this time, he's got a little bit of extra help from MRVP Contributing Editor Gerry Leone! Watch as the two team up to construct new benchwork for an expanded townsite and interchange for the logging railroad.

You'll glean plenty of tips, tricks, and insights as the fun unfolds in this first episode of the forthcoming Olympia & Sand Creek series! Enjoy the free preview, then sign up today to follow the entire project.



► Don't miss this all-new MRVP series with Gerry Leone and David Popp
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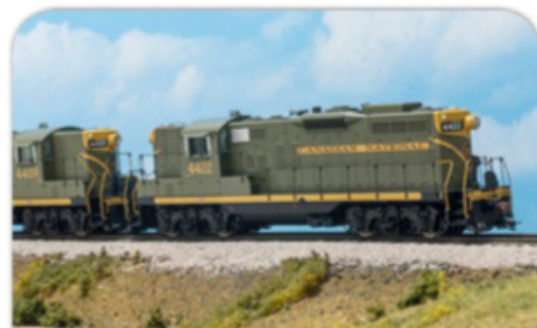
Tom Piccirillo's Somerset County Traction System O scale layout reveals model railroad craftsmanship at its highest level.

MRVideoPlus.com/Somerset



Hero trees. From trunks to foliage, producer David Popp shows you how to make standout foreground trees that are sure to be the stars of your layout scenery.

MRVideoPlus.com/HeroTrees



Diesel demo.

This HO GP9 from Athearn Trains features a SoundTraxx Tsunami2 decoder. See and hear it in action on the Milwaukee, Racine & Troy.

MRVideoPlus.com/ATHGP9

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Cody Grivno
Group Technical Editor



GO INSIDE CODY'S OFFICE EVERY MONTH

In his Modeler's Spotlight Video Series – Inside Cody's Office, Group Technical Editor Cody Grivno shares some of the latest model railroading-related products to arrive at Kalmbach. You'll see a quick demo of a sound-equipped locomotive, admire the realistic detail on a new freight car, learn about a handy new tool, and much more!

The show also features Cody in the

workshop or layout room, sharing his favorite modeling tips. In addition, he answers a wide variety of viewer questions. Cody's Office now features two new episodes each month, so be sure to check the website often!



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Take your modeling to a whole new level



Dave Bigge added realism by taking his scenery "over the edge" using fascia-mounted scenery extensions. Dave Bigge photo

Welcome to our Next-Level Realism special issue! Inside you'll find detailed how-to articles on everything from making birch trees to extending scenery into the aisle.

In selecting these projects we looked for variety, ease of

construction, and impact. None of them require special skills beyond a willingness to try something new and the patience to carry it through to completion.

These projects are sure to make a difference on your

layout – to take it to the next level of realism.

The quest for realism also includes operation.

In his "Trains of Thought" column on page 82, contributing editor Tony Koester discusses breaking the realism barrier.

"The basic idea is that the front edge of the layout," Tony writes, "usually where a fascia is attached, is where our full-size world ends and the miniaturized world begins. Easy though it may be to penetrate that world by extending our hand or arm, that is seen as breaking the realism barrier."

Tony notes that something as simple as reaching in to uncouple cars is a no-no with the operators who embrace this approach.

The realism barrier is similar to attending a play in which the actors turn and



address the audience. It's called "breaking the fourth wall," and it can be a little jarring – it abruptly takes you out of the fictional world.

As it happens, a layout capable of completely hands-free operation needs to be exceptionally well-designed and skillfully made.

I'm not certain I'll ever reach that level, but it's a goal worth pursuing.

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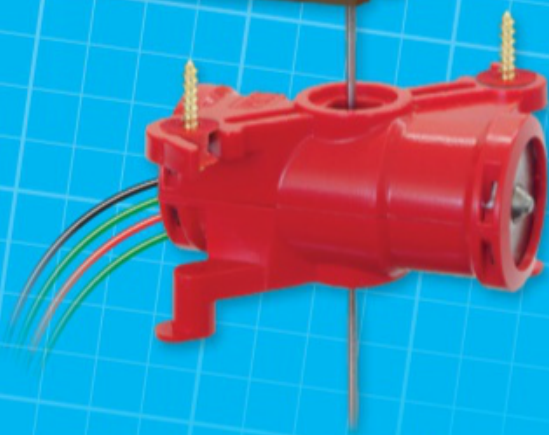
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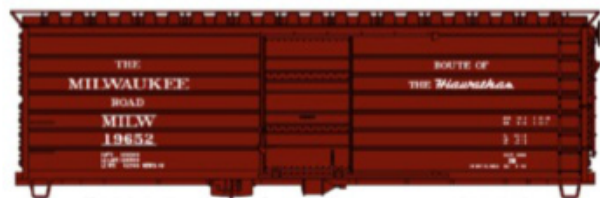


Electro-Motive Division SD45T-2 diesel locomotive.

Athearn has released these Ready-to-Roll locomotives decorated for St. Louis Southwestern (American Revolution Bicentennial scheme in one number and scarlet and gray with Roman lettering in four numbers), Southern Pacific (1990s version with SP light removed and faded paint in three numbers), National Railway Equipment (Southern Pacific speed and Roman lettering patchouts and painted light gray

with red lettering in one road number each), Montana Rail Link (fictional paint scheme, three numbers), and Southern Ry. of British Columbia (fictional paint scheme, one number). The HO scale models have light-emitting-diode lighting, vinyl m.u. hoses, and McHenry scale couplers. Direct-current models sell for **\$149.98**. Versions with a dual-mode SoundTraxx Econami sound decoder are priced at **\$209.98**. Athearn Trains, 800-338-4639, athearn.com

HO scale freight cars



- **Assorted freight cars.** Milwaukee Road 40-foot ribbed-side boxcar ("Route of the Hiawathas," "Route of the Electrified Olympian," and undecorated; all based on phase 1 long rib prototype), \$18.98 each. Ann Arbor 40-foot insulated boxcar, \$18.98. Denver & Rio Grande Western Fowler 36-foot boxcar (1929 repaint with first Royal Gorge herald), \$18.98. Morehead & North Fork 36-foot double-sheathed boxcar, \$18.98. Pacific Fruit Express 40-foot double-sheathed refrigerator car (Southern Pacific and Union Pacific heralds), single car, \$20.98; three-pack, \$61.98. Philadelphia & Reading 41-foot steel gondola (single car, \$18.98; three-pack, \$55.98). Injection-molded plastic kits with plastic wheelsets, steel weight, and Accumate couplers. Accurail, 630-365-1173, accurail.com



- **Missouri Pacific Pullman-Standard 50-foot PS-1 boxcar.** 1959 factory-new scheme with "Route of the Eagles" slogan. Injection-molded plastic model with separate, factory-applied ladders, running boards, and grab irons; metal wheels; and Kadee couplers. \$38.98. Kadee Quality Products Co., 541-826-3883, kadee.com

HO scale structures

- **Eliminator Depot.** Laser-cut wood kit with board-and-batten siding, wood floor and roof, rafters, Rail-Scale Models cedar shingles, and Tichy Train Group windows and doors. Measures 2½" x 3½". \$60. Conowingo Models, conowingomodels.com
- **Hartly-Wright Sign Co.** Craftsman kit includes laser-cut clapboard, scribed and corrugated walls, Tichy Train Group

doors and windows, and instructions. \$65. Nick & Nora Designs, 302-229-6010, nickandnoradesigns.com

N scale locomotives



- **Electro-Motive Diesel SD70ACe diesel locomotive.** Norfolk Southern (three numbers), CSX (dark blue and yellow in two road numbers, direct current and Digital Command Control motor and light decoder only), and Union Pacific (George Bush 41 Presidential Library and Museum, Powered by Our People, and The Spirit of the Union Pacific in one number each). Directional headlight, illuminated number boxes, and prototype-specific body style. Direct-current model, \$130 to \$138; with Digital Command Control (DCC) motor

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Conducted by Cody Grivno



and light decoder, \$200 to \$218; and with ESU LokSound DCC sound decoder, \$335 to \$340. Kato USA Inc., 847-781-9500, katousa.com

N scale freight cars



- **Thrall high-side gondola.** Wisconsin Electric; Atchison, Topeka & Santa Fe

(black with yellow circle-cross herald); Commonwealth Edison (billboard lettering in one number, red and black with reporting marks only in two 3-packs, and black and white with reporting marks in one 3-pack); Herzog (gray and yellow); Midwest Car (black and red); and RJ Corman (red with billboard lettering). Ten numbers per scheme (single car and three 3-packs per scheme unless noted). Metal wheels and screw-mounted trucks. Single car, \$24.98; three-pack, \$69.98. AthearnN. Athearn Trains, 800-338-4639, athearn.com

Club offerings



- **Great Northern Ry. standard combination depot.** N scale kit features laser-cut 3-ply birch plywood walls, soffit, roof, and platform; laser-scribed siding, wainscoting, and platform deck; peel-and-stick shingles, doors, windows, and trim; cast-resin chimney; and window glazing. Measures 4⁵/₈" x 2⁷/₈" x 1³/₄". \$59.95 (GN Historical Society members, \$49.95). Great Northern Ry. Historical Society, gnrhs.org



- **Kankakee Daily Journal 50-foot plug-door boxcar.** Accurail HO scale car decorated for the Kankakee Model Railroad Club. Kit, \$25; assembled with Kadee couplers, \$30. Shipping \$5 per car. Checks payable to KMRC, 197 S. East Ave., Kankakee, IL 60901

N scale



Norfolk Southern SD60E diesel locomotive. This Atlas Master Line model is decorated for Norfolk Southern in the railroad's Thoroughbred (two road numbers), GoRail, Honoring Our First Responders, and Honoring Our Veterans schemes (one number each). The N scale road unit has golden white light-emitting-diode headlights, blackened metal wheels, and operating front and rear ditch lights. Direct-current models with a speaker retail for **\$149.95**. Models with an ESU Digital Command Control sound decoder list for **\$259.95**. Atlas Model Railroad Co., 908-687-0880, atlasrr.com

N scale



Thrall 3,564-cubic-foot-capacity gondola. TrainLife.com offers these exclusive ExactRail gondolas decorated for TTX (three paint schemes), Union Pacific ("Building America" scheme), and Norfolk Southern (Thoroughbred scheme) in six to 12 numbers per scheme. The N scale cars (\$28.99) have Magne-Matic no. 1015 couplers, 100-ton trucks, and CNC-machined 36" metal wheelsets. TrainLife.com, trainlife.com

N scale structures



• **Roadside Eats.** Features barbecue smoker and food trailer castings, two photo-etched picnic table and umbrella kits, full-color sign sheet, and 10" of photo-etched picket fence and gates. \$45.95. The N Scale Architect, 607-746-8416, thenarch.com

O scale details and accessories

• **Running boards.** Laser-cut Strathmore with peel-and-stick backing. For InterMountain Railway Co. boxcars and

Continued on page 16

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Showcase

1



6

1 Tungsten putty. Add up to 1 ounce of weight between the center sills and other tight spots on your freight cars with this putty. The Woodland Scenics product sells for **\$10.99**. Kalmbach Hobby Store, KalmbachHobbyStore.com

2 Chesapeake & Ohio steel cupola caboose. This Atlas Trainman model is decorated for C&O and four other roads. The O scale



2



5

caboose **\$67.95** has interior lighting with an on/off switch. Atlas O, atlasrr.com

3 Canopy trees. Woodland Scenics offers this three-pack of trees suitable N, HO, and O scales. The trees **\$12.99** range in height from 2" to 3½". Woodland Scenics, woodlandscenics.com

4 41-foot ballast hopper. Milwaukee Road, Union Pacific, Amtrak, Burlington Northern, CP Rail, and Herzog are the schemes on the Atlas Master Line model.



3



4

The N scale car **\$29.95** each; three-pack, **\$89.95** has an injection-molded plastic body, separately applied brake wheel, and knuckle couplers. Atlas Model Railroad Co., atlasrr.com

5 Thrall 3,564-cubic-foot-capacity gondola. This HO scale car is offered exclusively by TrainLife.com. The gondola is lettered for TTX (three schemes), Norfolk Southern, and Union Pacific. The model **\$44.95** has American Steel Foundries

100-ton Ride Control trucks and CNC-machined 36" metal wheelsets. TrainLife.com, trainlife.com

6 General American 2,600-cubic-foot-capacity Airslide covered hopper. Great Northern Big Sky Blue is one of seven paint schemes on this Genesis-series model. The HO scale car **\$52.98** features see-through metal running boards and prototype-specific details. Athearn Trains, athearn.com

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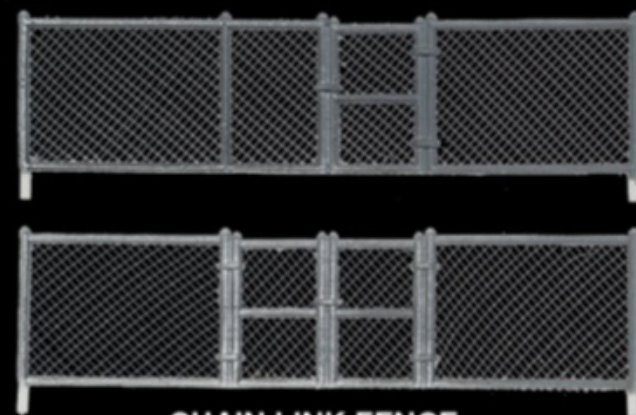
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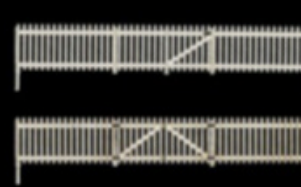
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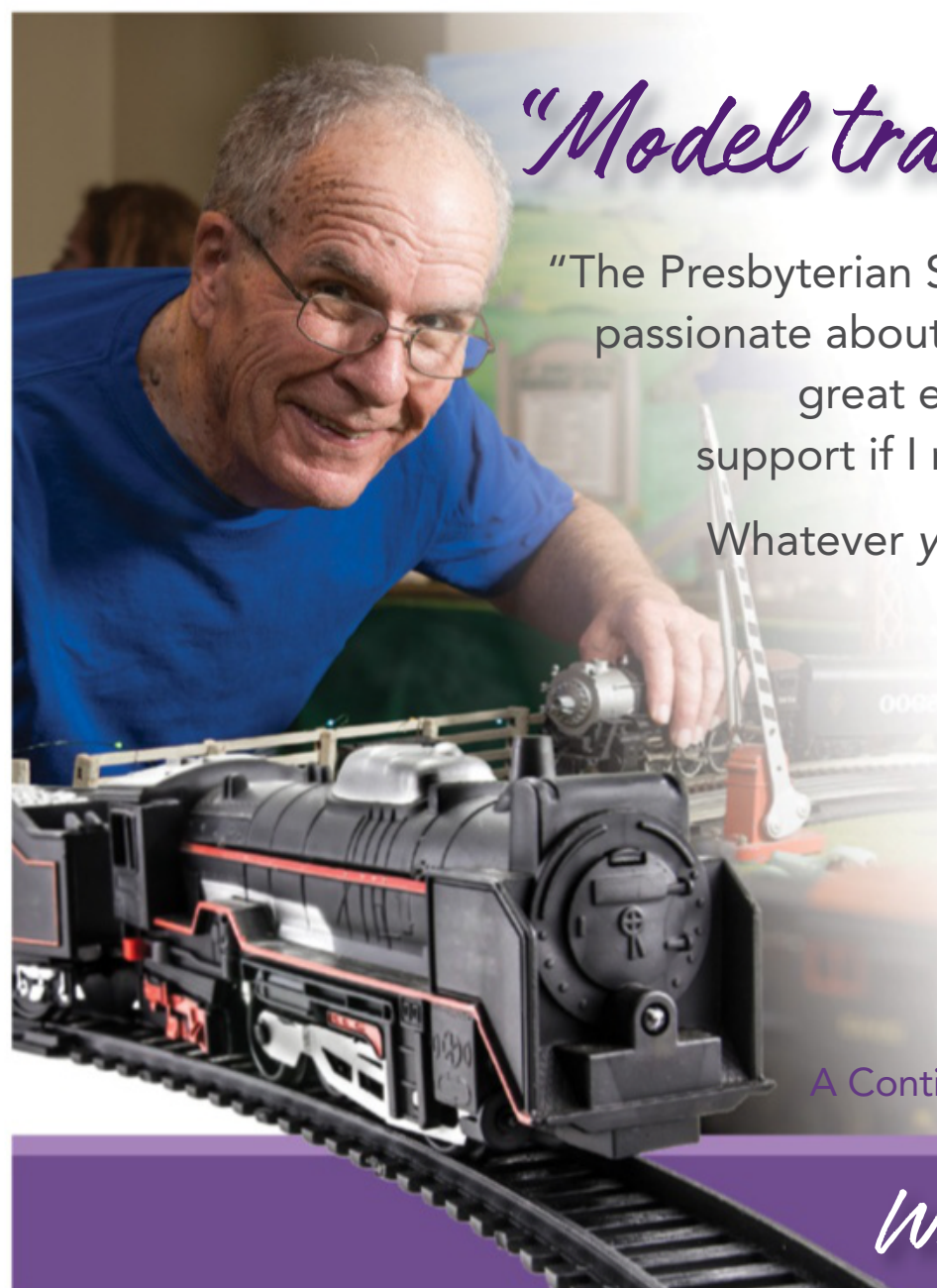
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Continued from page 12

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• **1:43 scale vehicles.** Austin Healy (green), new VW Beetle (yellow

convertible and metallic green), original VW Beetle (matte black and white, light blue and white, orange, and Herbie) and VW T1 (orange and cream and green and blue). \$12.95 each. Produced by Cararama, available from Atlas O, 908-687-0880, atlasrr.com



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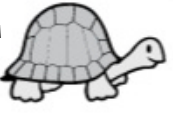
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This undated photo is one of only a few known images showing the print shop where Al Kalmbach first published *The Model Railroader*. The lower half of the building is unfortunately obscured by a pile of plowed snow. Kalmbach Media photo

What did MR's birthplace really look like?

Q I just purchased the *Model Railroader* animated sign [available from the Kalmbach Hobby Store at kalmbachhobbystore.com/product/layout-accesory/84033 – Ed.]. I also have a resin kit of "The Birthplace of *Model Railroader*" sitting on the shelf. Not that the combination would be prototypical in any way, but I'm considering using the two together on a T-Trak module. The prototype information in the kit is a bit sparse. Are there any pictures of the building in a back issue? Can you supply me with any information about the structure and trim colors?

Vincent Sanders, Chicago

A There aren't many photos of the prototype building that the "Birthplace of *Model Railroader*" kit was based upon. I've only ever seen two; both are black and white, and neither shows a lot of detail. Above is one showing the front and partial side of the building, unfortunately obscured with a pile of plowed snow. (The other, showing Al Kalmbach and two printer's helpers holding the first issue of MR, shows only the side door.) So much of what we think we know about the building is guesswork. However, if you want more information to help you assemble and paint your kit realistically, check out Cody Grivno's "Step By Step" article in our January 2019 issue.

Q I saw a *Model Railroader Video Plus* video by David Popp about building a layout using extruded-foam insulation board. Are there advantages of using this rather than plywood?

Bob Devine, Rumson, N.J.

A Though you can use either substance as the surface of a flat layout area like a city or yard, other than that, the two materials and their applications are quite different. Plywood has a structural strength that extruded-foam insulation board doesn't, and is also more flexible, making it suitable for building "cookie-cutter" style subroadbed. However, foam

has the benefit of being easily carveable. By stacking layers of foam and carving it with knives, saws, and rasps, you can create ditches, mountains, hills, cuts, fills, and valleys. So the answer depends on what kind of terrain you plan to model. You might choose to use both.

Q I've heard conflicting views regarding wiring a Digital Command Control power bus. Some have suggested twisting the bus lines, while others have suggested keeping the lines separate. Is one of these methods better than the other?

Murray Symington, Waterloo, Ont.

A Both twisting the wires together and keeping them separated are intended to counteract inductance, that is, signal interference caused in parallel wires by the magnetic fields the electrical current creates. Considering how little voltage our systems carry, and how much our bus wires already twist around as they weave around the layout, inductance isn't likely to be much of an issue. Either method will work. If your wires will run close together, twist them occasionally. Otherwise, a few inches of separation should be sufficient.

Q Could you advise how to wire two tracks for Digital Command Control? I want two trains to run in opposite directions to each other on a main line.

Adam Lyle

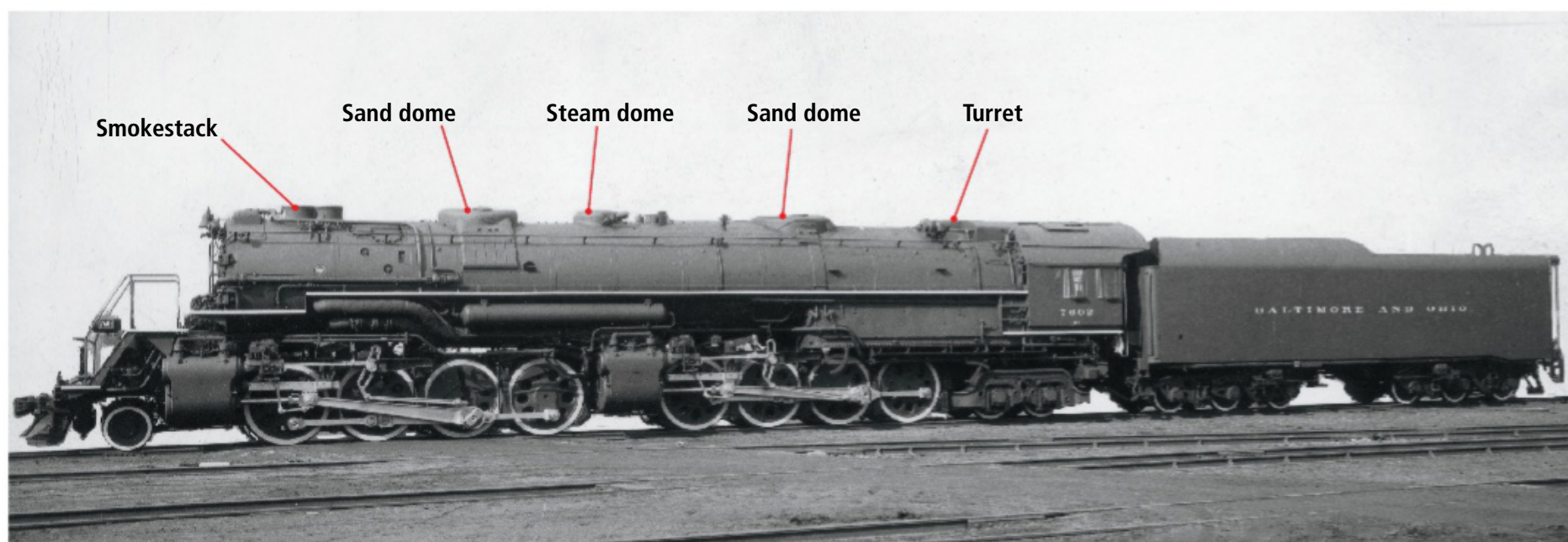
A Under Digital Command Control, you control the locomotives, not the track. Trains are addressed and controlled individually, based on the unique digital address of each locomotive's decoder. Reversing sections like wyes and turnback loops are a bit more complicated, but if you're wiring two main-line tracks with no reversing sections, the wiring is straightforward. Simply connect the DCC base station's output to the rails, just as you would wire a direct-current layout. Then you can start running two engines simultaneously.

Q I was thinking of using the old Southern Pacific "Black Widow" paint scheme for a model railroad depicting an abandoned branch that was reincorporated into a newly formed shortline operation. My question is, did that ever occur in the prototype world, or were locomotive paint schemes protected by copyright or trademark laws?

David Houghton, Sacramento, Calif.

A Though railroads usually saw their locomotive paint schemes as points of pride, there were many reasons railroads might share paint schemes, the most obvious being mergers. Railroads taken over by other railroads often used the same paint schemes as the parent company; a good example is the St. Louis Southwestern, aka the Cotton Belt, which used the "bloody nose" scheme of parent Southern Pacific. Another reason

Send questions and tips to associate editor Steven Otte at AskMR@MRmag.com.



As shown in this March 1944 builder's photo, the Baltimore & Ohio class EM-1 2-8-8-4 had two sets of drivers, but just one steam dome, the middle bump on top. The others are sand domes. Baldwin Locomotive Co. photo, David P. Morgan Memorial Library collection

is patch-outs. A smaller railroad that buys used locomotives from another might for many years not bother to repaint them, instead simply covering up (or even merely crossing out) the old herald or road name and stenciling in new reporting marks and engine numbers.

Q How do I remove the shell from an HO scale Mehano center-cab locomotive? I desire to repaint it but can't seem to get the shell off.

Robert Gulbrandsen, Anderson, S.C.

A Without having a duplicate of your model in front of me to examine, I can only offer general advice on removing diesel shells. Remove the coupler boxes and couplers from both ends. Pivot the trucks in both directions to see if there are any screws underneath one corner or the other. If the fuel tank cover snaps off, remove it to see if there are any screws under it that need to be removed. Once all screws are out, try holding the locomotive by the shell and gently shaking it to make the frame drop out of the bottom. If there are tabs that snap into the frame, try wedging toothpicks between the shell and the frame to spread it out.

Q On the back cover of your November issue is an advertisement showing four model steam locomotives. Two are listed as "Early large dome" and two as "Later small dome." I don't remember ever hearing the word "dome" used to describe locomotives. What are they?

Paul Montagnon, Cheshire, Conn.

A Though steam engines also often have sand domes – boiler-top reservoirs used

to carry sand that can be dispensed onto the rails to improve traction – what that ad was referring to is the steam dome. The steam dome is a usually rounded enclosure on top of a steam engine's boiler, containing the entry to the main steam pipe. The point of the dome is to keep that opening well above the water level in the boiler so water doesn't get into the cylinders. Other equipment, such as safety valves and steam whistles, can also be mounted in or on the dome. The models in the ad were Baltimore & Ohio class EM-1 2-8-8-4 articulated locomotives. These had two sets of drive wheels, but as both were powered by one boiler, it still had just one steam dome.

Q Where are high-priority loads located on trains? I was wondering where high-priority or expensive, delicate loads would be located on a manifest freight train. For example, where would auto racks loaded with Lamborghinis go? What about rocket engines for NASA or tanks, missiles, and aircraft for the military? I'd assume that these special loads would just be coupled in order of their destination like the rest of the train, but am not certain. Also, would these loads require any sort of extra buffer cars or equipment between them and other cars, and would the train itself need to bear special markers? Lastly, would these loads change the class of the train and give it right-of-way on a main line?

Ethan Bernstein, Ellicott City, Md.

A Generally, the value of the cargo doesn't confer it special handling or placement in a train; the car is blocked

depending on where it's headed. Putting the car where it will need to be switched and jostled around the least will do more to protect it than any other kind of special placement. The examples you give in your question do raise some interesting operational issues, though.

"Auto racks loaded with Lamborghinis" probably don't exist, since those cars are built in such small quantities; they're likely all shipped via truck. Other auto racks are handled like any other freight car, regardless of the value of the autos therein. The only exception I can think of is that cargo containers loaded with small, high-value items, like consumer electronics, are sometimes placed in the lower position of an intermodal well car so the doors can't be easily pried open by enterprising thieves. But when it comes to their place in the train, these cars are handled like any others.

NASA booster rockets and military equipment wouldn't be handled in manifest freights. These would be shipped in special movements, as extras, with plenty of security. So these trains would have white flags and/or markers designating them as extras, but no other special designation. If the cargos carried any explosives or flammable material, such as a solid-fuel booster rocket, they would have to have buffer cars between them and the locomotives. But it's unlikely that military materiel would be shipped with live warheads or ammunition on board.

As these special movements would be run as extras, their superiority over other trains would be assigned by the dispatcher via train order. **MR**

Making 'good enough' a little better

The N scale shipping house shown here isn't finished, but I want to make a point about the roof, namely the diamond-pattern shingles. They were made from laser-cut paper by GC Laser and laid one row at a time. That was a modeling decision I ordinarily wouldn't make because I prefer materials and methods that yield quick and acceptable results. Let me explain further, in a very roundabout way.

Me and Steve. I had a good friend, Steve Tietz, whose main thing was building wood, craftsman-kit structures. Starting some 10 or 12 years ago, every November he'd come up from southern Illinois to Trainfest here in Milwaukee just to look for kits he didn't have.

Steve and I had become friends when we were both English instructors at Western Illinois University in the early 1970s. Over the years his interest in HO kit building intensified, while I got hooked on N scale and layout building.

Steve liked to build older-style buildings with additions, dormers, and details that lend a lot of character. I look for simple, time-saving materials and methods to yield a structure that looks like its prototype and can play a convincing part in completing and operating the railroad. At the same time, I don't want a sloppy model (which this one kind of is). As I've heard David Barrow say in his clinics, "Neatness goes a long way."

A case in point. The model of Armstrong's apple packing and shipping house in Tehachapi, Calif., was based on two photos, some walked-off measurements, and a few notes I made sometime in the middle '80s. Thirty-five years



Jim would typically spend about 30 minutes on a structure's roof, but here the job took about six hours. He thinks the visual effect was worth the time. Bill Zuback photo

later, I'm getting around to building it and other structures and I sure wish I had a lot more to go on.

I have to remind myself that I'm not out to build a museum model, I'm just looking for "good enough," a concept popularized by Allen McClelland in building his landmark HO Virginian & Ohio, (although Allen's "good enough" is way better than mine or that of most other modelers I know.)

From the ground up. First came the concrete foundation. Steve might have made a mold, cast the foundation in plaster, and added cracks and deterioration. I made mine from Evergreen no. 169 .080" x .250" styrene strips that put the door openings at the right height to align with the floors of boxcars parked alongside. I made no attempt at detailing or distressing the concrete.

Above that came the walls. My photos weren't sharp enough to show me what they were made of, but my notes said they were "large bricks." In my materials folder I found

a piece of Kibri no. 7962 HO plastic brick sheet that I used.

My notes also told me that the peaks on the end walls were horizontal boards. For these I used Evergreen no. 4040 scribed siding to represent 6" boards. Steve might have used scribed wood siding, or even built the peaks using individual boards and had some fun with lightly scribing in grain and board ends. Of course, I could also have done that with the plastic I used. You get the point – decisions, decisions, decisions.

I couldn't be 100 percent sure, but judging from the photos, the roof was covered with the aforementioned diamond-pattern shingles. I searched Google but could find none done in plastic sheets, only the paper ones. I used an Elmer's glue stick, purchased at

Walgreen's, to attach these to 1/16" cardboard. The glue stick worked great, but the cardboard frizzied on the edges when I painted it. If I were to do it again, I'd try styrene panels, experimenting first to make sure it would work.

I put about six hours into this roof, whereas if I were using plastic I could have done it in about 30 minutes.

Would I do it again? Yes. In modeling we're always making trade-offs, and here

I'd exchanged time for visual interest. This model will go in a prominent position near the front of the layout. Also, the diamond pattern adds a historic note: Such shingles were used often in the 1920s through the 1950s. And one more observation: We usually view our models from above, so roofs count a lot. **MR**



I HAVE TO REMIND MYSELF THAT I'M NOT OUT TO BUILD A MUSEUM MODEL, I'M JUST LOOKING FOR "GOOD ENOUGH."
— JIM

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Build an HO scale freight car kit

Accurail's 5600-series HO scale boxcar kit has been around for years. Group Technical Editor Cody Grivno explains how kit building is even more enjoyable when you have the right tools. Bill Zuback photos

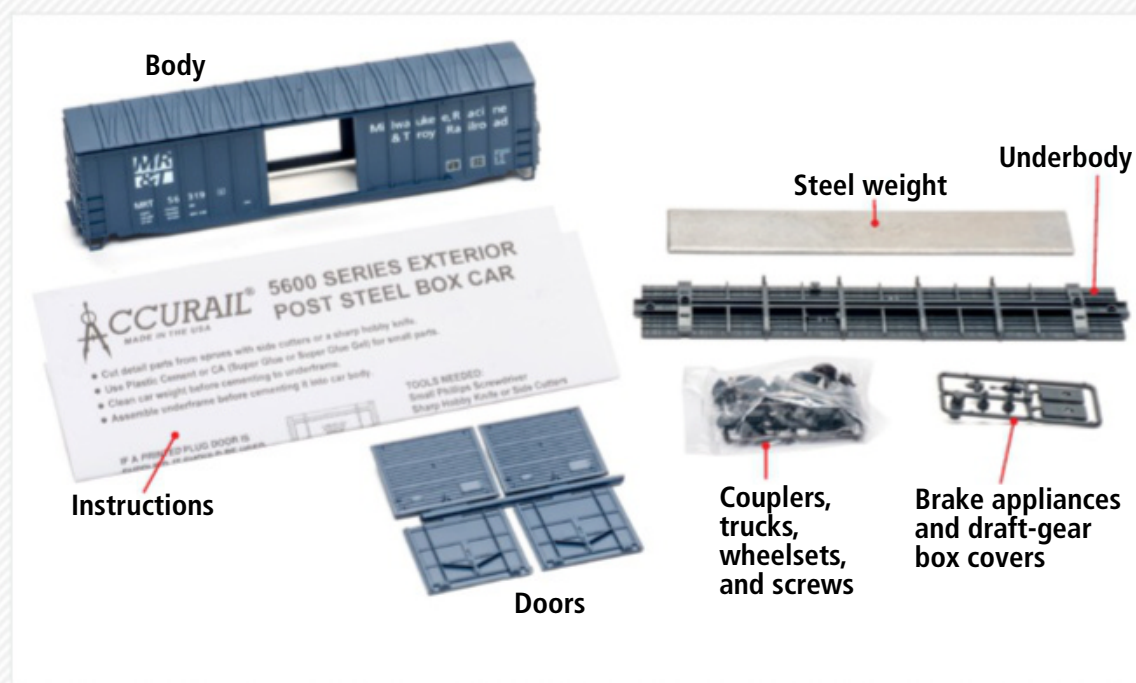
Sitting down at the workbench and building freight car kits is an aspect of model railroading I've enjoyed for many years. The kits have run the gamut from multi-media kits with a resin body, etched-metal parts, and wire grab irons to "blue box" kits once offered by Athearn. No matter the type of kit, the key to a successful build is having the right tools.

For this month's Step by Step, I built an Accurail HO scale 5600-series 50-foot boxcar with exterior posts custom-decorated for our staff layout, the Milwaukee, Racine & Troy (MR&T). As far as kits go, the Accurail model is pretty straightforward, making it accessible to everyone from new hobbyists to veteran modelers. Better yet, you don't need a large number of tools to complete the build.

If you're a newcomer looking to develop your modeling skills or a long-time modeler looking for an excuse to sit down at the workbench, try building a freight car kit. There are plenty on the market, so pick one you like and start building.

Editor's note: The Milwaukee, Racine & Troy (MR&T) boxcar shown here was produced exclusively for the Kalmbach Hobby Store (KalmbachHobbyStore.com). It sold out before press time, but other Accurail freight cars lettered for the MR&T will be available soon.

STEP 1 WHAT YOU GET

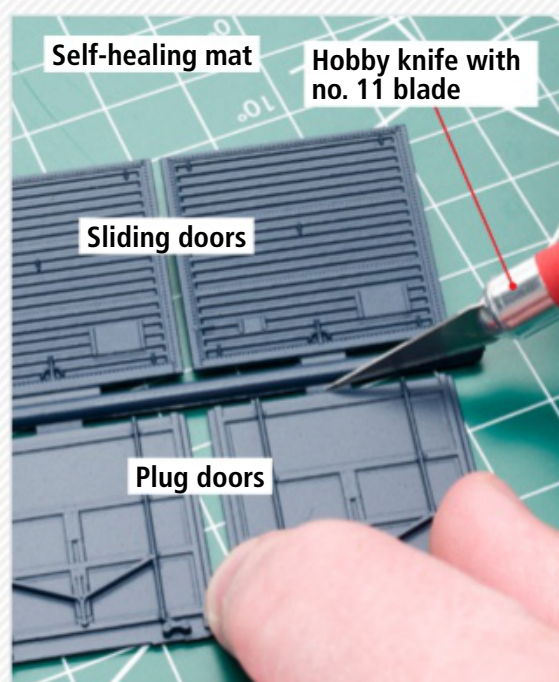


Before building a kit, it's always a good idea to inspect the parts to make sure nothing is damaged and the contents are complete. This Accurail kit was in excellent shape and all the parts were included. In the event something is damaged or parts are missing, the manufacturer's contact information is usually printed on the instructions or listed on a separate piece of paper.

So what's included with the Accurail boxcar kit? A one-piece injection-molded plastic body; a separate underbody; two door options (sliding and plug); a plastic package with couplers, trucks, wheelsets, and screws; a sprue with brake appliances and draft-gear box covers; a steel weight; and a sheet of instructions.

It's always a good idea to read through the instructions before starting construction. The manufacturer may recommend completing the build in a certain sequence or using a specific brand of glue to bond parts. Don't make assumptions when building a kit, as it usually doesn't end well.

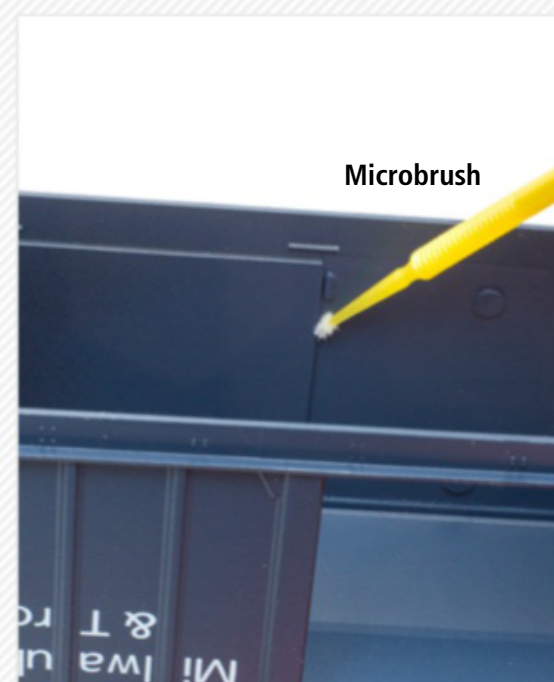
STEP 2 BODY BASICS



The boxcar includes sliding or plug doors. Since the MR&T is a proto-freelanced railroad (a fictional line that follows prototype practices), I didn't have to worry about matching a full-size car, so I chose plug doors. I cut the doors from the sprue with a hobby knife fitted with a no. 11 blade. To protect the work surface, I did the cutting on a self-healing mat.

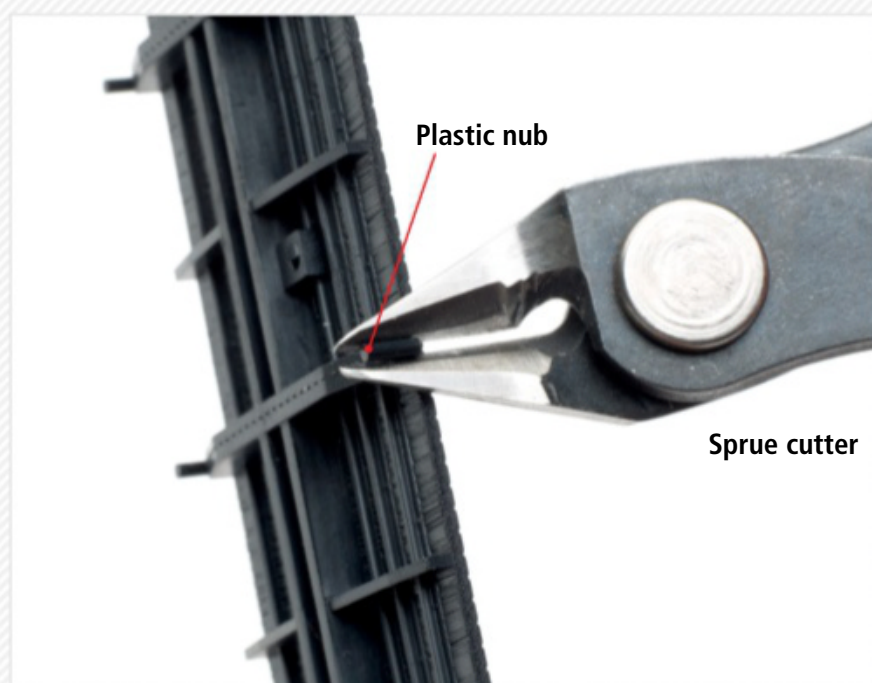


The hobby knife did a fine job of removing the plug doors from the sprue. However, there was a rough spot on each casting that needed to be smoothed so the door would fit the opening properly. Though a jeweler's file would work, I elected to use a sanding stick. Work in light passes and check your work often to avoid removing too much material.



With the sanding complete, I test-fit the doors. Satisfied with how the doors fit, I attached them to the body with Plastruct Bondene, a glue designed to bond similar plastics. I applied the Bondene from inside the car with a Microbrush. I applied the glue at the top of the joint and let it flow down, allowing capillary action to pull the solvent into the joint.

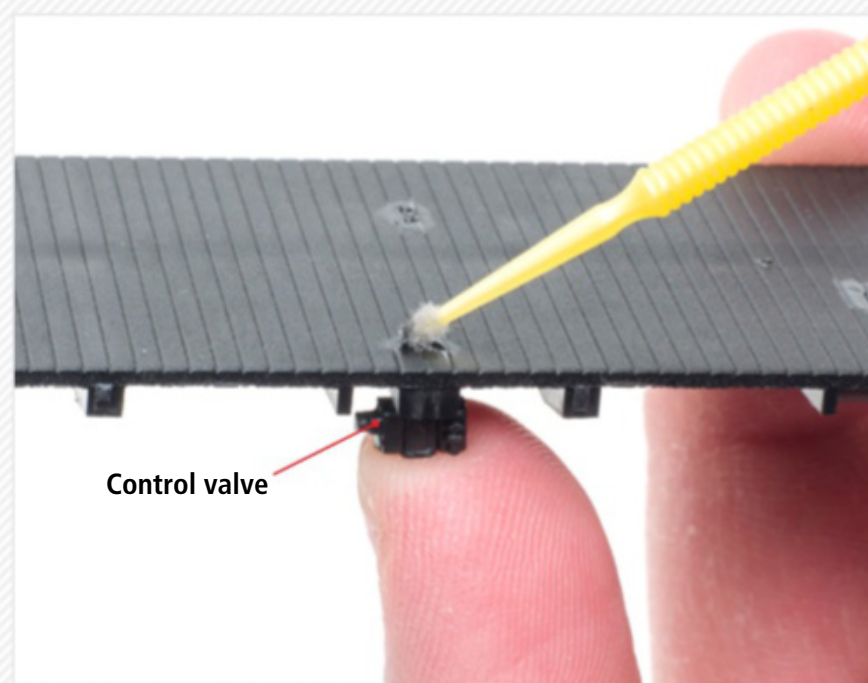
STEP 3 UNDERBODY DETAILS



Next, I turned my attention to the underbody. The center sills, cross bearers, cross ties, draft-gear boxes, and floor boards are all molded as a single piece.

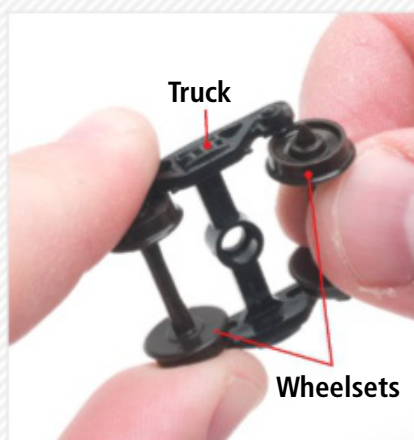
There are plastic nubs leftover from the injection-molding process

on the long edges that need to be removed in order for the body to seat properly on the underbody. I used sprue cutters (left-hand photo) to remove the nubs and jeweler's files (or sanding sticks) to smooth any rough spots.



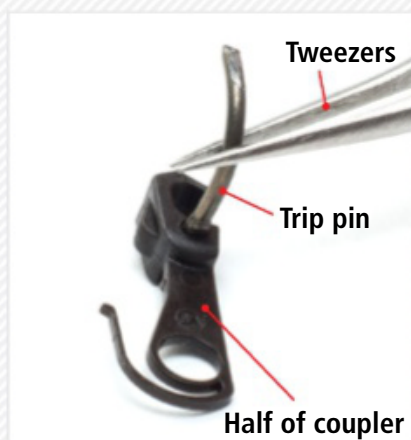
I also used the sprue cutter to remove the control valve, air reservoir, and brake cylinder from the sprue. After pressing each part into its respective opening, I applied Bondene from the top of the underbody with a Microbrush.

STEP 4 TRUCKS AND COUPLERS

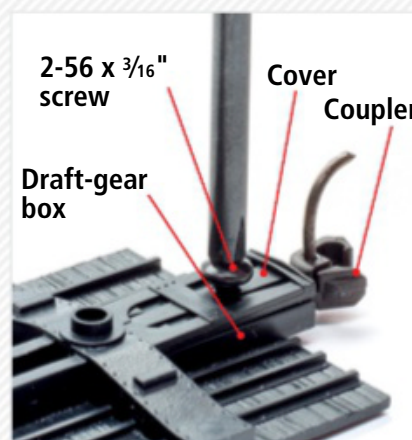


The plastic trucks come with modeler-installed plastic wheelsets. I inspected the trucks and wheels for flash (excess plastic that oozes out of the mold). Flash is easily removed with a hobby knife.

Then I spread the truck sideframes and installed the plastic wheelsets. You can replace the kit's wheelsets with metal wheelsets if you prefer.



The Accumate two-piece couplers include a modeler-installed trip pin. I used a toothpick to apply a small dot of medium-viscosity cyanoacrylate adhesive into the opening for the trip pin. Then I set the pin into place with a pair of tweezers (needlenose pliers would also work). As with the wheelsets, the plastic couplers can be replaced with metal ones if desired.

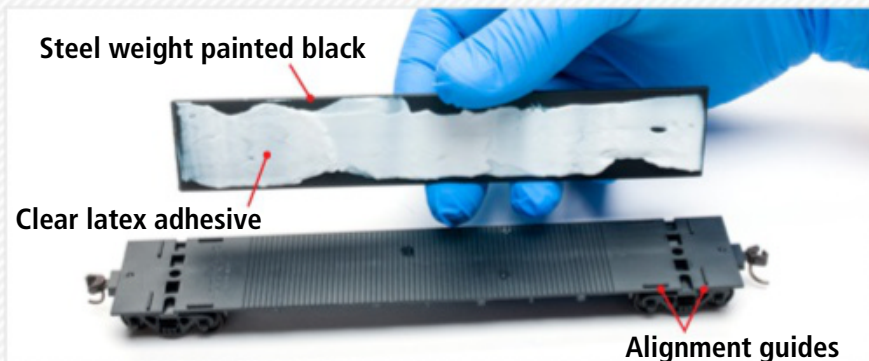


After putting the coupler halves into the draft-gear box, I set the cover into place. A single 2-56 x 3/16" screw secures each cover.

Finally, I attached the trucks with the remaining 2-56 x 3/16" screws. Tighten the screw on one truck all the way down and then back it out until the truck freely swivels. The other truck can be relatively loose.



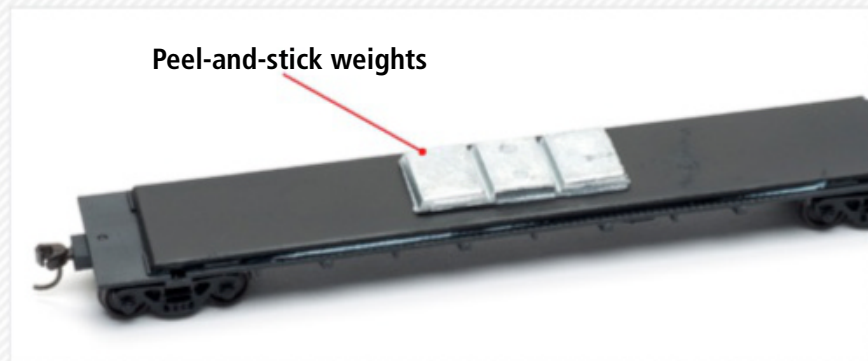
STEP 5 WEIGHT FOR IT



Accurail recommends cleaning the weight prior to installation. I found a towel dampened with Windex did the trick. Then I took things one step further and painted the weight with Rust-Oleum Painter's Touch 2X Flat Black Primer.

I applied clear latex adhesive to one side of the weight and spread it with a putty knife. Alignment guides on the top of the underbody take the guesswork out of where to put the weight.

National Model Railroad Association (NMRA) Recommend Practice (RP) 20.1 covers car weight. For HO scale, that's 1 ounce plus 1/2 ounce of additional weight per inch of carbody length. For the boxcar, that meant 4.5 ounces. To see how much the boxcar weighed, I put the



body and underbody with everything added on a kitchen scale. The result was 4 ounces, 1/2 ounce too light based on NMRA RP-20.1.

To bring the car up to the NMRA's recommended weight, I added Woodland Scenics adjustable peel-and-stick weights. I attached the supplied double-sided foam tape to the

weights and centered them on the steel weight. Then I set the body shell on the underbody and put our boxcar into service. **MR**



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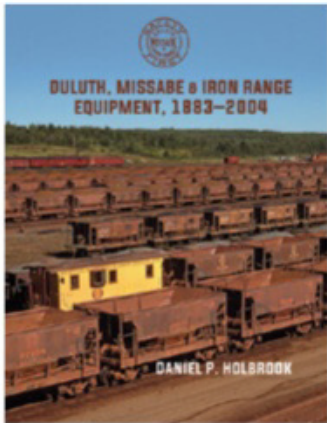
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Building **WINGATE** in 0 scale

PART 3: Scenery, structures,
and rolling stock

By Tony Koester
Model photos by the author



**NEXT-
LEVEL
REALISM**

BELOW: This photo looking west shows the ditch between the track and the depot enabled by building up the local terrain using ½" foam sheets bonded to the 2" foam board base. Streets were also built up using ¾" foam sheets. The brick store has a raised foundation. The terrain changes are subtle but important to avoid the Ping-Pong-table look.

RIGHT: Nickel Plate-style crossbucks for Main Street were made by converting a black-and-white photo to high-contrast artwork (inset), then gluing the paper printouts to .030" styrene or a 16'-6" length of code 125 rail painted white. Four feet of the post is buried.



No matter the scale or gauge you opt to model in, you have some homework to do before finalizing your choice of location, era, prototype (or base prototype from which to freelance), and so on. We discussed site choices in part 1 of this series (January 2020).

Now it's time to consider the structures, scenery, locomotives, and rolling stock needed to model that time and place. Do we have enough information to scratchbuild accurate models of the key structures? If not, are there good candidates for kitbashing?

For a layout of this size, we'll need only one locomotive, and there's a wide variety to choose from. A diesel wins out over steam, as the length of the tender takes track space better used for an extra freight car. For slow-speed switching, it has to have an excellent power chassis and control system.

O scale is large enough for almost all detail to be visible. Do you have the time, skills, materials, and funds to bring models up to that level or have someone else do it for you? Or do your interests (like mine) lean more toward the realistic movements of cars rather than ensuring a higher level of detail accuracy? Moreover, most of today's O scale commercial models already have a lot of detail. And if you're contemplating a portable layout, fine detail is more prone to breakage.

Also keep in mind that most of us have HO or N scale instincts. We have a pretty good idea of how much room a depot or grain elevator occupies in 1:87 or 1:160. But when we draw the footprint of an O scale structure on the track plan or scenic base, that can be a real eye-opener. And contemplate the height of the concrete elevator shown in the photo on page 59.

Scratchbuilding or kitbashing?

Back in 1971 Bob Walker, Jon Marx, and I measured the Wingate depot and the width of the older grain elevator south of the main line. Beyond that and dimensions gleaned from a 1920s Sanborn fire insurance map, I was pretty much on my own.

I opted to scratchbuild the depot, as noted draftsman Harold Russell had converted our field notes to scale drawings that appeared in the March 1995 MR. Scratchbuilding is basically assembling a self-made kit, and you don't even have to read instructions! But scratchbuilding remains intimidating to many modelers, so I'll provide an overview of this simple process in a separate article. After you've gathered the needed components, you can assemble and hand-paint the depot in a long day or a few evenings.

There are good alternatives in plastic and wood kits. Berkshire Valley Models has an O scale Small Town Station laser-cut wood kit (part no. 854) that closely resembles depots used on the Chesapeake & Ohio, Wabash, and Missouri Pacific. It includes details for both exterior and interior, such as a baggage wagon, luggage, potbelly stove, and roll-top desk.

The Wingate series

January: Choosing a prototype and developing a plan for a one-town railroad

February: Using foam board benchwork, handlaying track, and wiring for DCC

March: Adding structures, scenery, and rolling stock

April: Maximizing the operational play value of a compact model railroad



Sanded grout makes an excellent filler material for foam-board landforms and also as a skim coat for paved roads. Like concrete, it needs to be “floated” using a wet palette knife.

I also scratchbuilt the tall concrete grain elevator (see “Scratchbuilding the grain elevators” on page 59), a simple box structure, from 1/8" white Sintra PVC sheet. This is a lightweight plastic material used by sign painters that’s available in 4 x 8-foot sheets of various thicknesses and colors. I got mine from a local sign-painting shop, as many suppliers won’t sell to outsiders. As City Classics’ Jim Sacco points out in his clinics, Sintra is easy to emboss to add cracks, joint lines, and brick mortar lines, and can be carved like wood.

Only the north 9'-6" of the elevator would fit between the South Elevator Track and the fascia, but this was enough of a visual clue to mark a spot for 40-foot boxcars to be loaded with grain.

Its older sibling was a wood elevator that was later covered with corrugated iron panels. I scratchbuilt this by building a box from 1/8" Sintra and covering it with Builders In Scale corrugated siding and ribbed roofing. I attached it with 3M no. 465 transfer tape; apply the tape and peel off the backing to leave a super-sticky adhesive film.

I couldn’t fit in the long coal bin shown on the Sanborn map. I may add that to a section east of the lumberyard. Instead, I built a cast-resin and pewter portable coal conveyor made by Crow River Products (crowriverproducts.com).

To represent the downtown along Vine Street, all of which was north of the railroad, I used two Atlas O Nicole’s Java Hut kits to double the length of a brick store. (If the other side will never be seen, that wall could be used to extend the south wall that faces the front, saving you the cost of a second kit.)

The feed mill that replaces the ill-defined third elevator was kitbashed, as I explain in “Kitbashing a feed mill,” a

web extra available on the MR website, ModelRailroader.com.

Since I designed the layout to be transportable, all buildings, whether 3-D models or flats, must be removable. I used blocks of sponge as locators for the structures, as they “give” a little when (not if) a building is jostled.

To steady the two low-relief grain elevators, I epoxied lengths of 1/4" brass tubing to the front inside corners of the building and sunk telescoping tubing into the layout base.

The two crossing flashers at Vine Street are from Tomar Products. I haven’t added detection circuitry, as the local is in town the entire time. Some animation could be added with a flasher circuit and bell, controlled with a simple toggle switch.

I made the crossbucks guarding the Main Street crossing by using a high-contrast black-and-white photo I shot in Cayuga, Ind., in 1971. The signs were glued to .030" x .250" styrene strips 9 scale feet long; the post is code 125 rail a scale 12 feet high above ground, painted white, with stripes and “NKP RR” glued onto the front. The Nickel Plate Historical & Technical Society (nkphts.org) sells decal sets in several scales for these crossbucks.



The feed mill office was kitbashed from two Atlas O lumberyard office kits combined to achieve a more realistic length. The change also disguises the kit’s heritage.

Terrain and scenery

Landforms, such as they are, were made from 1/2" or 3/4" foam panels bought from a big-box store or a craft shop and bonded to the 2" foam board base using foam-safe cement. This raised the basic terrain enough to create ditches and avoid the Ping-Pong-table look.

I created a crown in Main and Vine streets (too much of one, perhaps) with a Surform rasp, then gave everything a skim coat of sandstone-colored sanded grout I got at a big-box hardware store. (I had little luck getting grout to stick to Homasote on my HO layout, but the foam sheets have enough tooth for it to get a good grip.)

I gave everything a coat of the same flat latex olive-drab “CTC machine green” that I used on the fascia, valance, landforms, and waterways on my HO railroad. I then used artist’s acrylics to paint the paving on Vine and Main streets a light gray and the gravel driveways a tan color. I didn’t care for the tan, so I bought a bag of stone dust at a local stone supply shop, sifted it to separate out the finest particles, and coated the gravel drives and parking areas with it. I didn’t have a fine enough screen, so I then sanded the traveled areas of the drives to remove the larger grains.

I used three Blair Line wood grade crossings (no. 265) to cross the tracks at Main and Vine streets. Some cutting and fitting were required. As on the prototype, I cut a 45-degree bevel on the end planks of the sections between the rails to keep them from snagging any dragging equipment.

I overlooked ramping up the South Elevator Track where it crosses Vine Street, so the road’s grade between that siding and the main line is a bit steep.



Doubling the length of the Atlas O lumberyard with a second kit adds realism. The Crow River coal conveyor stands in for a long coal house that the lumberyard sheds crowded out.



Soft foam blocks were glued to the foam board to hold structures in position but allow them to be easily popped off for transport.

On the west side of Vine Street, you can still see remnants of a brick sidewalk with an offset pattern closer to downtown and a herringbone pattern closer to the NKP main. I modeled this using Monster Modelworks Old Brick and Herringbone Brick material. [Monster Modelworks is out of business. – Ed.]

I shot a series of photos showing a virtual wall of deciduous trees, which is now available as a peel-and-stick “Tony’s Forest” backdrop from LARC Products

(larcproducts.com). These resilient sections were attached to a backdrop made from 1/8" Sintra sheet. Four-foot-long white snap-on trim strips keeps them and the bottom edge of the fascia aligned.

The Sintra backdrop panels, most measuring 18" high by 48" long, are removable for transport. Like the front fascia, they overlap each 48" section and extend below the top of the folding-leg tables to keep the layout sections centered on the tabletops.

Nickel Plate Road Clover Leaf District authority Steven Grigg found a perfectly composed (but low-resolution) black-and-white photo from the Model T era looking north on Vine Street. I made a copy of that image file, added color using Photoshop Elements image-editing software, and glued this to the photo backdrop. Coloring a black-and-white image is easy to do: Select each desired color and reduce its opacity to 10 or 20 percent before “painting” desired portions of



Tony scratchbuilt the Wingate depot based on drawings published in the March 1995 *Model Railroader*. He used Evergreen siding, and Grandt Line (now San Juan Model Co.) and Tichy Train Group doors and windows. He shortened its 51-foot roof length by 3 feet to accommodate Plastruct’s 12" (48-scale-foot-wide) shingle panels.



An old low-resolution photo of Wingate's business district was easily colorized in Photoshop using colors set to a low opacity. The parked truck was also updated and the street converted from dirt to blacktop.

the photo using the paintbrush tool and mouse.

I also retouched a recent digital photo of residential Main Street and glued that to the tree photo. The main change was to extend the street toward the foreground (bottom of the image) until it matched the width of the modeled road. I accomplished this using Photoshop Elements' Clone Tool (the rubber stamp). I also gave the pavement a wash of 10 percent black plus grease streaks using Photoshop Elements' Paintbrush tool on a "fuzzy brush" setting.

Neal Schorr, who models the Pennsylvania RR in O scale (see *Model Railroad Planning 2017*), had worked with Weaver Models to produce plastic line pole kits in O scale that are very similar to those offered in HO by Rix. I got a half-dozen from Neal and located



The backdrop is a series of 48" long 1/8" Sintra panels covered with a "Tony's Forest" peel-and-stick trees-and-sky backdrop from LARC Products. Each panel overlaps two adjacent 48" layout sections.

the cross arms and poles to match what I saw in photos.

Like buildings, O scale trees can be breathtakingly tall. I needed a few sturdy deciduous trees to add texture and screen the backdrop opening into west-end staging. Cheryl Sassi, wife of *Model Railroader* contributing editor Lou Sassi, had made some beautiful oaks and maples for Lou's On30 Sandy River & Rangeley Lakes (see *Great Model Railroads 2020*, on sale now). I negotiated a deal with her for three leafy hardwoods that will result in me washing her car for the next decade. If I need more trees, I may use sagebrush armatures covered with stretched-out clumps of poly fiber material and leaf flakes from Scenic Express.

The electrostatic grass is a random mix of brands, lengths from 2mm to

6mm, and colors ranging from tan to a dull green applied into a white-glue coating with a Heki Flockstar Grass Hopper. Shrubs are Briar Patch clumps from Scenic Express plus an assortment of whatever I found in my scenery storage boxes.



A recent photo of residential Main Street (at left) could be used with little retouching to remove modern details and widen the pavement, printed out, cut out around the treetops, and white-glued to the peel-and-stick backdrop tree panel.

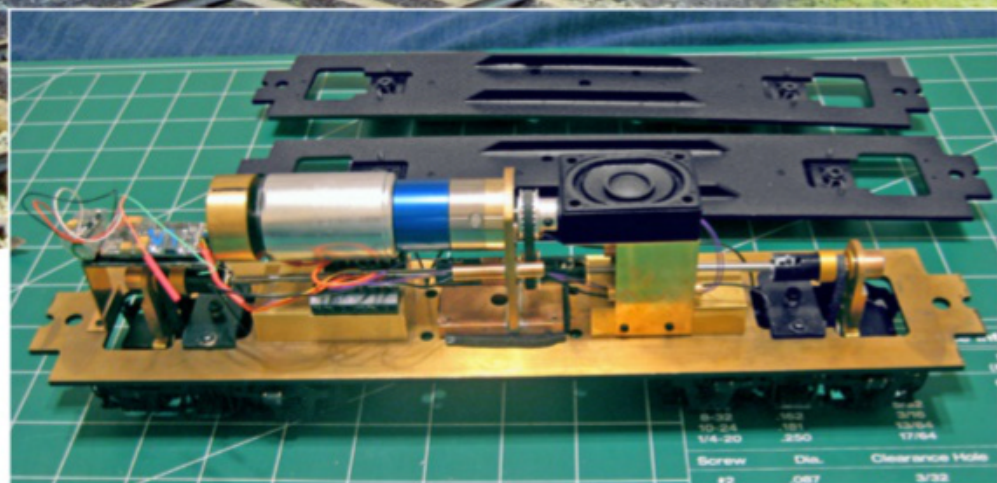
Building a one-unit roster

There are no grades to contend with at Wingate, but my motive power choices were still limited – not by pulling power, but by length. Every inch of track is needed to provide enough room to





A custom power chassis from Right-O'-Way (inset) equipped with a LokSound 567-series prime mover decoder fitted into a Red Caboose GP9 body kit provides the power for NKP local freight No. 45. The "war-emergency" ex-boxcar caboose is a factory-painted Nickel Plate Models import.



switch several industrial tracks plus run around cars in the 12-foot town sections. So a modern steam locomotive large enough to handle a typical local freight, complete with tender, would be too long, although a Consolidation (2-8-0) or Ten-Wheeler (4-6-0) might work.

Simply put, on this transition-era (or a bit later) railroad, it was time to dieselize. Electro-Motive Division GP9s bumped steam off the St. Louis Division in July 1955, so a single Geep or Alco RS-3 is appropriate for an NKP local freight. Both diesels have been available in NKP paint: GP9s from Red Caboose and Atlas O, and RS-3s from Weaver. None is currently in production, but long ago I stashed away some Red Caboose GP9 kits for just such a project. Des Plaines Hobbies (desplaineshobbies.com) stocks unpowered Red Caboose GP9 kits.

For my GP9, the simplest option would have been to buy a power chassis made for the Geep from P&D Hobby

(pdhobbyshop.com). But I decided to try my hand at modeling in Proto:48 (O fine scale), so I checked with Gene Deimling, who manages the P:48 website at proto48.org. He recommended Jay Criswell of Right-O'-Way (right-o-way.us).

Jay built my GP9 chassis using a precision Faulhaber motor that draws so little current that a decoder intended for HO could be used. I opted for a non-turbocharged EMD 567-series decoder from LokSound. Given the room inside an O scale body shell, I hoped for some ear-catching sound effects and have not been disappointed.

Jay added beautiful cast-brass Blomberg trucks from P&D with his own P:48 wheel sets under a brass frame from Des Plaines Hobbies. (DPH will also custom-build power chassis for Red Caboose Geeps.)

The body was already beautifully factory-painted for NKP. The kit has a lot of small parts and serves as a good learning aid for diesel

detailing. Many of the fine details are plastic and hence prone to breakage, but P&D, Cal-Scale (Bowser), and others make brass replacement parts from horns to handrail stanchions.

Keep in mind that while each car or locomotive may be more expensive than those who model in the smaller scales are used to – they seem to be priced by the pound – you need far fewer of them for a Wingate-size project. There are at least five spots in Wingate, so if we switch every one every time, we need fewer than a dozen cars, one locomotive, and one caboose.

I'm adding two more cars. Nickel Plate's Third Sub KC Local, No. 45, also had a rider car for Railway Express Agency shipments – I'm building a Mullet River Model Works kit for it – and a boxcar for less-than-carload-lot (LCL) shipments. These would be spotted at the depot long enough for any parcels to be unloaded when the local arrives in town.

And when you take a deep breath, buy your first O scale locomotive, and

MORE ON THE WEB

Go online to read how Tony kitbashed a feed mill from two Atlas kits. Log on at ModelRailroader.com

set it up where you can admire it from all sides, I think you'll be pleased with your purchase. Its sheer size and heft, not to mention lots of highly visible detail, will be very impressive.

Setting reasonable goals

Over the years, I've accumulated a small roster of O scale cars, mostly boxcars built from All-Nation stamped-metal kits and some newer plastic-body cars. I'd also purchased an Overland NKP standard wood caboose, an NKP war-emergency wood caboose (made from a wood boxcar) from Nickel Plate Models, and another standard NKP wood caboose that someone built from a Quality Craft kit (which was based on drawings I made of NKP caboose no. 1149 in the 1960s).

For rolling stock, I needed a benchmark to use as a detailing standard, so I bought a ProtoCraft 1944 AAR boxcar with Proto:48 trucks from Norm Buckhart (protocraft.com). It's an exquisite brass import that comes unpainted, but Norm also sells the decals needed to match the car's specific prototype, in this

case the NKP's 5000-series boxcars. It's been years since I fired up my double-action airbrush and paint-spraying booth, but that was another longer-term objective of the Wingate project: to rejuvenate rusty skills.

The ProtoCraft car exhibits details beyond my short-term needs, and a note of explanation is warranted. For many of those who model in P:48, the main objective is to detail cars and locomotives and even structures to the same level as the brass boxcar.

My objectives were, first and foremost, to build a compact, prototype-based, operating O scale railroad and, second, to use scale-size rail while correcting the gauge error and gaining some experience with prototypical wheel contours. Super-detailing cars and locomotives could wait until the railroad was operational and I was familiar with the kind of damage that would be caused by transporting the model railroad.

As in HO, when it comes to operating couplers, there are a lot of choices. With realistic yet reliable operation the primary goal, my choice of couplers drifted toward working AAR brass castings from

ProtoCraft. For the short term, however, I stuck with familiar Kadее couplers.

We'll take a closer look at how the town is switched in part 4 of this series, next month.

What lies ahead

Most project railroads featured in MR are "finished" by the time you see them in print. Not so with the Wingate project. It was conceived as a test bed, one I could learn from while sharing that knowledge with others. Nothing has been detailed beyond a base level.

Still ahead are finer details and weathering on rolling stock. I need to apply a coat of paint to that brass ProtoCraft boxcar, perhaps add the industrial spur on the east end, build an outhouse for the depot, and extend the staging yards to allow a through-train movement or two. The manual-block semaphore signals in front of the depot need to be built. And I'm sure taking it to a convention or train show or two will reveal things that need to be improved.

If something interesting surfaces, I'll be in touch. **MR**



The towering low-relief concrete grain elevator at the east end of the South Elevator Track is a box of 1/8" white Sintra. It was modeled after the almost identical elevator at nearby New Richmond, Ind. The older elevator is also a Sintra box with Builders In Scale corrugated siding and ribbed roofing.

Scratchbuilding the grain elevators

These two low-relief structures are simply shallow cores made from 1/8" Sintra PVC material. Regular styrene solvent won't work on PVC, so I used Plastruc's Plastic Weld; plumber's cement for PVC pipe should also work. The older elevator is covered with Builders In Scale corrugated siding and seamed roofing sheets bonded to the plastic core with 3M no. 465 transfer tape. I pressed it firmly onto the core surface, and then peeled the paper backing away, leaving only the sticky bonding agent. Jack Burgess uses a similar product from Bron Tapes called Killer Red.

I measured the length and width of the elevator back in 1971: 36'-0" x 25'-6". I built the elevator as a low-relief structure only a scale 9'-6" deep. I estimated the heights of

the two stories at 28 feet each (56 feet total). The finished structure was airbrushed with Model Master FS 36622 Camouflage Gray (no. 4766).

I can't locate my 1971 photos of the newer concrete elevator, but I later photographed a nearly identical one in nearby New Richmond, Ind. This model is also made from 1/8" Sintra, painted white. I estimated the dimensions at 58 feet wide by 96 feet tall. The four larger windows are Grandt Line no. 3717; the smaller window is a leftover from the Atlas O feed mill kit.

Temporary grain-loading spouts were fashioned from flexible drinking straws. The bottom of each spout is a length of heat-shrink tubing. – *Tony Koester*

TAKING SCENERY INTO THE

**NEXT-
LEVEL
REALISM**

Dave Bigge increased the foreground on his model railroad by adding fascia-mounted scenery extensions. He made the extensions with shelf brackets, scrap plywood, casting plaster, and various scenery materials.

In layout planning we typically like to use as wide of a radius as possible. Often this means pushing the track centerline close to the edge of the model railroad. Because of this we have to foreshorten the scenery, leaving little room for rocks, grass, and other vegetation between the edge of the ballast and the fascia. The lack of foreground scenery can be especially troublesome if you want to take realistic photos of your models, as the fascia always appears in the image.

There are many opinions on layout fascia. I'm in the camp that thinks that

the fascia should be simple and not attract attention. On a previous layout I painted it a reddish-brown color, which matched the scenery color. As an experiment, I repainted the fascia a dark chocolate color. The color minimized the importance of the fascia, shifting the focus to the layout, where it belonged. On my HO scale Cajon Pass layout, shown here, I used a semi-gloss color called Ghost Story. While the color was pleasing, it was distracting in photos. To remedy this situation, I attached scenery extensions to the fascia.

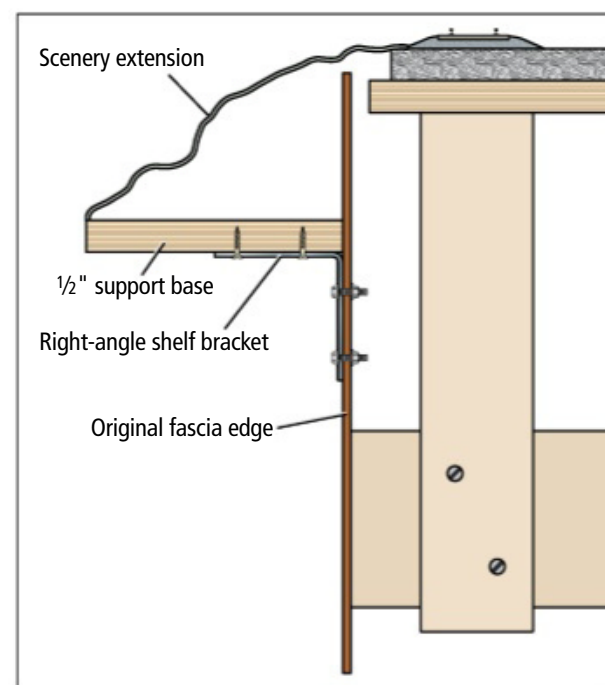
Over the edge scenery

I call my technique of attaching extensions to the fascia "over the edge" scenery. The technique, ①, is quite simple. I cut some scrap ½" plywood to match the curve of the fascia. Then I cut a random wave pattern along the outside edge. The plywood should be 4 to 6 inches wide and tapered so there are no sharp corners.

I attached the extensions to the fascia with steel shelf brackets, screwing them into the fascia and underside of the

Fascia-mounted extensions add realism to this
HO scale layout • By Dave Bigge • Photos by the author

AISLE



1 An easy addition. This illustration shows how Dave attached the extensions to the fascia. He used extruded-foam insulation board to re-create the sandstone hills on other portions of the layout. Rick Johnson illustration

Adding plaster

I used a roll of brown contractor's paper for the base of the plaster scenery. I crumpled the kraft paper and glued, taped, or stapled sheets and blobs of it to the plywood extensions. I shifted the paper around until I was satisfied with the basic form. The paper should have an uneven, natural profile.

At Cajon Pass there are lots of rugged, eroded sandstone formations. I tried to mimic these by gluing strips of 1"-thick extruded-foam insulation board together for a basic shape.

With the paper and foam in place, I applied a base coat of plaster. I used casting plaster (also called molding plaster) because it works well and is readily available where I live.

The base coat can be spread directly onto the crumpled paper, or you can use the hardshell approach. For hardshell, dip a paper towel into plaster that's the consistency of pancake batter and lay it over the base. I use Scott Rags in a Box shop towels, since they hold together well and are useful for general cleanup. Be aware that hardshell scenery is messy. Use drop cloths to protect the floor and cover the track with masking tape.

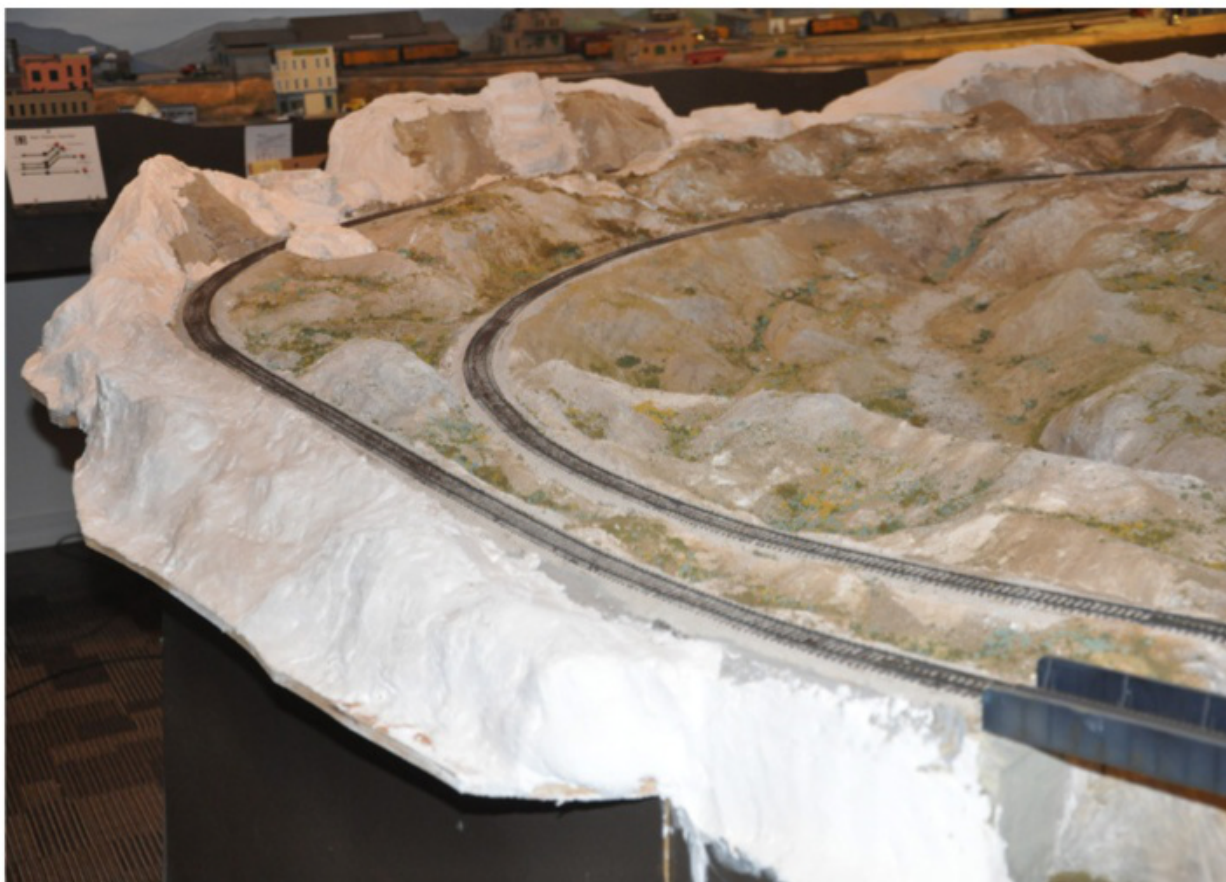
After the first layer of plaster dried, I applied a second, thicker coat with a hard plastic spatula. As the plaster started to set, I used my hands to smooth it and fill in any voids. If you're going to add rock castings or hand-carve details, do it during this step. You can see the new plaster blended into the scenery in **2**, on the next page.

plywood. I set the plywood below track level so the new scenery can be draped over the layout edge.

Since I built my extensions from scrap plywood, I had to splice them in a few locations. Once the extensions were in place, I cut 1 x 4-inch strips of plywood and used them to make splices. I secured the strips with screws from below. This will hold the joints together and prevent the extensions from twisting. Don't worry about the appearance at this point, as the extensions will be covered with plaster.

If you're adding the extensions to a completed layout like I did, pay attention to aisle width. Be sure to leave enough room so you don't inadvertently create pinch points. In one area I had to relocate a shelf for sorting waybills to a different location on the opposite side of the aisle. You should be able to walk into the layout without twisting or scraping against the extensions.

On a layout under construction, simply add the extensions to the ends of the cross members and add your fascia underneath once the scenery is finished.



2 Snow at Cajon? Here's what the extensions look like after the plaster has been applied. Dave used crumpled contractor's paper and shop towels dipped in plaster to shape the terrain along the front edge of the layout.

To re-create the sandstone features, I spread plaster on the extruded-foam insulation board. When it was almost set, I used a hobby knife and wire brush to simulate cracks and layers. I also spooned blobs of plaster onto aluminum foil and teased them into the shapes I wanted. Then I ran a wire brush over the blobs and glued them on top of the foam to form the tops of the sandstone formations **3**.

Completing the scene

I color the terrain with thin washes of universal tinting colors, pigments

used by professional painters to make their own colors, to cover the bare plaster. If you can't find the tinting colors, heavily thinned artist's acrylic paint (a few drops of pigment to lots of water) could be used instead.

The colors I used are raw and burnt umber, raw and burnt sienna, and lamp-black. I sprayed and brushed the colors in random, overlapping, natural patterns. The colors should be darker where moisture would normally collect and lighter where sun hits the outcroppings. I've found it's best to let the washes dry before proceeding because they tend to lighten when dry.

Once I was satisfied with the overall base color, I added texture. I started by sprinkling finely sifted dirt with a spoon. You can either use commercial products or collect your own from the area you're modeling. If you collect your own, sift it to a face-powder consistency. Add coarser materials to simulate gravel and talus.

Next, I applied ground foam in various sizes. Finely ground yellow and green foam nicely re-created low grasses. I followed that with chunkier foam pieces to simulate bushes. I applied the vegetation heaviest in low areas, lighter in spots that would be dry.

With the scenery in place, I sprayed it with wet water (water with a few drops of dish soap added). This helps break the surface tension, making it easier for the glue to wick through scenery materials. I used diluted white glue, thinned one part glue to five to six parts water, to hold the scenery in place **4**.

Ready for close-ups

I'm pleased with the improved appearance of the areas where I've wrapped the scenery over the edge, and I plan to do more. The natural, flowing appearance of the new scenery edge will improve the foreground in my photos and be more visually pleasing to operators and visitors. **MR**

Dave Bigge got his start in model railroading with a Lionel set under the Christmas tree. He later modeled the Rio Grande Southern in Sn3 before starting work on his 22 x 65-foot HO scale Cajon Pass layout.



3 Sandstone hills. Not all of the scenery extensions are below track height. Dave used 1"-thick extruded-foam insulation board as the base for the sandstone formations common around Cajon Pass.



4 A realistic look. Dave used thinned paint, real dirt, and ground foam to capture the look of the scenery around California's Cajon Pass. The aisle side of each extension has a wavy edge and is tapered into the fascia.

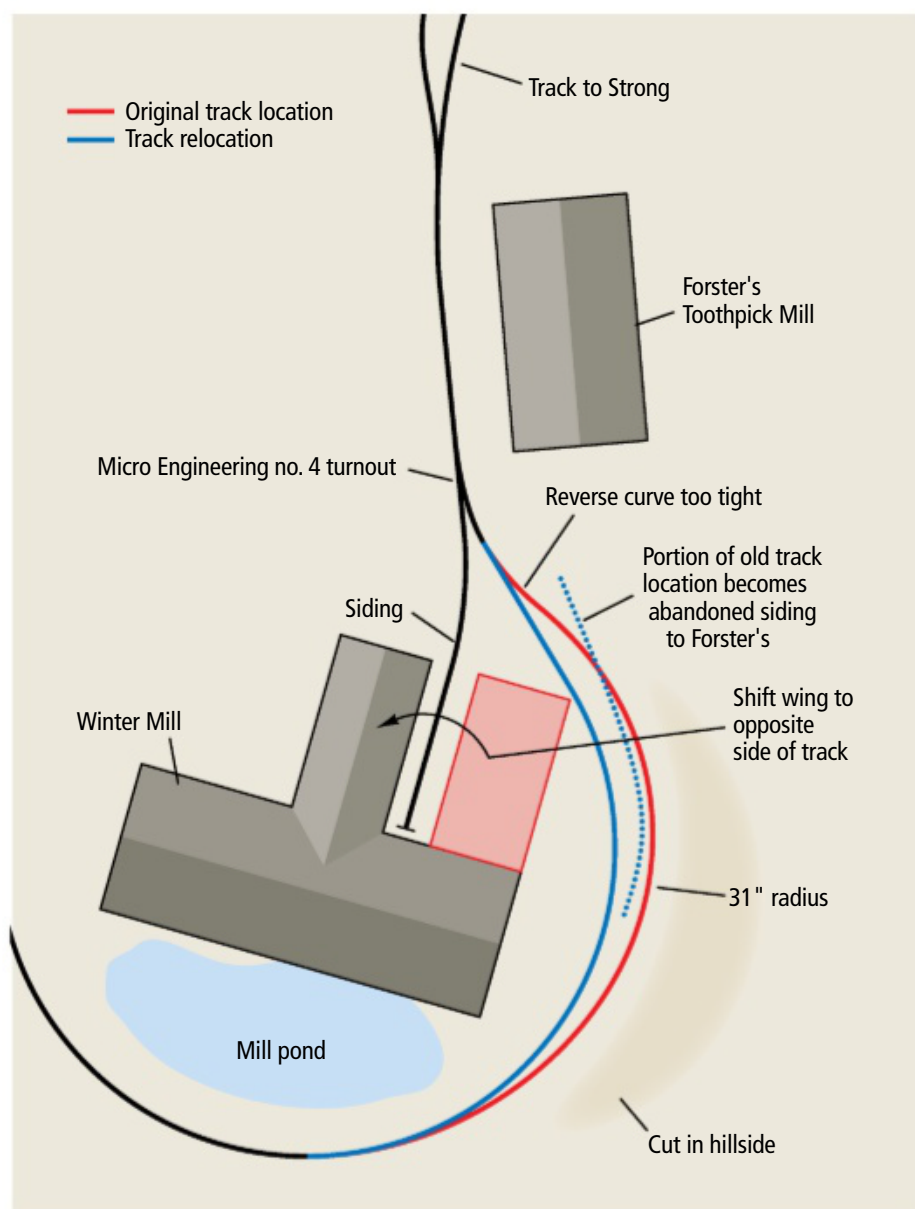


Model an abandoned right-of-way

A problem S-curve had to go, but its remains presented an opportunity to add some visual interest

By Lou Sassi • Photos by the author

Forney no. 16 passes Winter Mill as it heads into Strong on Lou Sassi's Sandy River & Rangeley Lakes On30 model railroad. The ties seen at the right of the locomotive represent an abandoned siding that was actually Lou's former main line.



1 A straighter line between two points. Lou relocated the main line after equipment started derailing on a reverse curve.



2 Building in history. In addition to relocating the main line, Lou moved the wing of Winter Mill to the far side of the siding.



3 Water-soluble to the rescue. Spraying everything with water allowed Lou to loosen the track, which was held down with white glue.



4 Away it goes. A putty knife finished the job and Lou was able to reuse the track. The Homasote roadbed, being a paper-based product, didn't fare as well.



5 Earthworks. Lou laid new 1/4" Homabed under the main line and 1/8" Homabed under the sidings. He filled voids with spackle, then added a coat of earth-tone latex paint.

Once I drove the golden spike on my On30 Sandy River & Rangeley Lakes layout and began running trains, I noticed a problem behind Forster's Toothpick Mill. When I laid the main line circling around Winter Mill and behind Forster's, I created a reverse curve just as the main entered the turnout at the beginning of the tangent track into Strong. That curve was too tight a radius for reliable operation **1**. [See the original track plan in *Model Railroad Planning 2015*. – Ed.]

After a few derailments, I ripped out the track and roadbed around the curve up to the turnout and realigned the reverse curve to improve reliability. Since this tightened the curve around Winter Mill while decreasing the area between the sid-

ing to Winter Mill and the main line, I also repositioned the wing of the mill to the far side of the siding **2**.

About this time I recalled a conversation with Dick Hosmer, who was visiting my old HO scale West Hoosic Division railroad back in the 1990s. We talked about how representing history on a model railroad (things like abandoned buildings, sidings, and relocated rights-of-way) could enhance the layout's final appearance.

At that time I was planning to replace a series of three wooden truss bridges with a steel (brass) through-truss version and, in so doing, remove two stone supports for the original bridge. Dick suggested leaving (what resembled) the remnants of those supports when I installed the new bridge. I did so and



6 Power up. Lou used a long-shank bit to reach through the 4"-thick layout surface. He needed to drill new holes for the power feeders on the realigned track.



7 Simulated turnout. Sections of tie were butted up to the mainline track to simulate the longer ties of an abandoned turnout. Lou used white glue to secure the ties.



8 Spreading the dirt. Lou used his mixture of real dirt and ballast on the siding to make it look less-cared-for than the main line, which he ballasted at the same time.



9 Holding it down. Glue thinned 1:2 with water holds everything in place. The red and green flags indicate the location of trees Lou removed during construction.

was pleased with the results. I used this same approach when I relocated my On30 main line.

I use Micro Engineering code 83 and 70 flextrack and Homabed roadbed laid on a sandwich of 2"-thick Styrofoam on top of 2"-thick extruded-foam insulation board as a track base. The first step in realigning the track was to rip out both the track and Homabed. This was easy, since everything was glued in place with water-soluble white glue.

I thoroughly wet everything with water using a spray bottle (3 on the previous page). While allowing this to soak for about 20 minutes, I removed the feeder wires (I run feeder wires from every section of track to bus lines under the railroad) and slipped a putty knife under the rail and tie assembly, carefully separating it from the roadbed (4).

My careful approach to removing the track allowed me to save all the trackwork I had already laid and re-use what I pulled up for the new alignment. The roadbed didn't fare as well. The Homabed lifted off in small chunks, which I relegated to the wastebasket.

Once I had the track and roadbed removed, I used my trusty putty knife to fill in the voids in the foam with DAP Fast 'N Final Lightweight Spackling.

Remembering my conversation with Dick (and since there was already a cut in the hillside along the main line), I created an abandoned siding to Forster's Mill on a portion of the old main line, ending it behind one of Forster's hose houses.

I laid new 1/4"-thick Homabed on the relocated main and thinner 1/8" Homabed on the siding. I filled any voids with more spackle. Once the putty dried, I brushed earth color latex paint on the white Styrofoam and spackle (5).

I then glued the realigned main line track in place and wired the track to the bus line below after using a long-shank bit to drill new access holes (6).

After painting and weathering the flextrack (as I explained in the June 2014 issue), I took a section of track, removed the rails, and cut off some of the cast-on spikes with a no. 11 hobby knife. I used a NorthWest Short Line Chopper to cut the ties apart and glued them to the subroadbed one at a time, gradually reducing the length of the ties and butting them against the existing ties on the main to create the look of the abandoned turnout to Forster's Mill (7).

I added finished ground cover, a grade crossing to Winter Mill, and ballasted the track. I mixed plain old dirt (the same I used for ground cover) with a little ballast on the abandoned siding to Forster's to make it appear that, as was often the case on the prototype, even when it was in use, it was less cared for than the main line (8).

I wet the ballast and siding dirt with 91 percent rubbing alcohol using an eyedropper, followed by an application of 2 parts water to 1 part white glue (9). Once everything had dried, I added some acrylic gloss medium puddles along the base of the cut in the hillside in this early spring scene.

Winter Mill and the hill opposite are where my early spring scenery changes to late summer. White pines remain green year-round, so I used a predominantly white pine forest (from Sterling Models trees) on the hillside opposite Winter Mill to help make the transition more gradual.

With the track realigned, derailments are a thing of the past, but the cut in the hillside and the abandoned siding help convey the past in the present. **MR**



Where there are people working, there will be some who will horse around, like this aspiring pianist pounding out the latest tune on a customer's piano. Mini-scenes add interest, and Don Ball shows some examples as well as tips for more modern eras.

ADD INTEREST WITH MINI-SCENES

These details help set the locale and era of your layout, and can tell a short story as well

By Don Ball • Photos by the author

When designing our railroads, most of us try to include the industries and scenic details that define the part of the country we're modeling. As I build my railroad, I also try to include businesses and mini-scenes that reflect the era (1895) in which I model. They complete the scene and add interest for visitors, especially non-railroading ones.

To pick a mini-scene to model, many of us just have to dredge up memories of our childhood or simply take a walk around the neighborhood. For those of us who model earlier time periods, looking through old magazines such as *Life*, many of which are now available online at Google Books, yields scores of ideas. Contemporary reminiscences also help, or



The amazing medicinal effects of Dr. Borkon's Pocahontas Remedies, along with a hurdy-gurdy and monkey, attracts a large audience. A modern scene might be a demonstration at the county fair.

even period movies. Woodland Scenics make a number of figure sets that would easily create a mini-scene.

When picking a scene, try to avoid figures that appear to be frozen in a position of action – for example, a person on one leg while running. A better choice would be the same runner pausing to catch his breath.

Many of the figures I use are from Preiser's large assortment. Woodland Scenics is another good source, as is Fun & Games (scalefigures.com) or Andrew Stadden (acstadden.co.uk). There are many suppliers of wagons, trucks, and automobiles. A glance through the pages of *Model Railroader* or a Google search will turn up almost anything. The bicycles I use are fine brass etchings available from Hauler (hauler.cz), a Czech company.



A cycling club can be posed pausing for a rest to figure out its next step. Cycling was one of the big crazes of the 1890s. Cycling and cycling clubs are still quite common today.

Signs also help make a mini-scene. While many of my signs are custom-made, there are numerous companies that provide decals and signs for many different eras. Looking through model magazines or the internet turns up many sources. Your local hobby shop probably has a good selection, as well.

The nice part of a mini-scene is that it doesn't take too much work to build one. Your imagination is the only limit to adding that little attention-getter. [MR](#)

Don Ball models the Stockton & Copperopolis RR, set in California in 1895. He is a frequent contributor to Model Railroader and its special issues.

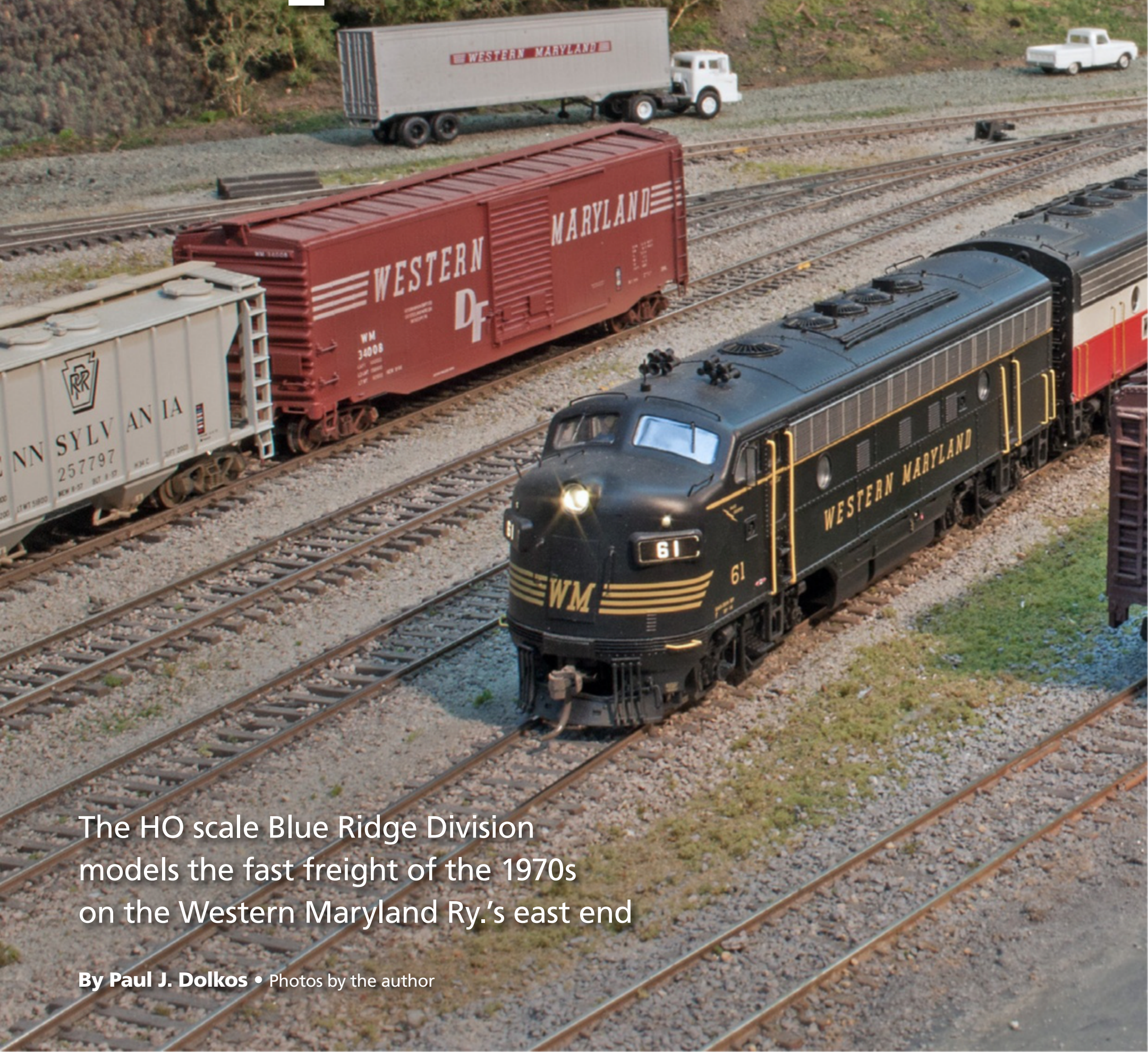


A family awaits the train, while a traveling salesman appears to take issue with the weight shown on the depot's scale. The scale is from Mokelumne River Models (mokriverrmodels.com).



Stages wait at the Milton railroad platform as a newsboy hawks a paper for those who want reading material. The stages were built from modified Jordan stagecoach kits, while the figures are from various sources. Buses and taxis can form similar scenes.

Fireballs and Alpha Jets

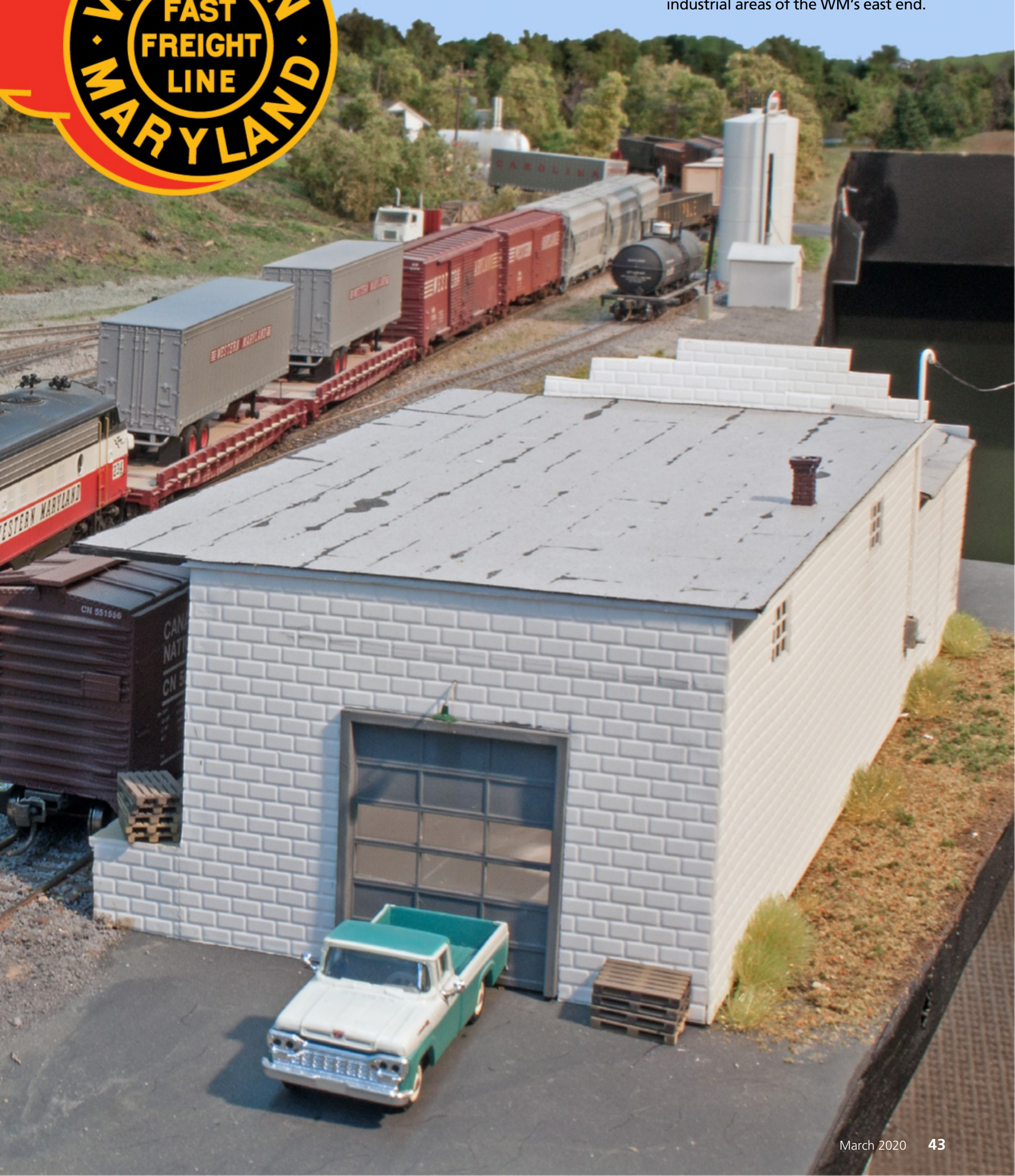


The HO scale Blue Ridge Division
models the fast freight of the 1970s
on the Western Maryland Ry.'s east end

By Paul J. Dolkos • Photos by the author



1 Heading into York, Pa., a Western Maryland freight passes Pennsylvania Plywood. Brian Wolfe's HO scale Blue Ridge Division primarily models the industrial areas of the WM's east end.





Brian Wolfe grew up surrounded by the Western Maryland Ry.'s (WM) Old Main Line in Sabillasville, Md., which is near the Pennsylvania border. From his front porch he watched trains led by black diesels with the WM's distinctive red "fireball" herald. As the line turned 180 degrees to gain elevation, the trains disappeared into some trees and then reappeared behind his house. When Brian began building his 28 x 39-foot HO scale Blue Ridge Division, there was no question that the WM would be its focus.

Like many WM fans, Brian first considered building a layout based on the prototype's coal-hauling operations on its west end, specifically the area around Elkins, W.Va. But with all the WM routes that ran out of Elkins, he couldn't develop a track plan to fit his space that would do justice to the prototype.

He then considered the part of the WM that was closer to home, the railroad's east end, specifically the lines around Hagerstown, Pa., and York, Pa. After all, that was the area that nourished his interest in railroading.

Being a long-time resident of the area, Brian got to know people who worked

for the railroads and local industries. All these people shared nuggets of information that helped Brian answer his modeling questions. He also spent many hours in the Highfield, Md., WM station where he chatted with the operator and watched him write orders and line routes through the junction.

Brian also owns a 1958 Fairmont rail speeder and joins enthusiast groups for authorized runs, typically on trackage that's now owned by short lines. Riding long distances at slow speeds and making frequent stops gave him a chance to examine the railroad's physical plant.

WM: A fast freight line

The Western Maryland Ry. is perhaps best known as a coal hauler. In the steam era the WM used husky 2-8-0s to move trains east, out of the Appalachian Mountains toward Baltimore. Eventually diesels took over the task.

There's more to the WM than hauling coal hoppers up and over steep mountain grades. The WM also became a formidable fast freight line, especially when it joined the Alphabet Route agreement of 1931. In addition to WM, the Alphabet Route included Central RR of

2 Finishing up its work for the day, the York Local passes the WM freight house. The York industrial district takes up nearly half the layout's lower level.

The layout at a glance

Name: Western Maryland Ry. Blue Ridge Division

Scale: HO (1:87.1)

Size: 28 x 39 feet

Prototype: Western Maryland Ry.

Locale: Maryland/Pennsylvania border

Era: 1970

Style: multilevel walk-in

Mainline run: 200 feet

Minimum radius: 29" (main), 18" (Hagerstown wye)

Minimum turnout: no. 6 (main), no. 4 (yards)

Maximum grade: 2.4 percent

Benchwork: open grid (lower level), 3/4" plywood (upper level)

Height: 43" to 58"

Roadbed: cork on 1/2" plywood

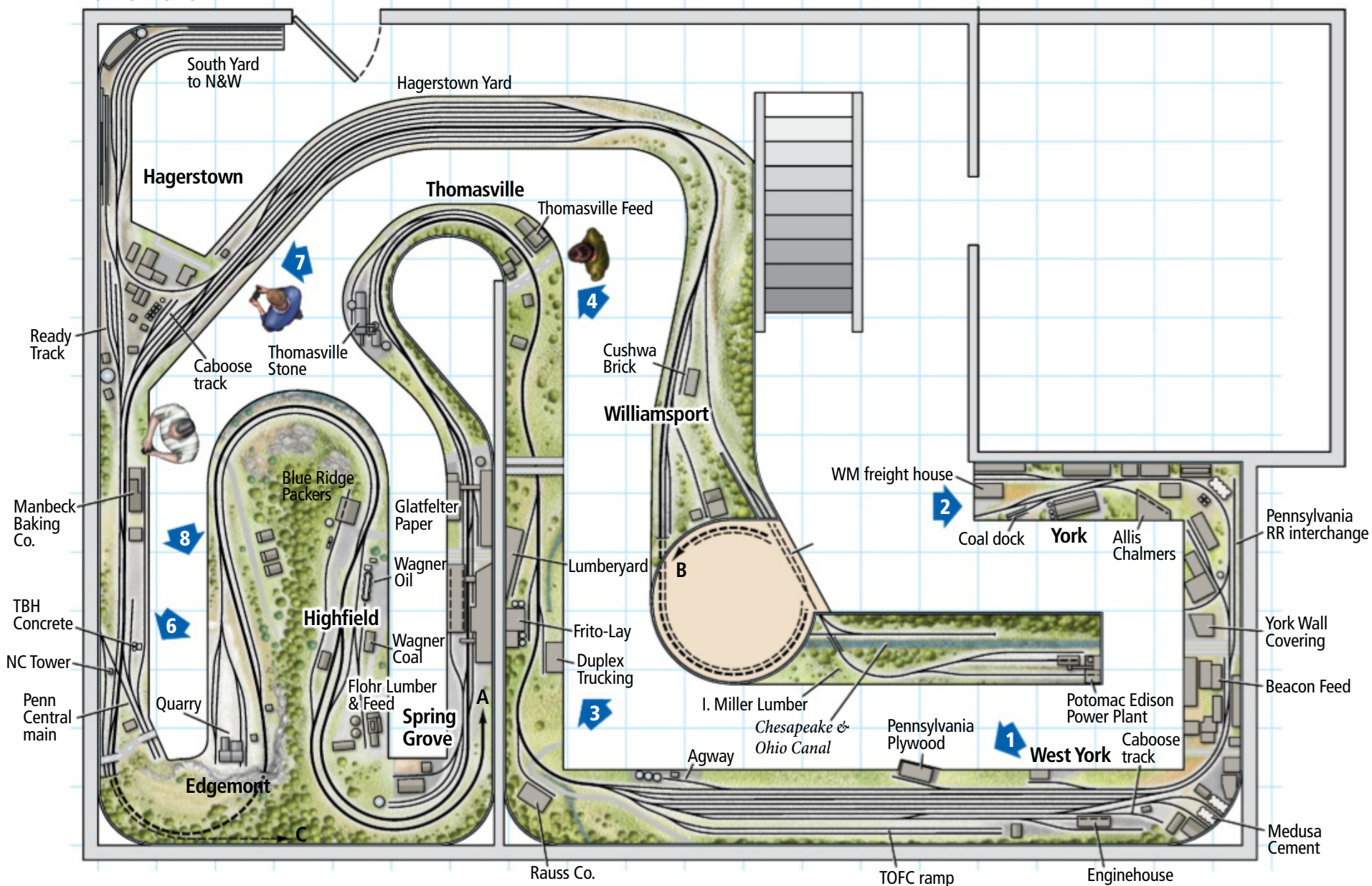
Track: Atlas code 83 flextrack

Scenery: Brandt's Scenery Compound over window screen or plaster cloth

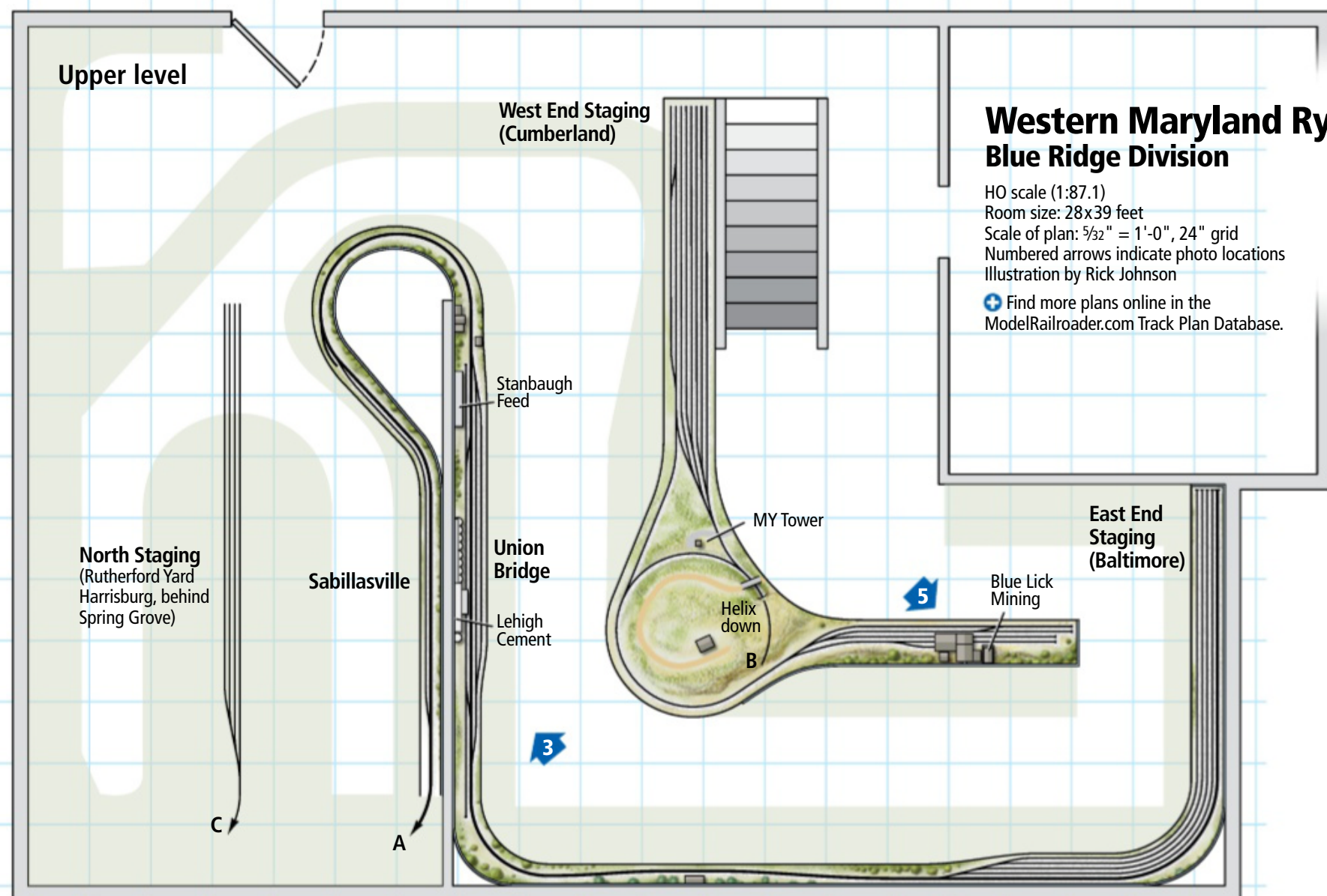
Backdrop: ScenicKing photos

Control: Lenz Digital Command Control

Lower level



Upper level



Western Maryland Ry. Blue Ridge Division

HO scale (1:87.1)
Room size: 28x39 feet
Scale of plan: $\frac{5}{32}$ " = 1'-0", 24" grid
Numbered arrows indicate photo locations
Illustration by Rick Johnson
Find more plans online in the
ModelRailroader.com Track Plan Database.



3 Extending just 11" at its widest point, the upper level allows enough room for a cement plant represented by building flats and photo backdrops. The narrow upper deck opens up the lower level for better viewing and access.

Adding a narrow upper deck

Like many modelers, Brian chose a double-deck layout design so that he could have as long a mainline run as possible in his available layout space. What Brian didn't like about many of the double-deck layout examples he studied was that the upper deck was often the same width as the lower deck. This arrangement obscured the view of the lower deck scenes.

Brian avoided this issue with his layout by making the upper deck narrower than the lower deck, which measures 24" wide with a track height of 45" above the floor. Mounted at 14" above the lower deck, most of the upper deck is only 9" wide and bumps out to 11" in some locations to accommodate sidings and building flats.

This arrangement allows for easier track and scenery construction and better viewing and operation. Only the rear portion of the lower level is shadowed by the upper level. In most cases, on the lower level there are only trees or the backs of structures extending under the upper level benchwork. Brian doesn't consider the shadows in these areas to be enough of an issue to warrant installing any supplemental lighting.

At Lehigh Cement in Union Bridge, the reach required to uncouple cars with a skewer-style uncoupling tool is slightly less than 24" on the 59" high upper level. Most operators of an average height have no trouble with this reach.

For the main line, Brian splits the elevation changes between the two levels to help reduce the grade. On the lower level, the line starts to rise through the forested scenery at Highfield, while on the upper level, the line above that scene begins to descend. Being in the back corner of the layout room, this separation point between the two levels is well concealed.

Brian uses a helix to connect the levels at the other end of the layout, providing access to west-end staging and the Blue Lick Mine. The helix also helps extend the run between staging and Hagerstown Yard. – *Paul Dolkos*



eastern half of the railroad, was the multitude of rail-served industries. These included quarries, cement plants, and large manufacturing sites, as well as smaller customers like feed mills, fuel dealers, and lumberyards. Many of these industries still exist today and are served by the WM's successor railroad, CSX.

Building the Blue Ridge

The Blue Ridge Division didn't begin as a grand plan on paper, but instead Brian developed it in pieces, including some starter layouts. Then about 15 years ago, Brian upgraded his efforts. His inspiration came after he acquired WM track charts that showed all the track, including sidings, in the York, Pa., area.

Brian felt he could replicate much of the York industrial area in part of his basement. He also planned a version of the Hagerstown, Md., yard. Between these major locations, he installed a favorite peninsula from a previous layout

New Jersey; Nickel Plate Road; Lehigh & Hudson River; New York, New Haven & Hartford; Pittsburgh & West Virginia; Reading Co.; and Wheeling & Lake Erie. This coalition formed a continuous main line between Northeastern cities, such as New York and Boston, and those of the Midwest, such as Chicago and St. Louis.

This coalition provided a means for these smaller railroads to compete with

larger rail systems, including the Pennsylvania RR and the New York Central. In the 1960s and 1970s the fast freight trains that ran along the middle of the route were called Alpha Jets. The Alphabet Route eventually faded with the railroad bankruptcies and mergers of the late 1970s and 1980s.

Another important revenue source for the WM, particularly along the

4 The prominent sign of the beverage store at Thomasville Crossing is a well-known landmark for local visitors to the Blue Ridge Division. Even visitors who aren't model railroaders appreciate Brian's attention to detail.



5 Brian couldn't resist including some of the WM's west end coal traffic. Located on an upper level shelf, the Blue Lick Mine is separated visually from the rest of layout.



6 A pair of Reading Co. Electro-Motive Division GP35s crosses the Penn Central on its way to Hagerstown Yard. The Reading Co. ran interchange trains to Hagerstown south from Harrisburg.

that included the Edgemont Quarry complex. He also modeled a scene based on Highfield, where he'd spent so many memorable hours at the station.

A few years later, Brian expanded the layout with an upper deck (see "Adding a narrow upper deck" on page 46). He initially built the upper deck to provide a route east for longer mainline runs and to add the Baltimore staging tracks.

Next Brian extended the tracks out of Hagerstown Yard and added a power plant and other industries. He also added a helix that connects Hagerstown to a west-end staging yard (Cumberland, Md., and other points west) and the Blue Lick Mine, built on a new upper deck. This last location lets him model some of the WM's west-end coal traffic

The latest expansion was a partially hidden line that runs from Hagerstown to a four-track North Staging yard tucked behind the Glatfelter Paper Mill in Spring Grove on the lower level. This line represents the Reading Co. north to Rutherford Yard in Harrisburg.

The operating scheme

The Baltimore staging yard has five tracks, each with a 24-car capacity. At



7 The Baltimore & Ohio routed some of its merchandise traffic over the WM through Hagerstown to reach the Reading's Rutherford Yard in Harrisburg. As on the prototype, Brian's HO Hagerstown Yard includes caboose tracks and a wye.

the west end, Cumberland staging has six tracks, each with a 16-car capacity. Rutherford Yard (north staging) has four tracks that can hold 48 cars total.

With these staging yards Brian replicates not only WM traffic but also that of the Baltimore & Ohio and Reading Co.

True to his layout's 1970 time period, Brian runs Alphabet Route Alpha Jet fast freights, some in multiple sections. Eastbound Alpha Jets originate in west staging, representing trains being handed off to the WM by the P&WV. The Norfolk & Western Ry. leased the



8 The Edgemont Quarry is a large rail-served industrial customer located on the peninsula across from Highfield. Brian recycled this scene from his earlier layout.

P&WV after 1964, so during the layout's time period some Alpha Jets would have N&W locomotives on point.

Some cars may be switched out in Hagerstown Yard to move east to Baltimore. The rest of the train would run north to Rutherford Yard (north staging). Westbound Alpha Jet freights handling Chicago and Detroit traffic would originate in north staging and terminate in west-end staging (P&WV).

The Baltimore & Ohio had a competitive service named New England Time Savers that required a connection with the Reading via the WM. On the layout, those B&O trains originate in west-end staging, their origin point assumed to be Cherry Run, W.Va. The trains would then run to north staging via Hagerstown. Sometimes B&O power ran through.

These are a few of the trains that arrived and departed Hagerstown Yard in 1970 and are modeled on the layout.

Developing operating sessions

A typical operating session requires a crew of up to eight operators. In addition to Hagerstown Yard jobs, there are also

switch jobs working local industries and two crews running through freights.

Train movements across the railroad are controlled with train orders. Car cards direct individual car movements, such as pickups and setouts.

While he may assign up to three crew members to Hagerstown Yard duty, there's still a limit to how many trains can be effectively received and dispatched in the 3 to 4 actual hours of an operating session. It's a lot less than the real three shifts and 24 hours a day on the prototype railroad. Also, model railroad crews are often visitors who don't know the yard as well as a prototype crew would.

Brian limits the arrivals and departures in the yard to make operating sessions more comfortable and effective. Currently he sets the fast clock to a 4:1 ratio. As he continues to develop his operating scheme he may slow it down, possibly to 2:1 or even 1:1, with each session representing a small portion of a single eight-hour shift.

Alpha Jet freights, a variety of traffic, and plenty of switching make Brian Wolfe's HO scale Blue Ridge Division

fun for his operating crews. The layout represents its builder's lifelong focus on modeling the railroads close to his home. It also lives up to Brian's goal of building a railroad that he can share with friends who are bound to leave an operating session with smiles on their faces. **MR**

Paul J. Dolkos is a frequent contributor to Model Railroader.

Meet Brian Wolfe

A **building code inspector**, Brian Wolfe lives in Blue Ridge Summit, Pa., about a mile from where he grew up but still near former WM tracks. He and his wife, Bonnie, have operated Mainline Hobby Supply in town for 30 years. The couple also has two daughters.





Cheryl Sassi modeled this white birch tree using natural materials, craft store supplies, and paint. The hardwood tree she wrote about in a previous article is visible in the background.

How to model white birch trees

Natural material, craft store supplies, and paint are all you need

By Cheryl Sassi • Photos by Lou Sassi

In the April 2019 issue of *Model Railroader* I shared how I built hardwood trees for my husband's On30 Sandy River & Rangeley Lakes (SR&RL). Lou was so pleased with the results he asked if I'd make some white birch trees. He explained that the woods of Maine are within the natural range of the white, or paper, birch, which runs across the northern United States and Canada. One of the reasons the SR&RL existed was to haul white birch to the Forster Toothpick

Mill in Strong. A portion of the mill, an online industry on the prototype SR&RL, is replicated on our railroad.

Though there is crossover of some materials and techniques between hardwoods and white birch trees, there are also things that make the latter unique. The trunk structure and bark color are obvious differences. I also made some parts of the tree positionable by adding pieces of pipe cleaner and wire before wrapping the pepperglass with floral tape.

Using these techniques to model an entire forest would be extremely time consuming and not very practical. However, if you're looking to build a few hero trees to put in the foreground of a scene, then this approach is just what you need.

Cheryl Sassi worked in the finance department at General Electric Co. in Schenectady, N.Y., for 32 years. This is her second byline in Model Railroader.

STEP 1 MAKING TREES

I used a mix of new and existing techniques to build white birch trees. As with the hardwood trees, I used peppergrass (candy tuft) as the starting point. I ordered the peppergrass from Carroll Creek, P.O. Box 535, Center City, MN 55012.

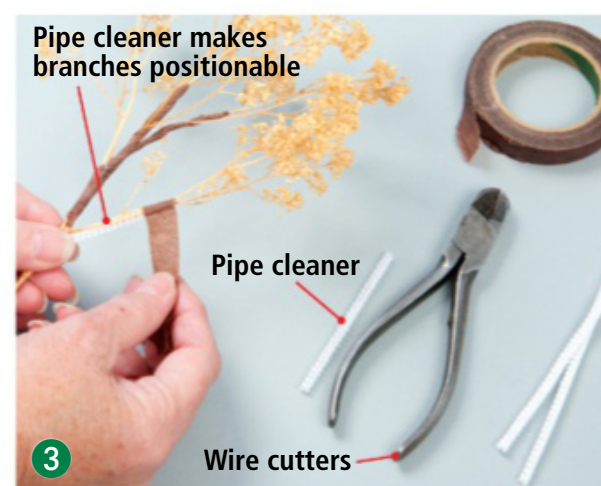
After choosing appropriate peppergrass stems, I removed the leaves but kept the flowers **1**.

With all the leaves removed, I wrapped the stems with floral tape to create the basic form of a single- or multiple-trunk tree **2**.

I put a length of pipe cleaner on some of the branches before applying the floral tape **3**. The pipe cleaner makes it possible to bend the branches without breaking the peppergrass.

To make the trunk positionable, I used a length of no. 16 gage copper lashing wire **4**.

Finally, I inserted a 1½" finishing nail in the bottom of the trunk so the tree could be planted in the Styrofoam layout base.



STEP 2 ADDING COLOR

After the **basic tree** was assembled, I applied tube acrylics with a stiff-bristled oil painting brush ①. I captured the look of the bark with a 70/30 blend of Liquitex Titanium White (no. 1045-432) and Winsor & Newton Finity Line Yellow Ochre (no. 2420744).

After I'd applied the paint with the brush, I used an artist's spatula to smooth the surfaces as much as possible. I also increased the thickness of the larger secondary branches with a coating of the same acrylics.

Once the acrylics dried, I painted the leaves. I first applied Rust-Oleum Spruce Green (no. 7737) ②. I followed that with a light overspray of Krylon Camouflage Woodland Light Green (no. 4296) on the tops of the leaves to create the effect of sunlight hitting them from above ③.

Then, using a soft-bristled brush, I painted the entire tree with approximately a 70/30 mix of Polly Scale Reefer White (no. 414113) and Earth (no. 414311). The Polly Scale line has been discontinued by the Testor Corp. However, both colors are now in the Model Master acrylic line as item nos. 4873 and 4877, respectively.

Next I painted the top portion of the larger branches, this time with a little more Earth added to the mix ④.

I painted the smaller new-growth branches different shades of gray by mixing various proportions of Model Master Engine Black (no. 4888) and Polly Scale Reefer White. I brush-painted other branches Engine Black with just a touch of Reefer White ⑤. I used a black/white mix of tube acrylics to create the marks under and above the secondary branches. Using the acrylics gave some dimension to the marks.

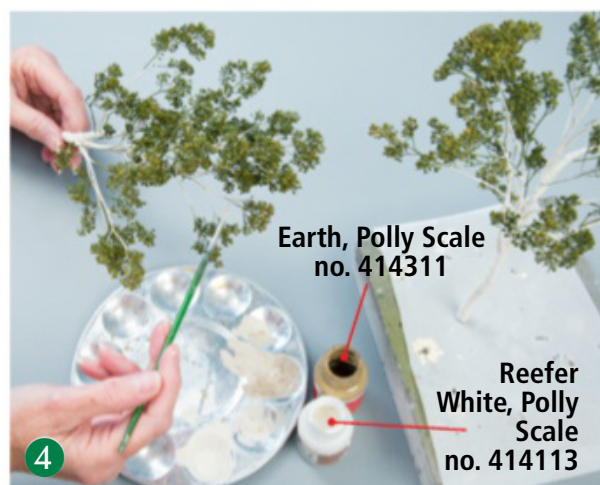
I also drybrushed horizontal streaks of acrylic black paint on the main trunk and thicker branches ⑥. I moved the brush in a swift motion, creating fine lines.

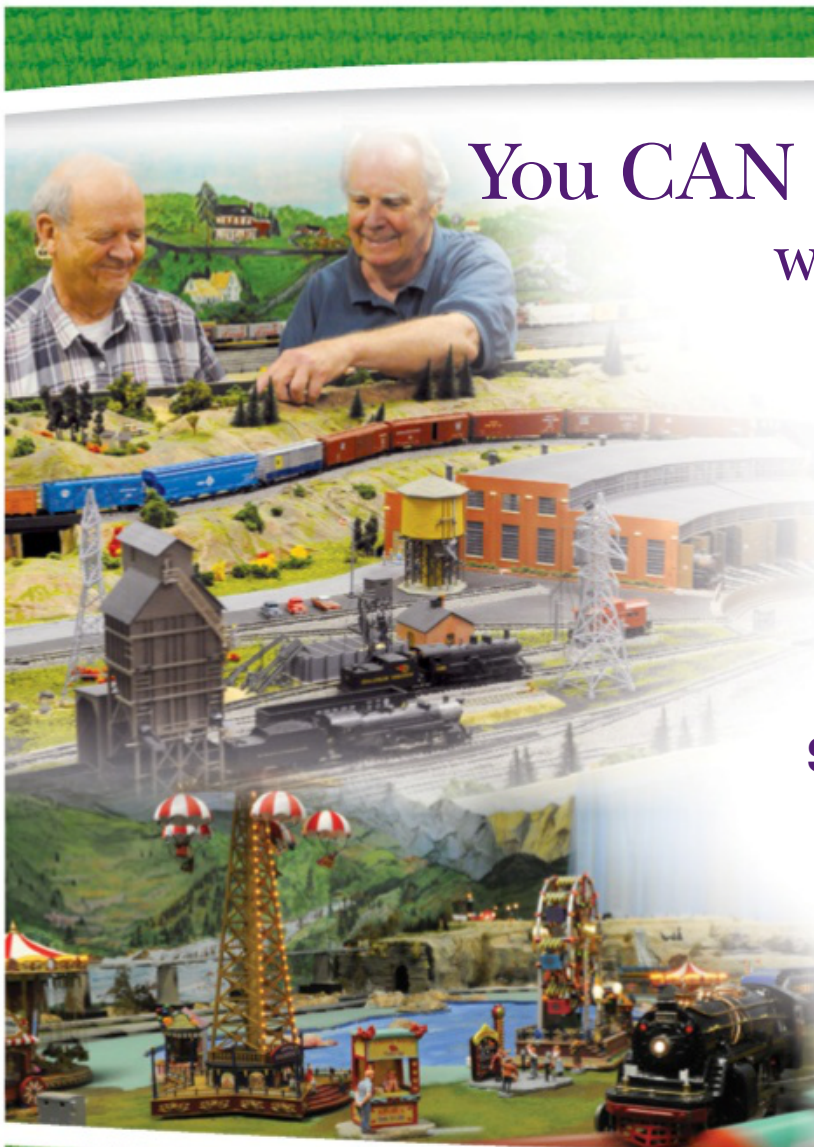
Then, using a fine brush again, I mixed Craftint Harrison Red tube acrylic with a little water and drybrushed it on some of the smaller branches to add a hint of red. Red Oxide tube acrylic would be a suitable replacement.

The last step in detailing the tree is drybrushing Earth on the trunk with a fine brush to represent where the bark has peeled away. **MR**

MORE ON THE WEB

To read Cheryl Sassi's April 2019 article "How to model hardwood trees," visit our website at ModelRailroader.com





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P37279

1 A pair of Alton & Southern Electro-Motive Division MP15DC locomotives get ready to work the industries in East St. Louis, Ill. The action takes place on John Schindler's 30 x 60-foot HO scale St. Louis Junction RR Co.



Modeling a **MODERN-ERA**

The 30 x 60-foot HO scale St. Louis Junction RR features action on both sides of the Mississippi River



RAIL HUB

By Patrick Hiatte
Photos by the author

Modeling one of the nation's largest rail centers is an ambitious project. But that hasn't kept John Schindler from re-creating the St. Louis area on his 30 x 60-foot HO scale St. Louis Junction RR. The model railroad features industries, yards, and junctions on the Missouri and Illinois sides of the Mississippi River, with the nearby Granite City Steel mill thrown in for good measure.

Model railroading has been a lifelong hobby for John. "My dad always had a model railroad of some type in the house," John said. This version of the St. Louis Junction is John's fifth layout.

A fresh start

John and his wife, JoAnne, moved into their current home in 2004. Layout construction began in 2005, following preparation of the basement with dry-wall, a suspended ceiling, lighting, and carpeting.

The new home provided a blank slate for a model railroad, but John salvaged quite a bit from his previous layout. In addition to Madison Yard, John brought "a pile of stuff (mostly lumber) four feet wide, four feet high, and 20 feet long."

To handle the volume of salvaged material, John and his crew built the St. Louis Junction in two sections, starting with Madison Yard. Material not needed for that section was staged in the other half of the basement.

The model railroad features open-grid and L-girder benchwork topped with 1/2" plywood and 1/2" Homasote. John laid main lines on HO scale cork roadbed and passing tracks on its N scale counterpart. The industrial tracks are laid directly on the Homasote. Almost all of the track is Atlas code 83.

In order for larger equipment like 89-foot auto racks and Amtrak Superliners to look their best, John used 32" minimum radius curves and no. 8 turnouts on the mains. Spacious aisles allow plenty of room for crews to work.

Variety in the Gateway City

John's choice of the layout's locale was easy as he's a lifelong resident of the St. Louis area. He selected 2010 for the era, as that's when the Terminal RR Association of St. Louis (TRRA) acquired Electro-Motive Division GP40s, a favorite locomotive of John's. [The TRRA diesels were originally GP40s but rebuilt to GP38-3 standards. – Ed.]



The layout at a glance

Name: St. Louis Junction
Scale: HO (1:87.1)
Size: 30 x 60 feet
Prototype: BNSF Ry., CSX, Norfolk Southern, Terminal RR Association of St. Louis, and Union Pacific
Locale: St. Louis area
Era: 2010
Style: multi-deck walk-in
Mainline run: 275 feet
Minimum radius: 32"
Minimum turnout: no. 8 (main), no. 6 (yards), and no. 4 (spurs)
Maximum grade: 1.5 percent
Benchwork: open grid on L girder
Height: upper level, 50"; staging, 36"
Roadbed: cork roadbed on Homasote
Track: code 83 flextrack
Scenery: ground foam with some plaster
Backdrop: hand-painted and photos
Control: Digitrax Digital Command Control

② The bulk of the activity on the St. Louis Junction RR centers around terminal and industrial switching. One of the biggest customers on the layout is the Granite City Steel complex, which features coal and taconite receiving yards.



③ BNSF Ry. no. 9782 and Burlington Northern no. 9580, both Electro-Motive Division SD70MAC diesel locomotives, emerge from West Quincy staging with a unit coal train. The track at left goes up to the North Broadway Industrial District.

The TRRA is one of many railroads that can be found on John's layout. Trains or locomotives from the Alton & Southern, Amtrak, BNSF Ry., Conrail, CSX, Norfolk Southern (NS), Union Pacific (UP), and John's fictional St. Louis Junction RR can all be seen.

BNSF Ry. and Norfolk Southern have their own staging yards, while trains from other railroads operate between staging that represent Chicago (and points east) and western destinations.

Most east-west trains get switched at Madison Yard. BNSF Ry., NS, and UP trains get switched at either the 12th Street or North St. Louis Yard.

Big layout, big operations

Though the layout is more a representational than literal portrayal of the

St. Louis area, trains pass through scenes in the same order as the prototype. Instead of starting with a track plan, John focused on three key areas: Madison Yard, 12th Street Yard, and the North Broadway Industrial Area. The rest of the track, including industrial switching areas and support yards, filled in around those areas.

John considers the Shnucks grocery distribution center, designed and built by Dave Roeder, the best-looking scene on the layout. "It was designed to be a view block on the end of a peninsula," John said. "The scene is visible on all four sides. It's an independent switching job that uses a Trackmobile. There are enough car spots to support [the structure's] size without being overdone."

Crews use 40 locomotives to move about 500 of the 600 cars on the layout

during a typical operating session. "I'm very selective and purchase rolling stock that are in the era and area I'm modeling," John said. "There are some exceptions for cars that have a special meaning to me." The only weathered rolling stock on John's layout are cars that were purchased that way.

At the start of each session, 16 trains are staged and ready to run in sequence. Twenty-two road trains run between staging yards or to and from the Granite City Steel complex. Most of the road trains, except for coal and vehicle trains, are switched at a yard or two, and several meets are scheduled.

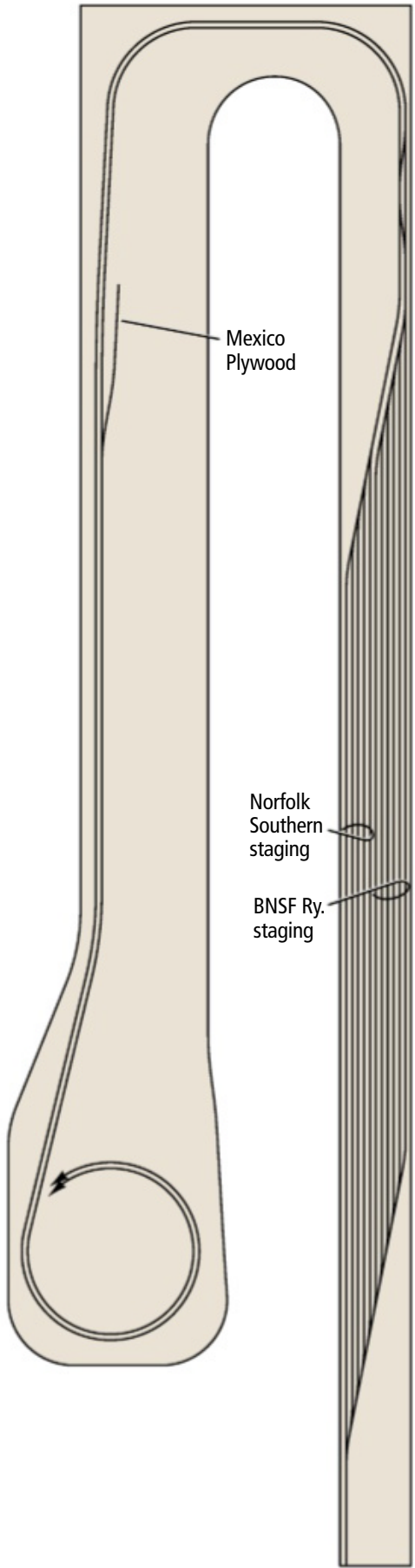
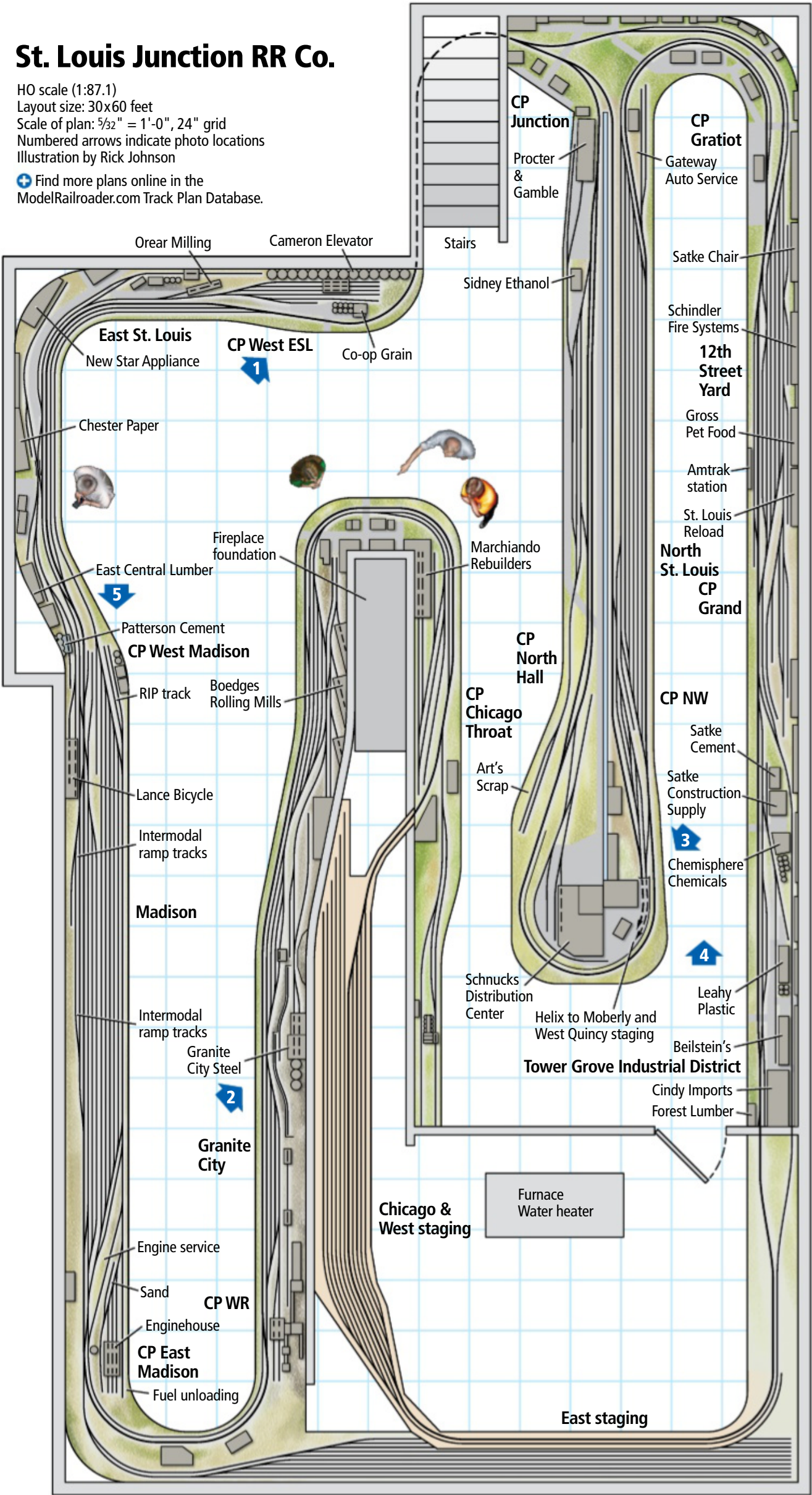
Madison Yard, the railroad's busiest, switches seven through trains, makes up a local for East St. Louis and the Cameron elevator complex, and processes turns between Madison and 12th Street Yard, North St. Louis Yard, and the Granite City Steel mill. In addition, 11 through trains rumble in and out of Madison Yard. The heavy traffic is enough to keep the two-person yard crew on their toes.

Locals serve the North Broadway, East St. Louis, and Tower Grove Industrial districts. Two of the crews do double duty. The 12th Street Yard crew also switches the Tower Grove Industrial District, and the East St. Louis local crew switches the Cameron elevator complex.

Road trains follow various routes through the St. Louis Junction area. Northbound BNSF Ry. and eastbound

St. Louis Junction RR Co.

HO scale (1:87.1)
Layout size: 30x60 feet
Scale of plan: 5/32" = 1'-0", 24" grid
Numbered arrows indicate photo locations
Illustration by Rick Johnson
Find more plans online in the
ModelRailroader.com Track Plan Database.





4 This overall view shows the Tower Grove Industrial District to the right and North St. Louis to the left. Lower level staging is visible below the Tower Grove Industrial District.



The dispatcher's desk features modern Centralized Traffic Control screens that show train locations and signal aspects.

It takes a crew

John designed the St. Louis Junction RR Co. with operations in mind. Sessions are held every two or three months. A typical crew consists of eight to 12 operators, and sessions last three hours. Assignments include a dispatcher, a two-person crew at Madison Yard, operators at the 12th Street and North St. Louis yards, and three local crews. Remaining operators are assigned to road trains.

John's layout uses a Digitrax Digital Command Control system with UT4R throttles. Main lines are signaled Centralized Traffic Control (CTC), controlled by the dispatcher using a computer. Signal logic is driven by Computer Automated Traffic Systems (CATS), a free open-source program. The CATS program (cats4ctc.wikidot.com) uses Java Model Railroad Interface to access hardware on the layout.

Control point turnouts are operated by a dispatcher; non-control point turnouts are manually lined. Yards and industrial tracks are operated under yard limits. Car forwarding is done mostly with car cards and waybills. Switch lists are used in the Granite City Steel complex. The dispatcher communicates with crews using Family Radio System-band two-way radios.

Special operating sessions, along with tours of the layout, will be held during the National Model Railroad Association's 2020 convention in St. Louis, July 12-18. To learn more, visit gateway2020.org. – *Patrick Hiatte*

UP trains, for example, come from west staging to the 12th Street Yard, which is switched by UP along with the Tower Grove Industrial District. From there, BNSF Ry. trains continue to the North St. Louis Yard and West Quincy staging, while UP trains continue across the river to East St. Louis and through Madison Yard to east staging.

Though most operating sessions are fairly uneventful, John recalls one that saw a record number of trains. "A gentleman who'd never seen the railroad before did the dispatching," John said. "This was before the signaling system was installed, and I was using a Direct Traffic Control-type dispatching. He sat down at the dispatcher's desk and started issuing orders. In three hours he had run more trains over the railroad than any other local dispatcher."

A river town without bridges?

John models yards and industrial areas on both sides of the Mississippi River, so you're probably wondering how he models the many bridges required. Well, he doesn't. One of John's design criteria for the layout was to have no duckunders. A tunnel under the basement stairs serves as the "bridge" from Missouri to Illinois.

John extends the same approach to scenery. "I don't do it," John said. "Benchwork, wiring, trackwork, and operations items are more important than scenery."

Dave Roeder and Bob Boedges, two members of the informal Hidden Valley Railroad Club, did the scenery work instead. The duo used 2"-thick extruded-foam insulation board covered with plaster cloth and Sculptamold as the scenery base. They hand-carved the Sculptamold and colored it using Rit, a clothing dye sold at craft stores.

Since the layout mostly consists of industries and railroad service buildings, the vegetation is somewhat limited, primarily consisting of ground foam and clump foliage. Woodland Scenics medium ballast was used on the tracks.

John turned to Dave and Bob again for the structures. "Dave would design a buildings on his computer using Model Builder software by Evan Designs," John said. "When he came back to my house, I would print the designs on photo paper. Dave would then take the [printouts] home and attach them to matte board."

Dave then applied the matte board pieces to a wood core. Once completed,



5 Terminal RR Association of St. Louis GP38-3 works the Madison Yard. John salvaged the yard scene from his previous model railroad.

he'd bring the finished structures back to John's layout for installation.

Other members of the Hidden Valley Railroad Club include Mike Barry, Bill Beilstein, Gary Gross, John Leahy, Tom Orear, and Mike Satke. Each member contributed specialized skills to help version 5 of the St. Louis Junction RR become reality.

Bob Boedges, for example, knew the ins and outs of steel mill modeling, having modeled one on his N scale layout. "The steel mill complex keeps an operator busy for the entire length of an operating session," John notes. As a token of appreciation, John has named several industries after members of the club.

The journey continues

The benchwork, track, and electronics are complete on the St. Louis Junction RR, and the scenery is 75 percent finished. Now that he's retired, John plans on filling in the rest of the scenery and fine-tuning his locomotives, roughly half of which have decoders.

"When I started this layout, I wanted it to be a good, operations-based model

railroad. My decisions and efforts were done to accomplish this," John said. "I believe I have succeeded. My latest session had more than 24 people wanting to operate."

John said that his model railroad is described by some as a club layout, something he's OK with. "I've had many friends help me with it," John said. "My efforts have been from the track down. The layout would never have been this far along without their help."

When talking about his model railroad, John always notes that his wife, JoAnne, is his biggest supporter. "She has given up the basement for my enjoyment," John said. "But that's nothing compared to the time she's given up for my pursuits." **MR**

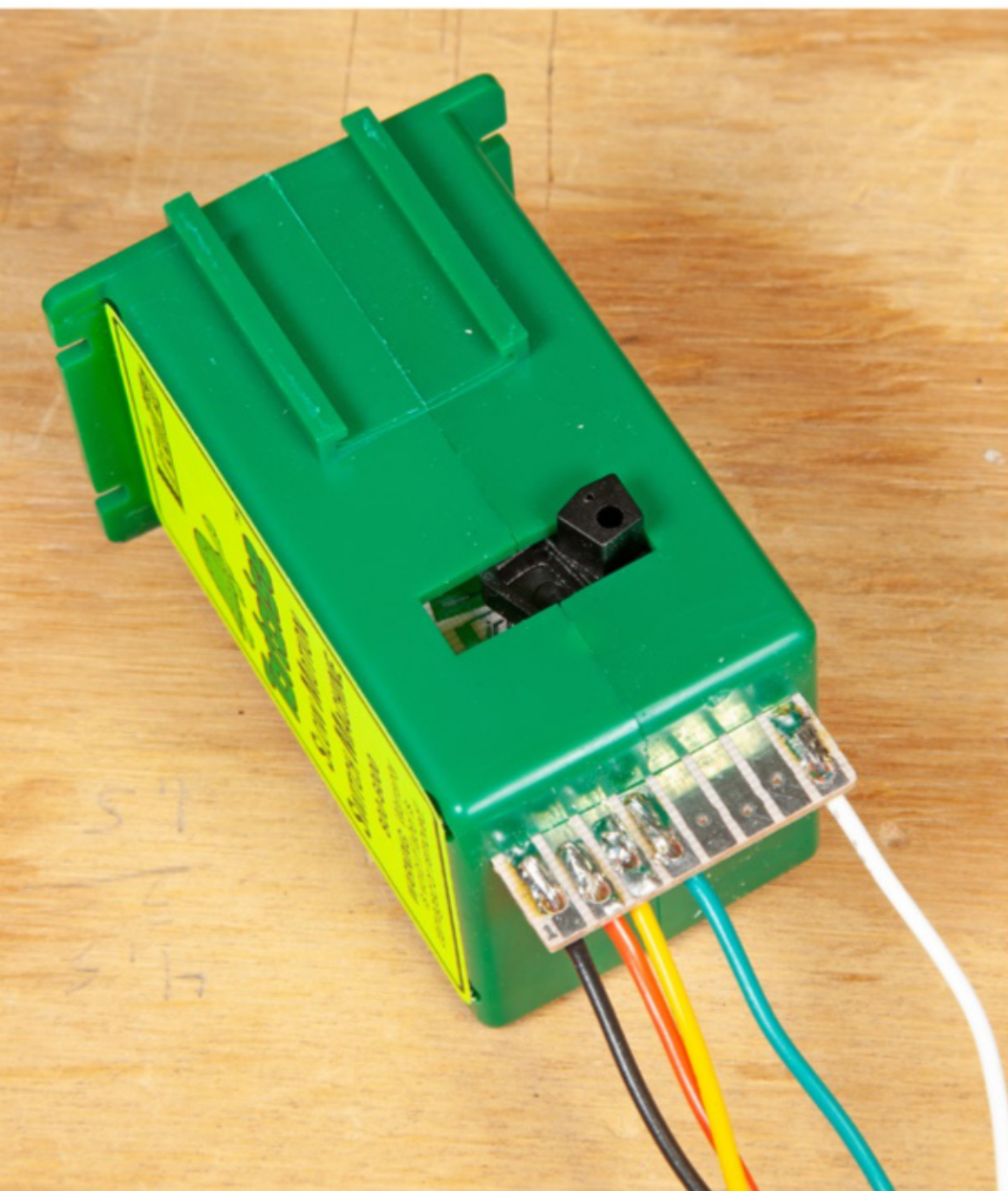
Patrick Hiatte grew up along the Missouri Pacific in central Missouri. He retired after a 35-year career with BNSF Ry. and predecessors St. Louis-San Francisco (Frisco) and Burlington Northern. Patrick and his wife, Sandy, live on the family farm, where he models the Missouri Pacific and St. Louis-San Francisco in N scale.



Meet John Schindler

John Schindler retired as a captain of the Mehlville Fire Protection District in Missouri after a 38-year career. He's active in the National Model Railroad Association and enjoys working on his layout and others in the St. Louis area. John's other hobbies include yard work, bicycling, staying busy with his three grandchildren, and traveling with his wife, JoAnne, to anywhere there's sand.

Soldering at the small scale



1 Tips for the Tortoise. Larry Puckett shares some soldering tips for more delicate operations. On the Tortoise by Circuitron circuit boards, he enlarges the hole through the center of the contact, then runs the wire through the hole from the back side, bends it down flush, and applies solder.

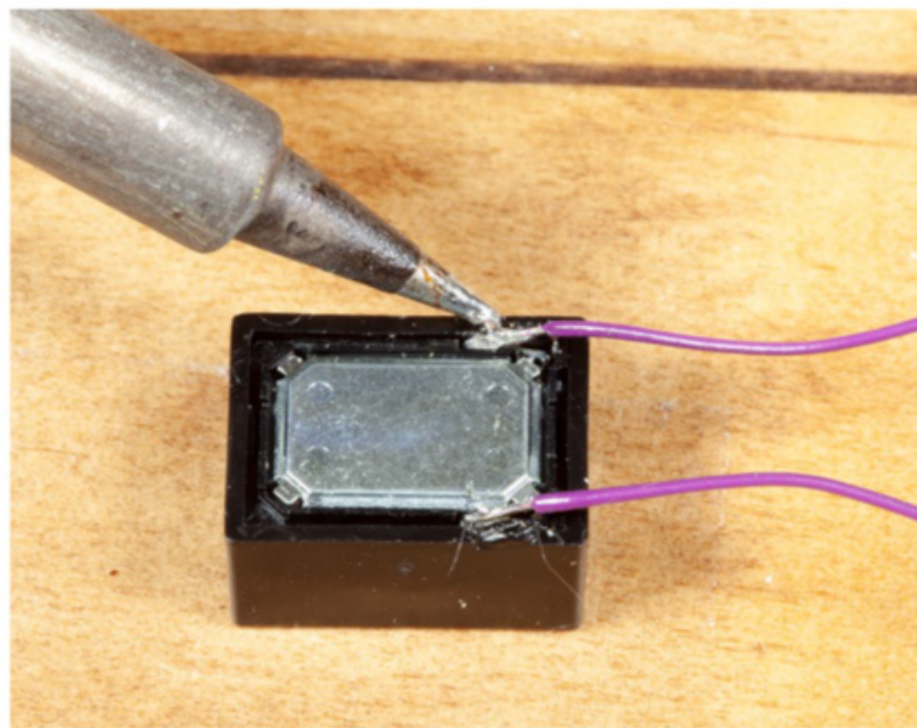
I've previously discussed soldering in the DCC Corner column, and included a full chapter on it in my book *Wiring Your Model Railroad* (Kalmbach Media, 2015). However, in those I focused primarily on the big stuff – soldering rail joiners, track feeders, splicing large wires and the like.

But there's a large segment of this subject that deals with small-scale projects. For example, much of what I do involves soldering wires, bulbs, light-emitting diodes (LEDs), and other electrical components to small solder pads and metal traces on decoders, circuit boards, and

Tortoise by Circuitron switch motors. Working with these small wires, metal traces, and components calls for a slightly different approach.

First, it's important to remember these smaller components and traces can be heat sensitive. So working with them involves a trade-off between too much and too little heat. Apply too little heat and it can take forever to melt enough solder to complete the joint.

On the other hand, too much heat may damage the components being soldered or cause the metal trace to lift off the circuit board. The



2 Stick to it. To keep the speaker from jumping around while working on it, Larry places a piece of double-sided tape on the bench top and sticks the speaker enclosure to it. He then tins two wires and solders them to these contacts.

easiest way to find just the right temperature is to use a soldering station with variable power settings. Set the temperature control on low, then incrementally increase the temperature while testing the tip with solder.

Once you get to the point where the solder melts, you should be getting close. However, for this kind of work you also need a very fine soldering iron tip, which reduces heat transfer compared to a broader tip. So you likely will have to inch the temperature up even more to compensate for this slower heat transfer. It really can be a balancing act to get everything just right, but once you do find the right combination, you'll be set for the future.

As for solder, use the finest diameter you can find. Also, use one with flux in the core, and never use an acid flux for electrical work. I've come to prefer using a 62 percent tin, 36 percent lead, 2 percent silver solder from Kester designed specifically for small electrical applications.

The advantage of this formulation over the old standard 60 percent tin, 40 percent lead is that it will go directly from a solid to a liquid when heated and back again. The 60:40, on the other hand, will actually go through a paste-like state between liquid and solid, and if the joint is moved, this may result in a poor connection, referred to as a cold solder joint. These can be fixed by simply reheating the joint and letting it cool without being moved.

OK, let's look at a few examples. One common soldering job I do on the layout these days is installing Tortoise switch motors. These require a special approach if you do as I do and solder the wires directly to the small circuit board instead of using a clip-on terminal strip. The adhesive used to attach the thin metal circuit traces on the Tortoise circuit board can be very sensitive, and may release if overheated, especially if the wires create tension of any kind.

My method is to first drill a small hole slightly larger than the diameter of the wire I'm going to solder to the Tortoise. I find it better to drill from the side with the metal trace, using the small hole provided as a pilot hole. This prevents pushing the trace away from the circuit board when the drill tip breaks through.

Then I run the wire through the hole from the back, bend it down flush, and apply solder ① on the front. I wire my Tortoises this way on the workbench, then join the wires on the layout using suitcase connectors for the final installation.

For several years now I've been using sugar cube speakers in most of my sound decoder installations. These small but powerful speakers have made sound decoder installations possible in locomotive models that previously only had room for a non-sound decoder.

For a couple reasons these require a steady hand, and a trick to prepare them for installation. First, these little guys have very strong magnets in them. Consequently, when the tip of a soldering iron is held near them they will jump off the work surface and stick to the tip. To avoid this, I place a piece of double-sided tape on the bench top and stick the speaker and its enclosure to it ②.

With the speaker fixed solidly to the workbench, I tin the two metal spring contacts, being careful not to create any solder bridges to the metal backplate. I then tin two wires and solder

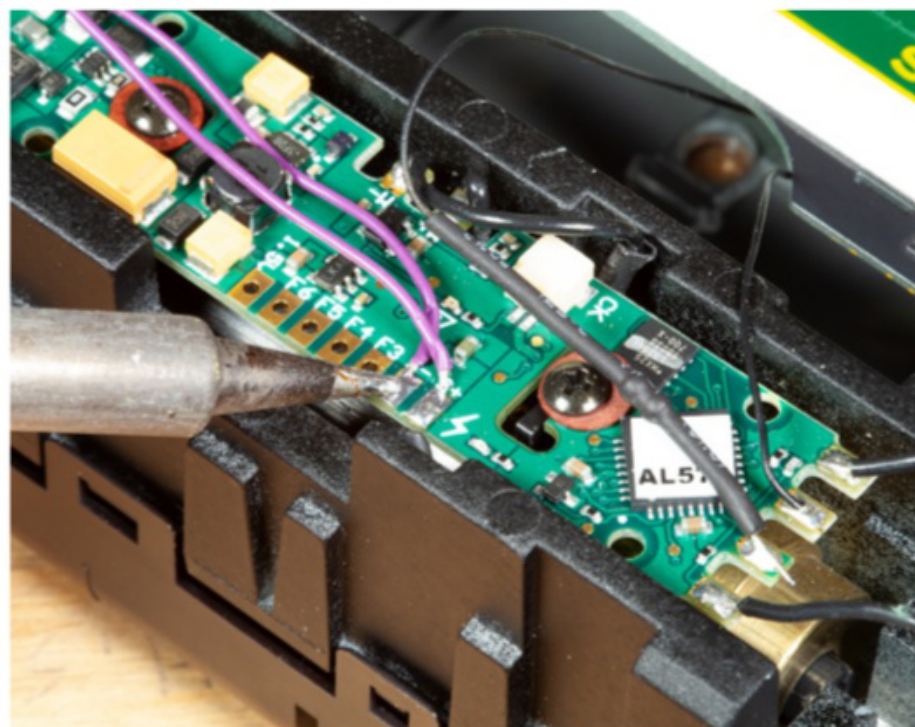
them to these contacts ②. This step requires a very steady hand since there's only a millimeter or so between the spring contact and the metal backplate.

The trick is to rest your wrist on the work surface and move the soldering iron with your fingers. This provides the stability you need to steady the iron tip. With both surfaces tinned, it only takes a momentary touch of the hot tip to complete the joint.

With the wires attached to the speaker, we can move on to the next job – soldering them to the decoder. This may require either making wire splices if the decoder itself has speaker wires, or soldering them to the circuit board. If it's a bare board similar to the circuit boards used in most modern diesel models, then the procedure is similar to that used for the Tortoise switch machine.

Simply tin the metal traces and wires, mate the two, and apply heat with the iron tip ③. If you have the plastic clips that came with the original circuit board, you may be able to make the connection without solder, although I prefer a solid solder joint. Like the Tortoise joint, these decoder contacts usually come with small holes for the wires to run through, although I rarely use them.

For a wire to wire splice, I find it difficult to attempt to use a Western Union splice on small-gauge wires, and instead just go with a simple butt joint. I tin both wire ends, place them alongside one another, and apply heat with the iron tip. A piece of heat-shrink tubing slid



③ **Tinned for the win.** When soldering a wire to a decoder board, Larry tins the metal traces and wires, mates the two, and applies heat with the iron's tip.

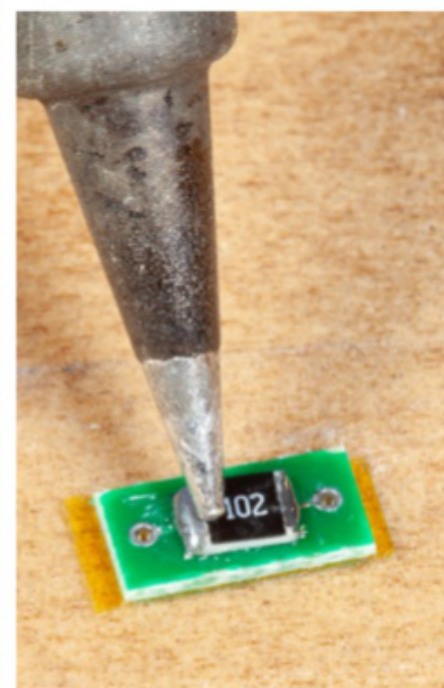
over the joint will give it strength and protect it from shorts. Don't forget to add the heat-shrink tubing to the wire before making the solder joint.

One of the most challenging solder jobs I do is with surface-mount devices (SMDs). These are primarily limited to LEDs and resistors that are very small, so they require even more tricks.

First, I get out my Optivisor magnifiers so I can see these little parts. Usually, I'm attaching these SMDs to similarly small circuit boards, and to stabilize these I turn to the double-sided tape trick to hold them to the workbench.

Next I apply a dot of cyanoacrylate adhesive (CA) to the circuit board between the solder pads where the SMD will be placed. I use a gel-type CA and the tip of a toothpick for this job.

You only need enough glue to wet the surface, not a rounded droplet. Finally, I maneuver the component into place and let the glue dry. I find the gel-type CA gives me enough time to make adjustments in the SMD placement before it sets up. Finally, I add a touch of solder to the metal ends of



④ **Surface-mount solution.** Apply just enough cyanoacrylate adhesive to wet the space between the solder pads and drop the surface-mount device (SMD) into place. Finally, apply a touch of solder between the metal ends of each side of the SMD and its solder pad.

the SMD and the solder pads on the board ④.

With the right soldering iron tip, properly sized solder, and a few tricks in your repertoire, you'll be making these solder joints like a pro. For a video of these procedures, visit my DCC Guy channel on YouTube. [MR](#)



AS FOR SOLDER, USE THE FINEST DIAMETER YOU CAN FIND. ALSO, USE ONE WITH FLUX IN THE CORE, AND NEVER USE ACID FLUX FOR ELECTRICAL WORK. — LARRY



Menards exclusive HO scale “Rocket Freight” train set

Many of us got our start in the hobby with a train set like the new Bachmann HO scale Rocket Freight set, with its sturdy diesel locomotive, colorful cars, and oval of snap-together track. This set includes everything a new model railroader needs to get started, including a direct-current locomotive, four cars, track, power pack, and an assortment of plastic figures and details. The set is sold exclusively through Menards, a home-improvement store chain in the Midwest (menards.com/trains). Menards offers free in-store pickup or delivery to areas without a local store.

The locomotive. The engine is an Electro-Motive Division GP40, a popular locomotive owned by railroads all over the United States, Canada, and Mexico. More than 1,200 were built between

November 1965 and December 1971, and long after their initial mainline service was done, many were relegated to yard or branchline service or sold to secondary lines. Some were later rebuilt to upgrade their control systems to the new Dash-2 solid-state electronics, giving them the designation GP40-2R. One such was Chicago, Burlington & Quincy no. 630, which many years and two mergers later would be renumbered BNSF Ry. no. 3007. The locomotive is still in use today, now bearing the black-and-orange livery and BNSF “Swoosh” logo adopted in 2005.

The model’s dimensions matched those on a drawing published in the 1970 *Car & Locomotive Cyclopedia* (Simmons-Boardman), as did the overall appearance and the location of details like grills and hood doors. Grab irons were

missing, but these could be added by a modeler. The model’s paint scheme matched prototype photos of other BNSF Ry. GP40-2Rs from the same number series, though the orange on the model was a shade redder than that seen on the prototypes.

I ran the locomotive on our test track, powered by the power pack that came with the set. The locomotive started moving at a fairly speedy 8.5 scale mph when the voltage topped 3V. At 12V, it ran at 84 scale mph, close to the 83 mph top speed of the prototype’s highest gearing. The front and rear headlights illuminated when the locomotive was traveling in that direction.

The locomotive was a solid puller, mustering 2.7 ounces of drawbar force, enough to pull a train of 38 free-rolling 40-foot freight cars.



The train set includes: ① 12 sections 18" radius curved track ② Two sections straight track ③ GP40-2R locomotive, three freight cars, and caboose ④ Power pack ⑤ Power cable ⑥ 12 figures ⑦ 12 line poles ⑧ 12 road signs ⑨ 12 railroad signs



I pried off the press-fit fuel tank cover to expose the two screws that held on the one-piece molded body shell. The interior was mostly filled with die-cast metal frame and weights. An enclosed can motor and twin driveshafts connecting it to the trucks' gear towers were visible in gaps between the weights. The frame was topped with a lighting printed-circuit board. Though there was a hole in the bottom of the frame that looked like it was intended for a speaker, there was no space in the upper frame for installation of a Digital Command Control decoder. Installing one will require soldering skills and some frame milling.

The cars. The caboose is a former "Zephyr style" Chicago, Burlington & Quincy class NE-12, built in the railroad's Havelock shops in two batches in 1954 and 1960. It's not likely one would have survived in service until the "Swoosh" was introduced. But if an enterprising modeler wanted to plate over the empty windows with sheet styrene, it would make a convincing shoving platform.

The freight cars are an interesting assortment of types and eras. The 50-foot plug-door newsprint boxcar bears a built date of 1-75, but has running boards, which were eliminated from new cars in 1966. The Texaco riveted single-dome tank car was built in 1937 and would have been retired before the GP40-2R came along. And 41-foot gondola no. 65263 was on the Union Pacific roster in 1954, but gone by 1990.

The caboose and freight cars are all made of sturdy injection-molded plastic that should stand up to plenty of running, but still bear fine molded rivet detail, separately applied brake wheels, crisp printing, and magnetic knuckle couplers. All the wheels on the cars – one-piece molded engineering plastic – were in gauge, and the couplers were mounted at the correct height.

PERFORMANCE CHARTS

DRAWBAR PULL	2.7 ounces
	38 HO scale freight cars

SCALE SPEED (DC)

VOLTS	SCALE MPH
3 (start)	8.5
6	33
9	57
12	84

And the rest. The train set comes with 14 pieces of Bachmann steel-rail E-Z Track – a dozen 30-degree, 18" radius curves; one 9" straight terminal/rerailer; and one matching 9" straight section. The track is attached to black plastic roadbed that snaps together and separates easily. Bachmann sells a large assortment of matching E-Z Track components, including crossings and turnouts, so the simple oval in this set can be the start of a more elaborate layout.

The power pack is a one-knob, no-frills model (part no. 44211) issued with all Bachmann's train sets. It has a smooth-turning throttle knob, a direction switch, and a power indicator light. It comes with a 16V wall-wart power supply and a 40-inch long cable that plugs into the power pack and the terminal rerailer to power the track.

The set is completed by three packets of accessories to help transform your Plywood Pacific into something better resembling a model railroad. These are 12 brown plastic line poles; two sprues of traffic and railroad signs (such as "Yard Limit" and "Resume Speed"); and two sprues of figures appropriate for a passenger station scene. Once severed from their bases, trimmed of flash, and carefully painted, the 12 nicely molded figures would look pretty good.

A good starting point. Opening the box and unpacking Bachmann's Rocket Freight train set took me back to my parents' basement in Connecticut and the HO scale Chessie set that was my first experience with model railroading.

Facts & features

Price: \$149.99

Manufacturer

Bachmann Industries
1400 E. Erie Ave.
Philadelphia, PA 19124
bachmanntrains.com
Sold exclusively through Menards
menards.com/trains

Era: 2005-present, as decorated

Road names: BNSF Ry.

Locomotive features

- All-wheel drive and electrical pickup
- Blackened metal RP-25 contour wheelsets, in gauge
- Cab window glazing
- Can motor
- Directional light-emitting-diode lighting
- Plastic knuckle couplers, mounted at correct height
- Weight: 13.3 ounces

Car features

- Injection-molded plastic bodies
- Plastic knuckle couplers, mounted at correct height
- Plastic wheelsets, in gauge
- Separately applied brake wheels and running boards (where applicable)
- Weight: Boxcar, 4.9 ounces (0.4 ounce over National Model Railroad Association RP-20.1); caboose, 3.2 ounces (0.3 ounce underweight); gondola and tank car, 2.4 ounces (1.6 ounces underweight)

Other items

- 16V power pack with wall power adapter and 1m (40") power lead
- 14 sections (12 curves, one terminal rerailer, one straight) E-Z Track with steel rails
- 12 molded plastic line poles
- 12 molded plastic railroad worker and passenger figures
- 24 plastic railroad and traffic signs

Though those who consider themselves Serious Model Railroaders may scoff at the molded-on grab irons, basic direct-current can motor, plastic wheelsets, and snap-together sectional track in a set like this, to a youngster it could be the first step on the hobby of a lifetime. With everything in this box, a future model railroader could be set up and running a train inside of 15 minutes. If they're lucky, it's only the beginning. – *Steven Otte, associate editor*



Athearn Genesis HO scale EMD GP9 diesel

Superdetailed Electro-Motive GP9

diesel locomotives return to the Athearn Genesis series in several new road names. A previous release was reviewed in the December 2011 issue. This upgraded release is available with a SoundTraxx Tsunami2 dual-mode decoder that operates on Digital Command Control (DCC) and direct-current (DC) layouts.

Successor to the 1,500 hp GP7, the 1,750 hp four-axle GP9 was one of EMD's best-selling first-generation diesels with more than 4,000 produced from 1954 to 1963. Canadian National rostered 349 GP9s with some rebuilt versions serving into the 1990s.

The Athearn GP9 is within scale inches of a drawing in *Model Railroader Cyclopaedia: Vol. 2, Diesel Locomotives* (Kalmbach Publishing Co., out of print).

Our review samples are detailed and decorated for CN nos. 4409 and 4422 as they appeared from 1955 into the 1960s. Both locomotives are correctly set up to run long-hood forward.

In addition to well-defined molded details, like louvers and engine-access doors, the model is loaded with separate roadnumber-specific detail, including bell placement and exhaust stacks, as shown on the next page.

The CN paint scheme matches prototype photos, including lettering and

herald placement. There's sharp color separation between all the striping.

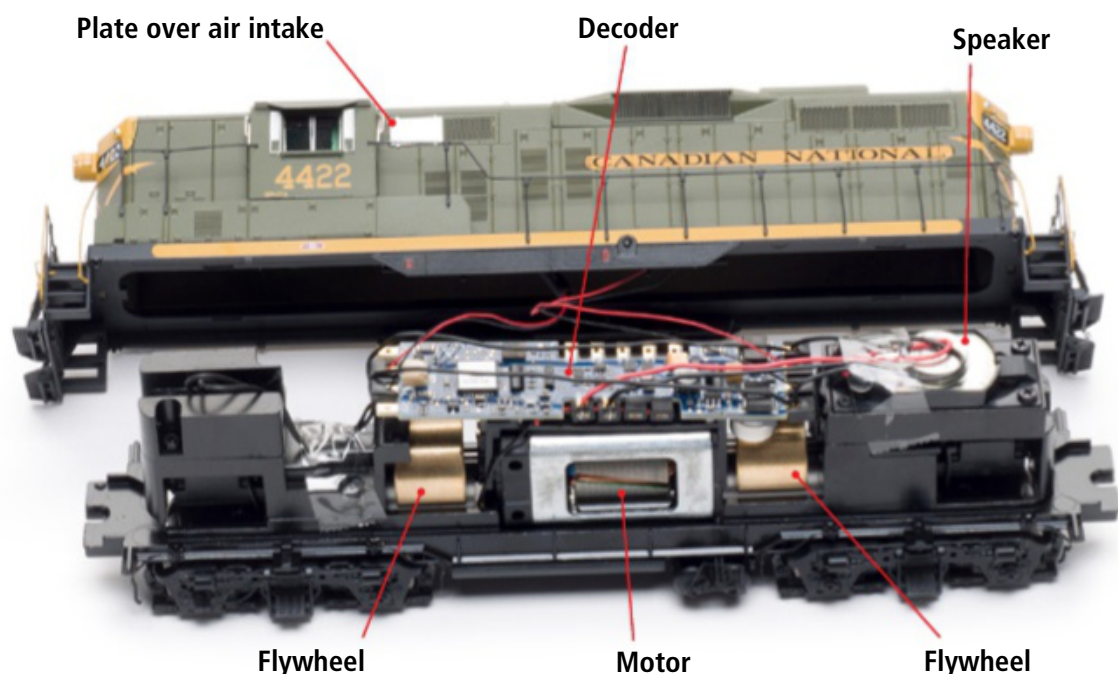
The model features the same reliable Genesis mechanism, shown below, as the earlier release. On our DCC sample, the decoder board is mounted above the dual-flywheel equipped motor.

Operation. The model's speed tests in DC and DCC are shown in the charts above. The prototype could be geared for top speeds ranging from 55 to 89 mph. For DCC users, the model's top speed and the speed curve can be adjusted with configuration variables (CVs).

Even though the locomotive doesn't include a CurrentKeeper capacitor circuit, its all-wheel drive kept the headlights, motor, and sound steady.

The Tsunami2 decoder's factory-default sound settings include the correct Nathan K3L air horn. In addition to the long horn, short horn, and bell effects, other user-triggered functions include dimmable headlights and coupler crash effects. There's also function button controlled manual notching, but I prefer the Tsunami2's enhanced Digital Dynamic Exhaust (DDE) feature.

After a quick setup, the decoder uses back-electromotive force to automatically set the engine rpm sound to the correct notch per the load. For example, when going up a grade, the engine sounds notch up. When going down-grade, the engine rpm level decreases.



Our review sample included a SoundTraxx Tsunami2 decoder mounted above the Athearn Genesis mechanism. The model also features all-wheel drive and pickup.

PERFORMANCE CHARTS	
DRAWBAR PULL	2.6 ounces 36 HO scale freight cars
SCALE SPEED (DC)	
VOLTS	SCALE MPH
9.75	1
10	8
11	16
12	30
14	42
SCALE SPEED (DCC)	
SPEED STEP	SCALE MPH
1	4
7	31
14	64
21	80
28	85

The Tsunami2 features three programmable braking rates. I set the independent brake, used when the locomotive is running light, for relatively quick stops. I set the train brake, used when the locomotive is hauling cars, for a slightly longer braking time. I also set up the dynamic braking rate, which will slow, but not stop, the train when the dynamic brake effect is engaged (F4).

In addition to the printed manual included with the model, an extensive, user-friendly guide is also available as a free download at soundtraxx.com.

In DC the engine sounds increase or decrease with the throttle. The headlights are directional. More effects can be triggered with an analog sound controller, such as the MRC Tech 6.

Prototype-specific details and Tsunami2 sound makes these Geeps standout models of first generation diesel power. – Dana Kawala, senior editor

Both of our CN review samples feature roadname- and roadnumber-specific details and accurate paint schemes.



Facts & features

Price: \$299.98 (DCC sound), \$209.98 (DC no sound)

Manufacturer

Athearn Trains
1600 Forbes Way, Suite 120
Long Beach, CA 90810
athearn.com

Era: 1954 to present, (1955 through 1960s as detailed and decorated)

Road names (multiple road numbers):

Canadian National, Seaboard Air Line, Southern Pacific "black widow," Union Pacific

New paint schemes announced:

Canadian Pacific, Central Vermont, Grand Trunk Western, Great Northern, Southern Pacific (scarlet and gray in SP, Texas & New Orleans, and Commute versions)

Features:

- All-wheel drive and electrical pickup
- 21-pin DCC socket (DC version)
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- Die-cast metal frame
- Five-pole skew-wound motor with dual brass flywheels
- Light-emitting diode (LED) headlights
- McHenry plastic scale knuckle couplers mounted at correct height
- Minimum radius: 18"
- SoundTraxx Tsunami2 dual-mode decoder (DCC version)
- Weight: 11.3 ounces

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Model Railroader March 2020



ExactRail HO scale Berwick 7440 boxcar

The Berwick Forge & Fabricating

7,440-cubic-foot-capacity boxcar is the latest addition to Exact Rail's HO scale Platinum line. The plastic model features a one-piece body with separate roof, factory-applied details, and wire uncoupling levers.

The model. Our sample is decorated as Penn Central (PC) no. 278143, a class X77 boxcar that was part of the railroad's 278045 through 278174 series built in February and March 1973. With 130 cars, PC had the largest fleet of the appliance-hauling boxcar. Other original owners were Illinois Central Gulf (20) and Rock Island (15).

The roof is lightly tacked on with cyanoacrylate adhesive in each corner and above the doors. I was able to break the glue joints by sliding my thumbnail between the roof and carbody. Inside is a steel weight attached with glue.

The car sides feature crisp rivet and weld seam detail. The four-rung ladders on the sides and ends, as well as the stirrup steps, are separate, factory-applied

plastic parts. Though the doors aren't positionable, they feature separate tack boards, door handles, and lift tabs. The lower door tracks are mounted on stand-off brackets.

Underneath, the car has a one-piece casting that depicts a sliding center sill and crossbearers. The crossties, floorboards, and brake pipe are molded.

The draft-gear boxes are attached to the body with two Phillips-head screws each. The PC car accurately has KEEP OFF stencils on the sides of the box. An air hose and brake pipe stub is attached to the draft-gear box cover.

The boxcar is equipped with formed-wire uncoupling levers. The handle end is supported with an eye bolt; the opposite end is attached to the edge of the draft-gear box cover with glue. The handles stick out past the side ladders; they should line up with the car's sill.

The Deepwater Green paint is smooth and evenly applied, and all of the printing is opaque and legible. The lettering placement matches a prototype photo of another car from the series in James Kinkaid's *Penn Central Color Guide to Freight and Passenger Equipment* (Morning Sun Books Inc., 1998).

The vitals. The car weighs 5.1 ounces, which is .2 ounce too light per National Model Railroad Association Recommended Practice 20.1. The 33" metal wheelsets are correctly gauged. The Kadee no. 58 couplers are mounted at the correct height. The model's dimensions closely follow prototype drawings published in the 1974 *Car and Locomotive Cyclopedia of American*

Facts & features

Price: \$44.99

Manufacturer

ExactRail

525 E. 1860 S.

Provo, UT 84606

exactrail.com

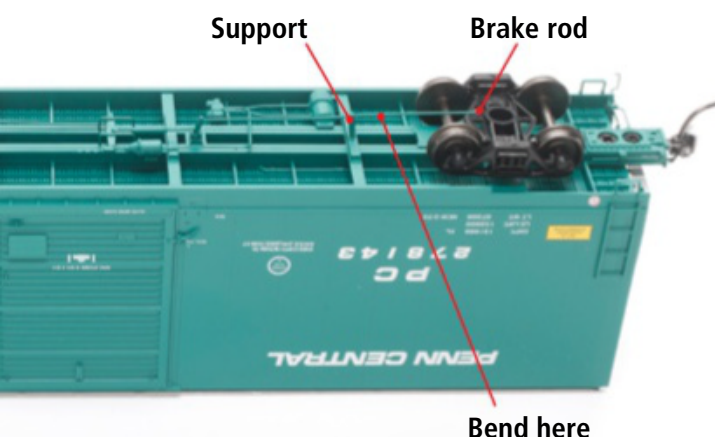
Era: 1973 to early 2000s

Road names: Penn Central (as delivered, 12 road numbers), Conrail (1980 repaint in six numbers and 1985 repaint in one number), Illinois Central Gulf (as delivered, six numbers), and Rock Island (as delivered, six numbers). Also available as undecorated kit.

Practice (Simmons-Boardman Publishing Corp.)

I tested the car in the Williams Bay portion of our Milwaukee, Racine & Troy staff layout. The car negotiated the no. 6 turnouts and 30" radius curves, but the brake rod on the A end kept snagging on grade crossings. A representative from ExactRail recommended pressing down on the plastic rod at the support to reshape the tail end. I did, and the car passed over crossings without incident.

Overall, I'm impressed with the ExactRail Berwick 7440 boxcar. Yes, it has a few minor issues, but they're all easy to fix. Though this wasn't a common prototype, the cars traveled the country delivering appliances to distribution centers and dealers. – *Cody Grivno, Group Technical Editor*



This view of the boxcar's A end shows some of the underbody details.

RailSmith N scale *Tippecanoe Rapids* sleeper

Pennsylvania RR N scale modelers can now add an accurate re-creation of Pullman-Standard (PS) sleeper *Tippecanoe Rapids* to their passenger car rosters thanks to Lowell Smith's Signature Series of RailSmith cars.

The prototype. As part of its post-World War II modernization plans, the Pennsylvania RR (PRR) ordered 18 10-roomette, 6-bedroom sleeper cars from Pullman-Standard. These cars were delivered in 1948 and 1949 for service across the line and beyond.

Tippecanoe Rapids, along with class mate *Stoney Rapids*, were pool cars used in transcontinental service through a Chicago connection with the Union Pacific, first on UP's *Los Angeles Limited*, then on the *City of Los Angeles*. The PRR counterpart was the *Admiral*. The arrangement ended in 1956, and *Tippecanoe Rapids* returned to general service. For about a year, *Tippecanoe Rapids* and *Stoney Rapids* were painted



in UP's Armour Yellow and Harbor Mist Gray paint scheme.

The *Rapids* cars were retired between 1968 and 1971. All but one of the cars, *Towanda Rapids*, were scrapped.

The model. The plastic model has a body shell made up of a separate roof that snaps onto a sidewall and end piece. This assembly snaps onto a plastic floor. All details are molded onto the body shell except the diaphragms on each end. Window glazing is flush-mounted and includes silver-painted frames.

The interior is a separate molded piece of beige plastic that includes the

seats and partitions. The layout of the interior and the window arrangements match drawings in *The Official Pullman-Standard Library, Vol. 4: Pennsylvania Railroad* by W. David Randall and William M. Ross (Railway Production Classics, 1988). Contacts at the A end of the interior await a ceiling-mounted light board expected to be available by the end of the year.

The one-piece plastic floor has all of the equipment molded in place, which appears to match photos of *Tippecanoe Rapids* taken in the 1960s and printed in *PRR Color Guide to Freight and Passenger Equipment, Vol. 2* by Ian S. Fischer (Morning Sun Books, 1996). The trucks are screw-mounted.

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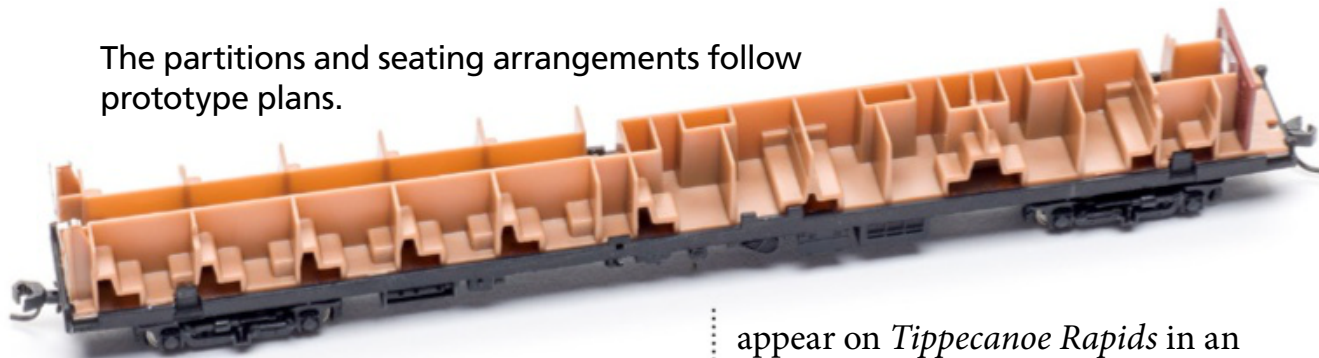
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The partitions and seating arrangements follow prototype plans.



The trucks appear similar to those in the photos, but had a scale 9'-0" wheelbase instead of the prototype's 8'-6" wheelbase. Contacts on the sideframes connect to more contacts on the floor to provide power for the optional, user-installed interior lighting. Knuckle couplers are truck-mounted at the correct height. All dimensions other than the truck wheelbase are within scale inches of PRR diagrams on Rob's Pennsy Page at pr.railfan.net.

The Tuscan Red and black painting is well done, and decoration matches photos found in *PRR Color Guide to Freight and Passenger Equipment, Vol. 2* with the exception of the Pullman lettering on the ends of either side, which doesn't

appear on *Tippecanoe Rapids* in an August 1968 photo and another undated photo. Other *Rapids* cars in the book show the Pullman lettering, so it may be appropriate for earlier eras.

The lettering is sharp and opaque. Detail painting brings out the delicately molded-on handrails and grab irons, which appear to have been stainless steel on the prototype.

On the layout. I assigned *Tippecanoe Rapids* to pool service on the Burlington to add it to the *Nebraska Zephyr*. It had no trouble negotiating the 13" radius curves and Peco medium turnouts of the Red Oak project layout. However, as a full-length car, be careful of overhangs at the ends and center of the car on turns of this radius, as the car caught a bridge

Facts & features

Price: \$57

Manufacturer

RailSmith Models

P.O. Box 188

Prineville, OR 97754

lowellsmith.net

Roadname: Pennsylvania RR

Era: 1949 to 1968

Features

- Knuckle couplers, at correct height
- Provision for interior lighting
- Turned metal wheels, in gauge
- Weight: 1.5 ounces, .1 ounce more than NMRA Recommended Practice 20.1

girder and some foliage close to the right-of-way.

This is a beautiful car that saw service across the country. If you're modeling passenger operations from the 1950s until the Amtrak era, be sure to give this model a look. – *Eric White, associate editor*



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Apples, appliances, and dynamite

Modell's, a nearby discount store, was easily reached on my bike when paper route earnings burned a hole in my pocket. It was a department store where I passed by just about everything a household could need on my way to the toy department and its modest model railroad aisle. An added attraction was a warehouse that expanded into a string of three out-of-service Fowler boxcars. It appeared as if the building was intent on pouncing on them, like a cat eyeing a mouse.

Tom Burg, a reader, revived these dusty memories of mine with his note about carload sales. Research for a Merrill, Wis., historical society turned up 1920s newspaper ads by grocers, feed mills, and farm implement dealers, announcing the arrival of carloads of items from apples to explosives.

"Pears! Pears! Pears!" shouted an ad in the *Merrill Daily Herald* in 1922. "Come at once." Not all the advertisers had their own rail sidings, so the ads announced where the sale would take place, for example, "the C.M. & St. Paul freight house tracks."

T.J. Krueger researched an article on carload appliance sales that appeared in another hobby magazine. T.J. described how the dealer sold refrigerators and washers right out of the car at a team track. A photo shows two men seated inside the car on folding chairs, with appliances in various shades of the sixties – Avocado, Harvest Gold

– lined up on the loading dock outside the car.

I remember seeing such ads. Their origins never occurred to me. I thought it was just a gimmick, but this was a common practice in the 1950s and 1960s. I searched old newspapers from this period and turned up carload appliance ads in newspapers from places as disparate as Brookville, Pa.; Sioux City, Iowa; Spokane, Wash.; and Tucson, Ariz.

Apples, pears, appliances, and paint. Siperstein's, a paint and wallpaper store based in Jersey City, N.J., ran a big ad in a 1959 edition of the *Bergen Evening Record* that blared: "6 carloads and more to come ... buy now and save!"

Offering discounted carload pricing was common for enterprising businesses. It's easy to imagine almost anything could be sold this way. Indeed, the Merrill businesses advertised carload prices on dynamite and other explosives in the 1920s. Tom explained that after logging operations cleared forested areas, this land was reclaimed

for farming by removing the stumps. Explosives made removing them much easier work than digging them out by the roots.

My father remembered a childhood Fourth of July story dating to this period in which his elders – Pennsylvania dairymen and coal miners – entertained his extended family gathered at the



This placard in Jerry's collection displays handling rules for a car hauling explosives, including minimum spacing in through and local freight trains. Jerry Dziedzic photo

farm by blowing up a stump. Evidently, they became very celebratory before deciding how much dynamite to use, punctuating the festivities with an impressive crater.

Carload sales make many operating opportunities for our layouts. A wide variety of household goods arrived by rail. It's plausible to waybill almost anything to a freight house or team track. Your local can spot a reefer of apples and a boxcar of dynamite at the freight house. Just don't let the boys kindle a bonfire nearby to warm their hands over.

Explosives are a dangerous cargo that requires special handling in a train. Long governed by law, railroads developed rules that specified placing them a minimum number of cars away from both engine and caboose. (See the hazard placard above for an example.) When train length did not permit, they were handled as near the middle of the train as possible. Typically, these requirements were found in the

special instruction section of the employee timetable. The instructions I wrote for my own layout specify separation of two car lengths, more practical for model railroads' typically shorter trains.

Dynamite wasn't the only explosive used in clearing land in the twenties. Sodamol (a mixture of TNT and sodium nitrate) and picric acid were two others. "Blasting caps to be furnished without charge," announced Colorado's *Wray Rattler*. Curiously, much of this material was government surplus, made available after Great War hostilities ceased. A century has certainly changed times. It's hard to comprehend our government freely making explosives available to its citizenry.

Anyway, it's fun to imagine this conversation: "Honey, I'm going to Wenzel's to pick up a case of dynamite. Need anything from town?"

"Yes, the paper says Belotzerkowsky's has a car of winter apples at the Milwaukee depot. Get us a couple of bushels." **MR**



I REMEMBER SEEING SUCH ADS. THEIR ORIGINS NEVER OCCURRED TO ME. I THOUGHT IT WAS JUST A GIMMICK, BUT IT WAS A COMMON PRACTICE IN THE 1950S AND 1960S. – JERRY





Ned is struggling to get that cart maneuvered through the doors at Nari's Warehouse, as there's a whole boxcar to unload. John Giammasi modeled the scene on his HO scale Moosup Valley RR, based on the prototype Connecticut Valley RR and set in the 1920s. The warehouse is scratchbuilt. Greg Komar photo



The eastbound freight out of Duluth roars out from under the Highway 2 bridge in mid-October 1964. The action was staged by Steven Scanes on the Raisin River Valley RR, an HO scale layout built by a group of six friends in a former seed mill in Blissfield, Mich. The layout is 36 x 70 feet and built on wall-mounted modules. Doug Tagsold photo

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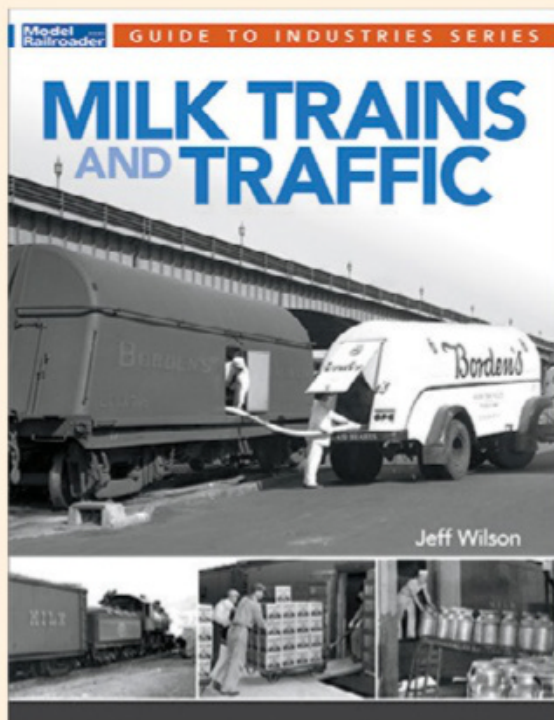


A White Pass & Yukon maintenance-of-way worker loads parts in the back of the company pickup truck as a General Electric 90 Class locomotive idles nearby. Mike May of Durango, Colo., shot the scene on his HO_{N3} WP&Y layout, which depicts the route from Skagway, Alaska, to Bennett, B.C.



The neighborhood kids have at least temporarily found something that interests them more than the Norfolk & Western passenger train passing through their back yards: the ice cream truck. Doug Kirkpatrick of Falls Church, Va., built the scene on his Virginia & Western to capture his own childhood memories. Doug's HO scale V&W last appeared in MR in September 2019.

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CLOSING DATES: Apr 2020 closes Jan. 20, May closes Feb. 24, June closes Mar. 23, July closes Apr. 20, Aug closes May 22, Sept closes June 19, Oct closes July 16, Nov closes Aug. 20, Dec closes Sept. 21.

Schedule of Events

AL, MOBILE: Model Train Show sponsored by South West Alabama Railroad Modelers (SWARM). Via Health, Fitness and Enrichment Center, 1717 Dauphin Street. March 14-15, 2020, Saturday 9:00am-5:00pm; Sunday 11:00am-4:00pm. Admission \$5.00, family \$10.00, under 10 free. Operating layouts, demonstrations and dealers. Contact Charlie Boyer, 251-454-0572, email charlieboye66@att.net

AR, BENTONVILLE: Sugar Creek Model Railroad Historical Society, 17th Annual Show. Benton County Fair Grounds, Highway #12, Saturday, February 29, 2020, 9:00am-4:00pm. Adults \$8.00, under 12 free. Keith Johnson, 479-871-2802, E-mail: train072@cox.net, NWA Train Show, PO Box 1283, Farmington, AR 72730. www.sugarcreekrailroadclub.com

CO, DENVER: Rocky Mountain Train Show March 7-8, 2020. Denver Merchandise Mart, 451 East 58th Avenue, 80216. Saturday, 10:00am-5:00pm, Sunday 10:00am-4:00pm. 2-1/2 acres of model trains of all scales, 30 layouts, 700 sales tables, clinics and more. Admission \$10.00 under 12 Free, Free Parking. 303-364-0274 www.RockyMountainTrainShow.com information@RockyMountainTrainShow.com

FL, DEERFIELD BEACH: South Florida Railway Museum Model Train Swap Meet and Flea Market. St. Paul Lutheran Church, 701 W. Palmetto Park Road, Boca Raton, FL. Saturday, March 21, 2020, 9:00am-2:00pm. Admission \$5.00. Bill Steffen, 561-441-6952, www.sfrm.org

FL, JACKSONVILLE (REGENCY-BEACHES): The First Coast Model Railroad Society Meet-and-Greet, 3rd Sunday of every month. 750 sqft double level freelance HO layout 50% complete. On30 modular layout. Gated location, contact Stu Shef stushef@yahoo.com 571-215-5475 24-48 hours in advance. Check out www.FCMRS.club; youtube.com search "FCMRS"

FL, OCALA: Lions Semi-Annual Train Show. First Christian Church, 1908 SE Fort King St. Saturday, March 14, 2020, 9:00am-2:00pm. Adults \$4.00, children 12 and under free w/ adult. Bring two canned goods and receive \$1.00 off admission. Information: Bob 352-694-6381 or cell 352-208-5284

FL, PINELLAS PARK: TCA Southern Division TAMPA BAY AREA GREAT TOY TRAIN EVENT at Pinellas Park Performing Arts Center, 4951 78th Ave N., Saturday, February 22, 2020, 10:00am-3:00pm. Admission: \$5.00/person (Children under 13 FREE). Operating Layouts, Train Displays, Kid's Play Area, Scavenger Hunt & Train Drag Races. Free Parking. Information: Guy Ateniese, 727-480-7909 or gateniese@tampabay.rr.com

FL, PINELLAS PARK: Regal Railways Presents a Toy Train, Collectible and Hobby Show/Sale. Lopez Hall, 7177 58th St. North, Saturday, March 28, 2020. 9:00am-2:00pm. Adults \$5.00. Vendors, videos & operating layout. Serving lunch items. Contact Joe: 727-244-1341 or visit www.regalrailways.com for more information.

FL, SARASOTA/BRADENTON: 43rd RealRail Train Show. March 21-22, 2020, Saturday 10:00am-4:00pm and Sunday 10:00am-3:00pm. Bradenton Area Convention Center, 1 Haben Blvd, Palmetto, FL. Door prizes, interactive Lionel layout, Florida LEGO user group layout, kids' HO layout, 150 vendors. Adult admission \$8, Children under 13 free. Contact David Fontaine for more information: 941-685-2221 or david_f_34205@yahoo.com

IA, SOUTH SIOUX CITY: Sioux City Cosmopolitan Train Show. Delta Hotel Center, 485 E. 5th Street, South Sioux City, Nebraska. March 7th 9am-4pm & March 8th 10am-4pm. Adults \$7, children 12 and under FREE. 10+ layouts, 130+ vendor tables, 2 seminars Saturday. All scales. Books, Videos, New & Used, Collectibles, Food. Info: 712-898-6935 Johnkoskovich@aol.com

ID, LEWISTON: 9th Annual Lewis-Clark Railroad and Collectibles Swap Meet. NPC Fair Grounds, 1229 Burrell Ave. Sunday, March 29, 2020, 9:30am-4:00pm. Adults \$5.00, children under 12 free w/adult. Several vendors. Operating model RR's available. Operation Lifesaver Train Simulator. Refreshments/food. Contact Dan Wise, 208-816-0845, wrails@cablone.net

IL, COLLINSVILLE: 14th Annual St. Louis Railroad Prototype Modelers meet. Gateway Convention Center. July 31-August 1, 2020, Friday 9:00am-9:00pm and Saturday 9:00am-5:00pm. Admission: \$25.00 for both days; \$20.00 for Saturday only. For information, www.icgd decals.com/stlrpm or Contact: John Golden at golden1014@yahoo.com or Lonnie Bathurst at bathurst@litchfieldil.com or 217-556-0314

IL, ROCKFORD/BELVIDERE: Rock River Valley Division NMRA 29th Annual Show & Sale. March 28th 10am-5pm, March 29th 10am-4pm. Belvidere North High School, 9393 Beloit Rd., Belvidere, IL. Admission \$5, under 12 free. 35,000 sq.ft. of vendors and operating layouts, kids activities, food court, free parking. Website: rrvd-nmra.org or Doug 815-765-3135. Vendors contact donbrindle@aol.com or Don 815-329-6112.

IL, SPRINGFIELD: Springfield Railroad Society Annual Train Fair. Orr Building on the State Fairgrounds. Sunday, March 15, 2020, 10:00am-4:00pm. Early bird shopping starts at 9:00am for \$10.00. Admission fee \$5.00 from 10:00am-4:00pm. Free parking. Largest show in down-state Illinois! For info call Ray at 217-544-4295 or visit www.springfieldtrainfair.com

IL, URBANA: Urbana Train Show sponsored by Illinois Terminal Division NMRA. March 28-29, 2020. Sat 10am-5pm, Sun 11am-4pm. Lincoln Square, 100 West High Street, Urbana, IL. FREE admission. Youth "Make and Take" activity, operating layouts, youth operated layout, vendors, displays, Historical Societies, kiddie train ride. Additional info contact: itd.illinoisterminaldivision.org/show

IN, EVANSVILLE: Evansville All Gauge Model Train Show and Swap Meet. Saturday, February 29, 2020. Gates open 10am-3pm CST at St. Paul's UCC, 2227 West Michigan Street, Evansville, IN 47712. Admission \$3.00, under 12 free. Vendors, test track, operating trains, Lego layout and Thomas dealer, food available. Contact John 812-306-5050

IN, INDIANAPOLIS: Central Indiana Division/NMRA announces the Franklin Spring Train Show. New permanent location at the Johnson County Fairgrounds, 250 Fairground St., Franklin, IN 46131. Saturday, April 4, 2020. 10am-3pm. Admission \$3, Family \$5. Clinic and CID Annual Meeting, Door Prizes, Displays, Operating Layouts, Free Parking, Food available. Info/table rental: Michael Roderick 317-833-3556, mdrghost@hotmail.com or www.cidnmra.org

IN, INDIANAPOLIS: The Indianapolis Model Railroad Show and Open House. Manual High School Gymnasium. Saturday, March 7, 2020, 10:00am-3:00pm. Admission \$5.00, children 12 & under free. Free parking. Affordable Food - proceeds go to EMHS athletic department. Naptown & White River Model Railroad Club. Contact: Morgan Davis or David Shrewsbury, 317-643-0779. E-mail: naptownmrr@gmail.com Website: www.naptownmrr.org

IN, MICHIGAN CITY: Duneland Model RR Club Train Show and Swap Meet. IBEW Building, 301 East 8th St. Sunday, March 1, 2020, 9:30am-2:00pm (Chicago time). Adults \$4.00, youths 6-13 \$1.00, 5 and under free. Contact: Dave Novak at trains86@frontier.com or 219-778-1186.

IN, NAPPANEE: Elkhart Model Railroad Club Annual Train Show & Sale, Saturday March 21, 2020, 10am-3pm. (E.S.T.) Claywood Event Center, 13924 N. 1100W (County Line Rd.) Nappanee, IN. Admission \$5. Operating Layouts, Vendor Tables. Information: Nathan Overmyer 574-850-8485 or email trainshow@emrrc.com Website: www.emrrc.com

KS, GARDEN CITY: Boot Hill Model Railroad Club Train Show. Finney County Exhibition Building, 409 Lake Ave. 67846. March 14 & 15, 2020. Saturday 10am-6pm and Sunday 11am-4pm. Admission: \$6 adults, 7 and under free w/adult. Good for both days. Food available on site. For additional information, contact Henry Turner 620-271-4306. Email hat9@cox.net or cwht@cox.net

MA, AUBURN: Worcester Model Railroaders Annual Show at Auburn Elks Club, 754 Southbridge St. Sunday, February 23, 2020, 10:00am-3:30pm. Admission: \$5.00, children under 12 free. Two floors of dealers, exhibits, modular layouts. Contact: Ralph Kimball, 508-868-5189, ralphkimball@charter.net or www.wmrr.org

ME, WESTBROOK: Southern Maine Model Railroad Club's Second Annual Train Show. Westbrook Community Center, 426 Bridge St., Westbrook 04092. Saturday, April 18, 2020. 10AM-3PM. \$5 entry fee, children 12 and under FREE. Come join us for a day of live train displays, vendor sales, raffles and more! Something for everyone to enjoy! Concessions available.

NC, ASHEVILLE: Asheville Train Show. Western North Carolina Agricultural Center. February 28-29, 2020. Friday 12:00pm-7:00pm and Saturday 9:00am-5:00pm. Admission \$6.00, under 10 free. All scales, all gauges, collectibles, artifacts. Operating layouts, Thomas The Tank Engine, hundreds of vendor tables. More: www.Asheville-Trainshow.com

NC, GREENSBORO: 12th Annual "Greatest Little Train Show". Lewis Recreation Center, 3110 Forest Lawn Dr., Greensboro, NC 27455. Saturday, March 21, 2020, 9:00am-4:00pm. \$5.00 adults, children under 12 FREE. Contact Jim Turkett, 336-314-3341, jturkett@gmail.com or mail CMR, PO Box 13642, Greensboro, NC 27415. www.carolinamodelrr.org

NC, NEW BERN: 25th Annual Train Show, New Bern High School, 4200 Academic Dr. March 7-8, 2020, Saturday 10:00am-5:00pm; Sunday 10:00am-4:00pm. Admission \$7.00, under 12 free w/adult. Operating layouts, 90 vendor tables, food concession, door prizes. Carolina Coastal Railroaders, George Creathorne, 201-213-6907

NJ, CLARK: Jersey Central Train Show & Sale. Mother Seton Regional High School, 1 Valley Road, Clark, NJ. Sunday, March 8, 2020, 9:00am-3:30pm. Admission: \$5.00, children under 12 FREE. Model Trains, Railroadiana, Books, etc. Email Heinz Ricken at hricken@gmail.com

NY, KINGSTON: Kingston Model Train and Railroad Hobby Show. Murphy Midtown Center, 467 Broadway. Sunday, March 22, 2020, 10:00am-4:00pm. Adults \$7.00, kids under 12 \$2.00. 11,000 sq. ft. Operating layouts, dealer, vendor tables, Thomas the Tank engine and LEGO trains. Information: www.kingstontrainshow.com or e-mail kingstonmts@aol.com

OH, KIRTLAND: Lakeland Community College (AFC), 7700 Clocktower Dr., Kirtland, OH 44094. Railfest - NMRA MCR Div. 5. March 14-15, 2020, 10:00am-4:00pm. All Gauge Train Show with over 400 tables. For Information: 440-357-8890 or www.Railfest.org

OH, MT. HOPE: CJ Trains Spring Train and Toy Show. Mt. Hope Event Center, 8076 St. Rt. 241, Zip 44660. Saturday, February 29, 2020, 10:00am-4:00pm. Admission: \$5.00, under 12/FREE. \$25.00/dealer table, 600+ tables. Contact: Jon Ulbright, 330-262-7488, cathijon@sssn.net.com, www.cjtrains.com (GPS info: Millersburg, OH 44654)

OH, TOLEDO: Greater Toledo Train & Toy Show. Owens Community College (SHAC), 30335 Oregon Rd., Perrysburg, OH 43551. Sunday, March 8, 2020, 11:00am-3:00pm. Early Birds: 9:00am-3:00pm. Adults \$6.00/Early Birds \$10.00, 12 and under FREE w/ paid adult. Contact: Randy Ramsey, 1566 South Ave., Toledo, OH 43609, 419-215-4181, email: toledotoymasters@gmail.com, website: toymasters.org

OK, STILLWATER: Winter Train Show. Saturday, February 15, 2020, 9am-3pm. Payne County Expo Center, 4518 Expo Circle E., 74075. Admission: \$4 adults, under 12 FREE. For info: TTOS-Sooner.org

PA, NEW CASTLE: BLRHS Frosty Rails Train Show. February 16, 2020, 10:00am-3:00pm. Shenango Twp VFD Social Hall, 2424 E. Washington St., 16101. Next to Dunkin Donuts. Adults \$5.00 (\$4.00 if you mention Model Railroader ad) Children under 12 free. For show info: Nick D'Amore, 114 Hillendale Rd., Pittsburgh, PA 15327-1802. 412-358-0286, njdamore@gmx.com

SC, COLUMBIA: Jamil Temple, 206 Jamil Road. Saturday, March 28, 2020, 9:00am-3:00pm. Admission \$5.00, under 5 FREE. Over 200 vendor tables. Lots of G, O, HO, S/AF, N gauge. More info at CarolinaTrainShows.com

UT, OGDEN: 31st Annual Hostlers Model Railroad Festival. Ogden Union Station, Historic 25th St. & Wall Ave. March 6-7-8, 2020, Friday 3:00pm-8:00pm; Saturday 9:00am-6:00pm; Sunday 9:30am-3:00pm. Admission: adults \$7, adult weekend pass \$10, children 12 and under FREE. Layouts - all scales, many vendors, LEGO layout. Biggest train show in the West. Information: 801-394-4952, www.hostlers.info

VT, ST. ALBANS: Vermont Rails Show. Collins Perley Sports & Fitness Center, Interstate 89, Exit 19. Saturday, March 14, 2020, 10:00am-4:00pm. Adults \$6.00, children 6-12 \$2.00, children under 6 free, Sponsor: NWV Model Railroad Association. Contact Ron Piro, 802-598-0905, www.nwvrailroad.org

WA, CHEHALIS: Lewis County Model Railroad Club, Annual Spring Train Show and Swap Meet. Southwest Washington Fair Grounds, Blue Pavilion Building, 2555 N. National Ave., Zip: 98532. April 4-5, 2020, Saturday 10:00am-4:00pm and Sunday 10:00am-3:00pm. Admission \$5.00. Free parking. Contact information: Ted, 360-985-7788 or tedstrains@lewiscounty.com

WA, KELSO: LK&R MRR Club Train Show and Swap Meet. Saturday, March 21, 2020, 10am-3pm. Admission: \$5.00. Three Rivers Mall, Kelso. Interstate 5, Exit 39, Southwest Corner. Information for vendors and guests, see our website at: http://lkrtrains.yolasite.com/events---past-and-future.php or contact Rich Easley 360-431-5790. Email: kmann_98632@yahoo.com

WA, MONROE: UNW/4-H 29th Annual Model Train Show and Marketplace. Evergreen State Fairgrounds. February 22-23, 2020, Saturday 10:00am-5:00pm, Sunday 10:00am-4:00pm. Adults \$10.00; Juniors/Seniors \$8.00; kids under 9 FREE w/paid adult. Featuring 25 layouts, over 300 vendor tables, clinics, presentations, family fun for all ages. www.unwclub.com/unwshow.html

WA, SPOKANE: River City Modelers Spring Train Show, Spokane Fairgrounds, 404 N. Havana. Sunday, March 8, 2020 from 9:30am-3:30pm. Admission \$6 for adults, 12 & under free. 200+ tables of Railroad-related items for sale, operating layouts, Free-MO, Operation Lifesaver & more. Free parking. For info on table rental or general info, contact: Shirley Sample, 509-991-2317 or email: shirley@busnws.com

WI, LA CROSSE/ONALASKA: La Crosse & Three Rivers Railroad Club's 39th Annual Model Railroad Show. Omni Center, 255 Riders Club Road, Onalaska, WI. March 21-22, 2020. Saturday 9:00am-5:00pm, Sunday 10:00am-4:00pm. Adults \$7.00, \$6.50 with a non-perishable food item, children 11 and under free w/ adult. Info: Belva Thompson 608-780-7364

Schedule of Events Cont.

CANADA-ON, ESSEX: 25th Annual Model Train Show. Essex Public School, 72 Brien Ave. E. Essex, ON, N8M2N8. February 29 and March 1, 2020, Daily 9:30am-3:30pm. Adults \$5. Display, Memorabilia, Interactive Train Model and More! Contact Historic Essex Railway Station at 519-776-9800 or heritageessex@bellnet.ca

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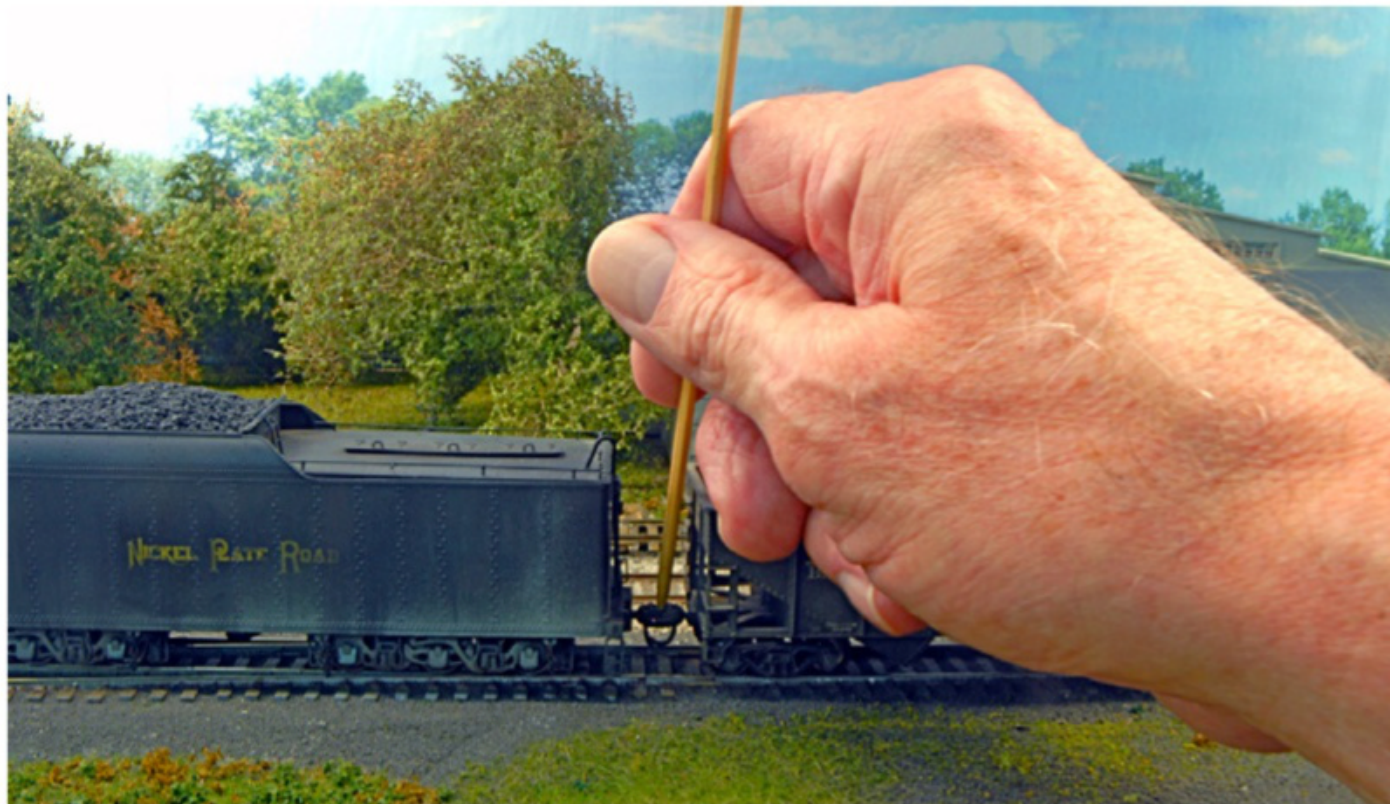
Breaking the realism barrier

Back in the early days of jet engines and even fast piston-powered airplanes, the term “sound barrier” came into vogue. For a while, exceeding the speed of sound (770 mph at sea level) was not considered conducive to a long life for aircraft or pilot. Some bright scientists and engineers, not to mention brave pilots, slowly but surely worked their way through that seemingly impenetrable barrier.

There is a similar, but less physically demanding, obstacle that we almost subconsciously confront every time we operate our model railroads. It might be called the realism barrier: Penetrate it, some say, and all is lost.

The basic idea is that the front edge of the layout, usually where a fascia is attached, is where our full-size world ends and the miniaturized world begins. Easy though it may be to penetrate that world by extending our hand or arm, that is seen as breaking the realism barrier. Nothing comes to a halt, no models are shattered, but realism is unacceptably compromised.

“Pshaw!” you say. “I do it all the time.” Frankly, so do I. But those who believe such actions unduly compromise realism do have a point. It would be nice if there were never a valid reason short of a mechanical failure or accident to stick a 12"-scale mitt into my carefully crafted 1:87 scenes. That is, all controls for throwing switches and uncoupling



Reaching in to throw a switch or uncouple a car is regarded by some as breaching the realism barrier. Conversely, a hand close to the action emulates actions on full-size railroads. In O scale, cut levers can actually pull knuckle pins. Tony Koester photo

cars could be done remotely – outside of the plane of realism.

Those who embrace this philosophy tend to be highly experienced and fastidious modelers. Their stuff tends to work right every time. My stuff occasionally comes up short of that mark. So I’ve employed Micro Engineering and Peco turnouts in one “live” yard and two staging yards that have over-center

springs to hold the points against the desired stock rails. Elsewhere, I’ve used micro single-pole double-throw slide switches to mechanically move the points while switching the frog polarity.

In the latter case, that could have been done under the railroad with a rod connecting the slide switch to a knob on the fascia. Or, as in some hard-to-reach locations

on my railroad, I could have mounted switch motors activated by a button on the fascia or a control panel.

But this segues into another philosophy: I prefer that tasks on my railroad emulate those done by professional railroaders. So I prefer to locate switch controls adjacent to the switch points they move. Otherwise, it’s tempting to build a single control panel for each town and locate the toggles for the motors on a small schematic diagram of the track plan.

That breaks another realism barrier in that it’s then easy to line a switch from scale yards or miles away. Locating the switch controls on the fascia adjacent to the switch points they move solves this. But isn’t having a crew person reach a slide switch or ground throw right next to the switch less confusing (no pondering which toggle controls which set of points) and more realistic?

And using a skewer (as opposed to a permanent or

electromagnet) to uncouple cars also puts the crewman right on the scene. In that regard, we do have more options than in times past. One that comes to mind is the RailCrew electromagnetic uncoupler from Rapido Trains. I have several awaiting installing in a hard-to-reach yard, but my understanding is that I don’t have to remove an existing track to mount it. Moreover, a blue LED beam shines skyward when the uncoupling button is pushed, thus avoiding having to paint a mark on the rail or tie adjacent to the uncoupling point. The yardmaster will be thrilled.

My point isn’t to argue that one view of what constitutes a breaking of the realism barrier is necessarily better or worse than another. Often, it’s a trade-off. But do give some thought to your personal preferences before deciding how you want to resolve such concerns. Time and money are involved either way, and it pays to spend both wisely. **MR**



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